The Gerard W. Ostheimer Lecture:

“What’s New in Obstetric Anesthesia?”

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By a review of selected publications from the calendar year 2007, at the end of this lecture, the attendees will be able to:

- Evaluate the level of evidence for new preventive and therapeutic strategies in the vast field of maternal-fetal medicine, perinatology and obstetric anesthesia
- Describe and apply state-of the art obstetric analgesia and anesthesia
- Identify novel concepts and areas of research relevant to the understanding and management of pregnancy-related disorders, neonatal outcomes and obstetric anesthesia
Guide to Syllabus of ‘What’s new in Obstetric Anesthesia’

The aim of this review is to cover a wide variety of topics relevant to obstetric anesthesiologists as well as to friends and members of SOAP.

It was created with a key word electronic search in Pub Med and the Faculty 1000 of Medicine (www.f1000medicine.com) for all publications related to obstetric anesthesia, obstetrics and neonatology from January to December 2007.

This syllabus cannot be exhaustive, and probably represents only a small proportion of interesting articles published in 2007. I hope to have captured with this selection of 1490 references the most important publications in our field of interest, and that this will facilitate your research and/or clinical work. In advance, my sincere apology for any important work that I did not identify and acknowledge as deserved.

The following list sites the journals ultimately searched for the period January – December 2007, and my apologies to Masui, and other such excellent anesthesia journals published in languages that are not familiar to most of us.

**Anesthesia, Pain and Critical Care journals**
- Anesthesiology
- Anesthesia & Analgesia
- Anaesthesia
- Acta Anaesthesiologica Scandinavica
- Acta Anaesthesiologica Belgica
- Anesthesiology Clinics of North America
- ASA Newsletter
- British Journal of Anaesthesia
- Canadian Journal of Anaesthesia
- Critical Care Medicine
- European Journal of Anaesthesiology
- European Journal of Pain
- International Journal of Obstetric Anesthesia
- Journal of Clinical Anesthesia
- International Anesthesiology Clinics
- Journal of Pain
- Obstetric Anesthesia Digest
- Regional Anesthesia & Pain Medicine
- Pain
- Anaesthesia & Intensive Care
- Current Opinion in Anaesthesiology
- Annales Françaises d’Anesthésie et Réanimation (articles in English)
- Minerva Anestesiologica (articles in English)
Obstetrics & Gynecology Journals
Acta Obstetrica et Gynecologica Scandinavica
American Journal of Obstetrics & Gynecology
Australian & New Zealand Journal of Obstetrics & Gynaecology
British Journal of Obstetrics & Gynaecology
Clinical Obstetrics & Gynecology
Current Opinion in Obstetrics & Gynecology
European Journal of Obstetrics & Gynecology & Reproductive Biology
Fertility & Sterility
Gynecologic & Obstetric Investigation
International Journal of Gynecology & Obstetrics
Journal of Maternal-Fetal & Neonatal Medicine
Journal of Perinatology
Midwifery
Obstetrics & Gynecology
Obstetrics & Gynecology Clinics of North America
Obstetrical & Gynecological Survey

General and Other Specialty Journal
American Journal of Epidemiology
British Journal of Haematology
BMJ
Circulation
Cochrane Database
Heart
JAMA
Journal of the American College of Cardiology
Lancet
Nature
New England Journal of Medicine
Science

Pediatric Journals
BMC Pediatrics
Journal of Paediatrics & Child Health
Journal of Pediatrics
Pediatrics
I tried to offer a summary for some of the references which I believe provide important clinical or scientific data and prefixed some references with an asterisk (*) if I recommend the article. In addition, I summarized the F1000 Medicine reviews and reported their rankings. This system does not necessarily reflect on the paper’s relative scientific merit, but is an indication that the article “caught my eye” or that of the F1000 reviewers because of its novel and perhaps thought-generating content, or because it could involve a change in clinical practice. Faculty Members of the F1000 rate the articles they choose as either “Recommended”, “Must Read” or “Exceptional”, which corresponds to F1000 Factors of 3, 6 and 9, respectively. In addition, the following annotations: hypothesis, new finding, technical advance, confirmation, controversial, refutation, or changes clinical practice, are provided when appropriate.

Finally, the index below was reproduced with some modifications from Dr Roshan Fernando’s and Dr Alison MacArthur’s presentations in 2006 and 2007, respectively. My eternal gratitude to both for generously sharing their files and allowing me to use them for this years’ syllabus.
Analgesia and management of labor and delivery

Non-neuraxial techniques
- Systemic (opioid)
- Systemic (inhalational)
- Alternative techniques
- Support during labor

Regional analgesia
- Anatomy, insertion techniques and equipment
- Test Dose
- Pharmacology
  - Epidural
  - CSE
- Maintenance
  - PCEA
  - Ambulation
- Indications, special circumstances for labor analgesia
  - Induction and augmentation of labor
  - Breech and other abnormal presentation
  - Multiple pregnancy etc.
  - Previous cesarean section (VBAC)
- Outcome
  - Comparison epidural versus CSE
  - Progress of labor, instrumental or operative delivery
  - Fetal Effects
  - Breastfeeding

Oral intake during labor

Patients’ information
- Attitude and preference with regards to labor epidurals
- Risks and complications of regional anesthesia

Anesthesia for cesarean delivery
- General Anesthesia
- Regional Anesthesia
- Post-cesarean analgesia
- Oxygenation
- Hypotension, vasopressors and i.v. fluids
- Fetal/neonatal outcome

Anesthesia for non-obstetric surgery during pregnancy
- Assisted reproductive technologies
- Cervical cerclage
- Endoscopy/laparoscopy
- Termination of pregnancy
Complications of Anesthesia

Airway
Allergy
Aspiration and prophylaxis
Cardiac arrest/maternal death
Drug effect/reaction
Equipment
High spinal
Inadequate anesthesia
Infusion
Intravenous toxicity
Nausea/Vomiting
Neurological
Post dural puncture headache and blood patch
Prolonged Spinal Anesthesia
Pruritus
Respiratory Depression
Seizures
Shivering/Hypothermia
Urinary retention

Maternal issues
Coexisting disease
Aging
Autonomic dysfunction
Cardiac
Connective and auto-immune
Dermatologic
Diabetes
Endocrine diseases
Gastrointestinal
Hematologic
Hepatic
Hypertension
Infection
Infertility
Metabolic and nutrition
Musculoskeletal
Neoplasm
Neurologic
Obesity
Psychiatric (incl depression)
Renal
Respiratory
Substance abuse (incl alcohol, smoking and coffee)
Obstetric Issues and complications
Assisted Reproductive Technologies
Abdominal/ectopic Pregnancy
Amniotic Fluid Embolism
Cervical Cerclage
Delivery (breech, CS, operative)
Hemorrhage (PPH)
Hyperemesis Gravidarum
Induction of labor
Infection (puerperal)
Maternal Mortality
Multiple Gestation
Neurologic Complication
PIH/Preeclampsia/Eclampsia/HELLP (etiopathogenesis, risk factors, outcomes)
PIH/Preeclampsia/Eclampsia/HELLP (clinical presentation and management)
Perineal Trauma/Lacerations
Premature rupture of membranes (PROM)/Preterm Delivery
Preterm Labor and Tocolytics
Pulmonary Embolism and Thrombosis
Retained Placenta
Tubal Ligation
Uterine Rupture
Vaginal birth after cesarean delivery (VBAC)

Pharmacology/Pharmacokinetics in pregnancy/Transplacental transfer of drugs

Physiologic alterations in pregnancy

Placental topics

Postpartum care (incl breastfeeding)

Fetal issues
Macrosonia
Monitoring
Resuscitation (intrauterine)
Screening
Surgery (incl EXIT procedures)

Newborn issues
Evaluation Acid-base balance
Behavior
Maternal fever and neonatal sepsis investigation
Cerebral Palsy
Low Birth Weight
Meconium Aspiration
Morbidity and mortality
Respiratory Distress
Resuscitation

Other topics
Guidelines/Special articles
Economics and Staffing
Education/Residency/Simulation and drills
Ethics and Medicolegal Issues
Research
History
Websites/Books/Leaflets/Journal Announcements
Analgesia and management of labor and delivery

Non-neuraxial techniques

Systemic (opioid)
   ACOG does not support the concept that nalbuphine might be unsafe for labor analgesia
   A pilot study (RCT n=20) on 2 different regimens. Remifentanil iv PCA is efficacious as a bolus of 0.25 µg/kg, with a lockout interval of two minutes and continuous infusion of 0.025-0.1 µg/kg/min. The potential for respiratory depression mandates close respiratory monitoring.
   A survey (n=159 units in the UK). 50% of units use iv PCA when neuraxial analgesia is contra-indicated.
   Letter to the Editor

Systemic (inhalational)
   Comment on Yeo et al paper
   Editorial on Yeo et al paper
   Open-labelled escalating dose study n=22. The optimal sevoflurane concentration in labour was 0.8%.
   RCT (n=32). Although greater sedative effects were experienced with sevoflurane (0.8%), parturients preferred it to Entonox.

Alternative Techniques
   RCT (n=251). Pain perception appeared to be reduced in the aromatherapy group but the study was underpowered.

*RCT (n=105). TENS seemed effective in reducing pain, but more women in that group underwent operative deliveries!*


*RCT (n=144). Acupuncture may reduce pain perception, active phase duration and oxytocin requirements.*


*RCT (n=106). Acupuncture after PROM showed no significant effect in reducing time to active labour or in reducing rate of inductions. There was no change in wellbeing as a result of acupuncture, but it was considered positive to receive this kind of treatment while waiting for labour to begin.*

Support during labor


*Meta-analysis comparing continuous support during labour with usual care (16 trials; n=13’391). Support is better (specifically when epidural analgesia is not available)!*


*Short letter*

Regional analgesia

Anatomy,insertion techniques and equipment


*Treatment trial (n=61). The transverse approach, can be a reliable guide to facilitate labor epidural insertion.*


*Short letter on an original patient/anesthesiologist positioning for epidural placement*


*An interesting review article on this 'old topic'…*

RCT (n=80). Testing 4 different solutions, local infiltration of epinephrine-containing lidocaine before epidural catheter insertion seemed to be best in reducing superficial bleeding and the addition of bicarbonate decreased pain during skin infiltration.

Treatment trial (n=71) testing a new device allowing stimulation by use of a catheter containing a removable stylet

Postpartum test in women who delivered with good epidural labor analgesia (n=20). Jugular compression appears to be a reliable test for confirming correct placement of epidural catheters.

Interesting retrospective case-series (n=2,009). When maternal age, gestational age and vertebral interspace are controlled for, increasing BMI is associated with increasing depth, while increasing maternal age is associated with decreasing depth.

A useful technical report in an unblinded RCT with 3 different catheters (n=60)

RCT (n=203) 2ml versus 5ml of saline prior to catheter insertion. 5ml significantly reduced intravascular placement (16% versus 2%).

Case report with a laboratory experiment demonstrating that even dilute hyperbaric bupivacaine (0.005%) can produce a positive glucose test, that should not be mistaken for CSF.

Short letter on a model to help teach/learn epidural placement

An observational study (n=94). In 29% of cases, no ‘pop’ was felt with a 27G Whitacre needle.

Short letter

Short letter
   *A laboratory porcine model followed by a clinical prospective study (n=30 laboring women) testing the use of spring-loaded loss-of-resistance syringe, which appears to be safe and effective in detecting the epidural space.*

**Test Dose**

   *Short letter*

   *Non-obstetric case report. A test dose containing 75 µg epinephrine through a single orifice epidural catheter at the low thoracic level did not produce significant changes in hemodynamic profile. This lack of effect attributed to timolol containing eye-drops that the patient was taking.*

   *Short letter*

**Pharmacology**

**Epidural**

   *Double-blinded RCT (n=171) with 6 different up-down sequences (the 3 different LA with or without sufentanil). The major factor influencing LA requirements was the addition of sufentanil, with a 4-fold reduction in LA requirement; this effect was proportionately more enhanced for bupivacaine.*

   *An epidural motor blocking MLAC study (n=145), confirming the known hierarchy (bupivacaine > levobupivacaine > ropivacaine).*

35.* Lyons GR, Kocarev MG, Wilson RC, Columb MO. A comparison of minimum local anesthetic volumes and doses of epidural bupivacaine (0.125% w/v and 0.25% w/v) for analgesia in labor. Anesth Analg 2007;104:412-5.
   *F1000 Recommended (3.0) Hypothesis, New Finding. In this study (double-blinded RCT n=81), the authors postulate that reducing the concentration of local anesthetics, with the aim of reducing toxicity as well as motor blockade, might not necessarily require increasing the dose in a linear manner for effective epidural labor analgesia (i.e. double the volume if you intend to use half the concentration, to keep a fixed dose).*

Two-phase double-blind RCT (n=120). The combination of diamorphine and levobupivacaine is additive and not synergistic when used for epidural analgesia in the first stage of labour.


A placebo-controlled RCT (n=68). A continuous infusion of bupivacaine 0.0625% 10ml/h with clonidine (5µg/ml) was effective with no adverse effects.


Double-blind RCT (n=162). Epidural 0.1% ropivacaine, 0.125% bupivacaine, and 0.1% levobupivacaine given for labor analgesia produced similar analgesic and side effects.

CSE


Editorial (quite controversial regarding the use of CSE for labor analgesia)


Single-blind RCT (n=62). Intrathecal 2.5 hyperbaric versus plain bupivacaine with fentanyl 15µg: hyperbaric bupivacaine failed to produce analgesia in 20% of cases, while hyperbaric produced good analgesia but with a significant rate of pruritus and NRFHR (33%).


Determination of the full dose-response relation of intrathecal bupivacaine, levobupivacaine, and ropivacaine, combined with sufentanil, for labor analgesia. Anesthesiology 2007;106:149-56.

**F1000 Must read (4.8) Confirmation, Controversial.** The relative potency of local anesthetics such as bupivacaine, levobupivacaine and ropivacaine is controversial. Most previous studies examining these potencies used the minimum local analgesic concentration model. This interesting study (large double-blind RCT n=450) determined the full-dose response of these three local anesthetics administered intrathecally for labor analgesia. Under these circumstances, bupivacaine is more potent than ropivacaine or levobupivacaine, which have similar potencies.


Double-blind placebo-controlled RCT (n=60). Morphine 100µg increased duration of analgesia and reduced breakthrough pain, but at the expense of an increased rate of nausea.

A sequential allocation method to define the ED95 of intrathecal plain bupivacaine along with fentanyl 15µg (n=40). The ED95 under the conditions of this study was 1.75mg.

**Maintenance: PCEA**


Short letter reporting on the change to PCEA in a large delivery room in the UK (3600 deliveries/year with an epidural rate of 24%).


A small RCT (n=40) assessing the effect of PCEA after standard epidural or CSE...


**F1000 Recommended (3.0) New Finding, Tech Advance.** The importance of this study resides in the fact that this 'high-tech' algorythm-based computerized PCEA may well provide the ultimate tailored labor analgesia for those already convinced that CSE with PCEA is the way to go. After an initial intrathecal dose via CSE, women were randomized to receive, through a computerized PCEA, either PCEA plus automated mandatory boluses or PCEA with a basal continuous infusion. PCEA with automated mandatory boluses reduced the total local anesthetic consumption. The rationale for such a novel administration is that intermittent epidural boluses have recently been associated with a reduced dose of local anesthetic and better patient satisfaction than a continuous epidural infusion (due to a better spread of the infusate).


An interesting review article


**Indications, special circumstances for labor analgesia**

**Breech and other abnormal presentation**

Interesting RCT (n=74) evaluating the effect of intrathecal analgesia (bupivacaine 7.5mg) showing the unequivocal benefit of spinal analgesia (increased success rate).

Multiple pregnancy

Outcome
Comparison epidural versus CSE

Progress of labor, instrumental or operative delivery

F1000 Recommended (3.2) Hypothesis, New Finding. This study supports the reviewers' clinical impression that minor differences in the degree of motor blockade produced by dilute local anesthetics have minimal effect on the mode of delivery. Nulliparous women (n=92) at term with a cervical dilatation of less than 4cm were randomized to receive 0.0625% bupivacaine, ropivacaine, or levobupivacaine, administered as a 15ml bolus followed by an infusion of 10ml/hour. All drugs were combined with fentanyl 2mcg/ml. Although there were clear differences in the degree of motor block, there was no difference in the rate of operative delivery (cesarean plus instrumented vaginal). One weakness of the study is the smaller number of patients enrolled in the levobupivacaine group, as this drug was withdrawn from the US market mid-study. In addition, comparing equal concentrations of these drugs is controversial, as a question remains as to whether ropivacaine is equipotent with bupivacaine. Nevertheless, the head-to-head comparison of ropivacaine to bupivacaine suggests that, at low concentrations, obstetric outcome is uninfluenced by choice of local anesthetic.


Meta-analysis (n= 9 trials; n=3'220). Timing of neuraxial analgesia did not impact on cesarean and instrumental vaginal deliveries rates in nulliparous women. In fact, women receiving parenteral opioids in early labor had a higher risk of instrumental vaginal delivery for nonreassuring fetal status with worse indices of neonatal wellness, and poor analgesia.
Fetal Effects
   A prospective case series (observational study, n=20). Fetal oxygen saturation was registered continuously 10 minutes before until 30 minutes after epidural analgesia was initiated, with no effect of epidural analgesia on fetal oxygenation
   A prospective case-series (observational study, n=8). No significant FHR change or fetal bradycardia was recorded following CSE analgesia.
   Interesting letter to the Editor

Breastfeeding
   Excellent Editorial!
   Short letter
   A retrospective chart review from Sweden....

Oral intake during labor
   An interesting review article
   Observational study (n=217) showing that oral intake during labor significantly prolonged duration of labor without increasing nausea or vomiting!

Patients' information
Attitude and preference with regards to labor epidurals
   Original survey (n=243 fathers). Maternal epidural analgesia increased threefold paternal feelings of helpfulness and was associated with a greater involvement and less anxiety and stress
Very interesting report on how the First Beijing International Conference on Obstetrics and Gynecology held in 2005 allowed to introduce labor epidurals in China.

Retrospective cohort study (n=81'883 women). Black and Hispanic women in labor are less likely than non-Hispanic white women to receive epidural analgesia.

Survey in nulliparous women around 25 weeks gestation (n=25). There was a large discrepancy between perception and actual knowledge. The main source of knowledge was anecdotal information.

Survey (n=114) in which 55% of women chose to have an epidural. Pain catastrophizing was not related to epidural use, but was positively associated with the fear of being overwhelmed by labour pain and tendencies to avoid the pain.

67. van der Hulst LA, van Teijlingen ER, Bonsel GJ, Eskes M, Birnie E, Bleker OP. Dutch women's decision-making in pregnancy and labour as seen through the eyes of their midwives. Midwifery 2007;23:279-86.
Survey of Dutch midwives on n=637 deliveries. Midwives reported that they had a large influence in the decision to refer a woman to an obstetrician, but much less so with regards to pain relief.

Risks and complications of regional anesthesia

Survey (n=142) based on women's recall of their pre-anesthesia risk discussion

Survey (n=102) post cesarean-section revealing most women were unprepared for emergency obstetric anaesthesia. Many received information just before the event.

Anesthesia for cesarean delivery

General Anesthesia

70. Chandan GS, Sadashivaiah JB. Conquering the management of the difficult airway in obstetric cases. Anesthesiology 2007;107:674-5
Comment on the use of Airtraq

Case report (n=1) on the use of Airtraq

**F1000 Recommended (3.0) Hypothesis.** This placebo-controlled RCT (n=90) on the hemodynamic and hormonal effects of prophylactic ketorolac on surgical stress and analgesia after caesarean delivery demonstrates the successful use of pre-emptive analgesia for GA in elective CS.


*An interesting experimental animal study on the effects of GA during second trimester on fetal cerebral oxygenation.*


*A non-obstetric RCT (n=120) evaluating the benefits of cricoid pressure.*


*Survey between 2000-2004 on all emergency CS (n=347).*

**Regional Anesthesia**


*Letter to the Editor on Van de Velde's 2006 study on ultra-low dose CSE for CS*

77. Benhamou D. Local anaesthetic-opioid mixture for emergency Caesarean section. Anaesthesia 2007;62:1298

*Letter to the Editor on Malhotra's 2007 study on the lack of benefit of adding fentanayl to levobupivacaine for CS in women receiving epidural labor analgesia*


*RCT (n=52). Spinal isobaric bupivacaine 4.5 mg vs hyperbaric bupivacaine 12 mg for CS*


*Letter to the Editor*


*Letter to the Editor*


*Observational study (n=82) on non-pregnant volunteers, women delivering vaginally and women with a CS under spinal anaesthesia. Cough sensitivity was increased after vaginal delivery but decreased for up to 4 h after spinal anaesthesia.*

Letter to the Editor


RCT (n=120) on the effect of epidural volume extension (10ml saline) after spinal hyperbaric versus plain bupivacaine for CS


F1000 Recommended (3.0) New finding, Controversial. In this paper, the authors suggest adding fentanyl is unnecessary and, in fact, detrimental. The authors evaluated block onset time, the need for intra-operative supplementation, and the incidence of side effects when levobupivacaine was administered with or without fentanyl to women who had already received bupivacaine/fentanyl mixtures for labor analgesia. They found that onset time and need for supplementation were unchanged by the addition of fentanyl, but that the incidence of nausea and vomiting was significantly increased (53% versus 18%). It is possible that these patients did not benefit from the addition of fentanyl because they already had a substantial cerebrospinal fluid level of fentanyl.


Great review on the topic (highly recommended)


Prospective double blind RCT (n=90) of fast versus slow injection showing no difference.


Prospective double blind RCT evaluating 2 different methods to test dermatomal level after spinal anesthesia for CS

88. Tayal G, Mittal RK, Katyal S. Combined spinal epidural causes a higher level of block than equivalent, single-shot spinal anesthesia in elective cesarean patients. Anesth Analg 2007;104:745-6

Letter to the Editor


Letter to the Editor


Up-down sequential allocation method (n=90) to compare the effects of IT and i.v. 2.5µg sufentanil on ED50 of intrathecal bupivacaine. IT sufentanil has a significant local anesthetic-sparing effect
Post-cesarean analgesia

**F1000 Recommended (3.0) Confirmation.** This study suggests that extended-release epidural morphine (EREM) confers better quality and longer duration of post-operative analgesia in the first 48 hours following cesarean delivery as compared to conventional morphine. EREM thus shows potential to becoming an accepted form of postoperative analgesia for cesarean delivery.

