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The Implication of Fat Pad Sign in Occult Elbow Fracture

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Abstract

Introduction: The elbow is frequently involved in trauma and is one of the most frequently radiographed joint in emergency ward.

Posterior fat pad displacement has been describing in a variety of disorder such as hemophilia, rheumatoid arthritis and any condition that concomitant with joint effusion such as trauma. So it may be the manifestation of an Occult fracture as a result of trauma.

Objective: The purpose of this study was to assessment the implication of posterior fat-pad sign in occult elbow fracture.

Materials and Methods: This research is a prospective and descriptive study that carried out on 328 patients with the age under 18 years old and a history of traumatic elbow injury.

All of patients with the radiographically positive posterior fat pad sign, without any intraarticular fracture were introduced in study. After 3 weeks the injury, anteroposterior, lateral, and oblique radiographs were made and evaluated for evidence of fracture healing (Periostial reaction). If there was evidence of new bone formation on any of this three radiographs, it was considered to indicate a fracture of elbow.

Result: From 328 patients, 73% (242) were boys and 26%(86) were girls. 29(96)% of patients were posterior fat pad positive sign that 85%(82) of above patient after 3 weeks become positive they had evidence of a fracture and in 18% (14) of patient hadn't any evidence of fracture. 82% (65) of patients had supracondylar fracture, 41% (5) a fracture of lateral condyl humerus, 1.64% (2) a fracture of medial condyl humerus.

Conclusion: This study demonstrated that the prevalence of posterior fat-pad sign with the evidence of fracture in elbow is very high and need to evaluate the patients with occult fracture correctly is very important.

Key words: Adipose Tissue/ Elbow Joint/ Fracture, Closed