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## **The impact of age on perioperative outcomes after laparoscopic appendectomy**

Age is a well-established risk factor for practically every surgical procedure. Older patients are in general more susceptible to postoperative morbidity. Postoperative recovery in the elderly is usually slower and they are more susceptible to increased morbidity.

Our aim was to compare surgical outcomes of LA depending on age of patients.

An online Web-based database was created by Videosurgery Chapter of Association of Polish Surgeons. 18 surgical units in Poland and Germany submitted data to the registry of patients undergoing laparoscopic appendectomy. Patients were divided in four groups depending on their age <40 years - Group 1, 40-64 years - Group 2, 65-74 years – Group 3 and ≥75 years – Group 4).

Patients distribution was as follows: Group 1 - 3004 (65.05%), Group 2 - 1280 (27.72%) Group 3 - 239 (5.17%) and Group 4 - 95 (2.06%) individuals. Patients differed between groups in terms of ASA class, diabetes mellitus rate, timing between onset of symptoms and surgery, CRP value and WBC. Older patients had significantly higher rates of complicated appendicitis in comparison to younger cases.

Intraoperative adverse events occurred respectively in 1.72%, 3.38%, 2.09% and 4.21% patients in Groups 1, 2, 3 and 4 ( $p=0.006$ ). The rate of postoperative complications was increasing with age: 5.06% vs. 9.30% vs. 10.88% vs. 13.68% ( $p<0.001$ ). Conversion rate was higher among the elderly: 4.28% vs. 9.19% vs. 12.97% vs. 14.74% ( $p<0.001$ ). Median length of stay was also correlated with age: 3 vs. 3 vs. 4 vs. 5 days ( $p<0.001$ ) as was the rate of patients with prolonged length of stay (>8 days): 3.20% vs. 6.80% vs. 11.30% vs. 17.89% ( $p<0.001$ ). There were no differences in readmission rates between groups. Univariate and multivariate models allowed us to estimate odds for unfavorable outcomes in comparison to baseline Group 1.

Based on a large cohort of patients we were able to demonstrate that age is significant risk factors for unfavorable outcomes after laparoscopic appendectomy. Although LA is feasible in the elderly, they are more likely to develop complicated appendicitis which is associated with postoperative morbidity. The elderly requires also longer hospital stay.

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

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