

Needlescopic, Laparoscopic, and Open Appendectomy: A Comparative Study

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摘要

Abstract

SUMMARY: The benefits of laparoscopic appendectomy appear to be controversial. Since 1994, several abdominal procedures have been completed by using the needlescopic technique, but there appear to be no prospective studies to demonstrate the perceived benefits of needlescopic appendectomy. The authors compared open, laparoscopic, and needlescopic appendectomy in a randomized fashion with regard to duration of surgery, length of hospitalization, analgesic dosage, and surgery-associated complications. From March to July 1998, 75 patients admitted at the emergency station of the authors' hospital with a final diagnosis of acute appendicitis without tumor formation were randomized to receive one of the three treatment categories: open (OA), laparoscopic (LA), and needlescopic (nLA) appendectomy. Laparoscopic and needlescopic appendectomy were performed by using a three-port technique, although the size of the trocar used varied. There were 26 patients in the OA group, 23 in the LA group, and 26 in the nLA group. The mean operation durations for the OA, LA, and nLA groups were 55.4 +/- 28.0 minutes, 69.1 +/- 48.8 minutes, and 62.3 +/- 26.3 minutes, respectively, and these were not significantly different from one another. The mean number of the analgesic doses (Pethidine 1 mg/kg) required was 1.3 +/- 1.2 mg/kg, 0.5 +/- 0.8 mg/kg, and 0.2 +/- 0.6 mg/kg, respectively. Significant differences were noted when comparing the OA with the LA or nLA groups (OA vs. LA, P = 0.02; OA vs. nLA, P = 0.0002; LA vs. nLA, P = 0.06). The mean oral intake durations were 32.2 +/- 16.9 hours, 21.0 +/- 14.6 hours, and 20.8 +/- 16.4 hours, respectively, after surgery for the OA, LA, and nLA groups, and the between-group differences were statistically significant for the OA versus LA group (P = 0.004) and for the OA versus nLA group (P = 0.003). The mean durations of hospitalization for the OA, LA, and nLA groups were 3.6 +/- 1.8 days, 2.8 +/- 1.4 days, and 2.4 +/- 0.9 days, and difference was detected between the OA and the nLA groups (P = 0.02). The OA group rendered a greater

wound-complication rate and ileus than did the other two groups, but the differences were not detected between the three categories ($P = 0.065$, 0.6935). The result of the current study confirmed that the nLA procedure is a feasible and safe one. The nLA procedure provided substantial advantages over the OA procedure in the contexts of diminished postoperative pain and shorter hospital stay without significant increases in postoperative complication rate or surgical time.