

The "MANTRALS" score was proposed by Alvarado in 1986 as a method to predict acute appendicitis in adult ⁽⁹⁾, and a lot of modified scores had been used to predict acute appendicitis in children. Recently, Samuel from England published a simple pediatric appendicitis score (PAS); in 2002, on the basis of a cohort of children 4 to 15 years old. The PAS ranges from 0 to 10 ⁽¹⁰⁾. Early diagnosis of "no appendicitis" or "appendicitis" on the basis of PAS potentially could decrease emergency department time and resource use and could avoid time, cost, and risks for further evaluation ⁽¹¹⁻¹⁴⁾.

The intention of our study is to evaluation Samuel scoring system in diagnosing children with acute appendicitis and their need for surgery.

Methods

A prospective observational study was conducted from January 2012 to October 2012 at Al-Yarmook Teaching Hospital and Central Teaching Hospital for Pediatrics in Baghdad. The study included 112 patients aged between 5 to 15 years, who presented with abdominal pain suggestive of acute appendicitis. A complete data from patients were analyzed by using Samuel score (Table 1).

Table 1. Samuel Score system

Variables		Score point value
Anorexia		1
Nausea/vomiting		1
Right lower quadrant tenderness		2
Cough/hopping/percussion/tenderness in the right lower quadrant		2
Migration of pain		1
Elevation in temperature ("Pyrexia," $\geq 37.3^{\circ}\text{C}$)		1
Leukocytosis $\geq 10\,000$ cells/mm ³		1
Differential WBC with 75% polymorphonuclear cells or *ANC ≥ 7500 cell/mm ³		1
Score system	not appendicitis with recommendation of observation	≤ 5
	appendicitis with recommendation of surgery	≥ 6

*ANC: absolute neutrophil count

A written informed consent was taken from parents of patients below 7years while informed agreement was obtained from children older than this age. Patients who had appendicular mass with periappendiceal abscess, history of previous abdominal surgery (including Appendicectomy), chronic medical illness, nonverbal children & had previous abdominal radiological imaging (within previous 2 weeks) were excluded from the study. Two independent evaluations of clinical findings used by previously mentioned scoring system were done to determine inter observer reliability; the period between the two assessments was 15 minutes to eliminate changes in the patient's condition.

Final diagnosis was determined by histopathological report for patients undergone appendicectomy. Statistical analyses for all data obtained in this study were carried out using Pearson Chi-square test at 0.05 level of significance and Student-t-test.

Results

One hundred and twelve patients had been recruited to the current study that fulfilled the inclusion and exclusion criteria with their age ranging from 5-15 years. Ninety seven patients (86.6%) had pathologically proven acute appendicitis, while 15 patients (13.4%) had no acute appendicitis according to the