Letter to the Editor

Placebo-controlled RCT (n=92) on the short and long-term effects of 48-h wound infusion with diclofenac, 0.2% ropivacaine or saline. Postoperative analgesia with local diclofenac infusion was as effective as ropivacaine infusion with systemic diclofenac. Continuous wound infusion of diclofenac demonstrated a greater opioid-sparing effect and better postoperative analgesia than the same dose administered as an intermittent intravenous bolus.

Letter to the Editor

Letter to the Editor

Interesting experimental study (n=47) on the use of the psychological and psychophysical measures to predict post-CS pain.

Placebo-controlled double blind RCT (n=120) diamorphine dose-finding study for optimal post-CS analgesia

Oxygenation

**RCT (n=60) showing no benefit of maternal oxygenation via face mask on neonates**

**F1000 Recommended (3.2) Hypothesis, New Finding.** In this RCT (n=220), the authors explored whether intraoperative supplemental oxygen (70%) can reduce the incidence or severity of nausea and vomiting associated with neuraxial anesthesia for cesarean delivery. This study eliminates one potential justification for initiating oxygen after delivery.

**Hypotension, vaspressors and i.v. fluids**

100. Butwick A, Carvalho B. The effect of colloid and crystalloid preloading on thromboelastography prior to Cesarean delivery. Can J Anaesth 2007;54:190-5. **RCT (n=30).** Effect of fluid preloading with either 1500 mL Ringer or 500 mL 6% HES was assessed with TEG.


105. Hanss R, Ohnesorge H, Kaufmann M, Gaupp R, Ledowski T, Steinfath M, et al. Changes in heart rate variability may reflect sympatholysis during spinal anaesthesia. Acta Anaesthesiol Scand 2007;51:1297-304. **Another interesting observational study (n=100) by the German group. HRV was measured at different time points to assess the effect of spinal anesthesia on autonomic regulation.**

F1000 Recommended (3.0) Tech Advance. This is the first study (n=53) to use a closed-loop system for maintaining baseline systolic blood pressure with phenylephrine following spinal anaesthesia for caesarean section. The on/off infusion of 100mcg/min phenylephrine was responsive to target baseline systolic blood pressure. The system showed good maternal outcomes and systolic pressure was kept within 20% of baseline in 94.6% of measurements taken. Neonatal outcome was good. This demonstrates that closed-loop feedback systems may be developed to maintain maternal baseline blood pressure and improve neonatal outcomes.


113. Thomas JS, Koh SH, Cooper GM. Haemodynamic effects of oxytocin given as i.v. bolus or infusion on women undergoing Caesarean section. Br J Anaesth 2007;98:116-9. RCT (n=30). Oxytocine 5mg iv was given as an iv bolus or infused over 5 minutes. Marked cardiovascular changes occurred in the bolus group.

Fetal/neonatal outcome

Retrospective chart review (n=1154). Bradycardia was found in 146 women (12.7%). Using matched-pairs analysis, episodes of maternal bradycardia below 60 beats/min were not associated with a poorer neonatal outcome regardless of anaesthetic technique.


Retrospective survey (n=1'870)


RCT (n=178). Intrapartum IV fluid containing a 5% glucose solution reduced umbilical cord acidemia and hypercarbia when compared to Ringer's.


Observational cohort study (n=900) assessing fetal outcomes with regards to anesthesia (spinal, epidural, GA)...

Anesthesia for non-obstetric surgery during pregnancy

Assisted reproductive technologies


RCT (n=47) to determine the target concentration of propofol required to prevent movement in 50% (Cp50) and 95% (Cp95) of women with or without N₂O.


Excellent review

Endoscopy/laparoscopy


Case report.


Case report.


Interesting review article

Termination of pregnancy


Excellent Editorial

Retrospective series (n=143) on the use of epidural analgesia for late termination of pregnancy.

Complications of Anesthesia

Airway

Letter to the Editor (and report on 2 cases)


Case report (failed intubation and failed regional anesthesia !)


Allergy

Interesting case-report


**Aspiration and Prophylaxis**

**Survey (n=66 departments) in Slovakia in 2005**

**Cardiac arrest/Maternal death**

**Review article on the challenges of obstetric care in the developing world**

**Editorial on the Confidential Enquiry into anaesthetic-related deaths in cats!**

**Excellent Editorial**

**F1000 Must read (6.4) Confirmation.** This study of 855 maternal deaths over an 18-year period in the state of Michigan confirms an impression that anesthesia contributes to a remarkably small number of deaths - in this case, less than 2%. The authors identified 25 maternal deaths associated with a perioperative cardiac arrest or major anesthetic complication. Of these, eight were found to be anesthesia related (i.e. anesthesia was the primary cause of death) and seven were found to be anesthesia-associated (i.e. anesthesia was a contributing factor). As might be suspected, airway difficulties were the most common cause of death. What was surprising was that these airway catastrophes occurred exclusively during emergence or recovery, rather than during induction of anesthesia. It may be that, with increasing facility in difficult airway management among anesthesiologists, we will continue to see a shift in airway deaths from induction to emergence. The article also reinforces the need to maintain appropriate surveillance in the immediate postoperative period.

**Another excellent review on the topic**

**Report on the link between the academic departments of anaesthesia in Togo and Benin and the University Hospital of Wales.**

**Drug effect/reaction**

**Interesting case-report**

**Letter**
Equipment

   Case-report

   Case-report

   Letter to the Editor

   Letter to the Editor

   Interesting case-report

   Case-report

Inadequate Anesthesia

   Interesting case series (n=4), reviewing the possible etiologies (anatomical abnormality, drug failure and management failure)

   Case-report

   Case-report

Infection

153. Cameron CM, Scott DA, McDonald WM, Davies MJ. A review of neuraxial epidural morbidity: experience of more than 8,000 cases at a single teaching hospital. Anesthesiology 2007;106:997-1002.
   Non-obstetric cohort study (n=8210).

   Review article

   Case-series (n=5) of iatrogenic aspergillus meningitis following spinal anesthesia for CS in Sri-Lanka in 2005 (3 cases were fatal)

Letter to the Editor


Another case-series (n=6) of iatrogenic aspergillus meningitis following spinal anesthesia for CS in Sri-Lanka in 2005 (3 cases again were fatal)

Intravenous Toxicity

Case-report on the successful use of Intralipid in a parturient who seized after her epidural catheter was dosed with bupivacaine for an urgent CS.

Nausea/Vomiting

Placebo-controlled RCT (n=176). Prophylactic granisetron 1 mg was ineffective under the conditions of the study.

RCT (n=80). After a toxicity study was performed, epidural ondansetron was compared to iv ondansetron in preventing pruritus and nausea post CS.

Placebo-controlled RCT (n=240) comparing the efficacy of transdermal scopolamine versus iv ondansetron in preventing morphine-induced nausea and vomiting.

Non-obstetric placebo-controlled RCT (n=160) comparing 3 different regimens of epidural droperidol

Single blinded RCT (n=80) evaluating exteriorized or in situ uterine repair. Uterine repair should be done in situ when possible.

Placebo-controlled RCT (n=88).

Placebo-controlled RCT (n=120). Best combination seemed to be dexamethasone 4 mg and droperidol 0.625 mg.

**Neurological**


**Post-dural puncture headache and blood patch**


**Pruritus**


**Respiratory Depression**


**Interesting 'exotic' case-report**


**Shivering/Hypothermia**


'Placebo-controlled' RCT (n=30). Intraoperative lower body forced air-warming did not prevent intraoperative hypothermia or shivering in women undergoing elective cesarean delivery with spinal anesthesia.

**Urinary retention**


Prospective observational study (n=603). 24% had urinary retention post-CS, and the main contributory obstetric parameter to this problem was morphine-related postoperative analgesia.


Retrospective cohort study (n=1994). There was a trend toward association of epidural analgesia and urinary retention.

**Maternal issues**

**Coexisting disease**

**Aging**


Cross-sectional historical cohort study (n=434) to characterize the continuum of ovarian function.


Retrospective cohort study (n=2'970) on perinatal data of primiparous women aged 35 years or more.


Retrospective cohort study from 1980-2001 (n=31'976). Length of labor and prolonged labor increased with increasing maternal age.
Case-report
Review article
Prospective cohort study (n=98)
Observational cohort study (n=82 nulliparous women), aged 21-70 years

Autonomic dysfunction
Case-report

Cardiac
Excellent review article
Case-report of an unpaced pre-existing congenital heart block diagnosed during labor
Interesting review article, reporting on the indications of perimortem cesarean and that the actual performance of the cesarean delivery cleanly is the responsibility of the obstetrician.
Excellent review article (non-obstetric)
Review article (non-obstetric)
Letter to the Editor. Comment on the revised AHA recommendations (Circulation 2007)
Case-report in a symptomatic parturient, managed with low-dose epidural labor analgesia during a forceps-assisted vaginal delivery.


205. Hu CL, Li YB, Zou YG, Zhang JM, Chen JB, Liu J, et al. Troponin T measurement can predict persistent left ventricular dysfunction in peripartum cardiomyopathy. Heart 2007;93:488-90. *Prospective, multiple-centre clinical trial (n=106 patients) with newly diagnosed peripartum cardiomyopathy surviving over 6 months. Serum cTnT concentration measured within 2 weeks of diagnosis was correlated negatively with LVEF at follow-up.*
*Case-report of anesthetic management in a women with atriodigital dysplasia. Low-dose CSE was performed for CS and BTL*

*Statement summarizing the currently available literature on potential fetal exposures that might alter risk for cardiovascular defects.*

*Review article*

*Letter to the Editor*

*Non-obstetric RCT (n=20)*

*Case-report of anesthetic management (TIVA for CS under GA)*

*Case-report of anesthetic management (epidural for labor analgesia)*

*Guidelines (non-obstetric)*

*Retrospective analysis (non-obstetric)*

*Interesting case-report*

*Case-report*
Case-report (n=2)

Case series (n=4). Management of CS (CSE with invasive monitoring for 3 and GA in one case)

Interesting study (n=16) on the use of cardiac output measure by continuous finger arterial pressure waveform analysis

Prospective cohort study (n=422), non obstetric

Case-report (n=2)

Interesting cohort study from 1980 to 2003 (n = 391).

Retrospective population-based study from 1989-2002 (n=151'487 deliveries; 67 women with congenital heart defects had 156 deliveries)

Case-series (n=6)

Interesting review article

Case-series (n=9)

Letter to the Editor


Connective and auto-immune


*Case-series (n=24)*

*Case-control study (n=77/n=15)*

*Case-control study (n=101)*

*Case-control study (n=47/n=23)*

*Experimental study (n=154) to validate this diagnostic tool*

*Case-report and review article*

### Dermatologic

*Case-report (obstetric management of this rare, autosomal-recessive skin disease characterized by bullous poikiloderma)*

*Case-control study (n=318/n=395)*

*Case-report (anesthetic management with an epidural for labor and delivery in a woman with a highly contagious dermatitis caused by Sarcoptes scabiei)*

*Excellent review article*

*Excellent review article*

### Diabetes

**Prospective association study (n=1744).** Moderate pre-pregnancy coffee consumption may have a protective effect.

252. Agarwal MM, Dhatt GS, Bali N. Fasting capillary glucose as a screening test for gestational diabetes mellitus. BJOG 2007;114:237-8

Letter to the Editor


Case-control study (n=90)


Editorial


Case-control study (n=180)


Case-control study (n=75). results suggest that in pregnancies subsequently complicated by gestational diabetes, amniotic fluid leptin and insulin levels are higher in the early fetal period.


Large retrospective cohort study (n=16,975)


RCT (n=141)


Systematic review (n=2 studies reporting on 60 women with 61 pregnancies)


Retrospective chart review (n=75)


Review article
*Case-control study (n=455). Weight gain within 5 years before pregnancy may increase the risk of GDM.*

*Survey in Sweden (n=23)*

*Review article*

*Systematic review*

*Review article (based on CEMACH report)*

*Review article*

*Review article*

*Letter to the Editor*

*Prospective clinical trial (n=68) to test a new continuous glucose monitoring system*

*RCT (n=68)*

*Case-control study (n=25/n=46)*

*Review article*

*Retrospective study (n=145)*
Interesting review article

Systematic international audit of diabetes in pregnancy care (n=496)

Review article

Interesting prospective nested case-control study (n=150; from the MOMS cohort). Multivariate analysis suggested that sex hormone-binding globulin measured from nonfasting 1st trimester sera was the best predictor of GDM

Prospective study (n=1600)

Good review article

282. van Leeuwen M, Opmeer BC, Coppus SF, Mol BW. Fasting capillary glucose as a screening test for gestational diabetes mellitus. BJOG 2007;114:372
Letter to the Editor

Interesting review article

Endocrine diseases

Based on current literature, thyroid testing in pregnancy should be performed on symptomatic women and those with a personal history of thyroid disease or other medical conditions associated with thyroid disease (eg, diabetes mellitus).

Case-report

Retrospective review of antenatal screening (n= 17'298)

Cross-sectional observational study (n= 335)
   Case-report
   Case report (anesthetic management with TIVA for D&C)
   Case-series (n=3)
   Letter to the Editor
   Review article
   Case-report. Pulmonary edema following induction of GA for CS in a woman with an unknown pheochromocytoma
   Review article
   Case-control study (n=431/n=4094). There seems to be an association.
   Case-report

Gastrointestinal
   Review article
   Case-report
   Review article
   Letter to the Editor
Hematologic


310. Davies JR, Fernando R, Hallworth SP. Hemostatic function in healthy pregnant and preeclamptic women: an assessment using the platelet function analyzer (PFA-100) and thromboelastograph. Anesth Analg 2007;104:416-20. Case-control study (n=50/n=93) to establish a reference range for the PFA-100 for healthy parturients, and to compare the performance of the PFA-100 and TEG in measuring platelet function in preeclampsics and healthy parturients


Excellent review with practical guidelines


Retrospective cohort study (n= 22'096 African-American women with 36'897 pregnancies)


Hepatic


Hypertension

Large, population-based study (n = 30'189'949) showing that the association between chronic hypertension and placental abruption is mediated largely through both PIH and fetal growth

Retrospective chart review (n=16 cases)

Registry based national cohort study (n = 814 cases of abruptio placentae among a total of 211'868 births)

Letter to the Editor

The CHIPS pilot trial: RCT (n=132) to test the feasibility of a large RCT of 'tight versus less tight' BP control

Retrospective population-based cohort study (n=125 with 179 deliveries)

Review article

Prospective association study (combined baseline data from n=3'461 women in the HUNT study and data on deliveries from the Medical Birth Registry of Norway up to 2005). Women with relatively high blood pressure tend to deliver small babies, whereas women with unfavorable lipid levels tended to give birth to large babies, suggesting reduced glucose tolerance. These findings suggest that low as well as high birth weight of the offspring may indicate increased cardiovascular risk for the mother.

Excellent review article (targeted audience: pregnant women)

Editorial

Infection

Observational study (n=175)

Case-control study (n=99)


Case-control study (n=251)


Review article


Placebo-controlled RCT (n=400). A single dose of tenofovir and emtricitabine at delivery reduced by half the resistance to non-nucleoside reverse transcriptase inhibitors at 6 weeks after delivery


Non-randomised intervention cohort study (n=2722). Cumulative 3-month mortality in exclusively breastfed infants was 6.1% (4.74-7.92) versus 15.1% (7.63-28.73) in infants given replacement feeds


Non-obstetric report (n=8'403'766)


Observational study (n=22)


As part of a prospective RCT (antibiotics in HIV, n=2'353), fetal fibronectin concentrations at 28 but not at 20-24 weeks were associated with increased risk of preterm birth
Interesting review article
Survey in the US (n=582)
Review article
Review article
Multicenter, prospective, observational study (n=149). Protease inhibitors do not increase risk of glucose intolerance or insulin resistance among pregnant women. 
Prospective, multicenter study that offered voluntary, rapid HIV testing to women with undocumented HIV status at 17 hospitals in 6 cities. 85.5% of those approached accepted rapid HIV testing (n = 7753 women tested; 52 (0.7%) were HIV+)
Review article
Letter to the Editor
Meta-analysis (n=15 trials; n= 1'492 adults), non-obstetric. Polyvalent immunoglobulins exert a significant effect on mortality in sepsis and septic shock, with a trend in favor of IgGAM.
Case-control study (n=41/n=89). Acute pyelonephritis during pregnancy is associated with a higher maternal serum concentration of sCD30 than normal pregnancy.


386. Lockman S, Shapiro RL, Smeaton LM, Wester C, Thior I, Stevens L, et al. Response to antiretroviral therapy after a single, peripartum dose of nevirapine. N Engl J Med 2007;356:135-47. Placebo-controlled RCT (n=218). Women who received a single dose of nevirapine to prevent perinatal transmission of HIV-1 had higher rates of virologic failure with subsequent nevirapine-based antiretroviral therapy than did women without previous exposure to nevirapine. However, this applied only when nevirapine-based antiretroviral therapy was initiated within 6 months after receipt of a single, peripartum dose of nevirapine.


Prospective cohort study (n=770)

Retrospective review (n=8115). Lack of information in HIV-exposed neonates in 4%

Infertility
Letter to the Editor

Systematic review (n= 9 trials)


Metabolic and nutrition
From the Pregnancy Exposures and Preeclampsia Prevention Study (1997-2001; n=1,823); effects of periconceptional multivitamin use are reporte.

Large population-based cohort study (n= 298'648) in Sweden. The optimal gestational weight gain in women by prepregnancy BMI was 9-22lb (4-10 kg) for BMI<20; 5-22lb (2-10 kg) for BMI 20-24.9; <20lb (<9 kg) for BMI 25-29.9; and <13lb (<6 g) for BMI≥30. The gestational weight gain limits for BMI categories showed that a decreased risk of adverse obstetric and neonatal outcomes was associated with lower gestational weight gain limits than was earlier recommended, especially among obese women.

Interesting 'News' reporting on the controversy around the recommendations from a nonprofit group urging pregnant women to boost their fish consumption--contrary to U.S. guidelines--sparked widespread criticism earlier this month, in part because the review was funded by the fisheries industry.
*Double-blind RCT (n=8468). Multivitamin supplementation reduced the incidence of low birth weight and small-for-gestational-age births but had no significant effects on prematurity or fetal death.*

*Large population-based observational study (n=44'824). Consumption of fatty fish, a known route of exposure to persistent organic pollutants, could be associated with reduced fetal growth.*

*F1000 Must read (4.8). Controversial. The investigators show in a cohort of 5500 children that maternal consumption of more than 340g of seafood a week during pregnancy was beneficial for the child's cognitive development. However, seafood consumption was also very strongly associated with various socioeconomic status indicators such as education, housing and crowding. The extremely strong relation of confounders with seafood intake and most certainly with cognition, suggest that residual confounding is very likely. Past negative experience with dietary observational studies, which, for example, suggested that vitamin E and beta carotene reduced cardiovascular events, demonstrate that only randomized controlled trials can provide evidence on matters such as whether fish intake and neurodevelopment are causally linked.*

*RCT (n=290) in Norway. Usual diet versus a diet low in saturated fat and cholesterol from GA 17-20 weeks to birth. There was no difference in maternal or fetal blood concentrations of a range of biomarkers for inflammation.*

*The same study from Norway (RCT, n=290). A low-cholesterol low-saturated fat diet during pregnancy may reinforce the physiologic gestational decrease in umbilical artery PI levels in mid gestation.*


*Meta-analysis (n=17 trials, > 9000 women).*

*Letter to the Editor*
**Editorial**

**Letter to the Editor**

*Observational study (n= 3071) in Japan. Strict restriction of weight gain during pregnancy was not effective in reducing perinatal complications.*

**Review article (non-obstetric)**

**Musculoskeletal**

**Case-report (anesthetic management: CSE for emergency CS)**

**Case-report (anesthetic management: epidural anesthesia for CS)**

**Case-report (anesthetic management: epidural analgesia for labor and delivery)**

**Neoplasm**

**Practice Guideline**

**Editorial**

**Retrospective cohort study (n=5548)**

**Case-report (anesthetic management: spinal anesthesia for CS at GA 30 wks, with iv PCA morphine for post-op analgesia)**

421. Cruickshank M, Kitchener HC. Precancerous changes in the cervix and risk of subsequent preterm birth. BJOG 2007;114:773  
**Letter to the Editor**


Interesting work showing a new function for p53, important in tumor prevention, in the regulation of maternal reproduction, in which LIF (leukaemia inhibitory factor) a previously unidentified p53 target gene, functions as the downstream mediator of this p53 effect in mice


Population based descriptive study (n=62)

427. Lamont RF, Sarhanis P. Precancerous changes in the cervix and risk of subsequent preterm birth. BJOG 2007;114:775-6

Letter to the Editor


Review article


Case-report


Case-report


Prospective non-obstetric study (n=1.2million) in the UK. Increasing BMI is associated with a significant increase in the risk of cancer for 10 out of 17 specific types examined.


