Regional anesthesia in parturients with low platelet counts

To the Editor:

The lowest platelet counts at which one can safely administer neuraxial anesthesia for labour and delivery is controversial. Published studies are few and sample sizes small.¹⁻³ We report our institutional experience with thrombocytopenic parturients, probably the largest group to date.

Medical records from 1997 to 2002 of parturients with platelet counts $< 100,000 \mu\text{L}^{-1}$ during the peripartum period were reviewed for methods of anesthesia/analgesia for delivery, peripartum, and hospital course and incidence of neurological complications; 177 patients were identified. Of these, 170 (96%) received regional anesthesia. Ninety percent of identified patients had platelet counts $> 70,000 \mu\text{L}^{-1}$; all received regional anesthesia for either vaginal or Cesarean delivery, as did all parturients with platelet counts $70,000 \mu\text{L}^{-1}$ to $60,000 \mu\text{L}^{-1}$ requesting regional anesthesia. In parturients with platelet counts between $50,000$ to $60,000 \mu\text{L}^{-1}$, six received regional anesthesia and one was denied. Spinal, instead of epidural, was more often chosen in this group than in those with counts $> 60,000 \mu\text{L}^{-1}$ ($4/6$ vs $29/160$ $P < 0.005$, Chi square test), probably because five of seven parturients in this group presented for Cesarean delivery for worsening pre-eclampsia without being in labour and because of a perception among anesthesiologists of the lower risk of epidural hematoma associated with spinal ($1:220,000$) vs epidural anesthesia ($1:150,000$).⁴ Parturients with counts $< 50,000 \mu\text{L}^{-1}$ received regional anesthesia only after platelet transfusion.

In 82%, the platelet count was over $60,000 \mu\text{L}^{-1}$ at catheter removal in our study. In some women, platelet count decreased after epidural placement and the catheter was left in place for up to 36 hr until the platelet count showed a steady rise. Five patients had counts $< 50,000 \mu\text{L}^{-1}$ (two of them, 36 and $38,000 \mu\text{L}^{-1}$, respectively) when catheters were removed.

The causes of thrombocytopenia were gestational thrombocytopenia, pre-eclampsia, and idiopathic thrombocytopenia. There were no other associated coagulation abnormalities. No neurological complications were documented in any patients reviewed.

Our retrospective study by no means proves that it is safe to administer regional anesthesia to parturients with platelet counts $< 100,000 \mu\text{L}^{-1}$. Using the standard formulae for zero numerators,⁵ we estimate, with 95% confidence, that the incidence of epidural hematoma in our population is not greater than 1.8%. If our data are combined with other published reports,

the expected incidence becomes even lower. Assessment of the incidence of a rare event is difficult in clinical practice. Therefore, in the absence of large, unfeasible studies, it is prudent to evaluate the risk-benefit ratio on a case-by-case basis before administering regional anesthesia to parturients.

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Cricoid pressure application to awake volunteers: discomfort cannot be used to indicate appropriate force

To the Editor:

Cricoid pressure is applied to unstarved patients undergoing anesthesia. Inadequate force risks aspiration, but adequate force within the currently recommended maxima can cause airway obstruction and cricoid collapse, even when correctly applied.^{1,2} We investigated whether discomfort in conscious subjects could predict airway compression measured indirectly by a decrease in peak expiratory flow rate (PEFR).

After local Research Ethics Committee approval, we recorded baseline measurements of height, weight, and PEFR in 30 consenting, blinded, ASA I-II volunteers. We applied increasing cricoid force in 5N increments, and measured PEFR again if discomfort occurred, or a force of 40N was reached. Cricoid force was measured

FIGURE Occurrence of discomfort at different cricoid forces in 12 out of 30 volunteers. Clear = female; solid = male.

using hospital weighing scales (Autoweigh Scales UK PLC, Weigh House, West Yorkshire, UK) by the technique of Clayton and Vanner,³ PEFR using an 'Airmed' Medical Research Council designed meter and a standard technique.⁴ Discomfort was graded as 'any' or 'none'. Statistical analysis used paired *t* tests, Chi-squared test, Pearson correlation, McNemar's test, and Wilcoxon signed-rank sum test, and ANOVA. *P* < 0.05 was taken as significance.

Of 30 volunteers, 16 (53%) were male. Mean (standard deviation [range]) age was 35 (9 [20–55]) yr and weight was 77 (17 [52–126]) kg. Discomfort occurred in 12 patients (40%) at forces ranging from 15N to 40N (Figure) but there were no statistically significant relationships between age, weight and sex of the subjects and the occurrence of discomfort. Mean (standard deviation) PEFR fell in all subjects from 506 (116) L·min⁻¹ before cricoid pressure to 451 (136) L·min⁻¹ (95% confidence interval [CI] for difference 34–75 L·min⁻¹; *P* = 0.0001), with a fall from 397 (51) L·min⁻¹ to 344 (64) L·min⁻¹ (95% CI for difference 11–94 L·min⁻¹; *P* = 0.014) in those subjects who experienced discomfort. Twenty-nine subjects tolerated forces within the range currently considered effective.³ None found the performance of PEFRs difficult during cricoid pressure.

A simple means of estimating cricoid force would be useful in preventing the corollaries of inadequate or excessive forces. Discomfort does not seem to do so, since forces within recommended maxima can cause discomfort and reduction of PEFR. However, our results do support previous work showing reduction of tidal volumes and cricoid compression with cricoid

pressure,^{1,2} and suggest that discomfort indicates when airway obstruction has occurred.

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Tracheal intubation in an adult male with Mallampati class zero airway

To the Editor:

The modified Mallampati classification (class 1 = soft palate, fauces, uvula, and pillars seen; class 2 = soft palate, fauces, and uvula seen; class 3 = soft palate and base of uvula seen; and class 4 = soft palate not visible) has been used to predict the grade of laryngoscopic view before anesthesia.¹ Recently, Ezri *et al.* proposed the addition of a new airway class zero (the epiglottis is seen on mouth opening and tongue protrusion), and suggested that a class zero airway may be the easiest for tracheal intubation among the five airway classes.² Unfortunately, they failed to find any adult men with class zero airway in a series of 764 patients. To date, the existence of a class zero airway in adult men remains unclear. We recently observed the larynx in an adult male patient with a class zero airway.

A 25-yr-old man, 169 cm in height and 63 kg in weight, was scheduled for bilateral tonsillectomy for