

https://dspace.org/

Ultrasound-assisted versus landmark-based spinal block performance in emergency caesarean delivery in obese patients at a central hospital

Korda, Bojan

2021
https://hdl.handle.net/10539/33573

Downloaded from a DSpace repository. https://dspace.org/

Ultrasound-assisted versus landmark-based spinal block performance in emergency caesarean delivery in obese patients at a central hospital

Name: Bojan Korda

Student Number: 0701001K

Background

An ultrasound-assisted spinal block technique for obstetric anaesthesia has not been studied in an African population or during emergency caesarean delivery (CD). The aim of the study was to assess the effect of preprocedural neuraxial ultrasound on the performance of spinal blockade in obese parturients undergoing spinal block for emergency CD in a central hospital in Johannesburg, South Africa.

Methods

A two-armed, prospective comparative contextual study design was used. Adult women booked for emergency CD under spinal block had preprocedural ultrasound performed before being randomised to either a landmark-based group (LMG) or an ultrasound-assisted group (USG). The USG had identified landmarks marked to assist the anaesthetist. The primary end-points were first-pass success rate, difficult spinal block rate, procedure time, number of needle punctures and needle passes. Secondary end-points include the intervertebral spaces attempted, the predicted ultrasound distance and actual needle depth.

Results

Thirty-six participants were recruited between January and February 2020. The USG was associated with a shorter procedure time (48s versus 97s, $p<0.05$) and fewer needle passes (3 versus 5.5, $p<0.05$). The LMG had a greater percentage of blocks performed at higher intervertebral spaces (L1/2 or L2/3) compared to the USG (66.7% versus 11.1%, $p<0.05$). The predicted ultrasound distance correlated well with the actual needle depth ($r = 0.86$, 95% CI 0.65 – 0.95) with a mean difference of 10 mm (range 0 – 25 mm).

Conclusion

Preprocedural ultrasound was associated with a statistically significant improvement in some technical measures of spinal block performance when used for emergency CD in an African population.

Word Count: 249