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CASE REPORT

Volar plates on distal radius may cause late rupture of flexor pollicis longus

Raja Marimuthu ^{*}, P. Jaiswal, G.V. Mani*Queen Mary's Hospital, Froggnal Avenue, Sidcup DA14 6LT, UK*

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During a five year period between 1998 and 2003, 82 patients underwent volar buttress plating (AO) for distal radius fractures at Queen Mary's Hospital Sidcup, Kent, England, a district general hospital. We report three cases of late ruptures of the flexor pollicis tendon amongst these patients.

Case 1

Ms. RF, a 73-year-old woman fell on her outstretched hand and she sustained comminuted intra-articular fracture of the distal radius with a large volar fragment and base of fifth metacarpal of her dominant right hand. She underwent open reduction and internal fixation of the fracture with a volar AO titanium T plate. She recovered well, but six months later she complained of hypersensitivity over her palm and altered sensation. A carpal tunnel release was done and she had symptom free period of five years. She presented to us after five years of her original injury with sudden onset of pain below the thumb and inability to flex the thumb. At exploration, there was attrition rupture of FPL with a gap of 3 cm. The plate was removed and the tendon was repaired end to end. Although there was a flexion contracture of the thumb for nearly six weeks, she

recovered a full range of thumb movements and normal function after four months.

Case 2

Mrs. IK, a 70-year-old woman fell sustaining an intra-articular fracture of the distal radius of non-dominant left hand. The fracture was reduced and held with volar AO titanium T plate. She recovered well within two months and was discharged from the clinic. However, the postoperative films showed some prominence of the volar plate distally. Six months later she presented with inability to flex her thumb of sudden onset. At exploration, the FPL tendon was found ruptured near the distal end of plate with a gap of about 4 cm. The plate was removed and the tendon was repaired by end to end suture. Subsequent physiotherapy helped her to regain a good ROM and excellent function. (Cases 1a and 1b).

Case 3

Mrs. JH, a 73-year-old woman tripped on the pavement and fell on the dominant left hand. She sustained a severely comminuted intra-articular fracture of the left distal radius. She was treated with open reduction and internal fixation of the

^{*} Corresponding author at: 57, Sutherland Road, Croydon CR0 3QH, UK. Tel.: +44 7919348367.

E-mail address: dr_mrjaja@yahoo.com (R. Marimuthu).



Plate 1 Pre op radiograph of Ms RF (case 1a), Follow up radiograph of Ms RF (case 1b).

fracture with volar T plate. There was a mild malunion noted after four months but she had a very good functional recovery.

Two years later she presented to us with inability to flex the left thumb over a period of two weeks. At exploration, the FPL was found ruptured by attrition at the level of the distal edge of the volar plate, although the edge of the plate did not seem especially prominent. There was a gap of 4 cm. The plate was removed and the FPL repaired end to end, by flexing the thumb and restricting extension for four weeks. Three months later Mrs. JH had a full range of movements and normal function of her thumb. (Cases 2a and 2b).

Discussion

Rupture of FPL as a complication of volar plating of distal radius fracture is not well recognised.³ We



Plate 2 Pre op radiograph of Ms IK (case 2a), Follow up radiograph of Ms IK (case 2b).

found one report detailing rupture of FPL due to volar plating of the distal radius, but these patients were on steroid therapy or had inflammatory arthritis.^{1,2}

We report three ruptures of FPL out of 82 cases of volar plating of distal radius in a period of five years. The plate was prominent in one case, but the other two did not seem to have any predisposing factors contributing to a rupture.

Rupture of FPL after volar plating of radius is more common than realised occurring in nearly 4% of our cases. We recommend that patients should be informed of this complication and made aware of symptoms of FPL rupture so that prompt primary treatment can be instigated. The rupture is recognised by hyperextension of interphalangeal joint of thumb at rest, inability to flex it and interfering with the thumb pinch.

References

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