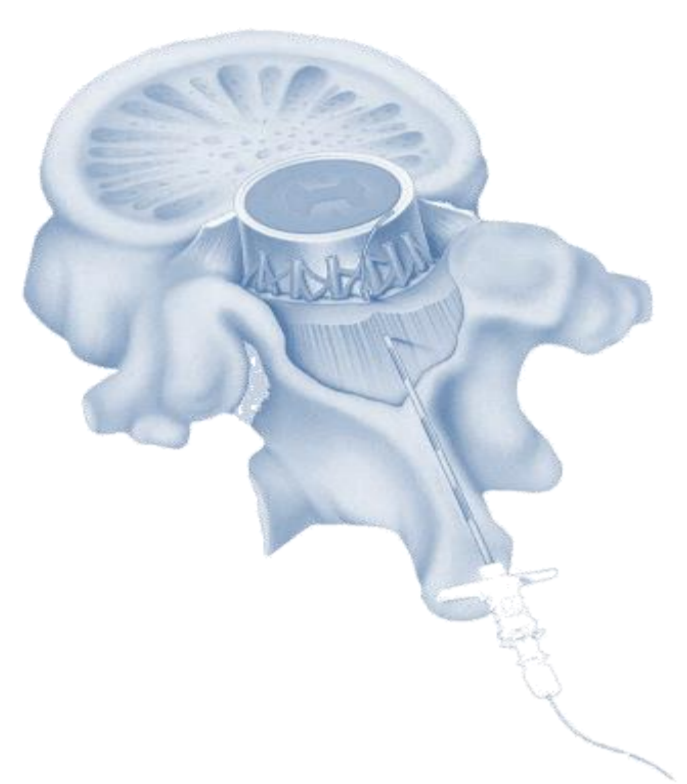




# EPIDURAL BLOOD PATCH AND IDENTIFICATION OF THE EPIDURAL SPACE – IS THERE ROOM FOR IMPROVEMENT?

Pinedo P., Guasch E., Iannucelli F., Brogly N., Gilsanz F.  
Hospital Universitario La Paz, Dept of Anaesthesia, Madrid, Spain

## BACKGROUND



- Postdural puncture headache (PDPH) is the most common complication after labor neuraxial anaesthesia. Epidural Blood Patch (EBP) is the only effective treatment<sup>1</sup>.
- 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<sup>®</sup> handheld ultrasound system and Compuflo<sup>®</sup> to perform an EBP.

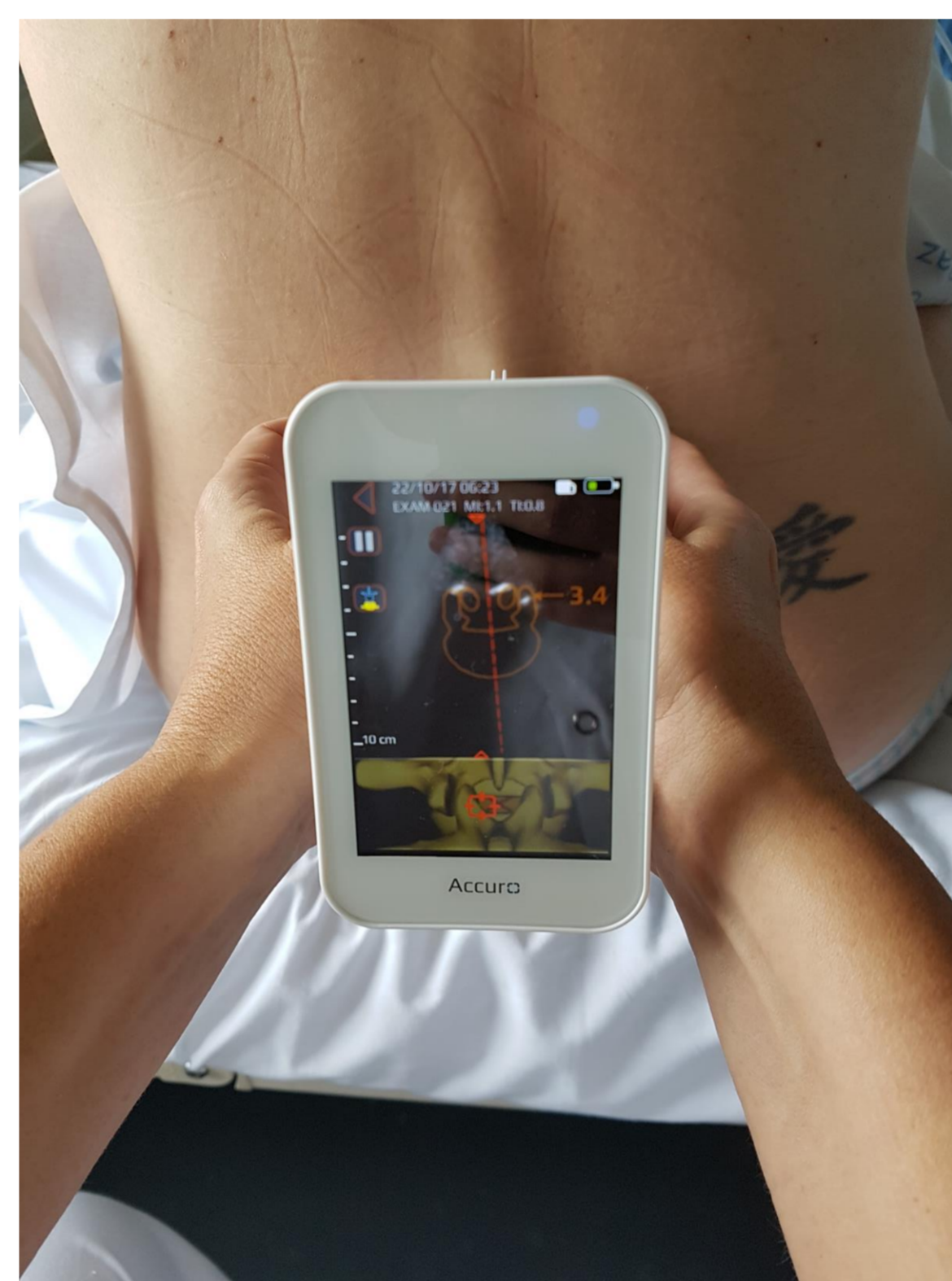
## CASE REPORT

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<sup>®</sup> 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<sup>®</sup>, 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.



## DISCUSSION

- PDPH continues to be a problem and a second dural tap is not acceptable. EBP requires the reassessment of the ES.<sup>1</sup>
- 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<sup>®</sup>'s algorithm has a sensitivity and specificity between 85% and 95% to locate the ES<sup>2</sup>.
- Even though, no differences have been detected between air or saline loss of resistance technique for the onset of the block<sup>3</sup>, the use of saline with Compuflo<sup>®</sup> might help to improve the precision of the identification of the ES.
- The safety and effectiveness of Compuflo<sup>®</sup> 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

1. Robert R. Gaiser. Anesthesiology Clin 35 2017; 157-167.
2. Tiouririne et al. Invest Radiol 2017; 00: 00-00.
3. Brogly N. et al. anesth analg 2018; 126(2): 532-536