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## Appendicitis during the COVID-19 pandemic: to operate or not to operate, that is the question

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Background: During the Covid-19 pandemic, non-operative management for acute appendicitis (AA) was implemented in the UK. Aim of this study was to determine the efficacy and outcomes of conservative versus surgical management of AA during the pandemic.

Materials & Methods: We conducted an observational study in a tertiary referral centre. Data was collected from patients (≥16 years) with a diagnosis of AA between 1st November 2019 to 10th March 2020 (pre-COVID period) and 10th March 2020 to 5th July 2020 (COVID period).

Results: A total of 116 patients in the pre-COVID period were included versus 91 in the COVID period. 43.1% (n = 50) of patients pre-COVID were classified as ASA 2 compared to 26.4% (n = 24) during the COVID period (p-value=0.042). 72.5% (n = 66) of the patients during the COVID period scored as high risk using the Alvarado score compared to 24.1% (n = 28) in the pre-COVID period (p-value < 0.001). We observed a significant increase in radiological evaluation, 69.8% versus 87.5% of patients had a CT in the pre-COVID and COVID periods respectively (p-value=0.008). 94.9% of patients were managed operatively in the pre-COVID period compared to 60.4% in the COVID period (p-value<0.001). We observed more open appendicectomies (37.3% versus 0.9%; p-value<0.001) during the COVID period compared to the pre-COVID period. More abscess formation and free fluid were found intraoperatively in the COVID period (p-value= 0.021 and 0.023 respectively). Re-attendance rate due to appendicitis-related issues was significantly higher in the COVID period (p = 0.027).

Conclusion: Radiological diagnosis of AA was more frequent during the COVID period. More conservative management for AA was employed during the COVID-19 pandemic, and for those managed operatively an open approach was preferred. Intra-operative findings were suggestive of delayed presentation during the COVID period without this affecting the length of hospital stay.