Neuraxial Anaesthesia for Exploratory Laparoscopy: A Clinical Case Report

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Background

A 47-year-old woman was referred to the pre-operative assessment clinic prior to a planned procedure of diagnostic laparoscopy querying endometriosis.

Past medical history:

- Severe asthma
- Recurrent right sided pneumothoraxes
- Right VATS pleurodesis / bullectomy.

Nonetheless, the patient continued to experience pneumothoraxes averaging once a month. This rose the suspicion of catamenial pneumothoraxes, reason for which she was referred to the Gynaecology Service.

Methods

Due to the considerable likelihood of iatrogenic pneumothorax following positive pressure ventilation[1] in this patient, a different approach was suggested.

<u>Subarachnoid block</u>

Site: L2/L3

Position: Lateral

Drugs:2.6 ml of 0.5% heavy bupivacaine ; 20 mcg of Fentanyl.

Re-position: supine and at 10-15° head down->10′

Sensory block: T4 bilaterally after 15′

<u>US-guided bilateral rectus sheath block</u>

<u>Sedation</u> was provided initially with 1.5 mg of midazolam and Propofol TCI during the procedure to aid with patient's anxiety.

Results

The procedure lasted 40 minutes while the patient remained eupnoeic receiving oxygen via mask at an FiO2 of 45%. Blood pressure was supported with low dose phenylephrine infusion. Patient remained comfortable throughout the case.

Discussion

General anaesthesia (GA) with controlled ventilation is accepted as the preferred technique for laparoscopic procedures. There are limited studies regarding laparoscopic surgery under spinal anaesthesia in gynaecology and general surgery and their heterogeneity makes it difficult to assess all aspects of the procedure when compared to GA.

However studies note excellent pain control post-operatively, reduced risk of nausea/vomiting and uniform muscle relaxation conditions for the surgeons, with no post operative admission to ICU[2,3].

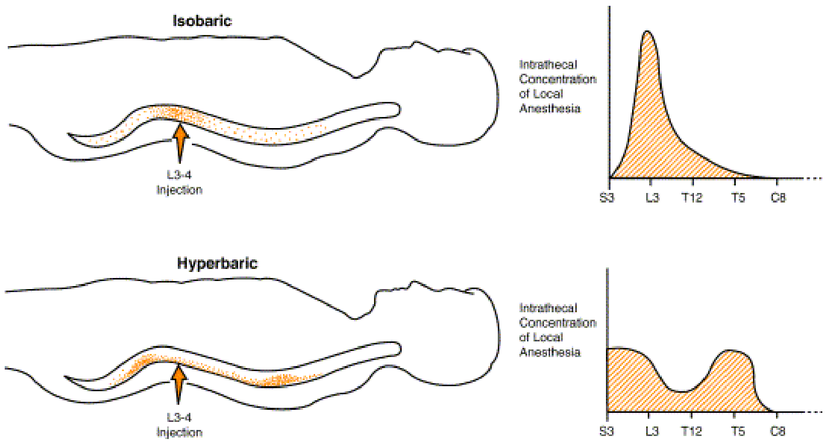

Fig.1 Gravity, positioning and spinal curves can be used to manipulate spread of hyperbaric solutions

Conclusion

Neuraxial anaesthesia can be a valid and safe alternative to general anaesthesia in high risk cases such as our patient.

References:

1.Hsu, Chien-Wei, and Shu-Fen Sun. "Iatrogenic pneumothorax related to mechanical ventilation." *World journal of critical care medicine* vol. 3,1 8-14.

2. Della Corte et al; Spinal Anesthesia versus General Anesthesia in Gynecological Laparoscopic Surgery: A Systematic Review and Meta-Analysis. *Gynecol Obstet Invest* 2 May 2022; 87 (1): 1–11

3. Santoro et al.,Spinal and Epidural Anesthesia for Laparoscopic Abdominal Surgery: 84 Procedures. *World J Surg Surgical Res*. 2021; 4: 1334.

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