Case-report


Case-report

Neurologic


Case-report
Case-report
Letter to the Editor
Case-report
Case-report (anesthetic management: spinal anesthesia for elective CS)
Case-report
Case-report
Case-report
Interesting report (non-obstetric)
Letter to the Editor
Case-report
Case-report
Case-report
Review article
Case-report

Obesity


454. Hitchen L. More mothers are dying from causes related to obesity. BMJ 2007;335:1175. 'News' (Report form the CEMACH)


459. Kiran U, Evans J. Poor uterine contractility in obese women. BJOG 2007;114:1304-5; *Letter to the Editor*


*Meta-analysis (n=16 trials)*

*Excellent review article*


*Letter to the Editor*

*Review article*

*Retrospective study (n=1011)*

*Historical cohort study (n=63'390)*

*Good review article*

*Editorial*

*F1000 Recommended (3.0). Confirmation. This article highlights and summarises many of the problems presented by the morbidly obese obstetric patient and will strike a chord with all anaesthetists involved in the care of such patients. The authors present a case report of a morbidly obese woman (weight 227kg, height 183cm, BMI 70kg/m2) who presented for an elective caesarean section. A variety of technical problems and anaesthetic complications were encountered and, at least partially, solved through a combination of sensible planning, adequate resources and, it has to be said, some luck. Obesity is emerging as an epidemic of our time in affluent countries. While the causes may be multifactorial, the end result for the practising anaesthetist is a patient who presents a challenging and daunting list of potential complications.*

*F1000 Must read (6.0). Confirmation. This study provides further evidence that pre-surgical fasting times (ingestion of clear fluids) for elective CS are the same in obese pregnant women as in non-obese women without complications. Healthy non-pregnant
and pregnant patients may ingest clear liquids until two hours before the induction of anesthesia without adversely affecting gastric volume. Gastric volumes and emptying are unchanged in obese women, with volumes returning to baseline at one hour. Therefore, consumption of clear fluids until two hours pre-op will not alter gastric volume and increase risk of aspiration. This study is extremely important as our obstetric population has increasing incidence of obesity, and our waiting times for elective caesarean are influenced by our emergency work, so our patients are often allowed to drink until two hours pre-op. The only limitation of this study, which the authors themselves point out, is that this evidence should not be used to suggest that obese pregnant women are at a lower risk of aspiration. Many other factors are present in obesity which cause increased risk of aspiration and, actually, this study also found a higher resting gastric volume than in their previous study on non-obese women.

Cohort study (n=4'830). In obese women with GDM, pregnancy outcome is compromised regardless of the level of obesity or treatment modality.

First, a retrospective analysis (n=3'913), then an in vitro study with myometrial biopsies of obese women undergoing elective CS (n=73). Myometrium from obese women were less contractile.

Psychiatric (incl depression)

Very useful practice guidelines

Review article

Large population-based study (n=181'479). The psychiatric patients were significantly older, with higher prevalence of diabetes and hypertensive disorders. Perinatal mortality rate, congenital malformations, low Apgar scores, and low birth weight were significantly increased.

Review article

Longitudinal prospective study (n=1'047)

Renal

Case-series (n=60 women with 75 deliveries)
Case report (anesthetic management: labor epidural analgesia followed by epidural anesthesia for CS)

Case-report

Case-report

F1000 recommended (3.0). Confirmation. This study confirms the finding of previous smaller studies that nephrolithiasis is a significant risk factor for preterm birth. This state-wide study in Washington, the largest study of its kind, included 2239 pregnant women admitted to hospital for nephrolithiasis compared to 6729 pregnant women admitted to hospital for other reasons. Both preterm labor treated with tocolysis and preterm induction of labor were found to be significantly associated with nephrolithiasis. However, neither the trimester of admission or procedures to treat kidney stones were related to the risk of preterm birth.

RCT (n=50)

Respiratory

Letter to the Editor

Case-report. (Anesthetic mangement: spinal anesthesia for CS)

Interesting case-series (n=3)

Interesting case-report. CS was performed at 24 wks for ARDS due to miliary tuberculosis

Review article
Substance abuse (incl alcohol, smoking and coffee)


Cohort analysis (n= 491'516). No evidence that the fertility rates of women with asthma, eczema, or hay fever are lower than those of women in the general population.


Population-based prospective cohort study (n=526'690) in Sweden. Women who quit smoking before pregnancy may benefit from reduced risk of abruption.


Letter to the Editor


Double-blind RCT (n=1207, caffeinated or decaffeinated !). A moderate reduction in caffeine intake in the second half of pregnancy had no effect on birth weight or length of gestation


Letter to the Editor


Case-control study (n=96).


Case-control study (n=61)


Retrospective cohort study (n=76)


Editorial


'News'

Population-based prospective cohort study (n=7'098) in the Netherlands. Maternal smoking during pregnancy was associated with reduced growth in fetal head circumference, abdominal circumference, and femur length. The larger effect on femur length suggests that smoking during pregnancy affects primarily peripheral tissues.


Observational study (n=55)


Review article


Review article


F1000 Recommended (3.0). Refutation. The interesting aspect of this paper was that women on methadone treatment did not require additional analgesia during labour, which flies in the face of my own experience and what has previously been reported in the literature (albeit sparse) where such women require more analgesia intrapartum and post caesarean section. In this retrospective, case-control study the authors looked at analgesia requirements for women treated with methadone for opiate dependence during pregnancy (vaginal n=35, caesarean n=33). Interestingly, those patients undergoing a caesarean did require more analgesia post caesarean section, which may be related to the mere availability of additional analgesia and a lessening of guilt that these women experience while their babies are in utero. The major limitation in this study was the lack of comment regarding the incidence of epidural/regional anaesthesia used intrapartum or post caesarean section, which would have influenced the incidence of opiate usage for analgesia.


Pro/con letter


Pro/con letter


Longitudinal case-control study (n=99/n=125). Children who were exposed to cocaine during the 1st trimester grew at a slower rate than those who were not exposed, indicating that prenatal cocaine exposure has a lasting effect on child development.


Case-control study (n=1'749/n=4'094). Odds ratios associated with binge drinking were elevated but did not demonstrate significantly increased risk for any phenotype; however, the odds ratios differed by the type of alcohol consumed, particularly for cleft
palate (distilled spirits > wine > beer). These odds ratios were further increased among mothers with no reported folic acid intake.

   Review article

   Editorial

Obstetric Issues and complications

Assisted Reproductive Technologies

   Data collection summarizing the procedures and outcomes of ART that were initiated in the United States in 2001.

   Meta-analysis (n=20 studies; n=5'968 embryo transfer cycles)

   Retrospective study (n=2'339). Mean endometrial thickness as assessed by transvaginal ultrasound probe on the day that hCG was administered during an IVF cycle decreased as a function of the patient's age. Thicker endometrium was correlated with a higher pregnancy rate only for patients >35 years of age.

   Retrospective case-control study (n=1539)

   Retrospective comparative study (n=1'581 positive pregnancy tests). There was a higher rate of clinical miscarriage after in vitro maturation (IVM) when compared with IVF and ICSI. This appears to be related to polycystic ovary syndrome rather than to the IVM procedure.

From the McGill Obstetrics and Neonatal Database (n= 432 children 344 pregnancies). All ART pregnancies are associated with an increased risk of multiple pregnancy, CS and congenital abnormality. Compared with IVF and ICSI, in vitro maturaion was not associated with any additional risk.

Retrospective cohort study. (n= 207 heterotopic and 132'660 intrauterine-only pregnancies). Heterotopic pregnancies were more likely to result in spontaneous or induced abortions than were intrauterine-only pregnancies. There was no difference in perinatal outcomes between heterotopic and intrauterine-only pregnancies progressing to live birth.

520. Dickey RP. The relative contribution of assisted reproductive technologies and ovulation induction to multiple births in the United States 5 years after the Society for Assisted Reproductive Technology/American Society for Reproductive Medicine recommendation to limit the number of embryos transferred. Fertil Steril 2007;88:1554-61.
Report. Between 1998 and 2003, the number of twin births in the US increased 17%, and the number of high order multiple births was unchanged.

Case-report. Management of OHSS with extensive cortical vein and dural sinus thrombosis.

Review article

Case-report of the 1st case of IVF/gestational carrier to 'prevent' pre-eclampsia in a women with 2 previous preeclamptic pregnancies

Case-report

Letter to the Editor

Prospective cohort study (n=11'068 ART cycles). The clinical pregnancy rate was 44.9%, and the live birth rate was 33.7%. Clinical pregnancy and live birth rates were higher and multiple birth rates were lower in 2004 than in previous years.
Prospective cohort study (n=10'656 ART cycles). The clinical pregnancy rate was 43.9%, and the live birth rate was 31.4%. Success rates were higher and multiple birth rates lower in 2003 than in previous years.

Retrospective analysis (n=744 pregnancies). The rate of ectopic pregnancy is not significantly increased after the transfer of frozen thawed blastocysts compared with fresh blastocyst transfer.

Retrospective survey (n=199 oocytes donation recipients and n=488 IVF). Young oocyte donation recipients reported the highest rate of PIH.

Retrospective analysis (n=2'688 pregnancies). Contrary to existing reports, ectopic pregnancy was significantly more common after blastocyst than day 3 transfer

Meta-analysis (n=7 trials; n=1241 women). Currently available evidence does not support the use of aspirin in IVF or ICSI treatment. despite a trend ...

Retrospective cohort analysis.(n= 71 oocyte recipients compared to all women over 38 years who conceived through IVF with autologous oocytes n=108). women undergoing IVF with donor oocytes are not at increased risk for complications during pregnancy or at increased immediate neonatal complications compared with women of advanced maternal age undergoing IVF with autologous oocytes.

Interesting retrospective observational analysis to investigate the consequences of a law introduced in Italy in 2004 that forbids the fertilization or injection of more than three oocytes for assisted reproduction and does not allow any embryo selection or cryopreservation. (n=1'179 cycles before 2004 versus n=1860 cycles after)

Multi-center double-blind RCT (n=408 women undergoing n=836 ART cycles). Preimplantation genetic screening did not increase but instead significantly reduced the rates of ongoing pregnancies and live births after IVF in women of advanced maternal age.

**F1000 Recommended. Confirmation.** This article confirms the potential of adverse pregnancy outcomes in women who require in-vitro fertilisation. This is in contrast to literature a decade ago but is in agreement with more recent literature. The information from this review, whilst useful for obstetric management, has very little if any impact on these couples who are desperate to conceive and have a child seemingly irrespective of the risks. However, thanks the numbers and cross-section of patients the article reviewed, it provides a balanced view of the current information that most reproductive medicine units promulgate to patients. We should now be in a position to relate outcomes to the particular assisted reproductive technology used to achieve pregnancy, such as ovulation induction, donor oocytes and surrogacy.


*Case-report*


*Case-report*


Case-discussion with interesting review

Review article

Observational study (n=388 oocytes). Preconception screening in two situations of increased chromosomal risk

Case-report

Retrospective case-control study (n=40). Prematurely declining ovarian function was not characterized by an increased aneuploidy rate

Report

Case-report

Prospective observational study (n=32)

Abdominal/ectopic Pregnancy

Observational study (n=129). A 20% decline in hCG levels between days 1 and 4 during methotrexate treatment had a positive predictive value of 97%.

Review article

Prospective study (n=101). 87% of patients were treated successful when 2 doses of im methotrexate were given (4 days apart).

Letter to the Editor

Case-report (n=2)


Retrospective observational study (n=879). Tubal rupture rate was 29.5% (259/879) and was more frequent in women > 35 years old


Prospective study (n=55). No evidence of persistent infection of Chlamydia trachomatis in the fallopian tubes at the time of ectopic pregnancy was found


Case-report


Case-report


Case-report


Case-report


Meta-analysis (n=2 trials; n=157 women). Lack of evidence...


Prospective case-control study (n=18 cases with da Vinci Surgical System versus n=10 with an open microsurgical tubal anastomosis). Mean operative time for robotic anastomoses was significantly greater than open anastomoses although hospitalization times were significantly shorter. Pregnancy rates were comparable between groups (ROBOT 62.5%; OPEN 50%), yet the rate of abnormal pregnancy was higher in the robotic group


Case-report


Follow-up study (n=2'170'177 women) in Sweden.
*Case-report*

*Case-report*

*Retrospective study (n=181)*

*Case-series (n=61)*

*Meta-analysis (n=35 trials). In the surgical treatment of tubal ectopic pregnancy laparoscopic surgery is a cost effective treatment. An alternative nonsurgical treatment option in selected patients is medical treatment with systemic methotrexate.*

*Case-series (n=38). Cervical pregnancies can be successfully managed without surgical intervention through local injection of methotrexate and KCl.*

*Letter to the Editor*

*Case-report*

*Survey (n=102)*

McNeill HW. When a pregnancy seems like an ectopic ... but isn't. Obstet Gynecol 2007;110:1175-6  
*Letter to the Editor*

*Meta-analysis (n=5 trials, n=503 women). Results support a substantial increase in failure of medical management with single-dose methotrexate when the initial hCG is above 5,000 mIU/mL. Methotrexate should be used with caution in patients with ectopic pregnancy who present with hCG levels above this level.*

*Review article*


582. Rodgers AK, Goldberg JM, Hammel JP, Falcone T. Tubal anastomosis by robotic compared with outpatient minilaparotomy. Obstet Gynecol 2007;109:1375-80. Retrospective case-control study (n=26 with robot versus n=41 by outpatient minilaparotomy). Robotic surgery for tubal anastomosis was successfully accomplished without conversion to laparotomy. The robotic technique for tubal anastomosis required significantly prolonged surgical and anesthesia times over outpatient minilaparotomy. Costs were higher with the robotic technique. Return to normal activity was shorter with the robotic technique.


1000 mL of blood. There were no significant differences in the incidence of postoperative fever, postoperative wound infection or duration of hospital stay longer than 7 days. Quite remarkable study showing salvage autotransfusion can be safely used.

Population-based cost-effectiveness study (n=1'664)

Case-report

Case-series (n=11). There was a trend toward better management of primary abdominal pregnancy with laparoscopy.

Case-series (n=54)

Case-report

Case-control study (n=73). Compared with the controls, the cases had low β-hCG levels and high CK levels, with discriminatory values for predicting both ectopic pregnancy and tubal rupture.

Case-report

Retrospective chart review (n=228)

Case-report

Case-report

Case-report

Review article

Short letter


Case-report

Amniotic Fluid Embolism


Case-report


Case-report. AFE presenting as cardiovascular collapse during labor. After urgent CS, NO was used in the ICU


Review article


Case-report


Review article


Must read case-report. AFE during termination of pregnancy with misoprostol at 35 weeks of gestation for fetal porencephaly. 15 minutes after AROM, the patient was in ventricular fibrillation. Aggressive life-saving management including extracorporeal life support by use of a femoro-femoral bypass for 20 days is reported.

Cervical Cerclage


Case-control study (n=298). Non-pregnant women with a history of spontaneous mid-trimester miscarriage have a significantly lower cervical resistance index than parous women who have not suffered mid-trimester loss


Review article

Non-randomized study (n=176). Elective cerclage contributed little in prolongation of gestational age at the time of delivery in women with twin pregnancy, especially in women of high parity.

Letter to the Editor

Meta-analysis (n=7 trials: n=2091 women). Cerclage may reduce the risk of pregnancy loss or neonatal death before discharge from hospital in singleton pregnancies thought to be at risk of preterm birth, but further large trials are needed to elucidate the risk-benefit ratio precisely. Cerclage in multiple pregnancies should be avoided.

Review article

Multi-center RCT. Ongoing project

Retrospective chart review (n=58611 deliveries with n=1174 cerclages). Obstetricians in private practice use cervical cerclage more frequently than their colleagues in a university hospital setting

Case-report

Delivery (breech, CS, operative)

Interesting practice guidelines. CS on maternal request should not be performed before GA of 39 weeks has been accurately determined unless there is documentation of lung maturity. CS on maternal request is not recommended for women desiring several children, given that the risks of placenta previa, placenta accreta, and the need for gravid hysterectomy increase with each CS.

Retrospective cohort study (n=11574 deliveries). As compared to obstetricians who preferred forceps, obstetricians with no instrument preference had a higher rate of operative vaginal deliveries, a higher CS rate and a higher episiotomy rate in non-operative vaginal deliveries.

Prospective observational study (n=11'981). Cesarean deliveries performed in the 2nd stage were associated with longer operative times, epidural analgesia, chorioamnionitis, and higher birth weight.


Retrospective cohort study (n=83'352 deliveries, operative vaginal delivery n= 5120). Forceps vs vacuum and epidural analgesia versus iv opiates were associated with a lower risk of failure; persistent occiput posterior position and birthweight >4000 g with a higher risk of failure.


Prospective study (n=603). Success rates were 72.3% for multiparas and 46.1% for nulliparas. The incidence of spontaneous version after failed ECV was small (6.6%).


Survey (n=1'031). Most obstetrician-gynecologists in this study recognized an increased demand for cesarean delivery on maternal request within their practices, while believing that the risks of this procedure outweigh the benefits.


Cohort study (n=742). Failed ventouse delivery was associated with an increased chance for fetal malposition and postpartum hemorrhage. Compared to forceps after failed ventouse, CS was associated with a higher prevalence of postpartum hemorrhage and fewer 3rd degree perineal tears.


Secondary analysis (n=6'080 from the PREMODA trial). The planned CS rate was 63.5%. The maternal factors most strongly associated with a decision for planned CS were parity and maternal age ≥35 years.


Survey (n=156 trainees).


Editorial


Prospective observational study (n=100). Vacuum extraction for prolonged 2nd stage was considered safe and effective.
*Retrospective cohort study (n=5'158). Multipara with a 2nd stage > 3 hours had higher risks of operative vaginal deliveries, CS and maternal morbidity including 3rd or 4th degree perineal lacerations, postpartum hemorrhage, and chorioamnionitis.*

*Prospective survey (n=619 elective CS). The prevalence of CS on request was 4.4%.*

*Survey (n=197)*

*Case-series (n=805)*

*Comparative observational study (n=2'274). Compared with planned vaginal deliveries, planned CS significantly improved rates of mortality and poor outcomes in the immediate neonatal period.*

*Letter to the Editor*

636. de Leeuw JP, Verhoeven AT, Schutte JM, Zwart J, van Roosmalen J. The end of vaginal breech delivery. BJOG 2007;114:373-4  
*Letter to the Editor*

*Interesting perspective on this 'hot topic'*

*Retrospective cohort study (n=1'284). Among women with a trial of VBAC, 1094 (85.2%) had a vaginal birth and 190 (14.8%) underwent repeat CS. An interesting discussion accompanies this paper.*

*Retrospective analysis*

*Retrospective cohort study (n=399)*

*F1000 Recommended (3.0). Confirmation. This retrospective multicentre study confirms the generally held view that there is an increasing maternal morbidity*
associated with prior CS, particularly in relation to placenta praevia, which has clinical significance as the overall CS rate is now approaching 30% in Westernised societies. The study examines the previously reported association between prior CS and placenta praevia where the likelihood of placenta praevia increased as both parity and number of CS increased. This study was a little more unique in that it also examined perinatal outcome and demonstrated that although perinatal mortality and morbidity were increased with placenta praevia, as expected, this was unrelated to the number of prior CS. This study did not specifically examine the association between prior CS, anterior placenta praevia and placenta accreta. This has been reported more recently to occur in anywhere between 10% and 40% of cases. It is difficult to understand why there is this disparity in the reporting of this association but nevertheless it does represent the most frequent indication for peripartum hysterectomy.


Prospective cohort study (n=183 women). Maternal health outcomes two years after term breech delivery were similar after planned cesarean section and planned vaginal delivery.


Retrospective cohort study (n=1’119)


Retrospective cohort study (n=1’021 singleton term babies with an operative delivery for 'fetal distress' in the 2nd stage of labor). Operative vaginal delivery in a labor room was feasible within a 15 minute DDI but 30 minutes was more realistic for procedures in an operating room. The need for regional or general anesthesia was an important factor in prolonging the DDI.


RCT (n=206 CS under GA). Exteriorization was clearly associated with higher postoperative visceral pain scores (48h).


Survey (n=30)


RCT (n=200). Women found the decision aid to be an effective, useful and acceptable adjunct to standard counselling about the management options for breech presentation.


A prospective observational study (n=229). Trial of instrumental delivery took 2-3 times longer than delivery in the labour room; fetal malposition was the major indication for the trial of instrumental delivery and reason for failed delivery.


Review article


Prospective longitudinal study (n=600). Significantly more women changed from elective CS to VD at term than from VD to elective CS (42.0 versus 3.4%).


Prospective study (n=2,478) in France and Belgium. The CS rate was 28.5%. Nulliparity, complete breech, rupture of membranes before labor, fetal weight ≥3800g, biparietal diameter >95mm and university and public non-teaching hospital maternity units were significantly associated with CS during labor.


Retrospective study (n=195 twin pregnancies with the 1st twin in breech position). CS was planned for 71 (36.4%) patients, and attempted vaginal delivery for 124 (63.6%) out of which 59 (47.6%) really delivered vaginally. The frequency of DVT/PE requiring anticoagulant therapy was significantly higher in the planned CS group. Attempted vaginal delivery was considered a reasonable option for 1st twins in breech position.


Editorial


Letter to the Editor


Population based-cohort study (n=596,341 women). CS was more strongly associated with reduced fertility if the infant survived than if it was stillborn or died. This suggests that the reduced fertility was to a large degree voluntary.


Cross sectional study (n=126). Intrapartum events did not affect ACE activity. There was no influence of the infants’ genotype on ACE activity in relation to mode of delivery.


Letter to the Editor


Survey (n=600 women and n=294 294 obstetric consultants, registrars, midwives, and medical students). The median level of fetal risk deemed acceptable to achieve a vaginal birth for pregnant women was 10 per 10,000 births. Among staff, the median level of acceptable fetal risk was 13 per 10,000 births.


Letter to the Editor


Retrospective cross-sectional population-based study (n=739,531 vaginal delivery-eligible singleton deliveries) in Taiwan.


Review article
Hemorrhage (PPH)


*Case-series (n=38)*


**F1000 Recommended (3.0) Confirmation.** This study confirms the impression, supported by numerous published studies, that recombinant factor VIIa (rFVIIa) can be extremely helpful in the treatment of intractable, life-threatening postpartum hemorrhage. The authors surveyed maternity units in nine Northern European countries to evaluate the use of rFVIIa in the treatment of intractable maternal hemorrhage. They reported on 113 individual cases of administration of rFVIIA, with successful control of hemorrhage in 85%. Complications were low, although there were four cases of thrombo-embolism. This study describes what the authors call an ‘exponential increase’ in the use of rFVIIA (three occurrences in 2001, 65 in 2004). The apparent success of this therapy, however, should be interpreted with caution. Of the maternity units known to have used rFVIIA during the survey period, only 12% responded to the survey. It is possible that the number of complications was underreported due to recall bias. Finally, it is likely that the criteria for administration varied widely between hospitals, and what is sometimes used as a last ditch, lifesaving treatment when all else has failed may at other institutions be used earlier in the decision process, e.g. as a method of avoiding hysterectomy. Despite the ethical concerns that would be inherent in a randomized trial, this step would be extremely useful in determining the role of this therapy. A French trial is currently recruiting participants


*Case-control study (n=320)*. Episiotomy should be avoided to decrease the amount of peripartum blood loss. However, if mediolateral episiotomy is to be performed, it should be repaired before placental removal to decrease the amount of peripartum blood loss.


