

Regional anaesthesia for complex gynaecological surgeries: Patient benefits and considerations

Sir,

Laparoscopic surgery has revolutionised the surgical approach to complex gynaecological procedures. These procedures often require general anaesthesia for patient safety and comfort. Patients are becoming increasingly aware of the advantages of minimally invasive surgery for rapid recovery with fewer complications. At the same time, a body of evidence and information in the public media proposes that avoidance of general anaesthesia is preferable to reduce the risk of post-operative cognitive decline.

Three highly functioning and well-educated patients presented to our medical centre seeking complex laparoscopic gynaecological surgery with the goal of avoiding general anaesthesia due to concerns for post-operative cognitive decline. All three patients had reassuring airways, low body mass index and were of American Society of Anesthesiologists status I. Extensive communication and understanding between the patient and physicians (including the surgical and operating room anaesthesia and regional anaesthesia teams) was established to ensure that the patient's choice of anaesthesia and understanding of expectations was ascertained before surgery.

The team proceeded with regional anaesthesia as the primary anaesthetic with general anaesthetic as the backup. The regional anaesthesia team, without any form of sedation, placed two separate epidural catheters in the thoracic (T6/7) and lumbar (L1/2) regions. A total of 5 to 6 mL of 0.5% ropivacaine was given through the lumbar epidural and 4 to 6 mL of 0.5% ropivacaine through the thoracic epidural. After bolus dosing, an infusion of 4 mL/hr of 0.2% ropivacaine was started for each catheter. The local anaesthetic was injected at three trocar sites. All patients were fitted with a BiLevel positive airway pressure machine with 40% inspired oxygen concentration (FiO₂) and settings of 5/5 to help maintain positive end-expiratory pressure and adequate tidal volumes with respiratory rates of 10 to 16 breaths per minute. Pneumoperitoneum

was achieved with low flow and low-pressure carbon dioxide (10 mmHg) and slowly increased to high flow-low pressure (12 mmHg). The patients were placed in the minimal Trendelenburg position (10–15°) and all patients were given a choice to watch a movie with headsets or have music playing via headset. During the procedure, all patients complained of right shoulder pain. The surgical team sprayed 10 mL of 0.25% bupivacaine to the right diaphragmatic cupola and the anaesthesia provider administered aliquots of fentanyl upto a maximum dose of 100 µg through the thoracic epidural catheter with significant improvement of shoulder pain. The total surgical time was 235, 392 and 219 minutes for the three surgeries, respectively.

Given the anatomical distribution of the nerve supply to the pelvic organs, coverage for analgesia should distribute from at least T5/T6 to S3/4 to keep the patient comfortable while awake. Two epidural catheters were needed to achieve this broad range of coverage.

The total anaesthesia regimen included aliquots of fentanyl totalling up to 100 µg, 30 mg of ketorolac and 1000 mg of acetaminophen. They received an average of 1500 mL of intravenous fluids and prophylactic administration of ondansetron to prevent nausea. Patients typically stay as inpatients on an average of 2 to 3 days to recover after general anaesthesia. However, all three of our patients went home after 4 hours of recovery and returned to work within a week of the procedure.

Regional anaesthesia patients spend less time in the post-anaesthesia care unit and have less nausea and decreased use of narcotics.^[1] Regional anaesthesia allows for faster recovery and saves the institutional resources.^[2] Patients who received a combination of the general and regional techniques have significantly fewer cardiac, pulmonary and vascular complications, and the complications are less severe than those of general anaesthesia alone.^[3]

We describe a possible technique for selected, highly motivated patients who are fully aware of the implications of an awake technique and want to avoid general anaesthesia for complex laparoscopic gynaecological procedures.

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Conflicts of interest

There are no conflicts of interest.

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