

Is Pediatric Appendicitis Score Sufficient to Make the Diagnosis of Acute Appendicitis Among Children?

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Abstract

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| Background | Children with acute abdominal pain represent most of the admitted cases to the pediatric surgical department, one third of these cases are acute appendicitis. Early diagnosis of "no appendicitis" or "appendicitis" on the basis of pediatric appendicitis score could potentially save emergency department's time and resource use and could avoid time cost and risks for further evaluation. |
| Objective | Evaluation of Samuel scoring system in diagnosing children with acute appendicitis and their need for surgery. |
| Methods | One hundred and twelve patients aged between 5 to 15 years who presented with abdominal pain suggestive of acute appendicitis were studied. A complete data from patients were analyzed by using Samuel score. The clinical findings used by previously mentioned scoring system were analyzed to determine reliability of pediatric appendicitis score (PAS). The Final diagnosis was determined by histopathological report for patients' undergone appendicectomy. |
| Results | The mean (median, SD) score for children with acute appendicitis and non-acute appendicitis were 4.9 (5, 1.8) and 4.6 (5, 1.7) respectively. No variable (of the known signs and symptoms regarded as pathognomonic for acute appendicitis) shows a significant value in the diagnosis of acute appendicitis. A PAS of ≥ 4 had a sensitivity, specificity, Positive predictive value (PPV), and Negative predictive value (NPV) of 0.78, 0.27, 0.87, and 0.16 respectively. |
| Conclusion | The diagnosis of acute appendicitis and the need for surgery is still a matter of clinical judgment which can be built with practice, and although the PAS could provide useful diagnostic information in children with suspected acute appendicitis, it cannot be used as sole method for determining the need for surgery. |
| Key words | Pediatric Appendicitis Score (PAS), acute appendicitis, appendicectomy. |

Introduction

Children with acute abdominal pain represent most of the admitted cases to the pediatric surgical department; one third of these cases being acute appendicitis⁽¹⁾. Time and patience are required to evaluate child with acute abdominal pain, morbidity result from late diagnosis or negative appendicectomy. Definitive diagnosis of acute appendicitis is

made in only 50-70% of children at the time of initial assessment⁽²⁾. This reflects the proportion of appendices that are normal on histological studies and negative appendicectomy rate of 10-30%⁽³⁻⁵⁾. CT scan had been used to decrease the rate of negative appendicectomy, but this carries a significant risk as a result of increased exposure to ionizing radiation and may result in increased health care costs⁽⁶⁻⁸⁾.