ISSN 2321–7359
EISSN 2321–7367

Medical Science
An International Journal

Fracture of supracondylar process in a child – A rare case report and literature review

Dharmshaktu GS[1]*

Assistant Professor, Department of Orthopaedics, Government Medical College, Haldwani, Uttarakhand, 263139, India

*Corresponding author: Assistant Professor, Department of Orthopaedics, Government Medical College, Haldwani, Uttarakhand, 263139, India. E-mail: drganeshortho@gmail.com

Publication History
Received: 22 July 2016
Accepted: 27 August 2016
Published: 1 November 2016

Citation
Dharmshaktu GS. Fracture of supracondylar process in a child – A rare case report and literature review. *Medical Science*, 2016, 20(82), 197-200

Publication License
This work is licensed under a Creative Commons Attribution 4.0 International License.

General Note
Article is recommended to print in recycled paper.

ABSTRACT

Post traumatic pain over the elbow region commonly signifies fracture of distal humerus in children. Supracondylar fracture along with medial or lateral condyle fractures are common fractures in these settings. The presence of an anatomical structure in the distal humerus region called supracondylar process is an uncommon occurrence and when present may fracture following trauma. Very few reports describe presence of supracondylar process and clinical presentation of these with fracture is rare event. We describe

© 2016 Discovery Publication. All Rights Reserved

one such case of incidental diagnosis of supracondylar process with fracture following trauma. The case was managed conservatively with plaster slab for an uneventful and pain free follow up.

Keywords: Supracondylar Process, Fracture, Humerus, Ligament of Struthers, Congenital, Diagnosis.

1. INTRODUCTION

Supracondylar process is an uncommon anatomical structure present in certain individuals. The incidence of this anomaly in white population is reported as 1%. [1] In some other study it is described as 0.3 to 2.7% of the population.[2] The anomaly, reported in few case reports or small series, is well documented and requires cautious approach to diagnose.[3] The rarity of reported cases account for the poor understanding of etiology or genetic basis of the anomaly.

Figure 1

Radiograph of the elbow region anteroposterior view showing supracondylar process as a beaked structure over distal humerus.

Dharmshaktu GS,
Fracture of supracondylar process in a child – A rare case report and literature review,
Medical Science, 2016, 20(82), 197-200,
www.discoveryjournals.com

© 2016 Discovery Publication. All Rights Reserved

2. CASE REPORT

A 6 year old male child was brought to us with history of injury to his left elbow region following a slip during play five days back. There was mild pain but he resumed playing for a short while before coming home. He complained of pain but as the swelling was minimal, the parents did not consult any doctor considering it as minor injury. After five days of discomfort and recurrent pain they consulted us. There was mild swelling clinically and supracondylar ridges were palpable and non tender. Tenderness was noted over anterior aspect of elbow and some protuberance was felt on palpation. The distal neurovascular status was intact. There was no related or remote injury noted. The radiograph of the elbow showed a beaked bony protuberance over antero-medial aspect of distal humerus on anteroposterior and lateral views with lateral view showing a minimal displaced fracture of the growth (Fig.1). The growth was beaked with smooth outline and projecting toward elbow (Fig.2). The diagnosis of supracondylar process and its fracture was made on clinic-radiological basis. There was history of no associated problem related to the growth in the past and it appeared as an incidental finding.

3. RESULTS

The child was given a plaster back slab for three weeks as protection splint for control of pain and swelling. Prognosis regarding possibility of future neurovascular insult was explained to the patient and further treatment according to then condition. The child was compliant to treatment and there was marked reduction of pain and discomfort after the plaster removal when gentle physiotherapy was encouraged to a full range of motion gained within two weeks. After that the patient was lost to follow up.

Figure 2

Lateral elbow radiograph showing fracture of the process with minimal displacement (depicted by arrow).

4. DISCUSSION

It presents as a beak-like projection seen in radiograph in lower antero-medial humerus region. The process, base on its location and proximity to vital structures, can be reason for neurovascular sequlae.[3] Often this congenital anomaly comes to notice in the pretext of associated median nerve compression when it is termed supracondylar process syndrome.[4] Ligament of Struthers, acts as fibrous band that attaches the process to medial epicondyle and potential site for median nerve compression. Rarely, fracture of the

Dharmshaktu GS,
Fracture of supracondylar process in a child – A rare case report and literature review,
Medical Science, 2016, 20(82), 197-200,
www.discoveryjournals.com

© 2016 Discovery Publication. All Rights Reserved

process might result in pain, localized swelling with or without median nerve compression symptoms. Report of ulnar nerve involvement is also reported on rare occasion with this anomaly.[5] The differential diagnosis of an osteochondroma and myositis ossificans is ruled out on basis of clinical and radiological evaluation. Stress fracture has also been reported in one tennis player due to repetitive loading.[6] The osteochondroma like a solitary pedunculated variant may give similar appearance and may present with clinical quiescence. The one differentiating feature may be the direction of the projection that is usually away from adjacent joint in the case of osteochondroma and that in our case was not present. Besides it, the osteochondroma or exostosis has medullary connection with the parent bone and in our case there was sharp distinction between the growth and host cortex at their junction and did not appear to have any distinct medullary connection on radiograph. Myositis ossificans usually follows a history of local trauma and often accompanies with history of massage to the site. There was no such history in our case and the myositis has specific radiological features depending on the duration and severity. The smooth outline and connection of the growth with the bone were features against this diagnosis.

Our case had no clinical features of nerve involvement and the pain also was minimal. Association of median nerve neuropathy with fracture may warrant surgical decompression with excision of the process.[7] Painful fractures not amenable to conservative care may also be excised.[8] One report of associated Monteggia fracture with supracondylar process fracture has been described and thus Careful assessment of other fractures should be done for their appropriate management.[9]

DISCLOSURE STATEMENT

There is no special financial support for this research work from the funding agency.

REFERENCES

1. CP. Fractures of the supracondylar process of the humerus. J Bone Joint Surg A. 1936; 18 (3): 757 -759.
2. Ivins G. K., Fulton M. O. Supracondylar process syndrome: A case report. J. Hand Surg., 1996, 21-A, 279-281.
3. Spinner RJ, Lins RE, Jacobson SR, Nunley JA. Fractures of the supracondylar process of the humerus. J Hand Surg. 1994;19(6):1038-1041.
4. Opanova MI, Atkinson RE. Supracondylar process syndrome: case report and literature review. J Hand Surg Am. 2014;39(6):1130-5.
5. Casadei R, Ferraro A, Ferruzzi A, Innao V, Mercuri M. Supracondylar process of the humerus: four cases. Chir Organi Mov. 1990;75(3):265-77.
6. Pedret C, Balius R, Alomar X, Vilaró J, Ruiz-Cotorro A, Minoves M. Stress fracture of the supracondylar process of the humerus in a professional tennis player. Clin J Sport Med. 2015 ;25(1):e20-2.
7. Newman A. Supracondylar process and its fracture. Am J Roentgenology.1969;105:844-849.
8. Doane CP. Fractures of the supracondylar process of the humerus. J Bone Joint Surg Am, 1936 ; 18 (3): 757 -759 .
9. Kahn G, Rath E, Atar D. Fracture of the supracondylar process of the humerus associated with Monteggia fracture. Harefuah. 2002;141(10):877-8.

Dharmshaktu GS,
Fracture of supracondylar process in a child – A rare case report and literature review,
Medical Science, 2016, 20(82), 197-200,
www.discoveryjournals.com

© 2016 Discovery Publication. All Rights Reserved