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### Post-Operative Intra-abdominal Abscess after Appendectomy – Are Drains Necessary in All Patients?

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## **Post-Operative Intra-Abdominal Abscess after Appendectomy – Are Drains Necessary in All Patients?**

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**Describe role of Submitting/Presenting Trainee:** A co-author, assisted in drafting and critical revision of the abstract.

**Background:** Previous research has shown that patients who develop an intra-abdominal abscess (IAA) after appendectomy have a greater number of healthcare visits if the abscess is managed with a drain. Our institution developed an algorithm dictating drain placement in only patients who develop an IAA  $>20\text{cm}^2$ . We sought to determine the effectiveness of the algorithm and compare the outcomes of patients who develop small versus large abscesses following appendectomy.

**Objectives/Goal:** To determine the effectiveness of the algorithm and compare the outcomes of patients who develop small versus large abscesses following appendectomy.

**Methods/Design:** This was a prospective observational study of patients 2-18 years old who develop an IAA following perforated appendicitis from September 2017 to June 2019. Demographics, initial presentation, and abscess characteristics were recorded. Outcomes including drain placement, length of stay (LOS), readmission rates, and length of antibiotic course were compared between patients with an abscess  $<20\text{cm}^2$  (small) and  $>20\text{cm}^2$  (large). Continuous data are reported in medians with intra-quartile ranges and categorical data in proportions. Analysis was performed using STATA®, with  $p < 0.05$  being significant.

**Results:** Thirty patients were included. The median age was 10.6 years (7, 11.7), with 60% of the population male and 60% white. The median duration of symptoms prior to diagnosis of appendicitis was 3 days (2, 6). The median time to full oral intake post-operatively was 3 days (2-4), with an initial LOS of 4.6 days (3.2, 8.2). Thirteen patients (43%) were diagnosed with an intra-abdominal abscess while still inpatient, and 17 (57%) were readmitted for an abscess diagnosed at a later date. The median abscess size was  $28.4\text{cm}^2$  (12,  $55\text{cm}^2$ ). For patients diagnosed with abscess

after discharge, the median time to readmission was 6.4 days (4, 9.4). CT alone was used for diagnosis in 16 patients (53%), ultrasound (US) in 3 (10%) and both US and CT in 10 (33%). Of the entire study cohort, twenty patients (67%) had a drain placed for abscess management.

**Conclusions:** Patients who develop a small abscess after perforated appendicitis have a similar LOS, antibiotic course, and number of healthcare visits as those with a large abscess; this helps validate our algorithm to avoid drain placement in patients with small abscesses.