Malunion with Synostosis of Right Radioulnar Secondary to Chronic Infection

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INTRODUCTION:

Radioulnar synostosis is defined as bony or fibrous fusion of the forearm bones that restrict pronation-supination. Post traumatic synostosis is rare in adults with an incidence rate between 0% to 9.4%. Besides trauma, it can be caused by congenital disease or treatment related such as prolonged trauma to surgery interval, open fracture and delayed rehabilitation.

REPORT:

A 33 year old right hand dominant gentlemen with no comorbid complained of decreased movement of forearm. He was involved in a motor vehicle accident and sustained an open right Galeazzi fracture which was treated with external fixator in 2022. 1 week later he developed pin site infection and subsequent external fixation was removed. He refused further surgical intervention and noticed restricted supination and pronation a few months later. Physical examination showed a sinus at the forearm and decreased range of supination-pronation, about 10 degrees. Radiographs showed radio-ulnar synostosis involving a distal third of the right radius. Synostosis was excised with rounger and a gel-form interposition was interposed between radius and ulna. Intra-operatively noted sinus communicating with the radius and sinusectomy was done. He was referred for aggressive physiotherapy post operative.

Figure 1: Pre-operative radiographs.

Figure 2: Intraoperative showing radioulnar synostosis.

DISCUSSION:

Excision of synostosis with interposition by biologic or foreign material is recommended to restore range of movement with removal of bridges and prevent recurrence. It is suggested to wait for at least 6 to 12 months for operation to avoid operating on metabolically active synostosis. Biologic material is preferable as they prevent scar formation better. Early postoperative mobilization is the key to improving range of motion. Additionally, usage of non-steroidal therapy, post-operative radiotherapy can be considered as adjuncts to decrease rate of recurrence.

CONCLUSION:

Radioulnar synostosis is a rare complication of forearm trauma. Surgical intervention is the standard of care and postoperative rehabilitation is fundamental to maintain post-operative range of movement.

REFERENCES:

1. Osterman AL. Optimal management of post-traumatic radioulnar synostosis. Orthop Res Rev.2017 Dec 5;9:101-106.