



COMPARISON OF PEDIATRIC PATIENTS IN A TERTIARY HOSPITAL DIAGNOSED WITH ACUTE APPENDICITIS BASED ON CLINICAL EVALUATION ALONE VERSUS THOSE WITH ADDITIONAL IMAGING MODALITY



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BACKGROUND

Acute appendicitis in pediatrics is one of the most common conditions requiring immediate surgical intervention. Presentation of acute abdominal pain is a common complaint and caregivers must differentiate acute appendicitis from a variety of conditions with the same presentation. Delayed or missed diagnosis in children is common and is associated with increased rates of complications.

OBJECTIVES

This study aims to compare clinical evaluation alone versus the use of additional imaging modality in the diagnosis of acute appendicitis in the pediatric population.

METHODS

Medical records of patients from ages 5-15 years old who came in for abdominal pain with initial diagnosis of acute appendicitis were retrieved and reviewed. Data gathered include sex, age, signs and symptoms, laboratory tests and imaging modalities done, and outcome of patient from March 2019 – March 2022. The demographic profile of the population were transcribed using Microsoft Excel. For the sensitivity and specificity of PAS and abdominal ultrasound, date were collected and computed using SPSS.

RESULTS

Diagnostic accuracy of PAS and ultrasound were sensitivity 0.9 and 0.95, specificity 0.03 and 0.47, respectively. For the predictive value, PAS has a positive predictive value almost equal to abdominal ultrasound at 0.68 and 0.69, respectively. For the negative predictive value, PAS has a lower negative predictive value than abdominal ultrasound at 0.08 and 0.87, respectively.

Pediatric Patients diagnosed with Acute Appendicitis using Pediatric Appendicitis Score (PAS)				Pediatric Patients diagnosed with Acute Appendicitis who underwent Abdominal Ultrasound			
Outcome	Pediatric Appendicitis Score (PAS)			Outcome	Pediatric Appendicitis Score (PAS)		
		Positive	Negative			Positive	Negative
	Positive	110	12		Positive	110	12
Negative	11	1	Negative	11	1		

Comparison of Sensitivity and Specificity, Positive and Negative Predictive Value of PAS and Abdominal Ultrasound

	Pediatric Appendicitis Score	Abdominal Ultrasound
Sensitivity and Specificity		
Sensitivity	0.90	0.95
Specificity	0.08	0.47
Positive and Negative Predictive Value		
(+) PV	0.90	0.69
(-) PV	0.08	0.87

CONCLUSION

Pediatric Appendicitis Score, which has a high sensitivity, is a good screening method for acute appendicitis. It may be recommended as an initial tests to diagnose acute appendicitis. However, because PAS has a low specificity, in cases where the diagnosis of acute appendicitis is uncertain, an ultrasound, which has a better specificity and sensitivity, may be warranted in order to confirm the diagnosis.

RECOMMENDATIONS

- To further elaborate the use of PAS in patients from ages 5-18 years old in order to minimize the utility of imaging techniques
- To conduct a study which would also include other imaging modalities used in the diagnosis of acute appendicitis such as CT scan, and MRI
- To include a comparison on a larger population with an equal number of patients who have undergone clinical and imaging techniques to diagnose acute appendicitis

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