

Haemodynamic effects of repeated doses of oxytocin during Caesarean delivery in healthy parturients

Langesaeter E, Rosseland LA, Stubhaug A. *Br J Anaesth*. 2009 Aug;103(2):260-2. doi: 10.1093/bja/aep137. Epub 2009 Jun 5.

Background: The haemodynamic effects of oxytocin 5 u have been described previously, but still some authors attribute these effects to the delivery itself. We studied the haemodynamic effects of two repeated doses of oxytocin i.v. in 20 healthy women during spinal anaesthesia for Caesarean delivery.

Methods: Data were obtained from a randomized controlled study of 80 pregnant women undergoing an elective Caesarean section. All women had an arterial line inserted, and LidCOPlus was used for measuring cardiac output (CO), stroke volume (SV), and systemic vascular resistance (SVR).

Results: Twenty women required a second bolus of oxytocin 5 u. Both the first and the second doses produced clinically and statistically significant haemodynamic changes, but the haemodynamic changes induced by the second dose were smaller than after the first dose. The mean maximal change in CO after the first and second doses were 94% (CI 70-117) and 42% (CI 33-52), respectively ($P < 0.0001$), and for systolic arterial pressure 31% (CI 27-35) and 23% (CI 20-27), respectively ($P = 0.003$).

Conclusions: An initial bolus of oxytocin 5 u produced prominent haemodynamic changes, whereas a second bolus produced smaller changes. This could be due to desensitization of endothelial oxytocin receptors.