The Use of Ultrasound to Measure the Depth of Thoracic Epidural Space

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The use of ultrasound to aid in regional blocks has increased in recent years as a result of improvement in ultrasound technology. There have been many studies to evaluate the use of ultrasound to measure the depth of the epidural space in the lumbar region. Studies have shown a strong correlation between the depth of the lumbar epidural space measured by ultrasound and the distance of the needle from the skin after establishing the loss of resistance in the epidural space. This study looked at the epidural space in the thoracic region and its correlation with the actual depth by the loss of resistance technique. This study was also designed to assess the ability of the ultrasound to define the thoracic spine anatomy and the possibility to measure the distributional characteristics of the measures, Pearson's correlation coefficient between AD and ultrasound longitudinal (USL) and ultrasound short axis (USS) values were 0.637 and 0.566 respectively. The mean number of attempts was 1.96 ± 1. The number of attempts were defined as the number of skin puncture points by a single provider or the number of providers attempting in the same insertion point. The use of ultrasound was able to identify the depth of the thoracic epidural space in 24/29 cases (83%) of the cases. The catheter was considered at least partially functioning in 26/29 patients (20 functioning, 6 partially functioning (89.65%)).

CONCLUSION

Ultrasound scanning can be used to measure the depth of the thoracic epidural space with good correlation.

REFERENCES