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Laparoscopic appendectomy performed by surgery residents is safe and has little impact on postoperative outcomes – results from large multicentre cohort study.

Laparoscopic appendectomy (LA) is a model training procedure that allows residents to master their laparoscopic skills. On one hand surgeons in training require experience in minimally invasive surgery, on the other hand there is concern about inferior outcomes of surgery performed by residents.

The aim was to investigate surgical outcomes and patient safety in LA performed by residents (under supervision) in comparison to specialists.

18 surgical units in Poland and Germany submitted data of patients undergoing LA to the online web-based database created by Polish Videosurgery Society of the Association of Polish Surgeons. It comprised 31 elements related to pre-, intra- and postoperative period. Surgical outcomes were compared among the groups according to operator – residents under supervision vs. senior surgeons.

Out of 4610 LAs 2026 (43.9%) were performed by residents (Group 1) and 2584 (56.1%) by senior surgeons (Group 2). There were no significant differences between Group 1 and 2 in demographic characteristics (gender, age, BMI, ASA class, timing between onset of symptoms and LA, WBC and CRP levels). However, the Alvarado score was lower in Group 1 (5.9 pts. vs. 6.1 pts, p=0.001) as well as was the rate of complicated appendicitis (gangrenous, perforated or with periappendiceal abscess – (25.4% vs. 29.1%, p=0.005). Median operative time was longer in Group 1 (55 vs 50 min., p<0.001). Analysis demonstrated no significant differences between groups in intraoperative adverse events (1.86% vs. 2.58%, p=0.106), postoperative morbidity and its severity (4.72% vs. 4.64%, p=0.880), conversion rates (5.69% vs. 6.90%, p=0.104), need for postoperative interventions (2.32% vs. 1.97%, p=0.419). Mean length of hospital stay was shorter in Group 1 (3.54 vs. 3.95 days, p<0.001). On the contrary, the rate of readmissions was lower in Group 2 (3.51% vs. 1.78%, p=0.001). It was also confirmed when a multivariate logistic regression model was built to compensate for confounding variables.
LA done by resident increased odds for readmission (OR 2.18, 95% CI: 1.08-4.40, p=0.029).

This is a large multicenter study that shows that surgery residents may safely perform laparoscopic appendectomy with no difference in postoperative morbidity, conversions and reintervention rates. Although, some differences in length of hospital stay (in favor of residents), readmission rates and operative time (in favor of senior surgeons) were observed, they seem to be minor and of little clinical relevance.

Kategoria: K1. Laparoskopia w nagłych stanach chirurgicznych / Laparoscopy in emergency surgical conditions

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