Management of Phaeochromocytoma in Pregnancy: A Case Series

Abstract: The incidence of phaeochromocytoma in pregnancy is 1 in 50000(1). In the past 30 years the incidence of maternal and fetal mortality has fallen due to improvements in antenatal care and a multidisciplinary team approach.

**Cases:** Three women were referred to our High Risk Obstetric Anaesthetic Clinic with a confirmed biochemical and radiological diagnosis of phaeochromocytoma within a 5 year period. Patient 1 was referred at 17/40 gestation with symptoms of palpitations, sweating and headache. She had a history of essential hypertension and Type 2 diabetes. Her adrenal tumour was noted on ultrasound scanning (USS) in pregnancy and a computed tomography scan estimated it to be 12cm in diameter. Patient 2 was referred following an incidental finding on USS of a right adrenal mass at 20/40 gestation. She was normotensive on no medical therapy and complained of occasional sweating only. Patient 3 was referred at 38/40 gestation with poorly controlled hypertension despite treatment since 24/40. All 3 women were alpha-blocked using oral and/or intravenous (iv) phenoxybenzamine until a postural drop in systolic blood pressure of 30 mmHg was achieved. Oral hydration was encouraged to avoid precipitous hypotension. Beta-blockade with propranolol was introduced once alpha-blockade was established. All 3 women were delivered by elective cesarean section (Patient 1 at 34/40 gestation under general anaesthesia (GA) due to tumour size, Patients 2 & 3 using regional anaesthesia (RA) at term). They were all admitted to the intensive care unit (ICU) pre-delivery for invasive monitoring and optimisation of fluid balance. All received 4g magnesium sulphate iv over 20 minutes prior to GA or RA followed by 1 g/hr iv intraoperatively. They were monitored on ICU overnight post-cesarean section and discharged home 4-5 days later on oral therapy. Tumour removal was performed under GA 6-8 weeks postpartum in all cases (Patient 1 had an open adrenalectomy due to tumour size, Patients 2 & 3 had uneventful laparoscopic procedures). All 3 patients were admitted to ICU pre- and postoperatively as before. Patient 1 required an 8 unit blood transfusion during open adrenalectomy. Her baby required ventilatory support for 8 hours post-delivery but recovered well. There were no long-term adverse outcomes for any mother or baby.

**Discussion:** Our multidisciplinary team protocol for the management of phaeochromocytoma in pregnancy includes the routine use of phenoxybenzamine for alpha-blockade and magnesium sulphate perioperatively as well as a 2 stage surgical approach. In the future we hope the ante- and postpartum care of these women will be possible on the high dependency unit on delivery suite, avoiding a strain on ICU resources and improving the birth experience for the mother.