

ACS COT Residents Trauma Papers Competition Title Page

Principal Author's Information

Name and degree(s): Mohamad Chehab, MD

Title of the Abstract: Managing Acute Uncomplicated Appendicitis in Frail Geriatric Patients: A Second Hit May Be Too Much

Institution: The University of Arizona

Preferred Mailing Address: redacted

Preferred Phone Number: redacted

Email Address: redacted

Managing Acute Uncomplicated Appendicitis in Frail Geriatric Patients: A Second Hit May Be Too Much

Introduction

Studies have proposed the use of antibiotics only in cases of acute uncomplicated appendicitis (AUA). However, there remains a paucity of data evaluating this nonoperative approach in the vulnerable frail geriatric population. The aim of this study is to examine long-term outcomes of frail geriatric patients with AUA treated with appendectomy compared to initial nonoperative management.

Methods

We conducted a one-year (2017) analysis of the Nationwide Readmissions Database and included all frail geriatric (age ≥ 65) patients with a diagnosis of AUA. Frailty was assessed using the 5-factor modified frailty index (mFI). Patients were stratified into those undergoing appendectomy at index admission (OP) vs. those receiving antibiotics only without operative intervention (NOP). Propensity score matching in a 1:1 ratio was performed adjusting for patient- and hospital-related factors. We also performed a sub-analysis of patients undergoing appendectomy in both groups.

Results

A total of 5,562 frail geriatric patients with AUA were identified from which a matched cohort of 1,320 patients in each group was obtained. **(Figure 1)** Patients in the NOP and OP were comparable in terms of age (75.5 ± 7.7 vs. 75.5 ± 7.4 years; $p=0.882$) and mFI ($0.4 [0.4-0.6]$ vs. $0.4 [0.4-0.6]$; $p=0.526$). Failure of NOP management was reported in 17.7% of patients, 94.9% of which eventually underwent appendectomy. Over the 6-month follow-up period, patients in the NOP group had significantly higher rates of *Clostridium difficile* enterocolitis (2.9% vs. 1.1%; $p<0.001$), greater number of overall hospitalized days (5 [3-9] vs. 4 [2-7] days; $p<0.001$) and higher overall costs (16 [12-25] vs. 11 [8-19] \$K; $p<0.001$). Patients undergoing appendectomy after failed NOP had significantly higher rates of complications (19.8% vs. 10.8%; $p<0.001$), mortality (4.1% vs. 1.7%; $p=0.019$), and appendiceal neoplasm (3.2% vs. 1.2%; $p=0.027$). **(Table 1)**

Conclusion

One in six patients failed NOP within 6 months and required appendectomy with subsequent more complications and higher mortality. Appendectomy may offer better outcomes in managing AUA in the frail geriatric population.

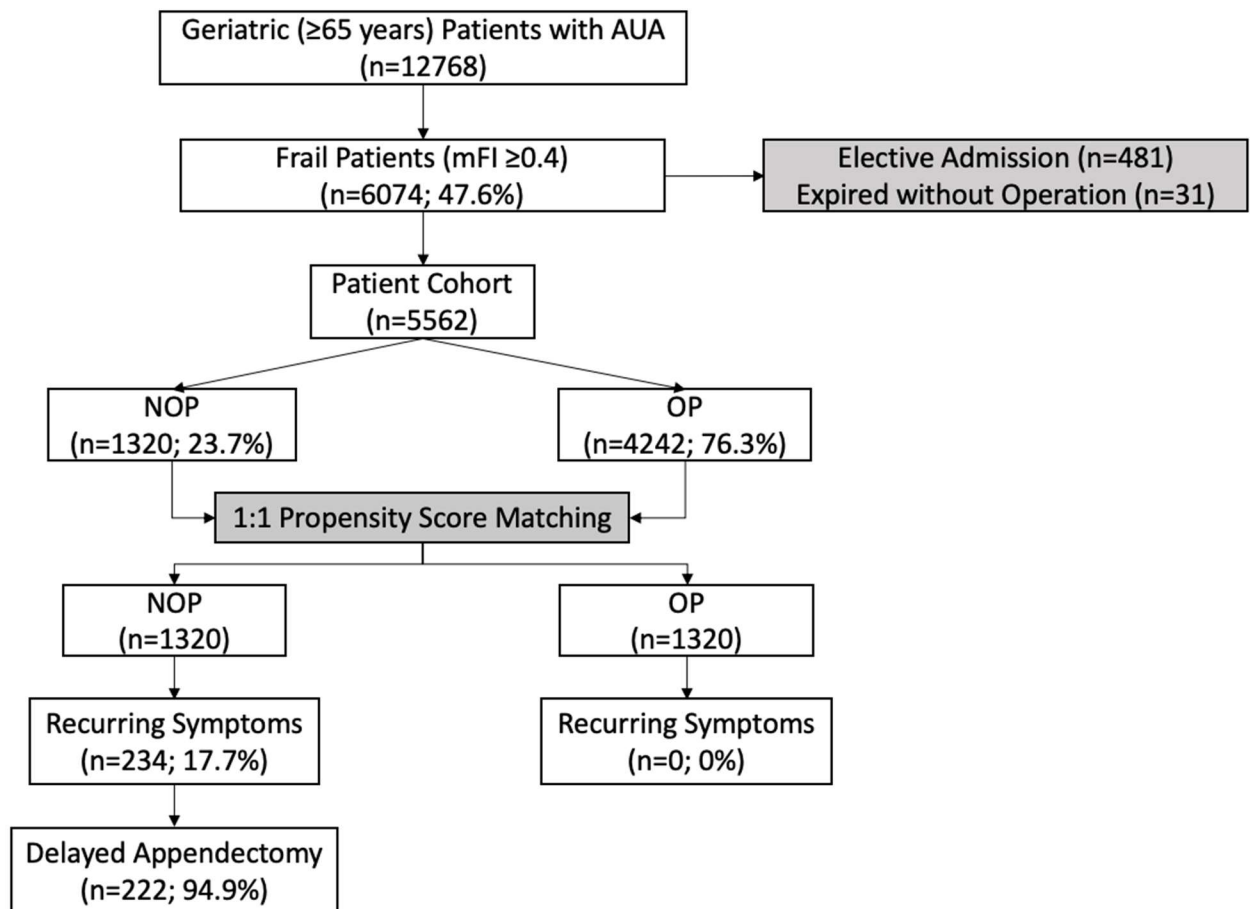


Figure 1: Patient flow diagram

Table 1: Sub-analysis of patients undergoing appendectomy

Outcomes	NOP (n=222)	OP (n=1320)	P value
Complications	44 (19.8)	143 (10.8)	<0.001*
Surgical site infection	7 (3.2)	28 (2.9)	0.340
Abscess	5 (2.3)	24 (1.8)	0.660
Sepsis	18 (8.1)	37 (2.8)	<0.001*
Cardiovascular	3 (1.4)	14 (1.1)	0.701
Cerebrovascular	1 (0.5)	8 (0.6)	0.778
Renal	4 (1.8)	20 (1.5)	0.750
Ileus	4 (1.8)	18 (1.4)	0.611
Intestinal obstruction	2 (0.9)	14 (1.1)	0.828
Peritonitis	17 (7.7)	0 (0)	<0.001*
Perforation	21 (9.5)	0 (0)	<0.001*
Procedure-related mortality	9 (4.1)	22 (1.7)	0.019*
Appendiceal neoplasm	7 (3.2)	16 (1.2)	0.027*

NOP=nonoperative management; OP=operative management; *=statistically significant