

Alvarado vs tzanakis score- better score for appenticitis.

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Abstract: Appendicitis is the most common abdominal emergency worldwide. Out of many scoring systems, Alvarado scoring system showed good sensitivity and specificity when applied in a western population, several studies have shown its limitations when applied in an Asian population. As a result a new scoring system named Tzanakis score was developed. The aim of the study is to compare the sensitivity and specificity of Tzanakis score with Alvarado score in diagnosing acute appendicitis in Indian population. A total of 100 patients who fulfilled the eligibility criteria were studied. All the patients included in the present study were suspected of having acute appendicitis based on history and clinical examination. Patients were scored according to Alvarado as well as Tzanakis score at the time of admission. Decision to operate was usually made by the surgical team who were not a part of the research team. Post-surgery specimen was subjected to histopathological evaluation. The sensitivity, specificity, positive and negative predictive values of Tzanakis and Alvarado scoring system in diagnosing acute appendicitis were compared. To conclude, Tzanakis scoring system is an effective modality to establish the accurate diagnosis of acute appendicitis which requires surgery especially in low resource areas and helps in reducing the rates of negative appendectomy. Though acute appendicitis is a clinical diagnosis the scoring system can complement the clinical diagnosis. Investigations like CECT and diagnostic laparoscopy are of high cost may not be available universally. The search for a more appropriate scoring system / diagnostic methodology for diagnosis of acute appendicitis is highly recommended.

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I. Introduction

Appendicitis is the most common abdominal emergency worldwide. Clinical examination is helpful in diagnosis of acute appendicitis in only 70-87% of the cases. Alvarado scoring system which is widely used to diagnose acute appendicitis consists of symptoms, signs and inflammatory markers whereas the Tzanakis scoring system is a combination of clinical examination, ultrasonography and inflammatory markers. The aim of this study is to compare the sensitivity, specificity, positive predictive value and negative predictive value of Tzanakis scoring system with Alvarado scoring system in diagnosing acute appendicitis.

II. Material And Methods

This prospective non randomized study was conducted in patients who admitted in Madurai medical college hospital. A total of 100 patients who fulfilled the eligibility criteria were studied after taking approval from the institutional ethical review board. Written informed consent was obtained from each study patient at the time of enrollment. All the patients included in the present study were suspected of having acute appendicitis based on history and clinical examination. All patients underwent abdominal ultrasonography (USG), complete blood count (CBC), which includes total and differential leukocyte count as part of their assessment. Patients were scored according to Alvarado as well as Tzanakis score at the time of admission. Decision to operate was usually made by the surgical team who were not a part of the research team. Post-surgery specimen was subjected to histopathological evaluation. Data so collected was subjected to statistical analysis

III. Result

After The Alvarado score, which was developed in 1986, was simple additive scoring system to help with the diagnosis of acute appendicitis. Although it showed very good sensitivity and specificity when applied in a western population, several subsequent studies have shown its limitations when applied in an Asian or oriental population. As a result a new scoring system called the TZANAKI score which is more extensive yet simple additive scoring system consisting of 4 fixed parameters. All the parameters are easily obtained from a good clinical history, examination, investigations and ultrasonogram. In this study the age of patients range from 14 to 60 years with acute appendicitis more common in the age group between 21 to 40 years with slight male

preponderance (67 % being male). It was found out from the current study that on the basis of Tzanaki scoring system, out of 100 patients who underwent appendectomy, the numbers of true positive cases were found to be 60 patients who were confirmed by histological examination. The sensitivity and specificity of the Tzanakis scoring system in diagnosing Acute Appendicitis was calculated as 88.24% and 93.7% respectively. Its positive predictive value was 96.77 % and negative predictive value was 78.94 %. Out of 100 patients who underwent appendectomy on the basis of Alvarado score, 50 patients had the disease which was confirmed by histological examination. The sensitivity and specificity of the Alvarado scoring system in diagnosing Acute Appendicitis was 73.53 % and 31.25% respectively. Its positive predictive value was 69.44 % and negative predictive value was 35.71 %.

IV. Conclusion

Tzanakis scoring system is an effective modality to establish the accurate diagnosis of acute appendicitis which requires surgery especially in low resource areas and helps in reducing the rate of negative appendectomy. Though acute appendicitis is a clinical diagnosis the scoring system can complement the clinical diagnosis. Investigations like CECT and diagnostic laparoscopy are of high cost may not be available universally; can be a basis for not going to advanced investigations like CECT abdomen for diagnosis and management. The search for a more appropriate scoring system / diagnostic methodology for diagnosis of acute appendicitis is highly recommended.

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