The results of treatment of acute appendicitis during COVID-19 pandemic in a district general hospital

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Introduction

At the beginning of the Covid-19 pandemic conservative management of acute appendicitis (AA) was recommended by Royal College of Surgeons to reduce the risk of spread of infection during aerosol generating procedures. Non-operative management of patients with uncomplicated appendicitis was successful in the immediate term in 91%, but that reduced to 71% at 1 year according to meta-analysis by Findlay et al*.

Aim

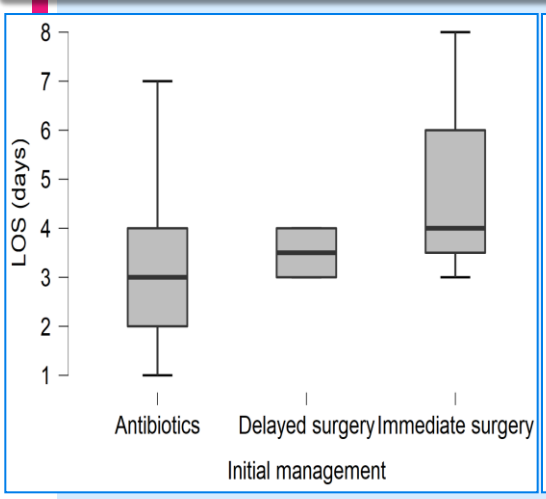
The aim of this study was to audit the outcomes of the management of AA in a district general hospital during the first months of COVID-19 pandemic.

Methods

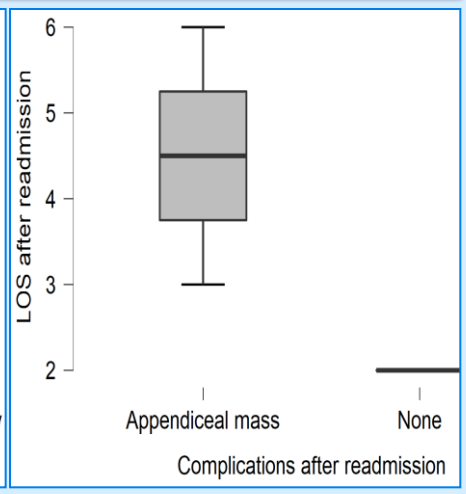
The prospective data was collected for all patients treated for AA from 12/03/2020 to 18/05/2020. The primary objective was the failure rate of conservative management requiring surgical intervention. The data collection stopped on the return of surgical management. Statistical analysis was performed using JASP software.

Results

In total there were 22 patients treated with confirmed diagnosis of AA of which 19 (86%) were managed conservatively and 3 (14%) patients had appendicectomy on admission. 4 (21%) patients failed conservative management and progressed to surgery within median 2 (1-3) days. 16 (73%) patients had CT confirmed diagnosis, 6 (27%) patients had clinical diagnosis (table 1). 3 patients (20%) treated non-operatively were readmitted within median 4 days (4-6) of discharge; 2 (13%) of them developed appendix mass. All readmitted patients were managed conservatively. Median length of stay (LOS) was 3.5 (1-8) days (plot 1). Median LoS after readmission was 3 (2-6) days (plot 2). 2 (28%) out of 7 patient who had surgery developed complications, 1 SSI and 1 pelvic abscess. 9 (41%) patients were tested for Covid-19. None of the patients had positive SARS-CoV-2 test but 1 patient had changes on CT chest consistent with SARS-CoV-2 infection.



Plot 1



Plot 2

CT findings	Initial management	Frequency
Appendiceal abscess	Antibiotics Delayed surgery Immediate surgery Total	1 0 0 1
Cecal phlegmon	Antibiotics Delayed surgery Immediate surgery Total	2 0 0 2
Faecolith at the base	Antibiotics Delayed surgery Immediate surgery Total	2 0 1 3
Perforated appendix	Antibiotics Delayed surgery Immediate surgery Total	0 0 2 2
Uncomplicated appendicitis	Antibiotics Delayed surgery Immediate surgery Total	5 3 0 8
CT not done (clinical diagnosis)	Antibiotics Delayed surgery Immediate surgery Total	5 1 0 6

Table 1 - Management of appendicitis depending of CT findings

Conclusions

- Failure of conservative management was 21%
- 90-day readmission rate of conservatively managed patients was 20%
- 13% of patients managed conservatively developed complications
- Surgical complications rate was 28%
- The sample size is small hence its difficult to draw any solid conclusions.
- We feel that appendicectomy should remain standard treatment for AA as failure, complications and readmission rate was rather high.
- However antibiotics should be considered as the first line during the pandemic.

Reference

* Nonoperative Management of Appendicitis in Adults: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. John M Findlay, Jihene El Kafsi el al J Am Coll Surg. 2016 Dec;223(6):814-824.