

REAPPRAISAL OF THE USE OF XRAYS IN ACUTE ANKLE INJURIES: A PROSPECTIVE EVALUATION OF OTTAWA ANKLE RULES IN A SINGLE MALAYSIAN TERTIARY CENTER

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Introduction: Acute ankle injuries are one of the most common reasons for presenting to emergency departments. These patients are almost always routinely referred for radiography, whereas less than 15% have clinically significant fractures. The Ottawa Ankle Rules (OAR) has been designed to reduce the number of unnecessary radiographs ordered for these patients. The current study aimed to evaluate the OAR for predicting ankle and/or midfoot fractures in a cohort of east coast Malaysian patients who sustained acute ankle injuries.

Methodology: This prospective survey was conducted in the emergency department and orthopedic clinics of Hospital University Sains Malaysia. The study group consisted of 73 patients aged 18 years and older who presented with acute ankle and/or midfoot injuries during a 12-month period of study. Radiography was performed for all patients after clinical evaluation findings were recorded. The main outcomes measured were: sensitivity, specificity, positive predictive value, negative predictive value, and likelihood ratios (positive and negative) of the OAR.

Results: 22 ankles and 12 midfoot fractures were diagnosed. The decision rules had a sensitivity of 100% a specificity of 73.68% and a negative predictive value of 100% in detecting ankle fractures; a sensitivity of 100%, a specificity of 84.61%, and a negative predictive value of 100% in detecting midfoot fractures. Implementation of the OARs had the potential for reducing radiographs by 42.4%.

Conclusion: OAR is an accurate and highly sensitive tool to detect ankle fractures. Implementation of these rules in our local patients would lead to a significant reduction in the number of request for radiographs without missing any clinically significant fractures. Thus, this will assist in reducing costs, radiation exposures and waiting times in emergency departments.