**Review article**


*Retrospective review (n=28 cases). Uterine compression sutures for severe postpartum hemorrhage may obviate the need for hysterectomy and appear not to jeopardize subsequent pregnancy*


*Prospective double-blind RCT (n=622). Routine use of 400µg oral misoprostol was no less effective than 5U iv oxytocin in reducing blood loss after delivery.*


*Prospective audit*
A cost-effectiveness analysis, modeling two hypothetical cohorts of 10'000 women. The misoprostol strategy could prevent 1'647 cases of severe PPH and save $115,335 in costs of referral, IV therapy and transfusions per 10'000 births.

Retrospective study (n=50)

Multicenter retrospective review (n=65). After planned cesarean hysterectomy (n=30), patients had a significantly lower rate of blood loss, less need for blood transfusions, and fewer complications compared with patients who underwent an emergent cesarean hysterectomy (n=35).

Case-report


Interesting review article

Retrospective chart review (n=45)

Case-report

Secondary analysis (n=1'646). Semi-sitting and sitting birthing positions only lead to increased blood loss among women with perineal damage.

Case-report

Letter to the Editor

Case-report

Interesting retrospective chart review with an estimation of the number of allogenic RBC units that could have theoretically been avoided had intraoperative cell salvage been used. Of 207 patients receiving blood transfusions, salvaged erythrocytes could have theoretically decreased exposure to allogenic RBCs in 115 (55.6%) patients.


Population-based study (n=752'374 deliveries)


Review article


Excellent review article


Case-series (n=11). Only one woman ultimately required a hysterectomy.


Case-report


Case-report (complicated by iliac artery thrombosis)


Case-report in a woman with mild asthma.


Case-series (n=4) with a very extensive review of obstetric cases


Retrospective cohort study (n=18 women receiving rFVIIa versus n=16 not receiving)


Letter to the Editor


Case-report


Letter to the Editor
RCT (n=130) in Tunisia. Active management of 3\textsuperscript{rd} stage of labor reduced the risk of PPH and shorted the 3\textsuperscript{rd} stage.

Retrospective cohort study

Case-report

Review article

Letter to the Editor

Case-report

F1000 Must read (6.0). Changes clinical practice. Uterotonic therapy should be a 1\textsuperscript{st} line treatment of peripartum uterine hemorrhage caused by uterine atony or placental implantation abnormalities. Wider use of uterotonic medications in the management of PPH will reduce the need for peripartum hysterectomy with its associated morbidity. The use these agents in the prevention and treatment of postpartum hemorrhage has been regarded as the standard of care for decades. It is astonishing, therefore, that this region-wide, one-year study of 315 women in the UK who underwent peripartum hysterectomy to control hemorrhage found that many women did not receive simple uterotonic medications before the hysterectomy was accomplished. Novel therapies, reported to be highly effective, including brace suturing (B-Lynch), activated factor VII and arterial embolization, had failed in 28% of the patients. Associated morbidity was high; other organ damage occurred in 21% of patients, re-operation was necessary in 20% and other severe morbidity occurred in 19%. The study was accomplished with a unique but simple postcard notification system, activated by clinicians at multiple sites, that allows rare events to be accumulated for adequate epidemiological evaluation

Meta-analysis (n=6 placebo controlled trials; n= close to 4000 cases). Prophylactic im or iv injections of ergot alkaloids are effective in reducing blood loss and PPH but adverse effects include vomiting, elevation of blood pressure and pain after birth requiring analgesia, particularly with the IV route of administration.

Secondary analysis of a prospective RCT (n=1607) comparing placental removal at 20 versus 30 min to prevent PPH. Prolonged third stage of labor is correlated with an older maternal age and a prolonged second stage of labor. Significant risk factors for PPH include chorioamnionitis, an overdistended uterus and a third stage of labor >10 min.

711. Mahajan NN, Gaikwad NL, Mahajan KN, Soni RN. Internal iliac artery ligation for arresting postpartum haemorrhage. BJOG 2007;114:906
Letter to the Editor

Letter to the Editor

Meta-analysis (n=3 trials; n=462 women). Insufficient evidence to show that the addition of misoprostol is superior to the combination of oxytocin and ergometrine alone for the treatment of primary PPH.

Case-series (n=5)

RCT (n=355). Oral misoprostol 400 µg versus im syntometrine showed no difference

716. Orji E, Agwu F, Loto O, Olaleye O. A randomized comparative study of prophylactic oxytocin versus ergometrine in the third stage of labor. Int J Gynaecol Obstet 2007. RCT (n=600). Oxytocin was as effective as ergometrine at reducing the incidence of PPH, but without the undesirable side effects of nausea, vomiting, and elevated blood pressure associated with ergometrine.

Interesting case-series (n=3)

Case-series (n=20)

No RCT comparing the efficacy of fundal pressure versus controlled cord traction as part of the active management of the third stage of labour was found!

From the OAA 2007 Controversies meeting (Pro/Con debate)
*Cohort study (n=265)*

*Case-control study (n=69). Prophylactic intravascular balloon catheters did not benefit women with placenta accreta undergoing cesarean hysterectomy.*

*Prospective observational study (n=14). Optimal bleeding control was achieved in all cases but one who underwent hysterectomy due to embolization failure.*

*Meta-analysis (n=4 trials; n=1037 women) There is insufficient evidence that 100 µg of iv carbetocin (a long-acting oxytocin agonist) is as effective as oxytocin to prevent PPH.*

*Letter to the Editor*

*Case-report*

*Review article*

*Case-report*

*Review article*

*Observational study (n=706) in Tanzania. A postpartum blood loss of 400 mL or greater should be considered a possible complication of placental malaria.*

*From the OAA 2007 Controversies meeting (Pro/Con debate)*

732.* Verkuyl DA. Fast and easy provisional treatment of severe postpartum haemorrhage. BJOG 2007;114:908-9  
*F1000 Recommended. Confirmation. In this letter, the author has proposed a temporising measure to deal with severe post-partum haemorrhage at the time of CS with the use of a 'uterine tourniquet' using a Foley's catheter tied at the level of the*
uterine arteries. Many employ this method of haemostasis during myomectomy with success and it can certainly be used for selected cases of severe post-partum haemorrhage. This paper is the author's response to an article: 'The Hayman's technique: a simple method to treat post-partum haemorrhage' (Ghezzi et al., BJOG 2007, 114:362-365). This technique is one of a number of similar techniques, i.e. the B-Lynch Suture and the Cho technique, in which uterine compression sutures are placed to control obstetric haemorrhage due to uterine atony with the intention of avoiding hysterectomy, particularly in women who have not completed childbearing or who strongly oppose hysterectomy.


Hyperemesis Gravidarum


736. Matsuo K, Ushioda N, Nagamatsu M, Kimura T. Hyperemesis gravidarum in Eastern Asian population. Gynecol Obstet Invest 2007;64:213-6. Retrospective cohort study (n=3350). Hyperemesis gravidarum was observed in 119 cases (3.6%). Small pre-pregnancy body habitus increased the risk of hyperemesis gravidarum.

Induction of labor


Prospective study (n=80). Misoprostol was found to be safe in this cohort of post-CS women and there was no case of scar rupture or dehiscence.


742. Bueno B, San-Frutos L, Perez-Medina T, Barbancho C, Troyano J, Bajo J. The labor induction: integrated clinical and sonographic variables that predict the outcome. J Perinatol 2007;27:4-8. Prospective study (n=196). Success of labor induction in nulliparous was 50.8% and 83.3% in multiparous women. Cervical length, Bishop score and parity predicted the success of labor induction


744. Chigbu CO, Ezeome IV, Okezie AO, Oyefara B. Induction of labor on request in a resource-poor setting. Int J Gynaecol Obstet 2007;98:208-11. Survey (n=487 women undergoing induction of labor) in Nigeria. Maternal request was 7.4%. Maternal convenience was the commonest reason for request induction. The outcomes of labor were similar between the subjects and their controls.


747. Elhassan EM, Nasr AM, Adam I. Sublingual compared with oral and vaginal misoprostol for labor induction. Int J Gynaecol Obstet 2007;97:153-4. RCT (n=150) in Sudan. Induction to delivery time was significantly shorter in the sublingual misoprostol group than in the other groups


Prospective observational study (n=11'778). Induction of labor in the study population is associated with an increased risk of CS in all women with an unfavorable cervix.

Observational study (n=397). A modified Bishop score at admission for labor induction, but not other risk factors typically associated with CS, was associated with length of the latent phase.

Meta-analysis (n=20 trials; n=3'101 women). Sonographic cervical length was not an effective predictor of successful labor induction.

RCT (n=508) followed by survey. At 41 weeks 74% of all women preferred to be induced. Labors were shorter and contractions were reported to be more frequent and intense in the induction group compared with the monitored group. However, their experience with labor induction was positive.

Population-based cohort analysis (n=40'631). NNT to avoid 1 fetal or neonatal death is high but decreases constantly with gestational age beyond 41 weeks.

Case-report

Non-randomized trial (n=70)

RCT (n=142). Misoprostol at a dose of 25 µg was effective, safe and cheaper than oxytocin for induction of labor.

Letter

Report. The overall CS rate rose from 8.1 to 13.6%. Rate of induction of labour and instrumental vaginal delivery remained constant. In nulliparous term women with singletons in vertex presentation the CS rate increased with 8.0% to a rate of 20.7%.
when labour was induced versus an increase of 3.4% to a rate of 7.5% in spontaneous labour.


769. Pates JA, Zaretsky MV, Alexander JM, Babcock EE, McIntire DD, Twickler DM. Determining cervical ripeness and labor outcome: the efficacy of magnetic resonance T2 relaxation times. Obstet Gynecol 2007;109:326-30. Prospective study (n=93). There was no significant correlation between the cervical T2 relaxation time and any individual component of the Bishop score or the total score. The
cervical T2 relaxation time did not predict whether labor was spontaneous or induced and whether or not a woman underwent cesarean delivery.


774. Tan PC, Yow CM, Omar SZ. Effect of coital activity on onset of labor in women scheduled for labor induction: a randomized controlled trial. Obstet Gynecol 2007;110:820-6. Interesting 'placebo'-controlled RCT (N=210). Among women scheduled for labor induction who were advised to have sex, the increase in sexual activity did not increase the rate of spontaneous labor


Infection (puerperal)


Prospective observational study (n=103)

Case-report

Double blind placebo-controlled RCT (n=357). Administration of prophylactic cefazolin prior to skin incision resulted in a decrease in both endomyometritis and total postcesarean infectious morbidity, compared with administration at the time of cord clamping. This dosing did not appear to increase neonatal septic workups or complications. Seems like there is evidence for a change of practice.

Prospective observational study (n=513).

Maternal Mortality

Retrospective analysis (n= 137 consecutive perinatal death cases). in Netherlands

Cross-sectional study (n=10'755). Poverty and insurance status did not explain differences in adverse pregnancy outcomes between African-American women and Hispanic women with Medicaid insurance.

Letter (from the The Lancet's 'Maternal survival series')

Survey (from the The Lancet's 'Maternal survival series'). The fall in maternal mortality over 30 years occurred despite a low uptake of skilled attendance at birth. Part of the decline was due to a fall in abortion- related deaths and better access to emergency obstetric care; midwives might also have contributed by facilitating access to emergency care. Investment in midwives, emergency obstetric care, and safe pregnancy termination by manual vacuum aspiration have clearly been important. However, additional policies, such as those that bring about expansion of female education, better financial access for the poor, and poverty reduction, are essential to sustain the successes achieved to date.
*Survey (n=131) using Delphi questionnaires*


*Letter (from the The Lancet's 'Maternal survival series')*

*Review article (from the The Lancet's 'Maternal survival series')*

*Interesting report*

*Retrospective chart review (n=80 mortality cases; n=69 near-miss cases)*

*Report*

*Interesting report(from the The Lancet's 'Maternal survival series') concluding that although some regions have shown some progress since 1990 in reducing maternal deaths, maternal mortality ratios in sub-Saharan Africa have remained very high, with little evidence of improvement in the past 15 years.*

*Report*

*Report*

*Population-based, historic cohort study (n=22'991'306 singleton; n=316'696 twin, and n=12'193 triplet pregnancies)*

*Report*

*Report*
Merging available databases, allowed to estimate past trends and forecast to 2015 for 172 countries (from the The Lancet's 'Maternal survival series')

Letter (from the The Lancet's 'Maternal survival series')

Retrospective audit

Report (n=164 elective CS)

Report

Report

Review article

Letter (from the The Lancet's 'Maternal survival series')

Review article(from the The Lancet's 'Maternal survival series')

Review article


Letter (from the The Lancet's 'Maternal survival series')

Prospective cohort study from the 2005 WHO global survey on maternal and perinatal health (n=106'546). CS independently reduces overall risk in breech presentations and risk of intrapartum fetal death in cephalic presentations but increases the risk of severe maternal and neonatal morbidity and mortality in cephalic presentations.

Letter (from the The Lancet's 'Maternal survival series')

Multiple Gestation
820. Acosta-Rojas R, Becker J, Munoz-Abellana B, Ruiz C, Carreras E, Gratacos E. Twin chorionicity and the risk of adverse perinatal outcome. Int J Gynaecol Obstet 2007;96:98-102. Prospective observational study (n=27 monochorionic and n=109 dichorionic twin pregnancies). The incidence of neonatal complications was higher in monochorionic twins born of pregnancies complicated by twin-twin transfusion syndrome or selective IUGR. Although the incidence of selective IUGR was similar in both groups, there was a trend towards worse outcomes in monochorionic pregnancies affected by selective IUGR.
Multicenter prospective RCT (n=42). The outcome of the trial did not conclusively determine whether AR or SFLP is a superior treatment modality. TTTS cardiomyopathy appears to be an important factor in recipient survival in TTTS.


Retrospective study (n=56 triplet pregnancies). For triplet gestations, a normal prepregnancy BMI and a total gestational weight gain of at least 15.9 - 20.5 kg (35 - 45 lb) are associated with fewer pregnancy complications.


Case-report


F1000 Recommended (3.0). New finding. Despite the improved prognosis reported with fetoscopic laser surgery (FLS), twin-to-twin transfusion syndrome (TTTS) remains a dangerous complication of monochorionicity of which treatment is not widely available and is associated with a significant failure rate even in the most experienced of hands. Neonatal prognosis in monochorionic (MC) twins with TTTS successfully treated with FLS is similar to dichorionic (DC) twins when delivery occurs at greater than 30 weeks gestation. This retrospective study involves 79 MC twins treated with either amnioreduction or FLS as initial therapy and 130 dichorionic twins delivered at 24–34 weeks of gestation. Perinatal mortality and neurologic morbidity were higher in MC twins treated with amnioreduction regardless of gestational age, affirming the role of vascular anastomoses in the evolution of morbidity resulting from two fetuses sharing a single placenta. By obliterating these anastomoses, FLS has the effect of dichorionizing the placenta. However, failure of FLS occurred in 25.8% (15 of 58 pregnancies) and was associated with marked prematurity and neonatal morbidity.


Prospective study (n=100).


Case-series (n=21)


Prospective study (n=139), suggesting that velamentous cord insertion and unequal placental territory are not critical factors for the development of TTTS.


**Case-report describing a novel mutation in the ornithine transcarbamylase gene, causing severe neonatal-onset hyperammonaemic encephalopathy**


**Retrospective analysis (n=229)**


**Placebo-controlled RCT (n=661). Contrary to results in singleton pregnancies where treatment with 17 alpha-hydroxyprogesterone caproate has been shown to reduce the rate of recurrent preterm birth, it did not reduce the rate of preterm birth in women with twin gestations.**


**Population-based study (n= 8858), Male singletons and like-sex twins were at increased risk for mortality, respiratory distress syndrome, pneumothorax, bronchopulmonary dysplasia, periventricular-intraventricular hemorrhage, and periventricular leukomalacia. However, in unlike-sex twin pairs, no difference was seen in the incidence of respiratory morbidity between male and female twins. These findings suggest that the difference in morbidity and mortality between male and female premature infants represents a male disadvantage as opposed to a female advantage and that this disadvantage may be transferred from boys to girls in unlike-sex twin pairs, perhaps via an intrauterine paracrine effect.**


**Retrospective chart review (n=87 twins). Fetal fibronectin was predictive.**


**F1000 Recommended (3.0). Controversial. This observational study highlights the controversy about how to deliver twins, particularly concentrating on those at term. In 177 term twin pregnancies, where one twin survived and one which was normally formed died, the risk of the 2nd dying was over twice as much as the first. Furthermore,**
in the 110 cases of anoxic or traumatic death there was over three-fold increase in the 2nd twin dying compared to the 1st. This does not imply necessarily that CS will reduce these deaths and in the 121 cases of one twin dying, where the mode of delivery was known, there was only a trend towards the 2nd twin dying from anoxia when delivered vaginally! A RCT of the mode of delivery for twin pregnancy is currently recruiting and should inform us of how many additional CS are needed to prevent anoxic still birth. While elective CS is a relatively safe procedure effects on future fertility, future placentation and outcome for future children has also to be considered.


Neurologic Complication


PIH/Preeclampsia/Eclampsia/HELLP (etiopathogenesis, risk factors, long term outcomes)

Case-control study (n=29)


Retrospective case-control study (n=1540, n=840). Chorionic villus sampling at 10-13 weeks' GA did not appear to increase the overall risk for hypertensive disorders of pregnancy. However, when breaking down the severity of disease, there was near significance for eclampsia and HELLP syndrome as separate entities.


Retrospective cohort study (n=154'810). Women with preeclampsia, SGA, and placental abruption in their 1st pregnancy are at substantially increased risk of recurrence of any or all these conditions in their 2nd pregnancy.


Meta-analysis (n=31 trials; n=32'217 women). Antiplatelet agents during pregnancy are associated with moderate but consistent reductions in the relative risk of pre-eclampsia, of birth before 34 weeks' gestation, and of having a pregnancy with a serious adverse outcome.


Survey (n=31 formerly eclamptic versus n=30 healthy parous control participants) using Cognitive Failures Questionnaire. Women who had eclampsia reported significantly more cognitive failures years after the index pregnancy. It is hypothesized that this might be due to some degree of cerebral white matter damage.


Letter to the Editor


Meta-analysis (n=3'488'160 women; n=198'252 affected by pre-eclampsia and n=29'495 episodes of cardiovascular disease and cancer). After pre-eclampsia women have an increased risk of vascular disease. No increase in risk of any cancer was found. Overall mortality after pre-eclampsia was increased after 14.5 years.


Case-control genetic association study (n=359);
Case-control study (n=21, n=12). Higher levels of CD34, CD44, and LIF were found in the placentas of pre-eclamptic compared with normotensive women.

Case-control genetic association study (n=314). Results did not confirm previous suggestions that STOX1 plays a major role in Dutch women with pre-eclampsia.


Cohort study (n=20'794 white women and n=18'916 black women). The incidence of preeclampsia decreased in white women during the summer with no such pattern in black women, suggesting that, in each subgroup, different or competing environmental exposures may be important for the pathogenesis of preeclampsia.

Retrospective cohort study (n=1'515)

Longitudinal prospective case-control study. Placental protein 13 (PP13) in serum in 1st trimester from women subsequently developing preeclampsia (n = 47), IUGR (n = 42), or preterm delivery (n = 46) was determined. The screening of maternal PP13 levels in the first trimester is a promising diagnostic tool for the prediction of preeclampsia with high sensitivity and specificity.

Letter to the Editor (from the The Lancet's 'Maternal survival series')

Case-control study (n=35). The expression of NDRG1 was upregulated in placentas from pregnancies complicated by severe preeclampsia or IUGR.

Meta-analysis (n=36 trials; n=1'699'073 women). BMI appeared to be a fairly weak predictor for pre-eclampsia.

F1000 Recommended (3.0). Confirmation. This important systematic review will prove useful in counselling women with short term interval pregnancies of the potential risks of the uterine rupture if contemplating vaginal birth after previous cesarean and
placenta previa (and presumably placenta accreta) in those women with a previous CS. For those women with long interval pregnancies a strategy of the active management of labour can be discussed to counter the increased incidence of dysfunctional labour dystocia confirmed by this review. The interesting association of an increased incidence of pre-eclampsia in women with long interval pregnancies with the same partner may reflect reduced sensitivity/immune reactivity over time and may not necessarily refute an immune basis in the aetiology of pre-eclampsia.

Animal study showing that heme oxygenase-1 inhibits sFlt-1 and sEng release from endothelial cells and placental explants and that the pathophysiology of preeclampsia may involve the loss of HO activity.


Case-control genetic association study (n=113). No correlation was observed between pre-eclampsia and presence of G1691A, G20210A and C677T mutations in Brazilian women.

Case-control study (n=50). Marked increases in serum amyloid A and CRP were found in pre-eclamptics

Case-control study (n=317). Protein Z deficiency, a vitamin K-dependent plasma protein, was observed in preeclampsia and fetal demise

Cross-sectional study (N=499). Plasma sVEGFR-1 concentration was increased in a subset of patients with fetal death, but does not change in term and preterm parturition, rupture of fetal membranes, or acute pyelonephritis.

Prospective cohort study (n=3348). The combination of abnormal UADV and maternal plasma PI GF concentration of < 280 pg/mL in the 2nd trimester was associated with a high risk for preeclampsia and early onset and/or severe preeclampsia in a low-risk population.
Review article

Prospective cohort study (n=216)

Case-report (n=67). Urinary podocyte excretion occurred in all patients with preeclampsia

Prospective cohort study (n=113). Estimated fetal weight at the time of diagnosis is the most important prognostic factor in severe pre-eclampsia with some additional value of ductus venosus assessment.

Population-based retrospective cohort analysis (n=136'884). Increases in prepregnancy BMI from normal weight to overweight or obese between pregnancies are associated with increased risk of preeclampsia in the subsequent pregnancy.

Review article

Case-control study (n=20). The content of decorin, biglycan and versican in the umbilical cord vein wall is elevated in pre-eclampsia in comparison to the corresponding control vessel.

