Laparoscopic versus Open Appendectomy in Coagulopathic Patients
An ACS-NSQIP Analysis

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OBJECTIVES

Coagulopathic patients represent a complex subset of patients who undergo emergency surgery. As one of the most commonly performed emergent procedures, we investigated the outcomes of laparoscopic (LA) versus open (OA) appendectomy in the setting of coagulopathy.

METHODS

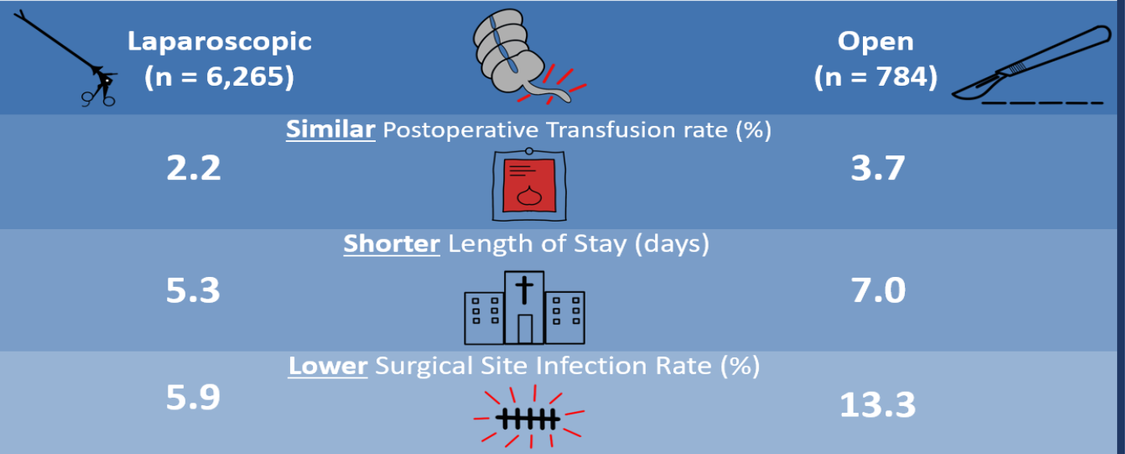
Using ACS-NSQIP Patient User Data files from 2014-2017, we stratified patients based on presence or absence of coagulopathy; defined as a bleeding disorder, platelet count < 120, INR > 1.2 and/or PTT > 40. Patients were further stratified into those who underwent laparoscopic versus open appendectomy. Augmented inverse propensity weighting (AIPW) was used to correct for differences between the two groups.

The primary outcomes were the rates of postoperative transfusion and 30-day unplanned reoperation.

RESULTS

137,429 patients were included, of which 7,049 had coagulopathy. The proportion of LA performed was lower in the coagulopathy group compared to the non-coagulopathy group (89% vs 94%). Patients with coagulopathy had higher ASA class ≥3 and higher rates of preoperative transfusions, preoperative acute kidney injury and several other medical comorbidities. AIPW treatment resulted in well-balanced preoperative characteristics among OA and LA groups in patients with and without coagulopathy, minimizing selection bias.

OUTCOMES IN COAGULOPATHIC PATIENTS



CONCLUSIONS

Coagulopathic patients with appendicitis represent a subset of patients with higher preoperative risk factors . LA offers several advantages over OA in this subset of patients and should be strongly considered in this cohort.

LIMITATIONS

There are inherent biases with using a large database like ACS-NSQIP, including selection bias and missing data on preoperative lab values. Furthermore, we could not comment on the impact of newer antithrombotic agents on outcomes or rates of conversion from laparoscopic to open surgery.