

Pisiform Dislocation and Distal Radius Ulna Fracture

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Background

Pisiform dislocation is quite rare. In literature since the 40's little discussion is documented about this. It is quite rare without other carpal bone dislocation. Pisiform dislocates when the wrist is forced into hypertension ;the flexor carpi ulnaris (FCU) tears of the pisiform and pisohamate ligament and or pisocarpitate ligament. Flexor Carpi ulnaris is a very powerful wrist flexor in extension the pisiform acts as a sesamoid bone enhancing its action. During such injury it is pulled in hypertension and displaces proximally or it may thereafter migrates distally. We report a rare condition where dislocation of pisiform is occurring not with carpal fractures or dislocation but with distal radius ulna fracture in a young skeletally immature boy, the treatment and outcome.

Key words: pisiform, traumatic dislocation excision and radius/ulna fracture

Case presentation

We report a case of a 15-year old boy who presented with history of a fall while playing soccer at school. He sustained injury to his right wrist when he fell on an outreached hand, he developed immediate swelling and severe pain. On further evaluation there was tenderness over the wrist and the hypothenar eminence, and loss of range of motion due to pain.

Neuronal assessment revealed normal function of the ulnar nerve-



Operative AP View



Pre-operative Lateral View.



Post-operative Lateral View



Post-operative AP View

Attempt at closed manipulation and reduction failed and open reduction with excision of the dislocated pisiform was done and FCU and pisocarpitate ligament repaired. The radius /ulna fracture was reduced and cast applied. On follow up, the fracture healed without sequelae with normal wrist function of grip power and range of motion.

Discussion

Pisiform is the most medial of the proximal row of carpal bones which articulates with triquetrum laterally; proximally and distally it articulates via carpal ligaments FCU and abductor digiti quinti. It has a flat surface; therefore it relies on many soft tissues, FCU, and pisohamate-triquetrum ligament for its stability. This defines a tight osseoligament enclosure which once disrupted it is difficult to reestablish and maintain

The dislocation occurs rarely^{1,2} displacing proximally as in our case or rarely distally. In literature isolated dislocations do occur after falls⁽¹⁾ or trauma and closed reduction is attempted^{1,3,7}. Traumatic dislocations are seen in crush injury, Schadel – Hofman et al⁽⁴⁾ noted this mechanism of injury, but traumatic dislocation with long bone fracture is undocumented. Macnon^{5,8} treated pisiform dislocation with excision with good results; Gionovori et al⁷ unsuccessfully treated it closed, but the patient developed instability of wrist pain, after 12 month excision was done with good result. Like our case excision gave good outcome bereft of any unpleasant sequelae

Conclusion

Pisiform dislocation with radius /ulna fracture is best treated by excision of pisiform and definitive radius /ulna stabilization.

This gives best results with normal wrist function; good grip power of the hand and normal neurology

References

1. Ishizuki M Nakagwa. Positional dislocation of the pisiform. J Hand Surgery (AM) 91:16:533 -536
2. E William Immerman et al. Dislocation of the pisiform. J: bone Surg (AM) 1948:30 489-497
3. Sharara H. Farar M. Isolated dislocation of pisiform bone. J. Hand Surg (Br) (93) 18:195 -196
4. Maler JH. Pisiform dislocation. Br. J. radiology 1924:2917 -8
5. Schadel – Hofman ; M. Bohminger G. Dislocation of pisiform after severe crush injury to the hand Scand J. plastic and reconstruction Surg 2008:37 252-5.
6. McCanon RF ; Coleman W. Dislocation of the pisiform treated by excision. Case report Clin Orthrop Reconstruction 2006;6: 892 -94
7. Vitalis Goriainov Byne Grant et al. Acute isolated pisiform dislocation. Case report. J. ortho surgery 2010;18(3) 389-90.
8. Sharma S; Massary A. Ulnar nerve compression in isolated pisiform dislocation. J injury 2004;08 021
9. Oh soo Kwon; Sung Pi l Choo MD. Pisiform dislocation. J korean ortho association 2007; 42: 688-90