Prospective trial (n=446). Diffuse decidual leukocytoclastic necrosis of the decidua basalis was relatively common in placentas of 23-32 wks GA, was positively associated with preeclampsia and may be a marker of vascular compromise.

Cross-sectional study (n=316). CXCL10/IP-10, a member of the CXC chemokine family with pro-inflammatory and anti-angiogenic properties.was elevated in pre-eclampsia.
Retrospective review (n=86). IUGR in hypertensive disorders of pregnancy was not a measure of severity of hypertension, but reflects underlying fetal susceptibility to growth factors.

889. Groom KM, North RA, Poppe KK, Sadler L, McCowan LM. The association between customised small for gestational age infants and pre-eclampsia or gestational hypertension varies with gestation at delivery. BJOG 2007;114:478-84.
Retrospective observational study (n=1847 SGA; n=520 preeclampsia; n=1361 PIH). SGA infants and pre-eclampsia were more likely to coexist in preterm births compared with term births.

Case-control study (n=10 preeclamptics). Levels of Circulating endothelial cells were elevated and correlated with BP

Case-control study (n=20 severe preeclamptics; n=15 controls). There was a positive correlation between placental tissue iodine levels and blood magnesium levels only in women with severe pre-eclampsia

Secondary analysis. Pregnancies with preeclampsia or gestational hypertension that delivered between 35 and 37 weeks of gestation had higher rates of neonatal intensive care unit admission, small for gestational age, and longer neonatal stay than normotensive pregnancies, regardless of the severity of the hypertensive disease.

Prospective case control study (n=50). A reduced level of maternal HLA-G protein was associated with severe pre-eclampsia during the 3rd trimester

Comparative study (n=239). In severe preeclamptic women at 24-33 weeks, SIUGR was associated with increased risk of fetal death but did not affect maternal complications


F1000 Recommended (3.0). Confirmation. This systematic review adds to the existing literature by including the important WHO trial, which was conducted primarily in women ingesting a low-calcium diet. By combining the results of 12 studies, including over 15,000 women, the study strengthens the conclusion that in women on a low-
calcium diet, supplementation of at least 1gm daily begun in the second trimester of pregnancy halves the risk of preeclampsia. The conclusion of this review differs from earlier meta-analyses, primarily because it includes the results of the recently published WHO trial conducted largely in the developing world where calcium intake is low. The observation that the rate of preeclampsia is lower in populations that eat a high-calcium diet led to both observational studies and clinical trials addressing the role of calcium in the pathogenesis of preeclampsia, and the potential beneficial effects of dietary calcium supplementation for preventing preeclampsia. The largest trial performed in the US in 1997 failed to demonstrate a beneficial effect, which may have been due to the generally adequate calcium intake in many pregnant women in the US. However, a recent large trial performed in the developing world included over 8000 pregnant women and demonstrated that in women on a low-calcium diet, less than 600mg daily, calcium supplementation with 1500mg daily was associated with less hypertension and preeclampsia in pregnancy; the results of this study have contributed significantly to this systematic review. Importantly, calcium supplementation with 1-2gm daily does not appear to be associated with any adverse effects. There did not seem to be a beneficial effect of calcium supplementation on preterm birth. This study has important public health implications for populations ingesting low calcium diets and suggests that further studies investigating the mechanisms of the beneficial effects calcium would be of interest.


897. Hwang HS, Kwon JY, Kim MA, Park YW, Kim YH. Maternal serum highly sensitive C-reactive protein in normal pregnancy and pre-eclampsia. Int J Gynaecol Obstet 2007;98:105-9. Case control study (n=25 pre-eclamptics, n=202 healthy pregnant controls). highly sensitive C-reactive protein levels were positively correlated to pregnancy duration in healthy women and could be used as a severity marker in women with severe pre-eclampsia.

898. Kahraman N, Ustunyurt E, Iskender C, Danisman N. Glucose-6-phosphate dehydrogenase activity in pre-eclampsia. Int J Gynaecol Obstet 2007;96:200-1. Case-control study (n=28). No difference in G6PD enzyme activity was observed between the pre-eclamptic and control groups.


Case-control study (n=20). Placental expression of alpha7 nAChR was increased in severe preeclampsia placentas.


Case-control study (n=27). Increased maternal and umbilical serum levels of IL-8 were found in preeclamptic women (with or without IUGR) in comparison with the control group.


Meta-analysis (n=5 trials; n=573 pregnancies with 109 developing pre-eclampsia).


Case-control genetic association study (n=144) in an Italian population. No association between the -231 G > A polymorphism in the EDNRA gene and preeclampsia was found.


In a mouse model of preeclampsia that was induced by sFlt-1, differences in male offspring were noted (higher BP and lower weight) when compared to controls.


SFlt-1 induced hypertension and fetal growth restriction in pregnant mice.


Population based prospective study (n=3'494) in Norway. Prepregnancy systolic and diastolic blood pressure showed linear associations with risk for pre-eclampsia. Cardiovascular risk factors that are present years before pregnancy were associated with a risk of pre-eclampsia.


Prospective longitudinal study (n=3'350). Total WBC and neutrophil counts were elevated (at 5-15 wks gestation) in women subsequently developing pre-eclampsia (n=37).


Case-control study (n=556). Metabolic score appeared to be associated independently severe preeclampsia.

Meta-analysis (n>10 trials). No single polymorphism was identified as having a major effect.

In vitro study. Exposure to cigarette smoke extract reduced secretion of sFlt-1 in a dose-dependent manner. This may explain the reduction of preeclampsia in smokers.

Case-control study (n=105). Pre-eclamptic women showed reduced total omega-3 fatty acids, increased omega-6:omega-3 ratio, higher oxidative stress, and lower antioxidant levels.

Cross-sectional study (n=180). Placental growth hormone was elevated in preeclampsia (but to a lesser extent when pre-eclampsia was associated with SGA)

Prospective study (n=94). In high-risk women, serum sFlt1 and the sFlt1:PlGF ratio are altered prior to preeclampsia onset and may be predictive of preeclampsia.

Letter to the Editor

Retrospective study (n=3'408) in Norway. The G-105A promoter polymorphism of the inflammatory mediator Selenoprotein S (SEPS1) was associated with preeclampsia.

Case-control study (n=46). Using wire myography on myometrial arteries that were isolated from healthy CS biopsy specimens, the presence of multiple synergistic vasoactive factors present in the plasma of women with preeclampsia was shown.

Case-control study (n=57). mRNA expression of pregnancy-specific β1glycoprotein and trophoblast glycoprotein was up-regulated in cells circulating within blood from women with preeclampsia, and pregnancy-specific β1glycoprotein expression was positively correlated with the clinical severity of preeclampsia.

Case-control study (n=73). Reduced adiponectin and elevated leptin levels were found in preeclamptics

Review article

Case-control study (n=78; 18 developed subsequently pre-eclampsia). No differences in soluble vascular cell adhesion molecule 1 (sVCAM-1) and intercellular adhesion molecule 1 (sICAM-1) at 11-13 wks GA. Mean uterine artery pulsatility index was higher in the pre-eclampsia compared with the unaffected pregnancies.

Author reply

F1000 Recommended (3.0). New finding. Tech advance. The studies presented here are cutting edge for the field of obstetrics and suggest that alterations in specific gene regulation contribute to development of preeclampsia. This is the first study to evaluate the concentrations of microRNAs in human placentas in relation to pregnancy pathology. Specific microRNAs are expressed at higher concentration in placentas from women with preeclampsia than in placentas from pregnant controls.

In vitro case-control study (n=52). Levcromakalim had a vasodilatory effect on the umbilical artery like magnesium sulphate and nifedipine,

Meta-analysis (n=4 trials; n=4680 women). Combined vitamin C and E supplementation during pregnancy does not reduce the risk of preeclampsia, fetal or neonatal loss, small for gestational age infant, or preterm birth.

Case-control study (n=72). Antepartum levels of free glutathione as well as the free-to-oxidized ratios of homocysteine were lower in pre-eclampsia and normotensive pregnancy when compared with corresponding postpartum values. Moreover, the free-to-oxidized ratio for homocysteine was significantly lower in pre-eclamptic compared with normotensive women, during as well as after pregnancy.

Letter to the Editor

Prospective study (n=83). Random urinary protein-creatinine predicted total urinary protein excretion in hypertensive pregnancies.


Letter to the Editor


Case-control study (n=104). Soluble endoglin was elevated in 2nd trimester serum in women subsequently developing pre-eclampsia


Case-control in vitro study (n=24). Severe preeclampsia was associated with increased leukocyte-endothelium adhesion that could be inhibited by clinical doses of antioxidants


Case-control study (n=75). sFlt 1 and sEng may prove useful in differentiating pre-eclampsia from other hypertensive diseases of pregnancy

934. Sanchez SE, Qiu C, Perales MT, Lam N, Garcia P, Williams MA. Intimate partner violence (IPV) and preeclampsia among Peruvian women. Eur J Obstet Gynecol Reprod Biol 2007. Case-control study (n=676). Emotional and physical abuse during pregnancy was associated with an increased risk of preeclampsia


Case-control study (n=18). Activation of NF-kappaB and expression of COX-2 in systemic vasculature in subcutaneous fat of women with preeclampsia.


Case-control genetic association study (n=309) in a Korean population. The +936T allele of the VEGF gene was associated with an increased risk of pre-eclampsia


Editorial


944. Sun Y, Yang H, Sun WJ. Risk factors for pre-eclampsia in pregnant Chinese women with abnormal glucose metabolism. Int J Gynaecol Obstet 2007. Retrospective cohort study (n=1499). Independent risk factors for pre-eclampsia were chronic hypertension and elevated pre-pregnancy BMI. The prevalence of pre-eclampsia in women diagnosed with diabetes mellitus prior to pregnancy was higher than that of gestational diabetes mellitus and gestational impaired glucose tolerance patients.


946. Thachil JV. Pre-eclampsia is an inflammatory disorder. BMJ 2007;335:1059. Letter to the Editor

Cross-sectional study (n=60). Natriuretic peptides (NT-proANP and NT-proBNP) concentrations were significantly higher in pre-eclamptic women compared to chronic hypertensive and normotensive pregnancies. Preeclamptic women had lower CI and HR and higher SAP, MAP, and SVRI than the control groups.


Meta-analysis (n=10 trials for sFlt-1; n=14 for placental growth factor). Third-trimester increases in sFlt-1 and decreases in placental growth factor levels are associated with preeclampsia, specifically severe disease, based on retrospective data. The evidence is insufficient to recommend these markers to be used for screening, and prospective studies employing rigorous laboratory and study design criteria are needed to determine the clinical usefulness of these tests.

PIH/Preeclampsia/Eclampsia HELLP (clinical presentation and management)


Follow-up (n=4483 children). Of those allocated magnesium sulphate, 245/1635 (15.0%) were dead or had neurosensory disability at 18 months compared with 233/1648 (14.1%) allocated placebo. The lower risk of eclampsia following prophylaxis with magnesium sulphate was not associated with a clear difference in the risk of death or disability for children at 18 months.


Follow-up (n=3375 mothers). Fifty-eight of 1650 (3.5%) women allocated magnesium sulphate died or had serious morbidity potentially related to pre-eclampsia compared with 72 of 1725 (4.2%) women allocated placebo. The reduction in the risk of eclampsia following prophylaxis with magnesium sulphate was not associated with an excess of death or disability for the women after 2 years.


Review article


Case-report


A decision analytic model (based on a theoretical cohort of n=160'000 mild pre-eclamptics). Either strategy, using or not using empiric magnesium sulfate therapy, was acceptable.

Retrospective review (n=61). Clinical symptoms, such as headache, visual changes, epigastric pain and nausea-vomiting, were more predictive than laboratory parameters for adverse maternal outcomes.


Review article


Letter to the Editor


Review article


Letter to the Editor


Case-report (anesthetic management with sequential CSE with hyperbaric levobupivacaine for CS at 27 weeks GA)


Population-based sample (retrospective chart review and phone interview in n= 3’039 women in Denmark). The positive predictive value of the women’s own report on preeclampsia was 59.2%. The positive predictive value of a preeclampsia diagnosis in the registry was 74.4%


Population-based descriptive study (n=229 hospitals; n=214 eclamptic cases). The incidence of eclampsia and its complications have decreased significantly in the UK since 1992, following the introduction of management guidelines for eclampsia and pre-eclampsia.


Letter to the Editor


Letter to the Editor


Letter to the Editor


Case-report (n=2)

Preintervention (retrospective, n=295) compared with a postintervention (prospective, n=405) cohort comparison. Standardized surveillance of women with preeclampsia was associated with reduced maternal risk.


972. Sibai BM, Barton JR. Expectant management of severe preeclampsia remote from term: patient selection, treatment, and delivery indications. Am J Obstet Gynecol 2007;196:514 e1-9. Systematic review (n=2 trials, n=1'677 cases). expectant treatment in a select group of women with severe preeclampsia between 24 and 32 completed weeks of gestation in a suitable hospital is safe and improves neonatal outcome. For gestational age of <24 weeks, expectant treatment was associated with high maternal morbidity with limited perinatal benefit.

973. Steyn DW, Odendaal HJ, Hall DR. Diurnal blood pressure variation in the evaluation of early onset severe pre-eclampsia. Eur J Obstet Gynecol Reprod Biol 2007. Prospective observational study (n=44). The combination of mean diastolic blood pressure and day-night blood pressure difference may be a supplementary measurement of disease severity in early onset severe pre-eclampsia and seems to be of prognostic value.


975. Valero EG, Ramos JG, Muller AL, Martins-Costa SH. Random albumin/creatinine ratio for quantification of proteinuria in manifest pre-eclampsia. BJOG 2007;114:119-20; Letter to the Editor


Prospective clinical trial (n=126). Spot urine protein to creatinine (P:C) ratios correlated well with 24 hour urine collections for protein


Case-report


Meta-analysis (n=44 trials). Of the chosen studies, 29 suggested an association between periodontal disease and increased risk of adverse pregnancy outcome and 15 found no evidence of an association. A meta-analysis of the clinical trials suggested that oral prophylaxis and periodontal treatment may reduce the rate of preterm low birth weight but did not significantly reduce the rates of preterm birth or low birth weight. Currently, there is insufficient evidence to support the provision of periodontal treatment during pregnancy for the purpose of reducing adverse pregnancy outcomes (incl pre-eclampsia)

Perineal Trauma/Lacerations


Prospective observational study (n=395). Incontinence was more common following spontaneous vaginal delivery when compared with CS 10 years after 1st delivery. However, CS was not associated with a major reduction of anal and urinary incontinence.


Prospective study (n=241). Although perineal pain affected 92% of mothers, it resolved in the majority within 2 months of delivery. Obstetric anal sphincter injury was associated with more perineal pain than other perineal trauma. Spontaneous second degree tears caused less perineal pain than episiotomies.


Cohort study (n=883). Discharge coding errors are common after delivery-associated anal sphincter laceration,


Double-blind RCT (n=96)


Survey as part of an RCT (n=266). Applying perineal warm packs in the late second stage of labour was highly acceptable and effective in helping to relieve perineal pain and increase comfort.
985. Dahlen HG, Ryan M, Homer CS, Cooke M. An Australian prospective cohort study of risk factors for severe perineal trauma during childbirth. Midwifery 2007;23:196-203. Prospective cohort study (n=6'595). 2% of women (n=134) experienced severe perineal trauma. 122 women had 3rd-degree tears and 12 had 4th-degree tears. Primiparity, instrumental delivery, Asian ethnicity and heavier babies were associated with an elevated risk of severe perineal trauma.


987. Fitzgerald MP, Weber AM, Howden N, Cundiff GW, Brown MB. Risk factors for anal sphincter tear during vaginal delivery. Obstet Gynecol 2007;109:29-34. Secondary analysis (n=707). Women with a sphincter tear was more likely to be older, to be white, to have longer gestation or prolonged second stage of labor, to have a larger infant (birth weight/head circumference), or an infant who was in occiput posterior position, or to have an episiotomy or operative delivery. Forceps delivery and episiotomy were strongly associated with a sphincter tear.


989. Johnson JK, Lindow SW, Duthie GS. The prevalence of occult obstetric anal sphincter injury following childbirth - literature review. J Matern Fetal Neonatal Med 2007;20:547-54. Meta-analysis (n=19 trials, n=983 women). Occult anal sphincter injury was mostly associated with 1st vaginal delivery and was particularly high following instrumental deliveries. Ventouse was less traumatic than forceps. CS was protective to the anal sphincter.


Retrospective chart review (n=32). There was an association of cervical lacerations with cervical cerclage and induction of labor, but no association with operative vaginal delivery.

Letter to the Editor

Letter to the Editor

Prospective observational study (n=32). Six months after delivery 16 (50%) women reported anal incontinence, and there was a positive correlation between the endosonographic defect score 6 months post-partum and the Wexner incontinence score.

Review article

Premature rupture of membranes (PROM)/Preterm Delivery

Practice guidelines

Ex vivo study (n=5) to study local maternal inflammatory response in human decidua to U. urealyticum and compare it with the response to LPS from E. coli.

Retrospective cohort study (n=169 with PPROM, n=33 GBS+). A 3-day regimen of antibiotic prophylaxis appeared to be adequate to eradicate GBS from the genital tract of patients with PPROM.

Retrospective case-control study (n=305). Untreated antepartum GBS bacteriuria was associated with chorioamnionitis.

Population-based retrospective analysis to assess the impact of GBS screening.

Cohort study (n=80). Spontaneous PTD is associated with a significant increase of maternal plasma concentrations of PTX3. PTX3 seems to be a marker of placenta vasculopathy rather than intrauterine infection.


1006. Buhimschi IA, Zhao G, Pettker CM, Bahtiyar MO, Magloire LK, Thung S, et al. The receptor for advanced glycation end products (RAGE) system in women with intraamniotic infection and inflammation. Am J Obst Gynecol 2007;196:181 e1-3. Prospective study (n=113). Women were stratified according to AF analysis (positive culture or no). The S100A12/ENRAGE system was markedly upregulated in women with intra-amniotic infection and correlated with the degree of inflammation.

1007. Croteau A, Marcoux S, Brisson C. Work activity in pregnancy, preventive measures, and the risk of preterm delivery. Am J Epidemiol 2007;166:951-65. Case-control study (n=5'755). Results showed association of preterm delivery with demanding posture for at least 3 hours per day, whole-body vibrations, high job strain combined with low or moderate social support, and a cumulative index composed of nine occupational conditions.


F1000 Recommended (3.0) New finding. The findings in this study provide some evidence for the mechanism of action of 17-alpha-hydroxyprogesterone caproate (17P) in prevention of preterm birth. Cervical length, as measured by transvaginal ultrasound scanning, increased in patients who were treated with 17P (341mg every four days) as compared to the randomly selected control patients who were not treated with 17P. As noted by Meis, the dose of 17P used in the study was higher than the dose used in other prophylactic trials and the control patients did not receive a placebo.
Secondary analysis from a large prospective cohort (n=441)

Placebo-controlled RCT (n=413 women with short cervix at ~ 22wks). In women with a short cervix, vaginal progesterone reduced the rate of spontaneous early preterm delivery. These findings will certainly change clinical practice (although see Editorial by Thornton).

Case-control genetic association study (n=891 newborns with or without cerebral palsy) in Australia. 31 SNPs were tested. Variants of the β-adrenergic receptor and of NO synthase were associated with prematurity as well as SNPs of the placental antifibrinolytic plasminogen activator inhibitor-2, and thrombomodulin and alpha adducin

F1000 Must read (6.0). Confirmation. New finding Controversial. This study shows that in women with preterm premature rupture of membrane (PROM) maternal antibiotic therapy does not alter the natural history of intrauterine infection/inflammation or prevent the development of new infection/inflammation in preterm PROM women without infection. Although evidence from a meta-analysis of RCTs suggests that broad spectrum antibiotics (erythromycin and/or ampicillin) reduced neonatal and maternal morbidity in women with preterm PROM, controversy still surrounds the methodology and interpretation of the primary studies. It is unknown whether antibiotics eradicated intrauterine organisms, reduced or prevented host inflammatory response, or prevented ascending infection. A significant proportion of preterm PROM cases are not infection driven and such pregnancies may potentially come to harm from antibiotic treatment. Gomez and colleagues analysed two amniocenteses samples, taken five days apart, from 46 women with preterm PROM for microorganisms and white blood cells. Antibiotics (ceftriaxone, clindamycin, and erythromycin for 10 to 14 days) failed to eradicate microbial invasion of the amniotic cavity or eliminate host inflammatory response. Administration of ampicillin and erythromycin for seven days failed to prevent the onset of new intrauterine infection in preterm PROM women admitted with sterile amniotic fluid. These findings are consistent with existing evidence that suggests that antibiotics administered to the mother do not reach therapeutic levels within the fetal compartment to inhibit common pathogens.
Therefore, this study should serve as a prompt for further research into the natural history of intrauterine infection/inflammation and identify/characterize which subsets of fetuses may really benefit from antibiotic therapy.
Non-randomized trial (n=275). Rates of preterm delivery were similar in patients initiating 17P at 16-20.9 or 21-26.9 weeks.

F1000 Recommended. New Finding. Tech advance. This paper is recommended to anyone interested in the mechanisms involved in infections leading to premature birth, as it is one of the first well-controlled experimental studies on global expression of proteins in the cervicovaginal pool of rhesus monkeys artificially infected in the latter third of pregnancy. The proteome of the vaginal contents was investigated by two sophisticated tandem mass-spectroscopy-based techniques and was confirmed by immunologic assays with the result that 27 of 250 proteins primarily associated with immunoregulatory mechanisms in the host were found to be differentially expressed during induced Ureaplasma spp. infection, underscoring the current concept that pro-inflammatory mediators may play a significant role in premature birth. While complete proteomic evaluations of humans experiencing intra-amniotic infection need to be performed, it is likely that the identification of specific biomarkers from among the hundreds of proteins present in the cervicovaginal fluid from non-human primate or humans will become important tools in predicting developing chorioamnionitis and intra-amniotic infection and will help to focus appropriate therapeutic measures where most appropriate.

