The Incidence of Epidural Analgesia for Cesarean Section Negatively Correlates with Cesarean Section Rates in Canada

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**Introduction:** Whether or not epidural analgesia (EA) causes an increase in cesarean section (CS) rates is still controversial. A Cochrane meta-analysis comparing EA vs. no epidural found no difference in the incidence of CS (1). These **Conclusions** have recently been questioned (2). The Canadian Institute for Health Information (3) (CIHI) maintains a database of health outcomes in Canada. We queried that database to determine whether provincial EA rates correlated with CS rates.

**Methods:** CIHI provides accurate and comparable information on Canada’s health system. We searched the CIHI database to obtain the information about rates of CS, assisted deliveries and labour EA rates by province in Canada during 2008 to 2009 period.

**Data Analysis:** The primary outcome was the correlation between EA and primary CS rates. The correlation between EA and all CS, assisted vaginal delivery, and total operative delivery (vaginal and CS) were secondary outcomes. A p value ≤ 0.05 was considered statistically significant.

**Results:** We found a negative correlation (R= -0.465) between EA rate and the primary CS rate (Figure 1). The correlations between EA and total CS/assisted vaginal delivery/total operative delivery were -0.356/0.094/-0.20 respectively. None of the correlations were statistically significant.

**Figure 1.** Epidural rate Vs. Primary CS rate by province between 2008-2009

**Discussion:** If epidural analgesia caused an increased CS rate, there should be a positive correlation between these variables. A negative correlation is strong evidence against this thesis.

**Summary:** Using administrative data from CIHI, we demonstrated a negative correlation between the incidence of labour EA and CS rates. Taken with other evidence, EA should not be considered a causative risk factor for CS.

**References:**