

Updates on vasopressors and fluid management in pregnant women undergoing elective cesarean delivery under spinal anesthesia

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The recent development and availability of several minimally invasive and non invasive cardiac output monitors have allowed a better understanding of the hemodynamic changes induced by a spinal block in term parturients undergoing elective cesarean delivery. There is evidence that the hypotension observed in these patients is mainly a consequence of a reduction in peripheral vascular resistance. This is not associated with a significant decrease in maternal venous return nor in cardiac output. These observations may explain why strategies aiming at increasing the cardiac preload, such as fluid repletion and lower-leg raising or compression, fail to clinically significantly reduce the incidence of spinal block-induced maternal hypotension. Nevertheless, fluid repletion may be beneficial to the mother as, first, some degree of dehydration may be present owing to preoperative fasting and, second, it helps to maintain cardiac output during onset of spinal blockade. On the other hand, there is growing evidence that phenylephrine, administered as an infusion, during elective cesarean deliveries, is effective in preventing and treating this hypotension, while being safe for the fetus. Further research is needed however to assess the safety profile of phenylephrine infusions when the foetal heart trace suggests foetal distress. Indeed, phenylephrine lowers the maternal cardiac output, which may decrease the utero-placental perfusion. In the context of foetal distress, this could further deteriorate an already borderline condition.

Biography

Loubert has completed his residency in anesthesiology at University of Montreal, Canada, in 2008. He also completed in 2010 a one-year fellowship in obstetric anesthesia at University College London Hospital, in London, UK, where his main field of interest was the hemodynamic repercussions of anesthesia in parturients. Dr Loubert is a consultant anesthesiologist at Maisonneuve-Rosemont Hospital, a University of Montreal-based institution, and is in charge of the obstetric anesthesia section of his institution. He also published several original articles and literature reviews in peer-reviewed scientific journals.

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