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ABSTRACT

The Use of Thoracic Segmental Spinal Anesthesia for a Thoracoscopic Diaphragmatic Hernia Repair in an Adult with Cardiac Compromise

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Background: Morgagni hernia repair is commonly performed under general anesthesia (GA). While general anesthesia is becoming more and safer, there are still some dangers and problems; nevertheless, neuraxial anesthesia also has its risks and contraindications. The most frequent problems with general anesthesia are respiratory and cardiovascular in nature. Under GA, there is a chance of myocardial infarction, disruption of lung mechanics, and aggravation of preexisting comorbidities. Thoracic segmental spinal synesthesia (TSSA) is a type of regional anesthesia that could serve as an effective alternative to general anesthesia in patients who have contraindications for GA. This neuraxial anesthesia technique is especially useful for individuals receiving general anesthesia who are deemed to be at high risk (e.g., old age). Improved patient safety, a shorter length of stay in the post-anesthesia care unit, and better postoperative pain control are some benefits of using thoracic spinal anesthesia for these routine operations. For a number of surgical procedures, such as laparoscopic cholecystectomies, breast cancer lumpectomies, and abdominal cancer surgery, thoracic spinal anesthesia has been shown in the literature to be a safe and reliable technique. As far as we know, we provide the first documented instance of laparoscopic repair of an acquired Morgagni hernia using TSSA in an 80-year-old woman with HFrEF and other comorbidities.

Objective: we provide the first documented instance of laparoscopic repair of an acquired Morgagni hernia using TSSA in an 80-year-old woman with HFrEF and other comorbidities.

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Method: Case Reports and literature review, we provide the first documented instance of laparoscopic repair of an acquired Morgagni hernia using TSSA in an 80-year-old woman with HFrEF and other comorbidities.

Results: The repair of the diaphragmatic hernia was done with suturing, and the mesh was appropriately positioned and then sutured into place. After the end of the procedure, a chest X-ray was done and showed full resolution of the anterior diaphragmatic defect.

Conclusions: Although TSSA is not used routinely and has some limitations when used for abdominal surgeries, e.g., hypotension and risk of spinal cord injury, this case report demonstrates that TSSA may be a reasonable substitute for the use of conventional general anesthesia during laparoscopic repair of an acquired Morgagni hernia in a patient with cardiac compromise. But further studies are needed to determine other required parameters to do TSSA for cardiac compromise patients. It is safe and more effective than GA in providing pain-free intervals after surgery, reducing the need for analgesics and opioids, and lowering the risk of postoperative cardiopulmonary complications. Although each patient is unique and there is a wide set of anesthetic options when managing conventional cases, the scenario described in this case report can help anesthesiologists expand their boundaries when managing complex cases.

Keywords: Segmental thoracic spinal anesthesia, CABG, HFrEF, Morgagni hernia, case Report, literature review.

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