

16th Annual World Congress on PEDIATRICS
&
3rd Annual World Congress on
PEDIATRIC NUTRITION,
GASTROENTEROLOGY & CHILD DEVELOPMENT
March 21-22, 2018 | New York, USA

A pre-operative clinical scoring system to distinguish perforation risk with pediatric appendicitis

William Bonadio

Maimonides Medical Center, USA

Introduction: Appendicitis is a common, potentially serious pediatric disease. An important factor in determining management strategy (whether/when to perform appendectomy, duration of antibiotic therapy/hospitalization, etc.) and predicting outcome is distinguishing whether perforation is present.

Objective: The objective of this study was to determine efficacy of commonly assessed pre-operative variables in stratifying perforation risk in children with appendicitis.

Design & Setting: A retrospective analysis of consecutive cases was performed. A large urban hospital pediatric emergency department participants includes 448 consecutive cases of CT (computerized tomography) confirmed pediatric appendicitis during a six years period in an urban pediatric ED (emergency department): 162 with perforation and 286 non-perforated.

Main Outcome(s) & Measure(s): To determine efficacy of clinical and laboratory variables with distinguishing perforation outcome in children with appendicitis.

Results: Regression analysis identified three independently significant variables associated with perforation outcome and determined their ideal threshold values: duration of symptoms >1 day; ED-measured fever [body temperature >38.0 degrees C]; CBC WBC absolute neutrophil count >13,000/mm³. The resulting multivariate ROC [receiver operating characteristic] curve after applying these threshold values gave an AUC [area under curve] of 89% for perforation outcome [p<0.001]. Risk for perforation was additive with each additional predictive variable exceeding its threshold value, linearly increasing from 7% with no variable present to 85% when all three variables are present.

Conclusions: A pre-operative scoring system comprised of three commonly assessed clinical/laboratory variables is useful in stratifying perforation risk in children with appendicitis. Physicians can utilize these factors to gauge pre-operative risk for perforation in children with appendicitis, which can potentially aid in planning subsequent management strategy.

william.bonadio@mountsinai.org