

**Title:** Laparoscopic appendectomy in children: our experiences of 259 cases in the past 5 years

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**Introduction:** Laparoscopic appendectomy has become popular surgical treatment of acute appendicitis in children. Compared to conventional laparotomy, the expected advantages of laparoscopic procedure include the ability of more complete exploration and lavage of the entire peritoneal cavity through small incision, and possibly less intense postoperative pain. The anesthetic management of pediatric laparoscopic surgery is well described but it may have some potential pitfalls. We report the anesthetic management and outcomes of our experiences with 259 cases in the past 5 years.

**Methods:** We performed a retrospective chart review of anesthesia and medical records of laparoscopic appendectomy from 2002 to 2006. The results are expressed as median (range) where appropriate. The pain management and vomiting status during 48-hour postoperative periods were also reviewed in the patients of 2005 and 2006.

**Results:** In the study periods, 259 pediatric patients who had experienced laparoscopic appendectomy were identified. The median age of the children was 10 (3-16) years and the median weight was 33 (13-73) kg. Most patients were previously healthy or had had only minor physical complications. Diagnosis of acute appendicitis and decision of surgical indication were performed by pediatric surgeons. Seventy-eight percent of the cases were employed out of hours. All cases were performed by board-certified anesthesiologists or supervised anesthesia residents. The anesthesia methods had not been standardized, but all procedures were accomplished by general endotracheal anesthesia using volatile agents. Nitrous oxide was supplemented in 91.3% of the cases, and cuffed tracheal tube was used in 93.0% cases. Routine monitoring comprised electrocardiogram, noninvasive blood pressure monitoring, pulse-oximeter, respiratory gas monitor, and thermometer. In a reflection of the local practice, intraoperative opioids were administered in 56.1% and nonsteroidal anti-inflammatory drugs were prescribed in 8.9% of cases. The various types of regional anesthesia were added in 19.5%. The median surgical time was 38 (10-188) minutes. All patients, except one with pneumonia, were extubated in the operating room. Major anesthesia-related troubles were not recorded. The one-trocar method<sup>1)</sup>, which had been our standard procedure for laparoscopic appendectomy, was successively carried out in 91.5% of the cases. Five patients were switched to conventional open laparotomy for surgical reasons. Additional analgesics in postoperative periods were required in 73.7% of patients. Postoperative vomiting was experienced by 23.7% of patients.

**Conclusion:** Our case series indicate that laparoscopic appendectomy in children is well tolerated and possibly has a low complication rate; thus, it can be managed as routine standard anesthesia care. As already reported<sup>2)</sup>, postoperative pain seems not to be improved by laparoscopic procedure.

**References:**

- 1) Eur J Pediatr Surg. 12:24-7.
- 2) Anesthesiology. 84:801-6.