

A Rare Case Of Congenital Radioulnar Synostosis Excision And Soft Tissue Interposition

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INTRODUCTION:

Radioulnar synostosis is a bony connection between the radius and ulna, which causes restriction of the active and passive forearm supination and pronation movements, which can lead to significant functional disability in the patients. Radioulnar synostosis can be either congenital or post-traumatic type. Synostosis presents since birth called congenital variety and presents after trauma or surgery called post-traumatic variety. The management options include osteotomy and excision of the synostosis part, derotational osteotomy in low demand patients, and placement of fat, fascia, bone wax, silicone, polyethylene after resection to prevent the recurrence and early initiation of forearm rotation exercises.

REPORT:

12 years old school boy, right hand dominant, presented with difficulty in self-feeding since primary school with limited range of motion of right wrist/ forearm pronation and supination. Examination showed limited elbow range of motion 30° to 90°, pronation up to 20° and supination up to 20°.

X-ray of the right radius ulna with elbow and wrist was taken, and it revealed a bony bridge (synostosis) between proximal radius and ulna at the level of radial tuberosity, Type 3b according to Jupiter and Ring classification.

He was planned for excision of synostosis and soft tissue interposition.

The patient operated in supine position using tourniquet by anterior approach. Fascio cutaneous flap harvested for later use as soft tissue interposition. After identification radial nerve and cubital neurovascular bundle, they were protected and synostosis area reached. Then using osteotome synostosis was separated and removed. After completion of excision, bone wax and fascio adipose tissue were use for as interposition material to prevent recurrence and wound were closed in layers. Intra

operatively pronation we got up to 30° and supination until 70°.



Figure 1:



Figure 2:

Post-operative physiotherapy was started on the 2nd post operative day, including both active and passive supination, pronation of forearm and flexion, extension of the elbow.

At the 2 months follow up, patient able to pronation up to 30°, supination until 60° and full elbow flexion and extension. He also can feed himself as his finger able to reach the mouth. X-rays showed no evident of recurrence synostosis.

CONCLUSION:

Complete resection of the synostosis with early initiation of aggressive physiotherapy helps in getting good functional outcomes

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