

Oral Presentation

The Alvarado Score – A Clinical Stratification for Computed Tomography Evaluation in Suspected Appendicitis
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Purpose: Although Computed tomography (CT) scan is useful in evaluation of suspected appendicitis, not all patients require CT evaluation. Clinical scores which identify patients who benefit from CT evaluation are immensely useful. We utilize the Alvarado Score (AS) to stratify patients with suspected appendicitis into subgroups who benefit from CT evaluation and propose an objective management algorithm for suspected appendicitis with AS guiding necessity for CT evaluation.

Methods: Retrospective review of medical records of all patients admitted for suspected appendicitis over a 6 month duration. Relevant data was recorded. The AS for each patient was determined retrospectively and correlated with histological and CT findings. The sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), positive and negative likelihood ratio (LR) were determined for various Alvarado Scores and for CT.

Results: 358 patients were studied with 167 males (46.6%) and 191 females (53.4%). Prevalence of appendicitis was 50% (179 patients). 214 patients (59.8%) had CT performed. Surgery was performed for 206 patients (57.5%). Overall negative appendicectomy rate was 13.1%, Patients who underwent CT evaluation had a negative appendicectomy rate of 5.7% compared to 17.9% in those without CT evaluation (p=0.009). CT Scan had a sensitivity and specificity of 92.6% and 96.9% respectively. Alvarado Score of 4 or more had a sensitivity superior to CT (95.5%) while Alvarado Score of 9 or more had a specificity superior to CT (100%).

Conclusion: In suspected appendicitis, the AS identifies a clinically equivocal group (AS 4 to 8) which will benefit from CT evaluation. Incorporation of the AS in a management algorithm guiding CT utilization will reduce negative appendicectomy rates and cost.