

Anaesthesia for caesarean section: the debate continues

Sir,

We would like to comment on the recent case report by Ayeko and Smith (Vol 60(4), 1999, p. 311) on the management of urgent caesarean section in a primagravida with coexisting allergies to latex and muscle relaxants. While the avoidance of exposure of the patient to known allergens and the full discussion of the anaesthetic options with the patient is commendable, it is worth noting a number of points on the spinal anaesthetic used:

- The choice of a 25G spinal needle
- The volume of 3 ml of intrathecal local anaesthetic used
- The absence of intrathecal opioid.

It is well known that there is a lower incidence of postdural puncture headache with pencil point spinal needles, in particular with those of a finer gauge. Although we do not know the authors' choice of needle type, the choice of 25 gauge seems somewhat excessive. The study by Smith et al (1994) demonstrated ease of use of both 25G and 27G Whitacre needles with the possibility of lower incidence of postdural puncture headache with the 27G needle. The personal experience of one author (BM) is worth noting: one particular lady undergoing successive caesarean sections had severe spinal headache after single attempt puncture using a 25G Whitacre needle for her first caesarean section. The author changed to a 27G Whitacre needle for the second caesarean section with no sequelae other than a grateful patient.

Corbey et al (1997) conclude in their study (of daycase non-obstetric patients) that the 27G Whitacre needle is the 'needle of choice' in patients of normal body stature. Perhaps this should have been used in this 63 kg primagravida.

The volume of intrathecal local anaesthetic used of 3 ml could also be considered to be too high. The *Confidential Enquiry Into Maternal Mortality 1994-1996* (Department of Health, 1998) reported one maternal death during that period directly attributable to anaesthesia. In a woman of short stature for elective caesarean section, a combined spinal/epidural technique was chosen and 2.25 ml of hyperbaric bupivacaine, alfentanil 125 µg and clonidine 150 µg were given intrathecally, and 15 ml 0.375% bupivacaine was given epidurally. This led to uncontrolled hypotension and cardiac arrest. Despite

being an uncommon anaesthetic technique, the case was criticized for excessive doses of spinal anaesthetic used.

No intrathecal opioid was given to the patient in this case report. It has been established that the quality of intraoperative and postoperative analgesia during and after caesarean section under spinal anaesthetic is improved by the use of intrathecal opioid. This was demonstrated in the study by Kelly et al (1998) where intrathecal diamorphine was added to bupivacaine. Despite a block height of T4, intraoperative analgesic supplementation was required in about 30% of women who received no intrathecal diamorphine. With regard to local practice in Northern Ireland, most obstetric anaesthetists would use <2.5 ml 0.5% hyperbaric bupivacaine intrathecally and most would also give intrathecal opioid such as diamorphine 0.25-0.375 mg for improved quality of block and postoperative analgesia.

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Smith EA, Thorburn J, Duckworth RA, Reid JA (1994) A comparison of 25G and 27G Whitacre needles for caesarean section. *Anaesthesia* **49**: 859-62

Sir,

We appreciate the interest and concerns expressed in the letter by Drs Magee and Morrow. We used a 25 G pencil point spinal needle in this patient because of its ease of use and the low incidence of postdural puncture headache with this needle (Smith et al, 1994). The authors seemed to have disregarded the conclusion of Smith et al that the main advantage of the 27G Whitacre needle, a lower incidence of postdural puncture headache, was not proven by their study.

Dr Magee and Dr Morrow also suggested that our choice of 3 ml of heavy 0.5% bupivacaine was excessive, quoting an irrelevant case report of car-

diac arrest caused by combined spinal and epidural anaesthesia for caesarean section in a parturient. In our patient, spinal anaesthesia was performed in the sitting position, and we used 3 ml of hyperbaric 0.5% bupivacaine in order to achieve a dense sensory block (from S5 to T5 bilaterally; Russell, 1995) of adequate duration. We consider a dose of hyperbaric 0.5% bupivacaine less than 2.5 ml to be inadequate. In Pedersen et al's (1989) study, over a third of patients who received 2-2.5 ml of hyperbaric 0.5% bupivacaine experienced moderate to severe visceral pain during caesarean section.

Third, although evidence exists to support the efficacy of intrathecal opioids (Uchiyama et al, 1994), this route of opioid administration is not without significant risks (Chaney, 1995). Respiratory depression, which can be delayed (Chaney, 1995), is a feared and ever present danger. The incidence of 'minor' side effects (nausea and vomiting, drowsiness, urinary depression, delayed gastric emptying and pruritus) can be high (Chaney, 1995). As Hughes (1997) stated in his editorial, 'spinal narcotics, whether for obstetric analgesia or anaesthesia offers significant benefits but they come with a well-known price'.

In conclusion, although intrathecal opioids may be of benefit in the relief of pain after caesarean section, it is a blinkered view to consider this practice as the cornerstone of postoperative pain management in all hospitals at this time.

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