

Mir Yasir*, Kuldeep Singh Mehta, Viqar Hussain Banday, Aiffa Aiman, Imran Masood, Banyameen Iqbal. Evaluation of post-operative shoulder tip pain in low pressure versus standard pressure pneumoperitoneum during laparoscopic cholecystectomy. (2011) *The Surgeon, Journal of the Royal Colleges of Surgeons of Edinburgh and Ireland.*

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A B S T R A C T

Introduction: Insufflation of carbon dioxide during laparoscopic cholecystectomy leads to postoperative shoulder tip pain. The origin of shoulder pain is commonly assumed to be due to overstretching of the diaphragmatic muscle fibers owing to a high carbon dioxide pressure. **Aims:** To study the frequency and intensity of post-operative shoulder tip pain in laparoscopic cholecystectomy and compare low and standard pressure pneumoperitoneum during laparoscopic cholecystectomy with respect to post-operative shoulder tip pain.

Methods: Patients admitted in the department of surgery for elective cholecystectomy were enrolled in the study. The patients were randomly allocated to two groups (group A and group B). In group A (n = 50), low pressure pneumoperitoneum (8 mm Hg) and in group B (n = 50), standard pressure pneumoperitoneum (14 mm Hg) was generated during laparoscopic cholecystectomy. Postoperative shoulder tip pain was assessed at 4, 8 and 24 h after operation by the Visual Analogue Scale of Pain.

Results: 14 patients (28%) in group B complained of post-operative shoulder tip pain as compared to only 5 patients (10%) in group A. The mean intensity of post-operative shoulder tip pain assessed by visual analogue scoring scale at 4, 8 and 24 h was less in group A as compared to group B, although statistical significance was seen only at 4 h. Analgesic requirements and the mean length of post-operative stay in the hospital were also less in group A as compared to group B.

Conclusion: Low pressure laparoscopic cholecystectomy (LPLC) significantly decreases the frequency and intensity of postoperative shoulder tip pain. LPLC decreases the demand for postoperative analgesics, decreases postoperative hospital stay and hence improves the quality of life in the early stage of postoperative rehabilitation.

