Perilunate dislocation – A case report

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Abstract:
Perilunate dislocations are rare injuries comprising of less than 10% of all wrist injuries. These usually occur after high-energy trauma to the wrist. A quarter of perilunate dislocations are missed on initial presentation. The result of perilunate dislocation is an extremely unstable wrist, potentially producing devastating complications. Here we report a case of class II perilunate dislocation associated with radial styloid fracture. He underwent closed manipulation and internal fixation with percutaneous K wires. He regained near normal full range of motions at the wrist joint by the end of six months and showed no recurrence of the dislocation.

Keywords: Wrist injuries, radiography, K wire.

Case Report
A 40 year old male presented with 6 days old history of trauma to his left wrist following history of fall on hyper extended wrist. He did not seek any medical treatment except taking over the counter pain killers and presented in the OPD due to persistent pain and restricted wrist movement. On examination there was tenderness and edema present on radial aspect of wrist joint; the wrist movement was grossly restricted. There was no neurovascular deficit. Scaphoid shift test was positive. Plain radiographs (anteroposterior views) showed increased scapholunate interval and capitate migrated into the proximal row, the lunate were more or less aligned with the distal radius.

Figure1: Radiograph of the right wrist (anteroposterior and lateral views) showing increased scapholunate interval, migration of capitates in proximal row in the anteroposterior view and increased SL angle in lateral view.

The styloid process of the radius was fractured. In the lateral view the characteristic ‘spilled tea spot’ sign was absent with Scapholunate angle greater than 60 degree. (Fig-1)

After confirmation of the diagnosis a closed manipulation reduction of the scaphoid was done and fixed with three k-wires under fluoroscopy control through the styloid, scaphoid to lunate and scaphoid to capitate. The skin and subcutaneous tissues were approximated and the joint was immobilized in long arm pop cast for four weeks.

Fig-2: Postoperative radiograph showing reduction and fixation with the three k-wires.

The postoperative radiograph showed satisfactory reduction of the dislocation by the K-wires and the Scapholunate angle is less than 60 degree. (Fig-2)

After four weeks the k- wire was removed and below elbow pop cast was applied for another four weeks. The patient was encouraged to actively move the fingers immediately postoperatively. After removal of below elbow cast the patient was put on physiotherapy session.

Discussion
Perilunate Dislocations (PLD) is one of the rare injuries. They constitute less than 10% of all wrist injuries.1 Disruption of ligaments due to perilunate dislocation follows the progressive perilunate instability pattern of joint derangement, classically disrupting the scapholunate, capitolunate and lunatotriquetral joints. Stage I results in scapholunate instability. Stages II to IV result in

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progressively worse perilunate instability. In our case the patient presented with stage II scapholunate instability with fracture of radial styloid. Perilunate dislocations are commonly missed injuries either due to lack of careful clinical examination at the time of initial presentation or due to delayed presentation by the patient or due to radiological misinterpretation. Adequate clinical history and careful physical examination with radiological evidences will help in early detection of these injuries. The typical radiographic appearances of a perilunate dislocation include disruption of the proximal and distal outlines of the proximal carpal rows. On the lateral view, the lunate no longer articulates with the head of the capitate, but appears palmarly rotated, the so-called ‘spilled teapot sign’. CT scan and 3D reconstruction films are helpful in confirming the diagnosis. Early surgical management of these injuries results in a better functional outcome as compared to conservative line of management. Various implants have been used for stabilization of the dislocation after reduction such as compression screws, cerclage wires and K-wires. In our case, we treated by close manipulation reduction and internal fixation with percutaneous K-wires. Adequate regular follow up of the patient is essential to prevent recurrence of carpal instability.

Conclusion
Perilunate dislocation although rare to see or commonly missed injuries but it should be considered as one of most important differential diagnosis in patients with the history of high energy trauma to the wrist and other causes should be excluded. Early intervention is needed as late treatment is coupled with soft tissue damage which causes complications like avascular necrosis, post traumatic osteoarthritis, and carpal tunnel syndrome. The on time presentation of case has given the choice of close manipulation and pectucaneous fixation with the K-wires. Declaration of consent The author certifies that written informed patient consent was obtained before publication. The patient understands that no indentifying information will be published and identity of the patient will be completely concealed.

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References