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Effects of timing to laparoscopic appendectomy: delayed surgery negatively affects outcomes – results from large multicentre cohort study

It is generally accepted that early appendectomy would prevent progression of appendicitis and may affect outcomes by diminishing the risk of perforation and reduce postoperative morbidity. However, this belief has been questioned in recently published studies.

Our aim was to compare surgical outcomes of LA depending on timing from onset of symptoms to surgery.

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 two groups depending on time from onset of symptoms to LA (<48h in Group 1, >48h in Group 2).

Patients from Group 1 were younger (median 30 vs. 40 years, $p<0.001$), less often obese (16.1% vs. 22.8%, $p=0.001$), less often diabetic (2.8% vs. 4.8%, $p=0.002$), had higher Alvarado score ($p<0.0001$), higher WBC (median 13,700 vs. 12,000, $p<0.001$) and lower CRP (23.1 vs. 30 mg/l, $p<0.0001$).

The rate of patients with symptoms <48h was higher in units having annual volume >50 procedures/year (71.6% vs. 67.3%, $p=0.022$). Operative time was slightly shorter (51 vs. 55 min., $p<0.001$) and the need for drainage was lower (75.0% vs. 83.9%, $p<0.001$) in Group 1. There were also significant differences in appendiceal stump closure (e.g. more suturing in Group 2, less clipping in Group 1). The rates of complicated appendicitis i.e. perforated/gangrenous or with periappendiceal abscess (23.7% vs. 38.9%, $p<0.001$), intraoperative adverse events (1.7% vs. 3.0%, $p=0.014$) and conversion (5.2% vs. 10.8% $p<0.001$) were lower in patients from Group 1. Although there were differences in complication rates (4.4% vs. 7.3%, $p<0.0001$), their severity was not different. The need for reintervention was lower in Group 1 (1.7% vs. 4.4%), $p<0.001$). Patients from Group 2 spent one day longer in hospital (3 vs. 4 days, $p<0.001$) and were more likely to be readmitted (2.5% vs. 4.0%, $p=0.016$).

Based on a large cohort of patients we were able to demonstrate that timing from onset of symptoms to surgery is very important parameter negatively affecting surgical outcomes of laparoscopic appendectomy. Taking this into consideration, efforts should be made to shorten timing from admission to emergency department and subsequent appendectomy.

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

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