Review article

Prospective cohort study (n=51). PAPP-A levels ≤30,000 mU/L at admission was associated with increased risk for preterm birth ≤7 days, supporting active management and therapeutic approach in these women.

Prospective study (n= 577). The combined presence of maternal and fetal inflammatory response was associated with a higher risk of extreme preterm birth (<29 weeks) than maternal inflammatory response alone, suggesting a contributory role of fetal inflammatory response in the pathophysiology of preterm birth.

Retrospective analysis (n=2674). There was a lower neonatal mortality after CS supporting a policy of CS of the preterm breech.


1027. Juang CM, Chou P, Yen MS, Twu NF, Horng HC, Hsu WL. Adenomyosis and risk of preterm delivery. BJOG 2007;114:165-9. Population-based cohort study (n=2,138). Gravid women with adenomyosis were associated with increased risk of both spontaneous preterm delivery and PPROM.


1029.* Kim KW, Romero R, Park HS, Park CW, Shim SS, Jun JK, et al. A rapid matrix metalloproteinase-8 bedside test for the detection of intraamniotic inflammation in women with preterm premature rupture of membranes. Am J Obstet Gynecol 2007;197:292 e1-5. Prospective study (n=141 with PPROM <35 wks). The prevalence of intraamniotic infection/inflammation was 43% (60/141 women) and that of proven amniotic fluid infection was 18% (25/141 women). A positive MMP-8 PTD Check test (bedside test that can be performed in 15 minutes) result had a sensitivity of 90%, a
positive predictive value of 77%, and a negative predictive value of 92% in the identification of intraamniotic infection/inflammation, and was an independent predictor of interval to delivery and significant neonatal morbidity.

Retrospective cohort study (n=49). Positive vaginal swabs were not predictive for infant morbidity. Treatment of mothers showing positive amniotic fluid cultures with macrolids was not effective.

Retrospective cohort study (n= 428 stillbirths with 37% chorioamnionitis). A fetal inflammatory response was present in 13.3% and correlated with spontaneous labor and very early spontaneous preterm death. The absence of a fetal response was associated with unexplained antepartum death.

Case-control study (n=89). Intraamniotic inflammation without documented AF infection is a risk factor for a systemic FIR. However, the magnitude of the FIR in those cases was lower than in those with documented AF infection.

Retrospective case-control analysis (n=148). In PPROM with nonvertex presentations there was a higher risk for prolapsed umbilical cords, lower Apgar scores, and/or lower umbilical cord blood pH values, when compared with vertex presentations. Additionally, there appears to be substantial risk of an unintended, vaginal breech delivery.

Letter to the Editor

Retrospective study (n=100)

Retrospective analysis (n=87,087). Women with unwanted pregnancies had an increased likelihood of preterm delivery and PROM compared with women with intended pregnancies. Women who were ambivalent toward their pregnancies had increased odds of delivering a low birth weight infant.
Case-control study (n=39)

Survey (n=703)

Letter to the Editor

Observational study (n=107). Maternal serum IL-6 and G-CSF appeared to be biomarkers in the identification of women with PPROM likely to develop funisitis.

Letter to the Editor

Case-control study (n=332). The phosphorylated isoform of insulin-like growth factor binding protein-1 in cervical secretions was a potential specific marker for preterm delivery occurring before 37 weeks.

F1000 Must read (6.0). New Finding, The present study provides evidence that the detection of placental bacteria does not in fact correlate with the presence or absence of amniotic fluid infection or inflammation. The detection of microorganisms in the placenta following a premature delivery is frequently used as retrospective evidence of an intraamniotic infection. Many women with negative amniotic fluid cultures or with no evidence of infection, and who have normal term pregnancy outcomes, have positive placental cultures. Thus, the presence of an intra-amniotic infection in women who delivered preterm may not be accurately surmised by a post-delivery evaluation of the placenta.

Case-report

Excellent review article

Case-control study (n=67). Maternal blood IL-6 and CRP may be useful in predicting tocolysis failure
Secondary analysis of a retrospective study (n=4'987). Spontaneous very preterm births to mothers from more deprived areas were more likely to be associated with infection before birth.

Review article

Genetic association study (n=414 preterm infants and at least 1 parent). 40 SNPs were analysed in 16 genes related to cholesterol metabolism. Variants in maternal and fetal genes for cholesterol metabolism were associated with PTD and decreased birth weight or gestational age in this study. Genetic markers may serve as one mechanism to identify high-risk mothers and fetuses for targeted nutritional treatment and/or prevention of low birth weight or PTD.

Population-based study (n=2'527'339 deliveries). Over the 10-year period of 1994-03, the rate of spontaneous preterm birth among low-risk women having a live singleton birth has risen in Australia.

Meta-analysis (n=8 trials; n=610 cases). There was no clear evidence to support the use of CRP for the early diagnosis of chorioamnionitis.

Case-control study (n=126). There was a direct relationship between the fetal adrenal gland volume and estimated fetal weight. A corrected adrenal gland volume of greater than 422 mm3/kg was best in predicting preterm birth within 5 days from the time of the measurement.

Secondary analysis using data from the World Health Organization Calcium Supplementation for the Prevention of Preeclampsia Trial. (n=5'167). An excessive rise in either systolic or diastolic blood pressures from early pregnancy to the midthird trimester was associated with spontaneous preterm birth in a dose-response pattern.

Retrospective cohort study (n= 38'540 women with 230 (0.6%) placenta previas). Placenta previa was associated with maternal and neonatal complications, including preterm delivery and postpartum hemorrhage.
Preterm Labor and Tocolytics


Meta-analysis (n=6 trials; n=1'695 women). This review failed to demonstrate the superiority of atosiban over betamimetics or placebo in terms of tocolytic efficacy or infant outcomes. The finding of an increase in infant deaths in one placebo-controlled trial warrants caution. A recent Cochrane Review suggested that nifedipine is associated with better neonatal outcome and fewer maternal adverse effects than betamimetics.


F1000 Must read (6.0). Confirmation. This study confirms that antenatal indomethacin, used for tocolysis, was not associated with patent ductus arteriosus. However, the use of this drug may cause other neonatal adverse outcomes. The authors conducted a meta-analysis of the effect of antenatal indomethacin for tocolysis on neonatal outcome. They used data from 15 retrospective cohort studies and six case-controlled studies. According to this study, indomethacin may be associated with an increased risk of periventricular leukomalacia and necrotizing enterocolitis in premature infants.


Letter to the Editor


Retrospective cohort study (n=116). In ELBW infants, exposure to indomethacin tocolysis did not affect the clinical responsiveness of the ductus arteriosus to prophylaxis or that of the sPDA to indomethacin treatment.


RCT (n=50). Tocolysis along with psychotherapeutic intervention was more effective than tocolysis alone in inhibiting preterm labor and prolonging pregnancy.


Letter to the Editor


Case-control study (n=84)


Letter to the Editor


Letter to the Editor


Prospective study (n=20). Uterine topographic imaging during active labor suggested good synchronization in all participants, except in one of the 3 who were experiencing
failed induced labor. Most notably, synchronization was as good in preterm labor as it was in labor at term.


Case-control study (n=118). Term labor was associated with a fall in % of monocytes expressing MHC Class II, compared with 3rd trimester of pregnancy and a reduction in LPS-stimulated TNF-alpha production. This fall in MHC Class II was even more pronounced in PTL and PPROM groups compared with the control group.


Multicenter RCT (n=192). Magnesium sulfate achieved the primary outcome (arrest of preterm labor, defined as prevention of delivery for 48 hours with uterine quiescence) more frequently than nifedipine. However, no differences were noted between drugs in delay of delivery, gestational age at delivery or major neonatal outcomes. Nifedipine was associated with significantly fewer mild and severe maternal adverse effects.

Letter to the Editor


Randomized trial (n=70) in India. Thirty (85.7%) subjects on ritodrine completed therapy, 3 (8.6%) had intolerable side-effects and 5 (14.3%) had failure to arrest progress of labor. No nifedipine-treated woman had significant side effects of such severity. Thus, nifedipine was found to have better tocolytic efficacy and tolerability compared to ritodrine.


Prospective observational study (n=79). Mean plasma values of CRH and ACTH were significantly higher in women who were initially diagnosed with preterm labor and subsequently delivered preterm, compared to women with PTL delivering at term.


Prospective observational study (n=18).

Review article

Letter to the Editor

Letter to the Editor

Comment on the Cochrane update


Review article


F1000. Must read (4.8). New Finding. Changes clinical practice. This study demonstrates that transdermal nitroglycerin may reduce neonatal morbidity and mortality because of decreased risk of birth before 28 weeks. 153 women in labor between 24 and 32 weeks were randomised to receive either transdermal nitroglycerin or placebo patches. Infants born to transdermal-nitroglycerin-treated mothers had a statistically significant reduced composite outcome (chronic lung disease; intraventricular hemorrhage; periventricular leukomalacia; necrotizing enterocolitis and mortality) compared to placebo-treated mothers (relative risk 0.29 with a 95% confidence interval 0.08 to 1.00 and p=0.048; risk difference -0.10 with a 95% confidence interval -0.19 to -0.01). Given the societal and health costs associated with significant neonatal morbidity, the use of transdermal GTN for women in preterm labor may result in major cost saving and longer-term health benefits.


Editorial. Interesting comment on the divergent results of progesterone therapy in singleton pregnancies with short cervix (Fonseca et al, ref #1012) and twin deliveries (Rouse et al ref #837)


Case-control study (n=62)

1081. Ugwumadu A. Nifedipine-tocolysis-associated atrial fibrillation responds to DC cardioversion. BJOG 2007;114:236-7

Letter to the Editor


Prospective observational study (n=46). No effect of atosiban was observed on serum IL-6 and TNF-alpha levels in women with threatened preterm labor.
**Pulmonary Embolism and Thrombosis**


*Multicenter RCT (n=1'417, non-obstetric). A strategy to rule out pulmonary embolism that used clinical probability assessment, D-dimer, and lower-extremity ultrasound in conjunction with either CTPA or V/Q scanning resulted in low and similar rates of venous thromboembolic events in 3 months follow-up in the 2 groups. However significantly more patients were diagnosed and treated for pulmonary embolism with CTPA than V/Q scanning. Further research is required to confirm whether some pulmonary emboli detected by CTPA may be clinically unimportant, the equivalent of DVTs isolated to the calf veins, and not require anticoagulant therapy.*


*Excellent Editorial*


*Excellent review*


*Retrospective analysis (Swedish Cause Of Death Register). N=5 women died of AFE and n=10 of pregnancy-related venous thromboembolism (n=6 in early pregnancy) during the 1990s. Mortality from pregnancy-related pulmonary embolism in Sweden is in the lowest range ever reported, and shows a downward trend during the 1990s, with a shift towards early pregnancy.*


*Review article*


*Case-presentation (pregnant women) and excellent clinical update*

**Retained Placenta**


*Prospective non-randomized study (n=75). Rates of therapeutic success were 76.9% in the oxytocin group, 85.7% in the synthetic prostaglandin group, and 64.2% in the methylergometrine group*


*Prospective observational study (n=426). Manual removal of the placenta occurred in n=269 CS while in n=157 women the placenta was removed in a spontaneous*
Method. Method of placental removal during cesarean delivery is not associated with the risk for either wound infection or postpartum fever.


Letter to the Editor


Tubal Ligation


Using the Swiss obstetric database, interval laparoscopic sterilization unrelated to pregnancy (n=20,325), postpartum laparoscopic sterilization (n=2,233), postpartum sterilization by minilaparotomy (n=5095) outcomes were compared. A laparoscopic approach should be chosen.

Uterine Rupture


Case-report


Retrospective study (n=21,28 deliveries). Uterine rupture occurred at a rate of 0.3 per 100 among women with repeated cesarean delivery without labour, 1 per 100 among women with spontaneous onset of labour, 1.4 per 100 among women with oxytocin-induced labour, and 2.2 per 100 among women with prostaglandin cervical ripening. In women with a scarred uterus, prostaglandin E2 induction of labour is a risk factor for uterine rupture.


Case-report


Case-report

Retrospective study (n=24'181). N= 22 cases of uterine rupture were found, giving an incidence of 0.9 per 1,000 deliveries. In all cases, the diagnosis was confirmed at laparotomy. In 19/22 cases, the rupture occurred in patients with a previous uterine scar, 18 of whom were delivered at term and one at 16 gestational weeks. One case of intrauterine fetal death was noted.


Vaginal birth after caesarean delivery (VBAC)

Ayuk PT. Vaginal birth after a caesarean is not always beneficial. BMJ 2007;335:7.


Most of the respondents reported receiving inadequate information on VBAC. women with a history of a successful vaginal delivery reported a positive experience whereas those with no history of vaginal delivery reported a negative experience. Women found the limited options available to them the most dissatisfaction aspect of attempting a VBAC.
1110. Grobman WA, Lai Y, Landon MB, Spong CY, Leveno KJ, Rouse DJ, et al. Development of a nomogram for prediction of vaginal birth after cesarean delivery. Obstet Gynecol 2007;109:806-12. **F1000 Recommended (3.0). Confirmation.** Derived from data on 7660 women, this nomogram bases predictions of successful vaginal birth after cesarean delivery on six variables available at the first prenatal visit. If a patient’s score exceeds 60 out of a possible 90 points, a trial of labor will result in less risk of major morbidity than an elective cesarean delivery. Although this is the most comprehensive, prospective prediction model yet developed to assist women who have had a cesarean delivery in making a decision about having a trial of labor versus an elective cesarean delivery, the nomogram needs to be tested in a prospective trial.


1112. Kwee A, Bots ML, Visser GH, Bruinse HW. Obstetric management and outcome of pregnancy in women with a history of caesarean section in the Netherlands. Eur J Obstet Gynecol Reprod Biol 2007;132:171-6. Retrospective analysis (n=4'569 with a previous CS). Trial of labour was attempted in 71.7%, of whom 76.0% delivered vaginally, resulting in a VBAC rate of 54%. Uterine rupture occurred in 1.5% during a trial of labor. The risk of uterine rupture increased significantly when labour was induced with prostaglandins alone or combined with oxytocin or when labour was augmented with oxytocin.

1113. Kwee A, Smink M, Van Der Laar R, Bruinse HW. Outcome of subsequent delivery after a previous early preterm cesarean section. J Matern Fetal Neonatal Med 2007;20:33-7. Retrospective cohort study (n=131 with a subsequent pregnancy). 93 (71.0%) underwent a trial of labor and 80 (86.0%) achieved a vaginal delivery, resulting in a VBAC rate of 61.1%. The uterine rupture rate with trial of labor was 1.1%.

1114. Lauer JA, Betran AP. Decision aids for women with a previous caesarean section. BMJ 2007;334:1281-2. Editorial

1115. Montgomery AA, Emmett CL, Fahey T, Jones C, Ricketts I, Patel RR, et al. Two decision aids for mode of delivery among women with previous caesarean section: randomised controlled trial. BMJ 2007;334:1305. RCT (n=742). Decision aids can help women who have had a previous caesarean section to decide on mode of delivery in a subsequent pregnancy.


**F1000 Recommended (3.0). Confirmation.** Although the overall risk of uterine rupture or adverse perinatal outcome is extremely low regardless of the method of delivery, patients with a previous cesarean birth who are making a decision about the method of delivery should be made aware of the increased risk of uterine rupture and serious neonatal morbidity associated with a trial of labor. The findings in this study of maternal and perinatal outcome after a previous cesarean delivery found a six-fold increase in risk of uterine rupture and neonatal hypoxic-ischemic encephalopathy associated with trial of labor as compared to elective repeat cesarean delivery. This multi-institutional study from the National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network included 39,117 pregnant women at term with a prior cesarean delivery and who delivered from 1999 to 2002. One of the weaknesses of this study is that the group of women who had a trial of labor were not subdivided according to their previous obstetrical history, e.g. the number of previous cesarean deliveries, vaginal delivery preceding the cesarean delivery etc. This might have demonstrated significantly important variations in the risk of uterine rupture associated with trial of labor.


**Secondary analysis of a retrospective cohort study** (n=13'076). Significant clinical variables (prelabor and labor) could not reliably predict VBAC failure.


**F1000 Recommended (3.0). Confirmation.** Women who have had a cesarean delivery and may be contemplating a subsequent pregnancy in which they might elect to have a trial of labor should be counseled to postpone the subsequent conception for more than six months. This multi-institutional retrospective cohort study of 25,005 women with a prior cesarean delivery found that a delivery-to-conception interval of less than six months was associated with increased risk of uterine rupture (adjusted odds ratio 2.66, 95% CI 1.04 to 3.65) compared to women with an inter-pregnancy interval of six months or more. This finding is another in the litany of increased risks of maternal and perinatal morbidity associated with short inter-pregnancy intervals. The authors acknowledge a number of limitations of this study, but each of these limitations, if it exists, would tend to result in a more conservative estimate of the relative risk.

**Pharmacology/Pharmacokinetics in pregnancy/Transplacental transfer of drugs**


**Review article.** 1st trimester anesthesia exposure does increase the risk of spontaneous abortion and lower birth weight. This is more likely due to surgical manipulation and the medical condition that necessitates surgery than to the exposure to anesthesia.

Transport of methotrexate from maternal to fetal circulation was not negligible in human placenta at term.


Carboplatin transport from the maternal to the fetal circulation was relatively negligible in the human placenta at term.


F1000 Recommended (3.0). New finding. Controversial. Administration of nicardipine to preeclamptic women is unlikely to lead to adverse fetal or neonatal reactions. Information about fetal and neonatal effects of the administration of calcium channel blocker is scarce, and caution has been advised regarding their use in pregnant and lactating women. This paper found that the maximal concentration of nicardipine in the umbilical cord does not exceed 18ng/ml - a sub-therapeutic level - in women treated with doses of nicardipine up to 4.5mg per hour. Nicardipine was undetectable in 82% of the breast milk samples of women treated with nicardipine and the maximal possible exposure of a neonate was estimated to be 300ng/day, which is below the neonatal therapeutic doses.


Review article


Case-report (n=2 siblings)


Excellent review on this 'hot topic'


Solutions of levobupivacaine combined with sufentanil may be used for 24 h at room temperature with no risk of bacterial growth.


Population based cohort (n= 22'390) in Norway. Maternal smoking during pregnancy was an independent risk factor for wheezing and respiratory infection. Postnatal paternal smoking was also associated with these outcomes, independently of maternal smoking in pregnancy.
Folate and cotinine levels were evaluated in maternal serum (n = 125) and coelomic fluid (n=42). Maternal smoking did not seem to impair directly folic acid transfer to the developing fetus before the placental circulations are established in early pregnancy.

Case-control study, Maternal infection might contribute to the etiology of leukemia, while maternal iron supplement use may be protective against childhood leukemia.

Clinical trial (n=13). Cord vancomycin concentrations approached maternal serum concentrations 4 hours after the infusion ended.

Prospective longitudinal case-control study (n=398). Prenatal cocaine exposure had a stable negative effect on language skills during the first 6 years of life.

Case-control study (n 9849 infants with and 5860 infants without birth defects). No increased risks of craniosynostosis, omphalocele, or heart defects associated with SSRI use overall.

Review article

In vitro study. Multidrug resistance proteins regulate drug levels in trophoblast cells and may mediate transmission of therapeutic agents across the placenta.

Prospective study (n=100). The concentration of free morphine in the umbilical venous blood was significantly associated with the dose-delivery interval. Fourteen neonates required resuscitation. The odds of requiring resuscitation were significantly raised with higher log free morphine.

Case-report (n=2)

Prospective study (n=10 women, n=31 samples). Breastfeeding need not be withheld in infants of mothers receiving azathioprine.


Population-based study (n=9'086). The consumption of <1 drink per week during the 1st trimester was independently associated with clinically significant mental health problems in girls at 47 months.


Physiologic alterations in pregnancy


Observational study (n=46). Compared to volunteers, pregnant women had higher heart rates and blood pressures, and decreases in some time domain heart rate variability parameters. Frequency domain heart rate variability parameters remained unaffected by pregnancy.


F1000 Recommended (3.0). Hypothesis. There have been many studies on labor analgesia most of which focus on how much analgesic (local anesthetics and/or opioids) is required via the epidural/spinal routes to provide effective analgesia. In recent years, there has been some interest in how to evaluate pain and pain relief accurately because of the subjective nature of the outcome parameter, the tremendous inter-individual variability in pain perception and because of the complexity in women’s overall delivery experience. In this study, the authors tested for the presence of endogenous analgesia during labor using a dolorimeter (pressure algometer applied on different point of the body) to determine pressure pain thresholds. They tested 88 women at term, during labor and in the early postpartum period and evaluated the correlation between pain intensity reported using verbal rating scores (VRS; 0=no pain, 10=worst imaginable pain) and pain threshold using the dolorimeter on nine different points on the body. The authors concluded that this rise may have an intended protective effect during the intense labor experience.

Placental topics


Ex vivo study. CMV infection may cause unfavorable pregnancy outcomes via placental upregulation of TNF-related apoptosis-inducing ligand via an interferon-mediated pathway.

Ex vivo study (n=12). Arylsulphatase A activity was decreased with an increase of sulphatides concentrations, these findings suggest an interesting role for Arylsulphatase A activity as a marker of placental senescence.


Ex vivo study. Hypoxia enhanced the expression of fatty acid-binding proteins 1, -3, and -4 in term human trophoblasts, suggesting that FABPs support fat accumulation in the hypoxic placenta.


Observational study (n=565). The umbilical coiling index (UCI) was determined as the number of complete coils divided by the length of the cord in centimeters. Fetal death, chorioamnionitis, fetal structural or chromosomal abnormalities, and lower Apgar score at 5 min were associated with undercoiling. Fetal death, iatrogenic preterm delivery, umbilical arterial pH<7.05, fetal structural or chromosomal abnormalities, thrombosis in fetal placental vessels, chronic fetal hypoxia/ischemia, and lower weight for gestational age were associated with overcoiling. Adverse perinatal outcome is associated with both undercoiling and overcoiling of the umbilical cord.


Animal experimental study. Systemic endotoxin exposure of the preterm fetal sheep leads to a change in the gross organization of the placenta and changes in the proliferation patterns in both placental compartments. These rearrangements inside the placenta may disturb its organ function and subsequently lead to fetal morbidity associated with the fetal inflammatory response syndrome and chronic placental dysfunction, respectively.

