

Coronavirus (COVID-19) Pandemic Worsens Pre-existing Racial Disparities on the Care of Pediatric Acute Appendicitis

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BACKGROUND

- Appendicitis is the most common pediatric abdominal surgical emergency.
- There are reports of disparities in the prevalence and severity of this disease in the Hispanic population.
- The purpose of this study was to identify any differences in the clinical presentation and complications of pediatric acute appendicitis during the Coronavirus Pandemic.

METHODS

- A single institution retrospective assessment of all pediatric patients (<18 years old) with acute appendicitis from April 2019 to October 2020.
- Two Groups: the Pre-COVID group (before 03-15-2020) ; the COVID group (after 3-15-2020)

RESULTS

- 205 patients were included
- Median age of 11 years [IQR 8 - 13]
- 129 males (63%)
- 45 Hispanic (22%)
- 136 patients in the Pre-COVID group (66%) and 69 in the COVID group (34%).
- 56 patients were tested for COVID in the study period (28%) from these 100% where on the COVID group (82% of this group).
- 1 of the patients was COVID positive (1.8%)
- Ultrasound was performed in 160 patients as first imaging (80%) vs CT in 44 patients (21%)
- Perforated appendicitis occurred in 65 patients (30%)

Table 1: Clinical Outcomes by Group)

	Pre-COVID (n=135)	COVID (n=69)	p-value
Perforation (%)	45 (33)	20 (29)	0.64
hLOS (days, SD)	2.8 (3.8)	2.2 (2.6)	0.58
Re-admission (yes, %)	3 (2)	0 (0)	0.55
Re-operation (yes, %)	0 (0)	0 (0)	1
SSI (yes, %)	1 (1)	0 (0)	1
Abscess formation (yes, %)	7 (5)	2 (3)	0.72

hLOS = Hospital Length of Stay. SD = Standard Deviation. SSI = Superficial Site Infection. * Statistically significant.

Table 2: Clinical Outcomes by race pre-COVID Era

	Other n=108	Hispanic n=28	p-value
Perforation (%)	35 (33)	10(35)	0.82
Pediatric Appendicitis score (IQR)	6.5 [5-8]	6.7 [5-8]	0.61
Duration of Symptoms (hours, SD)	52 (68)	42 (34)	0.61
hLOS (days, SD)	2.7 (3.8)	3.5 (3.2)	0.08

hLOS = Hospital Length of Stay.. * Statistically significant.

Table 3: Clinical Outcomes by race COVID Era

	Other n=52	Hispanic n=17	p-value
Perforation (%)	12 (23)	8 (47)	0.07
Pediatric Appendicitis score (IQR)	7.4 [7-9]	7.4 [7-9]	0.78
Duration of Symptoms (hours, SD)	34 (26)	36(28)	0.71
hLOS (days, SD)	1.94 (2.7)	2.9 (2.08)	0.01*

hLOS = Hospital Length of Stay.. * Statistically significant.

KEY TAKE-AWAYS

1. During the COVID pandemic the severity of appendicitis was accentuated in the Hispanic population resulting in increased length of stay and perforation.
2. Despite these differences, there was no impact in other postoperative outcomes.