

Osteochondritis of Trochlear Epiphysis: An Interesting Case Report with Literature Search

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Abstract

Osteochondritis (OCD) around the elbow are uncommon cause of elbow pain in children and adolescent, which occurs around different location of the elbow joint. OCD is an idiopathic condition affecting articular epiphysis and can affect any epiphyseal region in the body. Majority of these can be treated with non-operative intervention, but other serious life or limb threatening musculoskeletal conditions (Tumours and Infection) should be ruled out before labelling OCD. Here we describe and interesting case report with relevant literature search for the same.

Introduction

Unexplained pain elbow is common in children, especially in active, sporty individual [5]. We present an interesting case of an 11-year-old boy who presented to casualty with severe elbow pain. Complete workup was done including to rule out the septic joint and was found to have fragmentation of trochlea, which was treated with non-steroidal anti-inflammatory drugs (NSAID) and rest with complete resolution of symptoms. The reason for publication is go through the common cause of elbow pain in pediatric population which could be a diagnostic dilemma.

Case Report

We present an 11-year-old fit and well male child, the right hand dominant who plays cricket to under 19, local state team, both batsman and keeper, and also plays badminton for the under 19 state team. He presented with severe pain in the right dominant elbow to casualty, sudden in onset, developed after a badminton tournament. Been having some constant pain before, seen by local orthopedic doctor and was diagnosed with elbow sprain and treated with pain medication with no improvement. He landed up in casualty with severe pain, unable to move elbow. Pain on the visual analog scale was 10/10, required analgesics and opioids for pain relief. Clinically, he was afebrile, but in agony, no obvious swelling or effusion of the elbow, mild warmth present. With painful restriction of any movements of elbow.

Given the severity of pain.

Complete workup was done to r/o septic joint including complete blood count, C-reactive protein, and

erythrocyte sedimentation rate which were all within normal limits, radiograph of the elbow showed increased sclerosis with the fragmentation of the trochlea, otherwise unremarkable (Fig. 1). Magnetic resonance imaging (MRI) scan confirmed increased fragmentation of trochlea (Fig. 2), with no other abnormalities. Provisional diagnosis of osteochondritis of trochlear epiphysis was made and was treated with rest and analgesia. The patient got readmitted again after few days with severe pain crisis; at this point, we immobilized him in above elbow back slab for 3 weeks following which he was completely normal. At 8 weeks, he was allowed to get back to the sport and in 3 months' time he played under 19 cricket match and won the player of the match award. Follow-up at 9 months was completely pain-free.

Discussion

Pain around the elbow is common condition in children, especially over the dominant elbow [3], especially in throwing athletes [11]. Children with pain should be evaluated thoroughly to r/o serious conditions like septic arthritis which need emergent treatment. There is handful of case reports on trochlear epiphyseal osteochondritis dissecans (OCD) [4,5,9,10]. Here, we go through the cause and natural history of trochlear OCD with current literature search and evidence. We did PubMed search (www.ncbi.nlm.nih.gov/pubmed) and used the following words for search, osteochondritis, and OCD trochlear epiphysis and found only four articles regarding the same [4,5,9,10]. OCD is an idiopathic condition affecting the articular epiphysis. Initially described in the knee, this entity affects several other parts of the body such as the talar dome, tarsal navicular, and femoral capital epiphysis [10]. OCD of the elbow is an uncommon cause of elbow pain in adolescents and occurs at different locations in the elbow

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joint [6]. OCD around the elbow is more common in the capitellum [1,5,6]. Occurs commonly around 10–14 years of age with male predominance on the dominant elbow [1], but overall knee OCD is more common compared to elbow [2,9,10] Patel et al., 2002 [5], described two patients (three elbow) with OCD trochlear epiphysis. One patient had open biopsy to rule out malignancy (which they found out was unnecessary retrospectively), both the patients were treated conservatively with complete resolution of symptoms. Clarke et al., [9] 1983, reported three patients with radiological features of fragmentation and increased density of the ossific nuclei, with mild symptoms which all subsided by 12–18 months with conservative management. Jan et al., 2012 [6], described the MRI features of OCD at initial imaging, and to correlate these findings with surgical findings of stability and instability with arthroscopic findings as the reference standard. Of the 27 elbows with OCD, capitellum in 24 patients (92%), in the trochlea in 2 patients (8%), and radial head in 1 patient (4%). Loose bodies were identified in 11

(42%) patients. 18 patients' demonstrated MRI findings in keeping with unstable lesions. In all 11 patients who had surgery, the surgical findings of instability correlated with the MRI findings. When combined, the MRI criteria were 100% sensitive for instability of OCD lesions of the elbow.

Conclusions

OCD of trochlear epiphysis is uncommon and high index of suspicion is required to diagnose it, as in our case patient can present with severe pain. A thorough systemic approach is required to rule out serious conditions like infection. Reassurance and pain management with brief period of immobilization will resolve the symptoms.

References

- Ovesen J, Olsen BS, Johannsen HV. The clinical outcomes of mosaicplasty in the treatment of osteochondritis dissecans of the distal humeral capitellum of young athletes. *J Shoulder Elbow Surg* 2011;20:813-8.
- Yonetani Y, Tanaka Y, Shiozaki Y, Kanamoto T, Kusano M, Tsujii A, et al. Transarticular drilling for stable juvenile osteochondritis dissecans of the medial femoral condyle. *Knee Surg Sports Traumatol Arthrosc* 2012;20:1528-32.
- Horiuchi T, Omokawa S, Fujitani S, et al. Bilateral osteochondritis dissecans involving the trochlea of the humerus: A case report. *J Jpn Elbow Soc* 2010;17:101-4.
- Marshall KW, Marshall DL, Busch MT, Williams JP. Osteochondral lesions of the humeral trochlea in the young athlete. *Skeletal Radiol* 2009;38:479-91.
- Patel N, Weiner SD. Osteochondritis dissecans involving the trochlea: Report of two patients (three elbows) and review of the literature. *J Pediatr Orthop* 2002;22:48-51.
- Jans LB, Ditchfield M, Anna G, Jaremko JL, Verstraete KL. MR imaging findings and MR criteria for instability in osteochondritis dissecans of the elbow in children. *Eur J Radiol* 2012;81:1306-10.
- Cain EL Jr, Dugas JR, Wolf RS, Andrews JR. Elbow injuries in throwing athletes: A current concepts review. *Am J Sports Med* 2003;31:621-35.
- Takahara M, Ogino T, Sasaki I, Kato H, Minami A, Kaneda K. Long term outcome of osteochondritis dissecans of the humeral capitellum. *Clin Orthop Relat Res* 1999;363:108-15.
- Clarke NM, Blakemore ME, Thompson AG. Osteochondritis of the trochlear epiphysis. *J Pediatr Orthop* 1983;3:601-4.
- Pruthi S, Parnell SE, Thapa MM. Pseudointercondylar notch sign: Manifestation of osteochondritis dissecans of the trochlea. *Pediatr Radiol* 2009;39:180-3.
- Miyake J, Kataoka T, Murase T, Yoshikawa H. In-vivo biomechanical analysis of osteochondritis dissecans of the humeral trochlea: A case report. *J Pediatr Orthop B* 2013;22:392-6.

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