Animal (mice) experimental study. The innate immune system is a dynamic system during gestation. The concept of immunosuppression during pregnancy appears to be valid in the placenta only in regard to TLR expression.

Review article

Ongoing case-control study (n=189 abruption cases of which n=20 occurred in smokers). Intervillous thrombus was more common in women who smoked (20%) than in nonsmokers (3.0%). However, placental infarcts were seen less frequently among smokers than nonsmokers, suggesting different pathologic mechanisms may be responsible for the histologic findings between smokers and nonsmokers diagnosed with placental abruption.

Observational study (n=3'336). Low placental implantation was associated with an increased risk of preterm labor, preterm delivery and a reduced risk of postpartum hemorrhage, and of a macrosomic fetus. High lateral implantation was associated with low Apgar scores.

Case-report

Ex vivo study. Findings of this study may help to explain the link between abruption and thrombophilia, which are conditions that are associated with excess decidual thrombin generations, and severe preeclampsia with or without intrauterine growth restriction.

RNA was isolated from both IUGR term placentas and normal term placentas. Increased expression of certain genes including leptin, soluble vascular endothelial growth factor receptor, human chorionic gonadotropin, follistatin-like 3, and hypoxia-inducible factor 2α was found in IUGR. The upregulation of soluble vascular endothelial growth factor receptor and hypoxia-inducible factor 2α at this period in pregnancy indicated that placental angiogenesis is altered in IUGR and that hypoxia is a major contributor to maldevelopment of the placental vasculature.

Secondary analysis from an ongoing multicenter case-control study (n=246). Histologic chorioamnionitis was associated with placental abruption. The association was strongest in the presence of severe chorioamnionitis at term and, to a lesser extent, at
preterm gestations. These observations suggest that the histologic findings in abruption are accompanied by severe inflammation, in both preterm and term gestations.


Experimental assays on resh placenta/fetal membranes (n = 23). Findings suggest that abruption-associated decidual proteolysis and preterm labor is likely due to the effect of thrombin on MMP activation rather than on the plasminogen activator/inhibitor system.


Review article


Experimental study (n=32 decidual samples from women undergoing VTOP). The induction of PlGF and Flt-1, and the Ang-2:Ang-1 ratio in decidua basalis, suggested that these factors play a role in regulating angiogenesis at the implantation site.


Prospective study (n=212 high risk pregnancies). A placental profile including biochemistry in the 1st or 2nd trimester (maternal serum screening [MSS]), 2nd trimester uterine artery Doppler imaging, and placental morphologic condition can identify a subset of women who are destined to experience severe complications of pregnancy that will be attributable to significant placental disease. The subset with 2 or 3 abnormal test results predicted most cases of early-onset IUGR. These results have the potential to change clinical practice.


Cross-sectional in vivo analysis (n=72). IGF-2 and leptin were suggested to be involved in adaptive response to hypoxic ischemia in term placenta with differential transcriptional regulation related to the duration of hypoxia.


Retrospective analysis (n=352) to test the (in)consistency of placental findings with clinical diagnosis. Pathologies were detected in 178 placentas (50.6%): in 53.6% complicated versus 21.2% uncomplicated pregnancies. Pathological chorioamnionitis was more common in cases of abruptio placentae compared to those with an uncomplicated clinical course even when chorioamnionitis was not suspected clinically.
Placentas were normal in 5/13 (38.5%) cases with the clinical diagnosis of abruptio placentae and chorioamnionitis.


Animal experimental model (n=24 sheep). eNOS concentration is transcriptionally regulated in the placenta of hyperthermia exposed ovine pregnancies. This is the first report of placental eNOS mRNA concentration across gestation in the ovine placenta.

Postpartum Care (incl breastfeeding)


Meta-analysis (n=6 trials, n=245 women). Dieting and exercise together appear to be more effective than diet alone at helping women to lose weight after childbirth.


Review article


Prospective cohort study (n=317). The Breast-Feeding Self-Efficacy Scale (BSES) score measured at 1 week postpartum predicted the duration of breast-feeding in primipara.


Meta-analysis (n=11 trials; n=4751 women). Home visiting did not improve maternal psychosocial health, parenting or outcomes for children.


Prospective observational cohort study (n=4300)


Interviews (n=10)


Review article


Survey (n=449)


Letter to the Editor

Meta-analysis (n=9 trials; n=956 women). Psychosocial and psychological interventions are an effective treatment option for women suffering from postpartum depression. The long-term effectiveness remains unclear.

Prospective cohort study (n=337). Women with severe obstetric complications were significantly more likely to have experienced depression and anxiety at 3 months, to have experienced suicidal thoughts within the past year at all time points, and to report the pregnancy having had a negative effect on their lives at all time points.

Meta-analysis (9 trials, n=2284). Effects of general antenatal education for childbirth or parenthood, or both, remain largely unknown.


Multicenter RCT (n=1'047). Group prenatal care resulted in equal or improved perinatal outcomes at no added cost.

RCT (n=378)

RCT (n=17'046 mother-infant pairs), 6.5 years after birth, children had the same risk for developing allergies or asthma whether or not they experienced prolonged or exclusive breastfeeding.

Author reply

RCT (n=205)

RCT (n=401). Provision of printed or audiovisual educational material was not sufficient


'News'


Fetal issues

Macrosomia


1198. Ben-Haroush A, Chen R, Hadar E, Hod M, Yoge Y. Accuracy of a single fetal weight estimation at 29-34 weeks in diabetic pregnancies: can it predict large-for-gestational-age infants at term? Am J Obstet Gynecol 2007;197:497 e1-6. Retrospective cohort study (n=423). In women with poor glycemic control, accelerated fetal growth was observed. The mean birthweight percentile at term was significantly higher than the estimated fetal weight percentile at 29-34 weeks’ gestation in the
women; therefore, these fetuses were not identified by a single ultrasound examination at 29-34 weeks’ gestation.


Review article

Letter to the Editor

Retrospective analysis (n=134 infants with a birth weight ≥4500g). women who had macrosomic babies were generally overweight or obese, multiparous women. They were more likely to be Polynesian and less likely to be Asian

Monitoring

Review article (practice guidelines)

Letter to the Editor

Prospective, cross-sectional study (n=129). Simultaneous pulsed wave Doppler recording of pulmonary vessels in the fetus allowed accurate diagnosis of arrhythmias.


Prospective study (n=301). fetal pulse oximetry values were below 30% in 52 and above 30% in 249 cases. When fetal pulse oximetry values were below 30%, umbilical pH was significantly lower than in controls.


Prospective observational study (n=1502). The majority of adverse outcomes, among the cases that had cord arterial blood gases, were detected by the combined analysis of the CTG and ST traces. Thus, 16 of the 23 cases with metabolic acidosis, 16 of the 23 with low Apgar score and 4 of the 5 with metabolic acidosis combined with low Apgar score were preceded by a significant STAN event.


Meta-analysis (n=5 trials; n= 7'424 cases). The addition of fetal pulse oximetry did not reduce overall caesarean section rates. A better method to evaluate fetal well-being in labour is required.


Review article

Prospective study (n=52 pregnancies). Sensitivity and specificity of fECG was superior to doppler measures.


Editoral


Review article


Letter to the Editor


Retrospective analysis (n=563 cases). ST-events were a frequent finding during normal FHR tracings.


Case-control study (n=20)


Prospective observational study (n=1'889). The use of the STAN appeared to be very successful; the metabolic acidosis rate was 0.38% and the rate of operative delivery for fetal distress decreased. Accuracy of the interpretation of the fetal heart rate seemed to be improved.


Practical guidelines (clinical opinion)


Letter to the Editor


Prospective observational study (n=136). Under physiologic circumstances, fetal hemoglobin, and not fetal oxygenation, primarily determined the middle cerebral artery peak systolic velocity.


Audit (n=220)
Secondary analysis from a multicenter study (n=34). Relative changes in LF/HF ratio of FHR variability in relation to a significant ST-event were more pronounced in fetuses born with metabolic acidosis.

Retrospective analysis (n=109 stillbirths out of n=30'519 pregnancies). Abnormal uterine artery Doppler was a good predictor of stillbirth at extreme preterm gestations but a poor predictor of stillbirth at term.

RCT (n=799). In a population with abnormal CTG in labor, CTG combined with ST-segment analysis was not associated with a reduction in operative deliveries for NHR. The percentage of women whose fetus had at least 1 scalp pH measurement during labor was substantially lower in the group with ST-segment analysis.

Retrospective study (n=1'875 with STAN (59% of deliveries)). The overall CS rate was significantly reduced in the STAN group. STAT CS were significantly reduced from 1.51% to 0.27% in the CTG- and STAN-monitored groups, respectively.

Retrospective case review (n=3). Detailed review of 3 cases with poor signal quality, difficulties in CTG interpretation, failure to comply with STAN clinical guidelines and deterioration of the CTG without ECG alert as the leading causes of adverse outcomes.

Practice guidelines (clinical opinion)

Resuscitation (intrauterine)

RCT (n=110) of 250 µg of terbutaline or 400 µg nitroglycerin iv for NRFHR tracings in labor. The effectiveness of the terbutaline and nitroglycerin for acute intrapartum fetal resuscitation remained similar when analyzed by the type of NRFHT, although there was a trend towards an increased effectiveness of terbutaline in the setting of severe variable decelerations. No statistically significant differences were noted between groups in reasons for failed acute intrapartum resuscitation, although more women in the
nitroglycerin group required a 2nd iocytic within 30 minutes for recurrent NRFHR tracings. This trend may be explained by the much shorter half-life of nitroglycerin.

Screening

Practice guidelines

F1000 Must read (6.0). New finding. The authors showed that single nucleotide polymorphisms (SNPs) can be used to distinguish fetal DNA from maternal DNA and to determine the copy number of fetal chromosomes in maternal blood samples. Invasive diagnostic tests are about 99% accurate in identifying the spectrum of chromosomal abnormalities but are associated with increased risks to the pregnancy. Rather than calculating absolute readings of the fetal-specific alleles, the ratio of unique fetal-specific allele signals to the combined maternal and fetal allele signal was determined. Free fetal DNA was directly quantified from the heterogeneous mixture of maternal and fetal DNA in the maternal plasma. Large-scale clinical trials are needed to more accurately establish the specificity and sensitivity of the test and to determine the optimum number of SNPs needed to identify chromosomal abnormalities at a range of free fetal DNA concentrations.

Surgery (incl EXIT procedures)

Retrospective analysis (N=4344). A national analysis of the largest group of infants with gastrochisis.


Case-report

Editorial

Case-series (n=33)

Case-series (n=3). Anesthetic management with regional anesthesia and iv nitroglycerin
Newborn issues

Evaluation  Acid-base balance
   Retrospective cohort study (n=786). In preterm infants, umbilical artery acidosis was significantly more common in the presence of placental abruption, fetal distress, and histologic evidence of placental vascular disease.
   Retrospective cohort study (2'554). Lactate in arterial umbilical cord blood appeared to be more predictive of fetal asphyxia at delivery than pH and actual base excess.
   Prospective study (n=43). Double clamping the umbilical cord before obtaining an umbilical artery sample was not necessary for accurate blood gas results.
   Case-report (newborn with hypochloraemic metabolic alkalosis due to severe metabolic alkalosis in a woman with an eating disorder)

Evaluation  Behavior
   'News'. An ongoing study, called the MRI Study of Normal Brain Development, is building a database of what constitutes a 'normal' child.
   Short communication


1255. van Sleuwen BE, Engelberts AC, Boere-Boonekamp MM, Kuis W, Schulpen TW, L'Hoir MP. Swaddling: a systematic review. Pediatrics 2007;120:e1097-106. Meta-analysis (n=9 trials). When not used properly, swaddling can be a dangerous intervention that increases the risk of DDH, SIDS, and overheating. It can be used safely, however, if accompanied by appropriate advice.


1261. Doyle LW, Davis PG, Morley CJ, McPhee A, Carlin JB. Outcome at 2 years of age of infants from the DART study: a multicenter, international, randomized, controlled trial of low-dose dexamethasone. Pediatrics 2007;119:716-21. Placebo-controlled RCT (n=70, study abandoned due to recruitment difficulties). There was little evidence for a difference in the major end point, the rate of the combined outcome of death, or major disability at 2 years of age (dexamethasone group: 46%; controls: 43%).


1267. Marret S, Marpeau L, Zupan-Simunek V, Eurin D, Leveque C, Hellot MF, et al. Magnesium sulphate given before very-preterm birth to protect infant brain: the randomised controlled PREMAG trial. BJOG 2007;114:310-8. Placebo-controlled RCT (n=573 pregnancies, n=688 infants; study interrupted). There was no difference in total mortality (MgSO₄ 9.4 versus placebo 10.4%), severe white
matter injury (10.0 versus 11.7% respectively). Their combined outcomes were less frequent in the MgSO\textsubscript{4} group, but these differences were not statistically significant.


Placebo-controlled RCT (n=118, n=95 survivors). The rates of major neurodevelopmental impairments were 40% for the dexamethasone group and 20% for the placebo group. The higher impairment rate for the dexamethasone group was mainly attributed to a higher prevalence of cerebral palsy.


Large European population-based study (n= 1575 VLBW infants born with cerebral palsy). Provides evidence that the prevalence of cerebral palsy in children of birthweight less than 1500 g has fallen.


Large American population-based longitudinal outcome study (n=2'318). Population-based CP prevalence rates for children whose gestational age was 20 to 27 weeks and whose birth weight ranged from 500 to 1249 g show steady reductions in the last decade with stable or reducing mortality, reversing trends prior to 1992-1994.


Placebo-controlled RCT (n=2'006). Caffeine therapy for apnea of prematurity improves the rate of survival without neurodevelopmental disability at 18 to 21 months in infants with very low birth weight.


Meta-analysis (n=5 trials; n=552). Therapeutic hypothermia seemed to have a beneficial effect on the outcome of term neonates with moderate to severe hypoxic ischemic encephalopathy


Retrospective analysis (n=123). CPAP for initial management of respiratory disease in premature babies of < 32 weeks gestation at birth was associated with no measurable developmental advantage or disadvantage at 2 years of age.


Editorial

Large Finish population-based longitudinal outcome study (n=1040). No significant changes were detected in birth or mortality rate in extremely low birth weight infants born in Finland during the late 1990s, but some neonatal morbidities seemed to increase.


Review article


Long-term follow-up analysis from an RCT (n=192). Contrary to the initial concern about the increased rate of severe intraventricular hemorrhage in the high-frequency ventilation group, these data suggest that early use of high-frequency ventilation, compared with conventional ventilation, may be associated with a better neuromotor outcome.


Long-term follow-up analysis from an RCT (n=556). Children who had been exposed to repeat as compared with single courses of antenatal corticosteroids did not differ significantly in physical or neurocognitive measures. Although the difference was not statistically significant, the higher rate of cerebral palsy among children who had been exposed to repeat doses of corticosteroids is of concern and warrants further study.


Long-term follow-up analysis from an RCT (n=360). Early, low-dose hydrocortisone treatment was not associated with increased cerebral palsy. Treated infants had indicators of improved developmental outcome.


Long-term longitudinal observational follow-up (n=1478). Since 2000, neurodevelopmental impairment decreased among extremely low birth weight infants. A variety of perinatal and neonatal factors were associated with the improved outcomes including increased antenatal steroid use and CS delivery, as well as decreased sepsis, severe cranial ultrasound abnormalities, and postnatal steroid use despite no change in the rate of chronic lung disease.

Low Birth Weight


Letter to the Editor

*Large population-based study (n=197’061). The risk of perinatal mortality increased earlier in gestation among South Asian women than among white women. The most important factor associated with antepartum stillbirth among white women was placental abruption, but among South Asian and black women it was birth weight below 2000 g.*


*Prospective observational study (n=176).*


*Retrospective analysis (n=30). Two thirds of periventricular hemorrhagic infarction survivors developed significant cognitive and/or motor abnormalities, whereas adaptive skills are relatively spared.*


*Multicenter RCT (aim n=500)*


**F1000 Recommended (3.0). Confirmation.** While the authors do not comment on this aspect, the data in this article refute the dogma that crown-rump size is a precise measure of gestational age up to week 14. This article shows that when time of conception is closely controlled, there is natural variation of fetal size (by ultrasound measures) at given gestational ages in the first trimester. The authors selected 976 singleton pregnancies conceived by artificial reproductive techniques, thus providing reasonably precise dates of conception. The authors excluded babies with birth defects, chromosomal abnormalities or perinatal deaths. At a given gestational age, the ultrasound-measured size of fetuses differed from their conceptional age by plus or minus six days. This variation in fetal size was correlated with later birth weight and SGA. The authors' interpretation that prenatal ultrasound may help to predict small-for-gestational-age (SGA) births is not so useful for non-assisted reproductive technology (ART) pregnancies. Most clinicians do not have the benefit of knowing exact conception day; without that benchmark, the power to identify extremely small fetuses at a given gestational age is muddled by errors in gestational age.


*Case-report*
*Short communication*

*Large population-based cohort study (n=9861). Parenteral nutrition-associated liver disease was associated with VLBW (<750 g birth weight), gastrochisis and jejunal atresia.*

*Letter to the Editor*

*Large population based cohort study (N=60'890 women with no GDM and n=421 women with GDM) in Sweden. Low as well as high birth weight was associated with later development of GDM. A young mother and prematurity increased the risk of the offspring developing GDM.*

*Retrospective cohort analysis (n=334). Indomethacin prophylaxis did not show any advantages over expectant early treatment on the management of symptomatic patent ductus arteriosus in ELBW infants.*

*Placebo-controlled RCT (n=1'983). INH-A21 (an iv immune globulin derived from donors with high titers of antibody to surface adhesins of Staphylococcus epidermidis and S. aureus) failed to reduce the incidence of staphylococcal late-onset sepsis or candidemia in premature infants.*

*Meta-analysis (n=12 trials, n=1393). Probiotics might reduce the risk of necrotising enterocolitis in preterm neonates with less than 33 weeks' gestation. However, the short-term and long-term safety of probiotics needs to be assessed in large trials. Unanswered questions include the dose, duration, and type of probiotic agents (species, strain, single or combined, live or killed) used for supplementation.*

*Retrospective analysis (n=121)*

*Editorial*
Review article

Retrospective cohort study (n=849). Patients with an episode of increased uterine contractility that subsided and who deliver at term were at risk for delivering an SGA neonate, which suggests that an episode of false preterm labor is not a benign condition.

Retrospective analysis (n=45). Preterm neonates with IVH had a better outcome when delivered to mothers receiving epidural analgesia as compared to those receiving intravenous meperidine.

Retrospective analysis (n=334). There were significantly lower rates of respiratory distress syndrome and bronchopulmonary dysplasia in the betamethasone group, compared with the dexamethasone group.

Case-report

Review article

Letter to the Editor

Letter to the Editor

Multicenter observational cohort study (n= 55'908 pregnancies). Infants who were small for gestational age were not at increased risk for high blood pressure at 7 years of age. However, children who crossed weight percentiles upward during early childhood did demonstrate an increased risk.

Retrospective analysis (n=168 out of which n=146 of them died after compassionate care in the delivery room and n=22 received postnatal resuscitation). After
resuscitation, five of the infants died and 17 were admitted to NICU for further management. Subsequently, 12 infants died and five infants survived to discharge. Long-term survival rate was 13.6%


Report of a multidisciplinary workshop. A grey zone between 23(0) and 25(6) weeks of gestation was identified and agreed upon. In this grey zone, while there was an increasing obligation to treat, it was acceptable not to initiate intensive care following appropriate counselling with parents.


Case-control study (n=100). The hypothesis that oxidative status of the infants and mothers may play a major role in the regulation of bone metabolism in the developing skeleton was not confirmed.


Large population-based study (n=13'430) in Israel. Mortality rate was significantly higher in non-Jewish infants, infants who were born to young mothers, and infants who were born to low-educated mothers. After adjustment for demographic characteristics and perinatal and neonatal variables, postdischarge mortality was independently associated with congenital malformations, neonatal seizures, necrotizing enterocolitis, and bronchopulmonary dysplasia.


Large population-based study (n=4'392)


Large population-based study (n=5'277)


Survey


Large population-based cohort study (n=34'603). There were 6189 (18%) patients who received prophylactic indomethacin, 5690 (16%) patients received indicated treatment, 3886 (11%) patients had a PDA without treatment, 702 (2%) patients received ligation only and 18 136 (52%) patients had no PDA. Mortality among survivors to 2 days of age was lower and chronic lung disease, isolated intestinal perforation and severe retinopathy of prematurity were higher in the indicated treatment group compared with the PDA without treatment group.

*Multi-center placebo-controlled RCT (n=322) in Italy. Among infants receiving fluconazole, fungal colonization occurred in 9.8% in the 6mg group and 7.7% in the 3mg group, as compared with 29.2% in the placebo group. Prophylactic fluconazole reduced the incidence of colonization and invasive candida infection in neonates weighing less than 1500 g at birth. The benefit of treating candida colonization was unclear.*


Follow-up from the SELECT and STAR studies (2 RCTs, n=1546). Lucinactant was at least as good, if not superior, to animal-derived surfactants for prevention of respiratory distress syndrome and may be a viable alternative to animal-derived products.


Letter to the Editor


Editorial


Case-report


F1000 Recommended (3.0) Hypothesis. The lesson to learn from this study is that infants with low birth weight need long-term surveillance even into adulthood. This is a retrospective longitudinal study of 158 young adults who had very low birth weight and 169 term-born control subjects aged 18 to 27 years. A two-fold risk of sleep-disordered breathing was seen in adults with low birth weight. Maternal smoking during pregnancy increased the risk of sleep-disordered breathing by more than two-fold.


Database analysis (66'838 fetal/neonatal deaths). NICU volume and level in the hospitals where very-low-birth-weight infants are born was strongly associated with mortality; the mortality was lowest for deliveries that occurred in hospitals with high-level and high-volume NICUs. Less than a quarter of very-low-birth-weight infants are born in hospitals with such NICUs, and this percentage has been declining over time.


