# Clinical Prediction Score for Ruptured Appendicitis In ED

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**Abstract :** Background: Ruptured appendicitis has a high morbidity and mortality and requires immediate surgery. The Alvarado Score is used as a tool to predict the risk of acute appendicitis, but there is no such score for predicting rupture. This study aimed to developed the prediction score to determine the likelihood of ruptured appendicitis in an Asian population. Methods: This study was diagnostic, retrospectively cross-sectional and exploratory model at the Emergency Medicine Department in Ramathibodi Hospital between March 2016 and March 2018. The inclusion criteria were age >15 years and an available pathology report after appendectomy. Clinical factors included gender, age>60 years, right lower quadrant pain, migratory pain, nausea and/or vomiting, diarrhea, anorexia, fever>37.3°C, rebound tenderness, guarding, white blood cell count, polymorphonuclear white blood cells (PMN)>75%, and the pain duration before presentation. The predictive model and prediction score for ruptured appendicitis was developed by multivariable logistic regression analysis. Result: During the study period, 480 patients met the inclusion criteria; of these, 77 (16%) had ruptured appendicitis. Five independent factors were predictive of rupture, age>60 years, fever>37.3°C, guarding, PMN>75%, and duration of pain>24 hours to presentation. A score > 6 increased the likelihood ratio of ruptured appendicitis by 3.88 times. Conclusion: Using the Ramathibodi Welawat Ruptured Appendicitis Score. (RAMA WeRA Score) developed in this study, a score of > 6 was associated with ruptured appendicitis.

**Keywords :** predictive model, risk score, ruptured appendicitis, emergency room

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