

The Alvarado Score in Appendicitis: Can it Enable Antibiotic Therapy, Reducing the Need for Surgical Treatment?

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The Alvarado Score (AS) is a scoring system used to facilitate the diagnosis of appendicitis. The study aims to explore the potential of AS to enable antibiotic therapy for suitable patients, thereby reducing the need for surgery. All patients aged 16 to 60 who underwent an appendectomy at Teaching Hospital Rathnapura from 21 September to 15 October 2022 had their ASs calculated and their AS were compared with their histopathological diagnoses. Using acute appendicitis as a positive diagnosis and minimal inflammation as a negative diagnosis, a Receiver Operating Characteristics (ROC) curve was plotted to identify the best cut off values of the AS for the differentiation of acute appendicitis which would require surgery from a subacute disease which who could be managed with antibiotic therapy. Among the 61 patients who underwent appendectomies, 47 were diagnosed with acute appendicitis and 14 with minimal inflammation, demonstrating a 100% accuracy in the clinical diagnosis. The optimal AS for the diagnosis of acute appendicitis, as determined by the ROC curve, was 5.5. Using a cutoff of 6, the diagnostic accuracy was 85.2% (95% CI 73.8% to 93.0%). Among the 14 patients with minimal inflammation, their AS ranged from 3 to 9 (mean 5.4, SD 1.6), and 10 patients had AS between 3 and 5. At a cutoff value of 4.5 (as suggested by a study conducted in Peradeniya), the specificity in this current study was only 22%. The characteristic clinical feature of tenderness in the right iliac fossa, by itself, had a high higher sensitivity of 100% (95% CI 92.5% to 100%) but zero specificity (95% CI 0.0% to 23.2%). The study suggests that an AS cut-off of 6 was appropriate for the diagnosis of acute appendicitis. Patients with AS between 3 and 5 could be offered antibiotic therapy instead of surgery.

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