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Severity of presentations and surgical outcomes of patients undergoing laparoscopic appendicectomy during COVID-19

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Background: During the COVID-19 pandemic, patients presenting to the emergency department with surgical issues have been shown to present in fewer numbers but with more severe cases. We performed a retrospective observational study assessing severity of presentation, and the subsequent effect on outcomes for all surgical procedures in our Model 3 hospital. This sub-analysis focused on patients that underwent laparoscopic appendicectomies for acute appendicitis.

Methods: Patients 16 years or older, with clinically or radiologically diagnosed acute appendicitis that underwent laparoscopic appendicectomy were included. Data was collected from the months of April through June of 2020 and compared to 2019. Our primary endpoints for assessing severity were EWS scoring and intra-operative grading of appendicitis. Secondary endpoints included inflammatory markers and time to presentation from onset of symptoms. Primary endpoints for outcomes was incidence of Clavien-Dindo postoperative complication grade 2 or more. Secondary endpoints were length of stay, 30-day all-cause mortality and 30-day re-admission rates. Statistical analysis was carried out with unpaired *T*-test for continuous variables and Fisher's exact test for categorical variables.

Results: Twelve patients in 2020 and 32 patients in 2019 were included for analysis. No statistically significant

increases in severity of presentation, rates of complicated appendicitis or risk of postoperative surgical complications was demonstrated.

Conclusions: Many patients were managed with open appendicectomies or antibiotics during the earlier periods of lockdown and the number of laparoscopic appendicectomies were reduced. Whilst our sub-analysis did not show an increased severity and change in surgical outcomes, further analysis into our data on all procedures or an increased time period could demonstrate statistical significance.

Keywords: Appendicitis; appendicectomy; COVID-19; general surgery; severity; surgical outcomes

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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