Audit on Performance of Plain Radiographs before MRI Ankle for Chronic Ankle Pain

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Introduction
Chronic ankle pain is a common condition, with prevalence of 15% in population aged 45 or above. Besides thorough clinical history and physical examination, radiological imaging is often needed to help establishment of diagnosis and guide treatment. MRI is a proven imaging modality for the detection, evaluation, staging and follow-up of disorders of the ankle, with high sensitivity to osteochondral and tendon pathologies. However, MRI is costly and time-consuming. According to American College of Radiology Appropriateness Criteria®, plain radiograph should be the first imaging test performed for chronic ankle pain more than 6 weeks.

Objectives
To evaluate the presence of ankle plain radiograph before MRI ankle was performed in patients with chronic ankle pain.

Methodology
MRI ankle performed in NTWC in 2013 for patients with chronic ankle pain more than 6 weeks were included. We documented whether there was ankle plain radiograph before MRI ankle was performed. The standard was set to be 90%. Demographics data, indication of MRI and presence of injury was also documented.

Result
39 cases were included with 20 males and 19 females. They ranged from 7 to 74 years old (mean 49.3). 37 (94.8%) out of 39 had plain radiographs before MRI ankle was performed. The top 3 indications of MRI were suspected tendon or ligamentous
injury (38.5%), suspected osteochondritis dissecans (25.6%) and suspected mass or bone lesion (12.8%). 41% have history of injury. For the 2 cases without plain radiograph, they presented with ankle pain over talus with suspected osteochondritis dissecans (OCD). In our audit, although the standard of 90% was met, measures should be adopted to further raise this proportion. Plain radiograph could provide diagnostic information necessary for clinical management, thereby obviating the need for the additional and more costly MRI. It could also supplement information and assist in interpretation of MRI. It is recommended that patients with chronic ankle pain should have plain radiographs performed before considering MRI ankle. This audit result would be conveyed to clinicians during the regular clinical-radiological meetings. Re-audit is suggested to ensure continuous quality improvement.