Retrospective cohort study (n=46). Infants with spontaneous intestinal perforation were more likely than control subjects to have severe placental chorioamnionitis with fetal
vascular response (40% vs 12%); 2 placentas also tested positive for yeast versus none in the control subjects. Mothers of infants with spontaneous intestinal perforation were more likely than control subjects to have received antibiotics before or at delivery (93% vs 57%). Fifty percent of the infants had Candida, and 31% in the spontaneous intestinal perforation group had coagulase-negative Staphylococcus sepsis versus 6% in the control subjects.


1328. Sisk PM, Lovelady CA, Dillard RG, Gruber KJ, O'Shea TM. Early human milk feeding is associated with a lower risk of necrotizing enterocolitis in very low birth weight infants. J Perinatol 2007;27:428-33. Prospective cohort study (n=202). Enteral feeding containing at least 50% human milk in the first 14 days of life was associated with a sixfold decrease in the odds of NEC.

Stevens TP, Harrington EW, Blennow M, Soll RF. Early surfactant administration with brief ventilation vs. selective surfactant and continued mechanical ventilation for preterm infants with or at risk for respiratory distress syndrome. Cochrane Database Syst Rev 2007:CD003063.

Meta-analysis (n= 6 RCT). Treatment with surfactant by transient intubation using a low treatment threshold (FIO2< 0.45) is preferable to later, selective surfactant therapy by transient intubation using a higher threshold for study entry (FIO2 > 0.45) or at the time of respiratory failure and initiation of mechanical ventilation.


Editorial

Strickland DM. Antenatal betamethasone compared with dexamethasone (betacode trial): a randomized controlled trial. Obstet Gynecol 2007;110:930

Letter to the Editor


Case-control study (n=40). Placental mRNA expression of 11β-hydroxysteroid dehydrogenase type 2 and 11β-hydroxysteroid dehydrogenase type 1 was significantly reduced in the SGA group.


Case-control study (n=148). There was no association between intraventricular hemorrhage and total homocysteine levels. Male gender, prenatal steroids and preeclampsia were associated with differences in total homocysteine.


Population-based cohort study (n= 3'270)


Retrospective study (n=187). No significant difference in respiratory outcome between SGA fetuses with normal (SGA-N) or abnormal (SGA-A) umbilical artery Doppler examination was found. Within the SGA-A group, the respiratory distress syndrome incidence, severity and need for surfactant were higher in infants of women with HELLP syndrome as compared to those of normotensive mothers.


Letter to the Editor


Long-term follow-up (n=183)

Large European prospective cohort study (Models of Organising Access to Intensive Care for Very Preterm Births, n=111 European units, n=4'947 admissions). There is no clear consensus in Europe about size or other criteria for NICUs.


Long-term follow-up from an RCT (n=773 from the Glutamine trial). Beneficial effects of ingestion of breast milk in the NICU persisted at 30 months' corrected age in ELBW infants

1341. Wadhawan R, Oh W, Perritt R, Laptook AR, Poole K, Wright LL, et al. Association between early postnatal weight loss and death or BPD in small and appropriate for gestational age extremely low-birth-weight infants. J Perinatol 2007;27:359-64. Retrospective cohort study (n=9461). SGA infants experienced less early postnatal weight loss when compared with their appropriate for gestational age counterparts. Early postnatal weight loss was associated with a lower risk of death or bronchopulmonary dysplasia in both ELBW groups.

1342. Wallach RC. Antenatal betamethasone compared with dexamethasone (betacode trial): a randomized controlled trial. Obstet Gynecol 2007;110:930

Letter to the Editor


Report


Case-report

Meconium Aspiration


Practice guidelines. In accordance with the new guidelines from the American Academy of Pediatrics and the American Heart Association, all infants with meconium-stained amniotic fluid should no longer routinely receive intrapartum suctioning. If meconium is present and the newborn is depressed, the clinician should intubate the trachea and suction meconium and other aspirated material from beneath the glottis.


Case-series (n=8 infants). Lung lavage with two aliquots of up to 15 mL/kg of dilute surfactant was feasible in stable ventilated infants with MAS.

Non-randomized trial (n=150) in India. Amnioinfusion was associated with a significant decrease in the incidence of low Apgar score (<7) at 1 min, low Apgar score at 5 min and meconium aspiration syndrome. There was also a trend towards a lesser incidence of CS and perinatal deaths. There were no major complications related to amnioinfusion.

1348. El Shahed AI, Dargaville P, Ohlsson A, Soll RF. Surfactant for meconium aspiration syndrome in full term/near term infants. Cochrane Database Syst Rev 007:CD002054. Meta-analysis (n=4 trials; n=326 infants). In infants with MAS, surfactant administration may reduce the severity of respiratory illness and decrease the number of infants with progressive respiratory failure requiring support with ECMO. The relative efficacy of surfactant therapy compared to, or in conjunction with, other approaches to treatment including inhaled nitric oxide, liquid ventilation, surfactant lavage and high frequency ventilation remains to be tested.


F1000 Must read (6.0). Refutation. Changes clinical practice. In a setting with standard peripartum surveillance, clinicians may desist using amniotic infusion (AI) to prevent meconium aspiration syndrome (MAS). However, in settings with limited peripartum surveillance where complications meconium-stained amniotic fluid are common, AI appears to reduce the risk of MAS. This systematic review included 12 high-quality randomized controlled trials of intrapartum amnioinfusion to prevent MAS. The most significant finding was the apparent discordance in the observed effect of AI on MAS between centers with intrapartum electronic fetal monitoring and those with limited or no EFM. The alleged role of AI in preventing MAS includes dilution of meconium and prevention of umbilical cord compression. There is some doubt that aspiration of meconium is causative in MAS and the findings in this systematic are consistent with such doubts

Morbidity and mortality


1352. Abrams ME, Meredith KS, Kinnard P, Clark RH. Hydrops fetalis: a retrospective review of cases reported to a large national database and identification of risk factors associated with death. Pediatrics 2007;120:84-9. Retrospective analysis (n=598). The most common associated diagnoses were congenital heart problems (13.7%), abnormalities in heart rate (10.4%), twin-to-twin transfusion (9%), congenital anomalies (8.7%), chromosomal abnormalities (7.5%), congenital viral infections (6.7%), congenital anemia (5%), and congenital chylothorax (3.2%).

Large population-based study (n=280'097). Risk selection is a crucial element of the Dutch obstetric system and continues into the postpartum period.

Retrospective analysis (n=44'703 full-term births with n=31 deaths) in Israel. The main cause of death was congenital anomalies (64.5%), specifically cardiac anomalies. Other causes were chromosomal anomalies or syndromes (12.9%), labor complications (12.9%), infections (3.2%), congenital diseases (3.2%) and metabolic disorders (3.2%).

Editorial

Retrospective cohort study.

Secondary analysis of an RCT (n=2649) of empiric antibiotics to reduce chorioamnionitis-related perinatal HIV transmission. HIV infection was not associated with increased stillbirth risk.

Population based cohort study (n=6'528). There were ethnic disparities in the risks of neonatal mortality and morbidity in the NICU.

Large population-based cohort study (n=2'446 subjects with neural-tube defects). Food fortification with folic acid was associated with a significant reduction in neural-tube defects in Canada.

Retrospective analysis (n=73). Age at first symptoms is the strongest predictor mortality. Despite a high mortality rate in the cohort, 62% of patients aged >5 years have only mild impairment or normal functional outcome.

Retrospective case-control study (n=6'660). Intensive home visiting reduced the risk of infant death.
   Review article

   Letter to the Editor

   Short communication (from the The Lancet's 'Maternal survival series')

   Retrospective national-level case series (n=198'160 attributed to a complex chronic condition of n=896'509 total deaths). Children who die with underlying complex chronic conditions increasingly are dying at home. Racial and ethnic disparities regarding place of death may represent important limitations and opportunities for improvement in the current systems of pediatric chronic and palliative care.

   Meta-analysis (n=61 trials, n>6000 parents). Nurses were generally viewed as more emotionally supportive than physicians. Avoidance, insensitivity and poor staff communication were the most distressing behaviors encountered.

   Systematic review (n=1'100 articles)

   Retrospective analysis (n=145'695 singleton births). By 41 weeks there was a substantial increase in the stillbirth risk in nulliparous women but not in parous women. The pattern of rise is such that the stillbirth risk is 2.9 times higher in nulliparous women at >42 weeks' gestation.

   Editorial

   Prospective longitudinal cohort study (n=1369 pregnant women enrolled in 2nd trimester and followed 6 weeks postpartum). The stillbirth rate was 33.6 of 1000 births. Most of the stillbirths were term and did not have congenital anomalies and the death appeared to be recent. This suggests that many Pakistani stillbirths may be preventable with higher quality obstetric care.

   Review article (from the The Lancet's 'Maternal survival series').
*Prospective cohort study (n=3062). The size of the diaphragmatic defect seems to be the major factor influencing outcome in infants with congenital diaphragmatic hernia.*

*Retrospective analysis (n=6). Only one infant survived.*

*Case-report (In utero treatment of hydropic fetus)*

*Review article*

*Case-series (n=6)*

*Population-based cohort study (n=954 cases out of n=17,198 newborns). Infection risk was higher in infants receiving topical cord applications of mustard oil and other potentially unclean substances. Skin-to-skin contact and hand washing by birth attendants and caretakers were associated with fewer infections.*

*RCT (n=743 primarily black women). The program reduced women's rates of subsequent births, increased the intervals between the births of first and second children, increased the stability of their relationships with partners, facilitated children's academic adjustment to elementary school, and seems to have reduced childhood mortality from preventable causes.*

*Medical audit*

*Retrospective analysis. Current mortality ratios for all-cause injury remained higher in black and American Indian/Alaskan Native children and lower in Asian/Pacific Islander children compared with white children.*
Review article

Prospective observational study (n=11). Thrombocytopenia was common in fetuses with hydrops caused by parvovirus infection, and could cause exsanguination from the umbilical cord puncture site.

Review article

Retrospective analysis. Dramatic declines in infant mortality among all of the socioeconomic groups during 1969–2001 represent a major public health success. However, substantial socioeconomic disparities persisted in both neonatal and postneonatal mortality.

Review article (from the The Lancet's 'Maternal survival series').


Respiratory Distress
Letter to the Editor

Systematic review (n=11 trials). Inhaled NO as rescue therapy for very ill preterm infants undergoing ventilation does not seem to be effective and may increase severe intracranial hemorrhage. Later use of inhaled NO to prevent bronchopulmonary dysplasia does not seem to be effective. Early routine use of inhaled NO for mildly sick, preterm infants seems to decrease the risk of serious brain injury and may improve rates of survival without bronchopulmonary dysplasia.

Observational study (n=106)

RCT (n=41). Outcomes after post-surfactant extubation to synchronized nasal intermittent positive pressure ventilation (SNIPPV) was better than conventional ventilation (CV)

Review article


RCT (n=300). Hudson prong bubble continuous positive airway pressure therapy reduced the need for up-transfer of infants with respiratory distress in nontertiary centers.


Survey (n=157)


Survey (n=133). The wide variation that exists between nurseries in the initial management of infants with respiratory distress and in the thresholds for transfer strongly suggests the need for the development of practice guidelines.

1396. Campbell WA. Antenatal betamethasone compared with dexamethasone (betacode trial): a randomized controlled trial. Obstet Gynecol 2007;110:930 

Letter to the Editor


Population-based retrospective cohort study (n=101’245). Maternal asthma and maternal smoking during pregnancy are independently associated with the development of bronchiolitis in term, non-low birth weight infants without preexisting cardiac or pulmonary disease. The risk of bronchiolitis among infants with mothers who both have asthma and smoke during pregnancy is approximately 50% greater than that of infants with neither risk factor.


Editorial


Meta-analysis (n=5 trials; n=2000 women). Repeat dose(s) of prenatal corticosteroids reduce the occurrence and severity of neonatal lung disease and the risk of serious health problems in the first few weeks of life. These short-term benefits for babies support the use of repeat dose(s) of prenatal corticosteroids for women at risk of preterm birth. However, these benefits are associated with a reduction in some measures of weight, and head circumference at birth, and there is still insufficient evidence on the longer-term benefits and risks.

Double-blind placebo-controlled RCT (n=299). Betamethasone and dexamethasone were comparable in reducing the rate of most major neonatal morbidities and mortality in preterm neonates. However, dexamethasone seems to be more effective in reducing the rate of intraventricular hemorrhage compared with betamethasone.

1401.* Hansen AK, Wisborg K, Uldbjerg N, Henriksen TB. Elective caesarean section and respiratory morbidity in the term and near-term neonate. Acta Obstet Gynecol Scand 2007;86:389-94. F1000 Recommended. (3.0) Confirmation. The important message of this review article is that, whenever possible, elective cesarean delivery should be performed as near to the expected date of delivery as possible in order to reduce the risk of respiratory morbidity in the newborn. The risk of an infant developing respiratory morbidity (transient tachypnea of the newborn) or persistent pulmonary hypertension is significantly increased following elective cesarean delivery as compared to vaginal delivery. Importantly, the risk of neonatal respiratory morbidity associated with elective cesarean delivery decreases significantly with each week of gestation from 37 weeks to 40 weeks.


Prospective study (n=90). Airway expression of epithelial sodium channel at 1 to 5 hours of age is significantly lower in preterm than in term infants.

1403. Henderson-Smart DJ, Cools F, Bhuta T, Offringa M. Elective high frequency oscillatory ventilation versus conventional ventilation for acute pulmonary dysfunction in preterm infants. Cochrane Database Syst Rev 2007;CD000104. Meta-analysis (n=15 trials; n=3'585 infants). There is no clear evidence that elective HFOV offers important advantages over CV when used as the initial ventilation strategy to treat preterm infants with acute pulmonary dysfunction.


Case-series (n=42). Premature infants with bronchopulmonary dysplasia and severe pulmonary artery hypertension were at high risk of death, particularly during the first 6 months after diagnosis of pulmonary artery hypertension


RCT (n=84). Nasal intermittent mandatory ventilation compared to nasal continuous positive airway pressure decreased the requirement for endotracheal ventilation in premature infants with RDS and decreased the incidence of bronchopulmonary dysplasia.


Case-report

1409. Lavin PT. Meta-analysis combining 2 previously reported trials on respiratory distress syndrome in neonates. Pediatrics 2007;120:1223-4

Letter to the Editor


Prospective cohort study (n=110). At 5 minutes, the mean pre-ductal SpO2 level was 89%, and the mean post-ductal SpO2 level was 81%. A gradient between pre- and post-ductal SpO2 levels remains significant for the first 15 minutes of life. The SpO2 level was lower in babies born by CS in comparison to babies born by vaginal delivery.


Letter to the Editor


Case-control study (n=20). Feeding problems depend on the severity of bronchopulmonary dysplasia. Infants with bronchopulmonary dysplasia demonstrated not only poor feeding coordination but also poor feeding endurance and performance


Meta-analysis (n=2 trials). In two trials of protein containing synthetic surfactants compared to animal derived surfactant extract, no statistically different clinical differences in death and chronic lung disease were noted. In general, clinical outcomes between the two groups were similar.


Letter to the Editor


Letter to the Editor
Meta-analysis (n=3 trials). No evidence that inhaled corticosteroids confer net advantages over systemic corticosteroids in the management of ventilator dependent preterm infants. Neither inhaled steroids nor systemic steroids can be recommended as standard treatment for ventilated preterm infants. There was no evidence of difference in effectiveness or side-effect profiles for inhaled versus systemic steroids. A better delivery system guaranteeing selective delivery of inhaled steroids to the alveoli might result in beneficial clinical effects without increasing side-effects.

Genetic association study (n=17). Genetic variability of pulmonary surfactant were identified by DNA sequence analysis in 14 of 17 newborn infants with fatal respiratory distress of unknown etiology.

Secondary analysis of a placebo-controlled RCT (n=99). Inhaled NO did not result in any significant change for any airway inflammatory substances.

Meta-analysis (n=16 RCT and n=4 systematic reviews).

Prospective RCT (n=24 newborn intubated piglets). Supplementation of exogenous surfactant with a NF-κB inhibitor to create a "fortified" surfactant improved gas exchange, lung function, and pulmonary edema during 24 hrs of mechanical ventilation, without a secondary functional relapse

Cluster-randomized trial (n=4093 newborns from n=17 centers). Benchmarking and multimodal quality improvement changed practices but did not reduce bronchopulmonary dysplasia rates.

1422 Watchko JF. Ventilatory pump failure and strategies to prevent bronchopulmonary dysplasia. Pediatrics 2007;120:240  
Letter to the Editor

Resuscitation

Secondary analysis of an RCT (n=476) in Mexico. Early cord clamping, by decreasing infant iron status, contributes to higher blood lead concentrations at 6 months of age among infants at high risk.


Review article


1427. Hutton EK, Hassan ES. Late vs early clamping of the umbilical cord in full-term neonates: systematic review and meta-analysis of controlled trials. JAMA 2007;297:1241-52. Meta-analysis (n=15 trials, n=1912 women). Delaying clamping of the umbilical cord in full-term neonates for a minimum of 2 minutes following birth is beneficial to the newborn, extending into infancy. Although there was an increase in polycythemia among infants in whom cord clamping was delayed, this condition appeared to be benign.


Letter to the editor


Editorial


Letter to the Editor

1431. te Pas AB, Walther FJ. A randomized, controlled trial of delivery-room respiratory management in very preterm infants. Pediatrics 2007;120:322-9. RCT (n=207). A sustained inflation followed by early nasal continuous positive airway pressure, delivered through a nasopharyngeal tube, was more efficient than repeated manual inflations with a self-inflating bag and mask followed by nasal continuous positive airway pressure on admission to the NICU.


Editorial

Other topics
**Guidelines/Special articles**


*Practice Guidelines*


Report on the Practice guidelines of the ASA task force on Obstetric Anesthesia


Superb Review! This first article presents a very exhaustive overview on publications related to pre-eclampsia, labor analgesia and spinal anesthesia for elective cesarean delivery-related topics


Second superb review focusing on neonatology-related topics: resuscitation of the newborn, neonatal encephalopathy and the influence of epidural analgesia on breastfeeding.


Practical Guidelines. Noteworthy, under Pain relief: ‘Offer the option of labouring in water, as this has been shown to reduce pain and the need for regional analgesia, with no differences in adverse outcomes. Inform women considering epidural analgesia that it provides the most effective pain relief in labour but also carries risks (such as longer second stage and increased likelihood of instrumental birth) and implications for their labour (such as increased monitoring of both mother and baby).’

**Economics and Staffing**


Survey (n=18 clinical administrators) to establish a baseline of current policies and practices with regards to anesthesia information management systems. Non-obstetric


Observational study (n=959 pregnancies) to assess NHS mean costs of antenatal and obstetric care for different types of pregnancy in the UK. Multiple pregnancies are substantially more costly than most singleton pregnancies.


Observational study to assess the impact of information management system to improve record keeping and billing performance. A significant number of records could not be billed in a timely manner because they contained documentation errors.

Survey (n=121 departments). Departments billed an average of 11,320 anesthesia units/faculty/yr. Although the average anesthesia unit value collected was $31, departments required approximately $40/U to meet expenses.

Non-obstetric study

Education/Residency/Simulation and drills


1444. Crofts JF, Ellis D, Draycott TJ, Winter C, Hunt LP, Akande VA. Change in knowledge of midwives and obstetricians following obstetric emergency training: a randomised controlled trial of local hospital, simulation centre and teamwork training. BJOG 2007;114:1534-41. Prospective randomised controlled trial (n=140). Change in knowledge was assessed by a 185 question Multiple-Choice Questionnaire (MCQ) completed up to 3 weeks before and 3 weeks after the training intervention. RESULTS: There was a significant increase in knowledge following training; mean MCQ score increased by 20.6 points. But neither the location of training, in a simulation centre or in local hospitals, nor the inclusion of teamwork training made any significant difference to the acquisition of knowledge in obstetric emergencies.


1446. Dauphin-McKenzie N, Celestin MJ, Brown D, Gonzalez-Quintero VH. The advanced life support in obstetrics course as an orientation tool for obstetrics and gynecology residents. Am J Obstet Gynecol 2007;196:e27-8. Postgraduate first year residents (n=9) demonstrated an increase of 31% between mean pretest and posttest scores. Postgraduate first year residents found the course to be a good, hands-on practical review of common obstetric problems.


1448. Ford AA, Bateman BT, Simpson LL, Ratan RB. Nationwide data confirms absence of 'July phenomenon' in obstetrics: it's safe to deliver in July. J Perinatol 2007;27:73-6. Large cohort study (n=26'546 women delivering in July versus n=272'584 women delivering between August and June). There was no increased rate of operator-dependent complications of delivery at teaching hospitals nationwide in the month of July.

Multicenter RCT (n=22 hospitals in Mexico City and n=18 hospitals in Thailand). No consistent or substantive changes in clinical practices were detected within 4-6 months after the 3rd workshop.


Review article (non-obstetric)
Review article (non-obstetric)

Excellent review article

Survey (n=29). Only 33% of registrars agreed that they received adequate training before their first epidural and 67% reported workplace stress. None received formal assessments designed to ensure adequate supervision and competency

**Ethics and Medicolegal Issues**

Committee on Ethics: Physicians must learn new skills in a manner consistent with their ethical obligations to benefit the patient, to do no harm, and to respect a patient’s right to make informed decisions

Committee on Ethics: All women should be presumed to be eligible for participation in clinical studies.

Committee on Ethics: Hospitals, academic institutions, professional corporations, and other health care organizations should have policies and procedures by which alleged violations of professional behavior can be reported and investigated.

Committee on Patient Safety and Quality Improvement and Committee on Professional Liability: Disclosure and discussion of adverse events in health care is desired by patients and championed by safety experts and policy makers

Review article

Survey (n=79) in North America (non-obstetric). Fifty-eight (74%) respondents disclose risks of regional anesthesia in order to allow their patients to make an informed choice, whereas 20 (26%) disclose risks for medicolegal reasons. The incidences of severe complications disclosed by academic regional anesthesiologists and their fellows can be inconsistent with those cited in the contemporary literature.
Practical guidance

Editorial

Letter to the Editor

Research

Review article

Excellent review article


History

Historical review

Historical review

Websites/Books/Leaflets/Journal Announcements

1484. Wlody D. SOAP’s Important Role in ASA and Anesthesiology ASA Newsletter 2007;71.