

## General anesthesia versus segmental thoracic or conventional lumbar spinal anesthesia for patients undergoing laparoscopic cholecystectomy

**Gamal T. Yousef**  
Zagazig University, Egypt

**Background:** Laparoscopic cholecystectomy became the standard surgery for gallstone disease because of causing less postoperative pain, respiratory compromise and early ambulation.

**Objective:** This study was designed to compare spinal anesthesia, ( segmental thoracic or conventional lumbar ) vs. the gold standard general anesthesia as three anesthetic techniques for healthy patients scheduled for elective laparoscopic cholecystectomy, evaluating intra-operative parameters, postoperative recovery and analgesia, complications as well as patient and surgeon satisfaction.

**Materials and Methods:** A total of 90 patients undergoing elective laparoscopic cholecystectomy, between January 2010 and May 2011, were randomized into three equal groups to undergo laparoscopic cholecystectomy with low-pressure CO<sub>2</sub> pneumoperitoneum under segmental thoracic (TSA group) or conventional lumbar (LSA group) spinal anesthesia or general anesthesia (GA group). To achieve a T3 sensory level we used (hyperbaric bupivacaine 15 mg and fentanyl 25 mg at L2/L3) for LSA group and (hyperbaric bupivacaine 7.5 mg, and fentanyl 25 mg at T10/T11) for TSA group. Propofol, fentanyl, atracurium, sevoflurane, and tracheal intubation were used for GA group. Intra-operative parameters, postoperative recovery and analgesia, complications as well as patient and surgeon satisfaction were compared between the three groups.

**Results:** All procedures were completed laparoscopically by the allocated method of anesthesia with no anesthetic conversions. The time for the blockade to reach T3 level, intra-operative hypotensive and bradycardic events and vasopressor use were significantly lower in (TSA group) than in (LSA group). Postoperative pain scores as assessed throughout any time, postoperative right shoulder pain and hospital stay was lower for both (TSA group) and (LSA group) compared with (GA group). The higher degree of patients satisfaction scores were recorded in patients under segmental TSA.

**Conclusion:** The present study not only confirmed that both segmental TSA and conventional lumbar spinal anesthesia (LSA) are safe and good alternatives to general anesthesia (GA) in healthy patients undergoing laparoscopic cholecystectomy but also showed better postoperative pain control of both spinal techniques when compared with general anesthesia. Segmental TSA provides better hemodynamic stability, lesser vasopressor use and early ambulation and discharge with higher degree of patient satisfaction making it excellent for day case surgery compared with conventional lumbar spinal anesthesia.

### Biography

Gamal T. Yousef has completed his Ph.D. at the age of 25 years from Zagazig University and postdoctoral studies from faculty of medicine Zagazig University. He is Professor of Anesthesia and Intensive Care in Zagazig University and associate professor in Umm-Al-Kura University. He has published more than 20 papers in reputed journals.

drgamal43@yahoo.com