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CONGENITAL HUMERORADIAL SYNOSTOSIS : A CASE REPORT

Orthopaedics

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ABSTRACT

Background : Congenital humeroradial synostosis can occurs as an isolated clinical entity or as a part of a syndrome. Approximately 150 cases of developmental synostosis around elbow have been reported worldwide .There are 29 reported cases of humeroradioulnar synstosis and 5 of humeroulnar synstosis. Congenital elbow synstosis often cause little functional disability. **Objective :** To report a rare case of non-syndromic ipsilateral humeroradial synostosis in a 2wk male child. **Case report :** A 2 week male infant presented with right elbow fixed at 80 degree flexion and mid-prone position without any other skeletal anomaly. **Conclusion:** Non-syndromic ipsilateral humeroradial synostosis in a 2wk male child presented with painless restricted elbow movement .

KEYWORDS

humerus, radius, humeroradial, synstosis,

INTRODUCTION

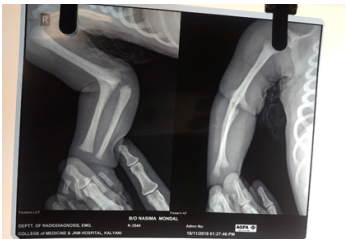
Congenital humeroradial synostosis can occurs as an isolated clinical entity or as a part of a syndrome. Developmental synostoses around elbow are classically classified depending on bony ankylosis into humeroradial, humeroradioulnar and humeroulnar types[1]. Approximately 150 cases of developmental synostosis around elbow have been reported worldwide .There are 29 reported cases of humeroradioulnar synstosis and 5 of humeroulnar synstosis. Etiological classification of synostsis around elbow is class I (bone hypoplasia) and class II (joint maldevelopment)[2]. The present case is unique in that there was no family or syndromic association and it is unilateral.

CASE PRESENTATION:

The patient was a 2 week male infant whose mother complained that there was no movement in right elbow compare to left elbow and child was keeping his right elbow in a fixed position since birth. He was second child of patents . Birth was a full term via cesarean section . There was no history of any maternal infection or exposure to teratogenic agents during pregnancy.

There was no family h/o of this condition in first degree relatives. Developmental milestones were normal to age. On clinical examination , right forearm fixed at 80 degree flexion in mid-prone position of elbow and there was no right forearm rotation . No movement was possible at right radio-ulnar joint. There was no other skeletal abnormalities. Clinical examination revealed no abnormalities of cardiovascular system , central nervous system , respiratory system, abdomen or genitalia. USG did not reveal any other abnormalities. Synostosis of right humeroradial joint was found in radiographic examination.

Clinical photo of Right side humeroradial synostosis



X-ray of same child : right side humeroradial synostosis.

DISCUSSION :

Humeroradial synostosis is due to the failure of longitudinal differentiation. Limb development is regulated by Hox genes[3]. The humerus, radius, ulna are contiguous with each other and joined by common perichondrium at 5 weeks of gestation. Any insult during this period of rapid limb development can result in congenital anomalies of upper limb[1].

Elbow synstosis often produces little functional disability[1] if the elbow is in functional position provided that humeroradial synostosis is the only anomaly4. According to various reports, the patients function well and surgery is seldom necessary[5,6] . There is a high recurrence rate of synostosis following surgical treatment[4,7].

In the present case, the patient was too young to consider any operative procedure, but as he grows older we foresee limitations with respect to certain activities like writing or feeding . Any operative procedure performed in the future should address this needs by bringing right elbow to a functional position so that it can repositioned to enable self-feeding .Our recommendation is one of careful observation of patient's function; if necessary an modified French osteotomy could be performed to obtain a more functional position of elbow at later period8.

CONCLUSION

Non-syndromic ipsilateral humeroradial synostosis is a rare congenital anamoly.

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