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Complicated appendicitis: risk factors and outcomes of laparoscopic appendectomy – results from multicentre large cohort study.

Acute appendicitis is classified as complicated when there is presence of gangrenous/perforated appendix or periappendiceal abscess. In comparison to noncomplicated appendicitis, this condition is associated with worse outcomes. Unfortunately, distinguishing between complicated and noncomplicated appendicitis is challenging. Therefore, it seems reasonable to establish risk factors of its development. It would be particularly important in searching for candidates for non-operative management.

The aim was to analyze clinical outcomes of laparoscopic appendectomy (LA) and to identify preoperative risk factors for complicated appendicitis.

Patients' data undergoing LA in 18 surgical units in Poland and Germany were collected in the online web-based database created by Polish Videosurgery Society of the Association of Polish Surgeons. Surgical outcomes of patients with complicated and noncomplicated outcomes were compared. Uni- and multivariate logistic regression models were used to establish risk factors of complicated appendicitis.

1269 (27.5%) patients underwent LA for complicated appendicitis (Group 1) and 3349 (72.5%) for noncomplicated (Group 2). Patients from Group 1 were in general older, predominantly women, obese, diabetic, had higher ASA class, higher levels of WBC and CRP and longer duration of symptoms.

Conversion rate (16.7% vs. 2.6%, $p < 0.001$), intraoperative adverse events (5.0 vs. 1.3%, $p < 0.001$), reintervention rate (4.2% vs. 1.3%, $p < 0.001$) and severity of postoperative complications (9.3% vs. 2.9%, $p < 0.001$) were higher in Group 1. Median length of stay was 4 days in Group 1 and 3 days in Group 2 ($p < 0.001$). Patients from Group 1 had also higher readmission rate (3.8% vs. 2.1%, $p = 0.003$).

In multivariate regression model preoperative factors associated with development of complicated appendicitis were: female sex (OR 1.58, 95% CI: 1.14-2.17), obesity (OR 1.51, 95% CI: 0.98-2.33), age > 50 years (OR 1.51, 95% CI: 0.98-2.33), duration of symptoms > 48h (OR 2.18, 95% CI: 1.57-3.03), higher Alvarado score (OR 1.29 with every point, 95% CI: 1.19-1.39), CRP > 100 mg/l (OR 3.92, 95% CI: 2.75-5.58).

In this large cohort study, we showed that LA for complicated appendicitis is associated with significantly worse outcomes. Main demographic and clinical risk factors for development of this condition were also identified.

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

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