

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

De Silva S.H.T.D.¹, Wijesinghe H.M.M.K.¹, Jayathissa B.A.C.M.¹, Sanduni A.¹,
Maduwanthi P.K.D.J.¹ and Goonewardene I.M.R.²

¹ Department of Community Medicine, Sabaragamuwa University of Sri Lanka

² Department of Gynecology & Obstetrics, Sabaragamuwa University of Sri Lanka

*dimanthadesilva1999@gmail.com

This study aimed to evaluate the Alvarado Score (AS) in increasing the diagnostic accuracy of appendicitis and assess the possibility of antibiotic therapy, reducing the need for surgical treatment. A cross sectional study was carried out on all patients between 16 to 60 years of age who underwent appendectomy in the Teaching Hospital Rathnapura, from 21st September to 15th October 2022. The AS were calculated and compared with the histopathological diagnoses. The indices used for validating a diagnostic test and the Receiver Operating Characteristics (ROC) curve were obtained. Sixty-one patients had appendectomies and acute appendicitis and minimal inflammation was reported in 47 and 14 patients respectively (100% accuracy of the clinical diagnosis). Using acute appendicitis as a positive diagnosis and minimal inflammation as a negative diagnosis, the ideal cut off AS for these patients, obtained by a ROC curve, was 5.5. Using a cut off of 6, the diagnostic accuracy was 85.2% (95% CI 73.8% to 93.0%). In the 14 patients who had minimal inflammation, the AS ranged from 3-9 (mean 5.4, SD 1.6), and 10 patients had AS between 3-5. The characteristic clinical feature of tenderness in the right iliac fossa, by itself, had very good sensitivity but very low specificity. Reducing the cut off of AS to 6 was suitable for the patients studied. Since 10 out of the 14 patients who had only mild inflammatory changes had AS between 3-5, they could be offered antibiotic therapy without urgent appendectomies. However, at a cut off value of 4.5 (as reported to be the best cut off value by a study carried out at Peradeniya), the specificity in the current study was only 22%. Reducing the cut off of the Alvarado Score to 6, and offering antibiotic therapy to patients with AS between 3-5 could be considered.

Keywords: *Alvarado score, antibiotic therapy, appendicitis, diagnostic accuracy, surgical treatment*