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Spontaneous rupture of one slip of flexor digitorum superficialis causing triggering

Sir,

Isolated rupture of the flexor digitorum superficialis (FDS) is rare. In a comprehensive review of 80 tendon ruptures, Boyes *et al*.,[1] found only three isolated, non-pathological ruptures of FDS tendons. Rupture of only one slip of the FDS is extremely rare.[2,3] Rupture of only one slip will result in retained flexion of both superficialis and profundus tendons when each is tested independently and hence is a diagnostic challenge. The ruptured one slip of FDS, like a partial tendon laceration, can cause triggering. Since a trigger finger is a common condition and is treated by surgeons of various subspecialties one must be aware of such rare situation in which release of only A1 pulley will not suffice.

A 28-year-old woman presented to us with complaints of pain over left palm at the base of the middle finger and triggering of the middle finger with flexion and extension of 2 months duration. She gave a history of hyperextension injury to this finger 2 months back while at work. There was no wound during the injury and she had not taken any medical opinion for this injury. On physical examination, nodular swelling was felt at the region of A1 pulley and tenderness over the nodule and at the phalanx region over the flexor sheath. Triggering could be induced by flexion of the proximal interphalangeal joint. Individual flexion of the distal and proximal interphalangeal joints were possible indicating intact flexor digitorum profundus and superficialis tendons respectively. X-ray of the hand was normal. Considering the painful triggering and clinical evidence of synovitis, surgery was done under brachial block and Brunner type of zigzag incision was used to allow extension proximally and distally depending on the intra-operative findings and requirement. At surgery, the ulnar slip of the FDS was found to be avulsed from its insertion without any bone attachment [Figures 1 and 2]. The proximal portion of the ulnar slip had rolled up on itself proximally and retracted into the palm, protruding over the A1 pulley, and was responsible for the mechanical triggering. There was synovitis and fluid collection around the ruptured end and it extended until the A2 pulley. The slip was excised well into the palm and the tendon surface smoothed to avoid ragged or loose edges [Figure 3]. The smooth gliding of the tendon under the A1 pulley was confirmed. Patient was allowed full finger movements from the 1st post-operation day and allowed to do all the normal activities at 2 weeks post-surgery. At the last follow-up, 6 months post-surgery, patient had full range of active flexion and extension and was back to her normal activities.

Triggering is usually idiopathic. Post-traumatic triggering because of partial tendon injury is uncommon but well-reported in the literature.[4] In the presented case, triggering occurred because of rupture of only one slip of the FDS tendon. Rupture of only one slip of FDS is extremely rare

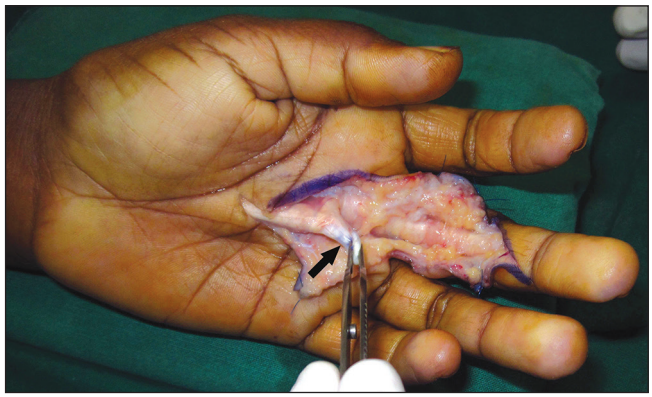

Figure 1: Intra-operative picture showing the ruptured ulnar slip of the flexor digitorum superficialis (arrow)

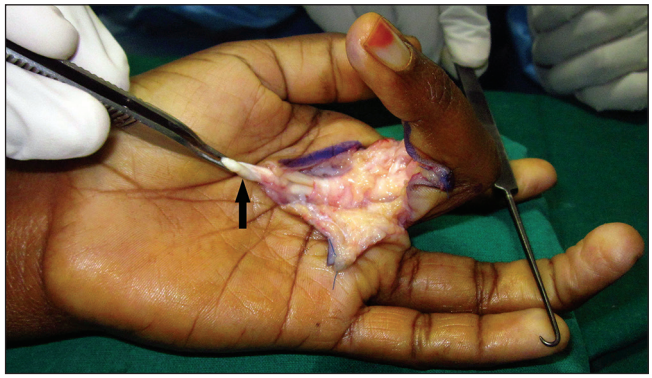

Figure 2: On pulling the ruptured ulnar slip (arrow) there is flexion of the proximal interphalangeal joint indicating the intact radial slip of flexor digitorum superficialis

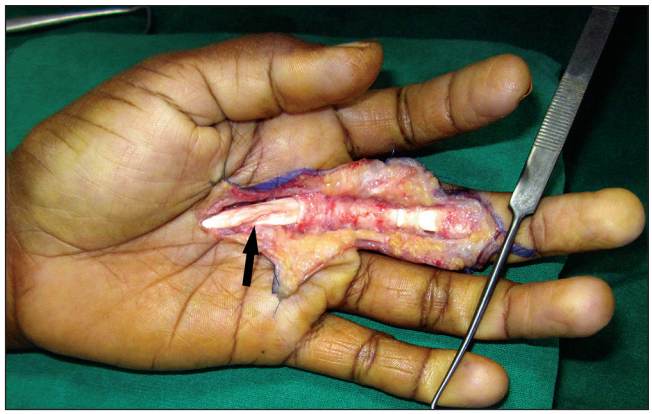

Figure 3: The ruptured slip was excised and the surface smoothened (arrow). Free gliding of the flexor tendons through the pulley system was confirmed

and is a diagnostic challenge because of the retained independent flexion of the proximal interphalangeal joint by the intact part of FDS.[1-3,5] An ultrasound examination in such case pre-operatively would have been helpful in diagnosis and we suggest to do this in all cases of triggering with unusual presentation like post-traumatic triggering and with associated diffuse synovitis. A surgeon aware of such possibility can avoid inappropriate and incomplete release while managing this common and seemingly minor condition.

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