Epidurals May Protect Against Third and Fourth Degree Perineal Tears

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Introduction: Epidural analgesia during labour has traditionally been regarded as a risk factor for severe perineal trauma after vaginal delivery. However, this association is probably due to the presence of multiple confounding factors including; advanced maternal age, birth weight over 4 kg, persistent occipitoposterior position, nulliparity, induction of labour, prolonged second stage of labour, shoulder dystocia, episiotomy, and forceps delivery, all of which have also been associated with epidural use. We postulate that epidurals, in some women, may actually be protective against perineal trauma by reducing the uncontrolled urge to push at the moment of delivery.

Methods: We retrospectively reviewed the data for all 18,229 consecutive deliveries in a tertiary obstetric unit in the North of England between Jan 2008 and Dec 2010. We collated data on all vaginal deliveries throughout that time and compared the incidences of third or fourth degree perineal tears in those who received versus those who did not receive epidural analgesia, subgrouping them into those who achieved spontaneous versus those who achieved assisted vaginal delivery. Data was interpreted in isolation and in the context of known confounding variables.

Results: Following spontaneous vaginal delivery the risk of third or fourth degree tear was significantly lower in the epidural group than in the no-epidural group (37(1.9%) of 1989 v 230(2.7%) of 8564; relative risk 0.70[95%CI 0.49 to 0.98]p<0.05). Following assisted vaginal delivery the risk of third or fourth degree tear was again significantly lower in the epidural group than in the no-epidural group (80(4.6%) of 1746 v 81(6.9%) of 1176; relative risk 0.68[95%CI 0.50 to 0.92]p<0.05). In this group the fourth degree tear rate was also significantly lower in those receiving an epidural compared to those who did not (4(0.23%) of 1746 v 10(0.85%) of 1176; relative risk 0.27[95%CI 0.08 to 0.86]p<0.05.

The overall risk of sustaining a third or fourth degree perineal tear in those with an epidural was not different to those with no epidural (117(3.1%) of 3735 v 311(3.2%) of 9740; relative risk 0.98[95%CI 0.79 to 1.21]p>0.05.

Discussion: The group who received epidural analgesia had higher incidences of risk factors associated with third or fourth degree perineal tear. They also had correspondingly higher rates of assisted vaginal delivery; however despite this the overall third or fourth degree tear rate wasn't increased in the epidural group. This was due largely to the lower rates of third or fourth degree tear found in the epidural groups, in both those achieving an assisted vaginal delivery and those achieving a spontaneous vaginal delivery. We believe this study, as one of the largest of its kind, provides the first evidence that epidural analgesia does not increase the risk of third or fourth degree tear and supports our hypothesis that in some women it may actually be protective.