EPIDURAL BLOOD PATCH AND IDENTIFICATION OF THE EPIDURAL SPACE – IS THERE ROOM FOR IMPROVEMENT?

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BACKGROUND

- Postdural puncture headache (PDPH) is the most common complication after labor neuraxial anaesthesia. Epidural Blood Patch (EBP) is the only effective treatment.¹
- The identification of the Epidural Space (ES) is important in patients submitted to EBP due to a previous complication of puncture. We report the combined use of new two devices developed to help identify the ES: Accuro® handheld ultrasound system and Compuflo® to perform an EBP.

CASE REPORT

A 36 y.o. woman suffered an accidental dural puncture, during a combined spinal-epidural (CSE) at L3-L4 level for Labor analgesia using the loss of resistance (LOR) to air technique.

A PDPH appeared, and she was offered an EBP.

Anaesthesia plan developed:

- The depth of the ES was evaluated previous to puncture at L3-L4 level in a sitting position using Accuro® handheld ultrasound system, this disposal uses a piston ultrasound transducer to limit the deleterious effects of grating lobes and off-axis reflectors on bone image quality, and facilitates the location and depths of the ES previous to puncture.
- The ES was then identified using Compuflo®, another disposal based on the LOR to saline technique which incorporates a pressurizing system of the Tuohy needle and a dynamic pressure sensing technology, allowing a minimal infiltration of saline and a precise identification of the ES.
- Once the ES was located, 20 ml of fresh autologous blood were injected uneventfully.

- PDPH continues to be a problem and a second dural tap is not acceptable. EBP requires the reassessment of the ES.¹
- Preprocedural US imaging improves the performance of epidural anaesthesia, first-attempt epidural success rates and estimates of the depth of the ES. It yet requires extensive training. Accuro®’s algorithm has a sensitivity and specificity between 85% and 95% to locate the ES².
- Even though, no differences have been detected between air or saline loss of resistance technique for the onset of the block³, the use of saline with Compuflo® might help to improve the precision of the identification of the ES.
- The safety and effectiveness of Compuflo® are still under research.

LEARNING POINTS

- Safe identification of ES before EBP is essential.
- The use of new technologies can reduce risks and complications related to the technique.

REFERENCES

2. Tiouririne et al. Invest Radiol 2017; 00: 00-00.