**Título:** EPIDURAL CATHETER: SMALL SIZE, BIG TROUBLE

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**Resumo:**

Introduction

The benefits of thoracic epidural in abdominal surgery are well established, as it reduces the surgical stress response and provides postoperative pain relief1. However, performance of this technique is not free of risks. We report an intraoperative left tension pneumothorax (TP) after thoracic epidural catheter (EC) placement for surgery.

Case Report

64 year-old female, ASA II, presented for Whipple procedure. Under general anesthesia (GA), the patient was placed in the right lateral decubitus for EC placement at the T7-T8 intervertebral space with a midline approach. Loss-of-resistance to air was detected at 3 cm. The EC was threaded easily and introduced 4 cm deep. After ropivacaine administration, circulatory changes were not observed. “Failed” epidural was assumed, the EC was removed, and a successful second EC was placed.

The initial intraoperative period was uneventful. Alveolar recruitment (AR) was performed after desaturation attributed to derecruitment. Abrupt hemodynamic (HD) instability and significant desaturation ensued, associated with reduced left breath sounds and bilateral jugular vein distension on ultrasonography. TP due to accidental pleural puncture was suspected. Needle decompression was performed in the left second intercostal space (ICS) at the midclavicular line, with audible air release and improvement in HD status. A chest tube was inserted in the left fifth ICS anterior to the midaxillary line. HD stability was maintained and pneumothorax was confirmed with postoperative imaging. The patient was admitted into the Intensive Care Unit and achieved a full recovery.

Discussion

Intraoperative TP is rare and can result from many procedures, including regional anesthesia2. EC misplacement is an uncommon yet known complication of a “blind'' regional technique3. Despite controversy associated with placement of EC under GA, the overall complication rates of performing this technique in anesthetized patients versus awake patients is similar1. Most pleural puncture cases reported were incidental findings and uneventful3. “Failed” thoracic EC placement together with the clinical signs observed, raised our suspicion of an intra-pleural EC and lung puncture with consequent TP. Positive pressure ventilation contributed to pneumothorax development, and AR played a crucial role in tension build-up, as a vast amount of air rapidly entered the pleural cavity resulting in immediate HD collapse.

Conclusion

Although thoracic EC placement has benefits, risks associated with the procedure need to be considered. Misplacement of the EC is possible, as the loss-of-resistance technique cannot distinguish the epidural space from the pleural cavity2. Should a thoracic EC be misplaced, cardiovascular collapse and desaturation should raise clinical suspicion of TP, as prompt intervention is key to prevent a disastrous outcome.

References

[1]Anesth Pain Med. 2019;14:95-101. [2]Case Rep Anesthesiol. 2019;1:1-4. [3]Anesth Analg. 2005;100:266-68.

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