

Spinal anaesthesia for Caesarean section: How can we make it safer?

With the development of atraumatic spinal needles and the associated reduction in the incidence of post-spinal headache, spinal anaesthesia has become the favoured method of anaesthesia for caesarean section. In the UK in 2002, regional anaesthesia was employed for 95% of elective caesarean sections. Spinal anaesthesia was employed in 87% of these cases.¹ Not only does this method avoid the problem of failed intubation, which occurs 8 times more frequently in the obstetric than the general surgical population, but other benefits include a lower morbidity, less blood loss and earlier bonding between mother and baby.

In the USA, spinal anaesthesia for caesarean section has been shown to be associated with a lower case fatality rate than general anaesthesia.² Nevertheless, spinal anaesthesia does have an associated mortality, and in South Africa the findings of the National Committee for the Confidential Enquiry into Maternal Deaths (1999-2001) showed that although general anaesthesia was associated with more fatalities, a total of 25 patients died under spinal anaesthesia during this triennium. Sadly, 84% of these patients had no co morbidity, and 38% were under the age of 25 years. High spinal anaesthesia was implicated in 21 out of 25 cases, catastrophic hypotension in 2, pulmonary aspiration in one, and ruptured uterus in one. In four cases, failed intubation was the terminal event. Most of the deaths occurred at level one hospitals.³

A task team appointed by the Minister of Health identified issues which should be addressed in the technical skills required by interns and community services doctors. Most importantly, it was felt that skills should be improved in the performance of caesarean sections, resuscitation, spinal anaesthesia and clinical decision making.

With a view to decreasing morbidity and mortality, detailed recommendations for the management of haemodynamic instability during spinal anaesthesia for caesarean section have been compiled by heads of obstetric anaesthesia drawn from several departments of anaesthesia in South Africa.⁴ This document, it is hoped, will serve as a guide not only to inexperienced anaesthetists called upon to provide obstetric anaesthesia in peripheral hospitals, but will also provide useful information for

practicing specialists.

In addition, pioneering work soon to be published, has been initiated at the University of the Free State, in order to ensure that essential drugs and equipment are provided at all level one and two hospitals in the Free State. Hospitals have been identified where predominantly general anaesthesia for caesarean section is still performed, and training sessions have been organised to raise awareness on spinal anaesthesia. The all-important denominator data is being collected, so that information will be available on the breakdown of numbers of caesarean sections performed under general and spinal anaesthesia, and on which personnel is performing obstetric anaesthesia. Availability of blood at institutions performing caesarean sections is being determined, and the situation remedied. The recognition of the shortcomings in the training of interns in obstetric anaesthesia in academic institutions has been recognised, and many departments have allocated increased training time in this area.

It is hoped that these and other future initiatives will result in a significant reduction in morbidity and mortality associated with spinal anaesthesia for caesarean section in South Africa. We owe this to our patients.

References

1. Jenkins JG, Khan MM: *Anaesthesia for Caesarean section: a survey in a UK region from 1992 to 2002. Anaesthesia 2003; 58: 1114-8.*
2. Hawkins JL, Koonin LM, Palmer SK, Gibbs CP: *Anaesthesia-related deaths during obstetric delivery in the United States, 1979-1990. Anesthesiology 1997; 86: 277-284.*
3. Kruger A: *Obstetric Anaesthesia, Chapter 7, in: Saving Mothers, Second Report on Confidential Enquiries into Maternal Deaths in South Africa 1999-2001. 2003.*
4. Dyer RA, Rout CC, Kruger A, van der Vyfer M, Lamacraft G, James MF: *Recommendations for the prevention and treatment of cardiovascular instability during spinal anaesthesia for caesarean section. South African Medical Journal, in press.*

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