Lunotriquetral fusion
Published on 21.05.2002

DOI: 10.1594/EURORAD/CASE.1571
ISSN: 1563-4086
Section: Musculoskeletal system
Case Type: Clinical Cases
Authors: A. Amin, T. Sikdar
Patient: 25 years, female

Clinical History:

The patient presented with a painful wrist following a fall onto the outstretched hand. Plain radiographs of the wrist showed no bony injury, but revealed an incidental finding.

Imaging Findings:

The patient presented with a painful wrist following a fall onto the outstretched hand. Plain radiographs of the wrist showed no bony injury, but revealed an incidental finding of complete lunotriquetral coalition.

Discussion:

Carpal coalition is a relatively common anomaly, which most frequently involves isolated fusion of the triquetrum and lunate bones. This occurs in about 0.1–1.6% of the general population, and is seen more frequently in men and in the Afro-Caribbean population. It is bilateral in 60% of cases. Widening of the scapholunate interosseous space radiographically with an intact scapholunate interosseous ligament is a common finding. Fusions have been described sporadically in all possible combinations including involvement of more than two bones. Less common fusion anomalies include trapezium-trapezoid, capitate-hamate, and hamate-pisiform. Carpal fusion can occur as an isolated finding or as part of a congenital malformation syndrome. In such cases massive fusion and fusion involving proximal and distal rows is more common. Associations include acrocephalosyndactyly syndrome, arthrogryposis, diastrophic dwarfism, Ellis-van Creveld syndrome, Holt-Oram syndrome, otopalatodigital syndrome, Turner’s syndrome and symphalangism.

The aetiology of the condition relates to failure of segmentation of the primitive cartilaginous canals and absence of joint formation. Radiographically, continuous trabeculae can be traced from one bone to the next with an occasional residual cleft detectable.

Lunotriquetral coalition is almost always discovered coincidentally and patients are commonly asymptomatic. The fusion also can be incomplete, however, resembling a pseudarthrosis, and these patients can become symptomatic. Lunate-triquetral coalitions can be subdivided into four types according to the degree of union. Symptomatic Type 1 fusions representing minimal fusion can be treated with lunotriquetral arthrodesis.

Differential Diagnosis List: Lunotriquetral coalition

Final Diagnosis: Lunotriquetral coalition
References:


Figure 1

Description: Plain radiograph of the wrist showing complete lunotriquetral coalition. Origin: