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Original Research Paper

Orthopaedic

FRACTURE NECK TALUS IN POST POLIO RESIDUAL PARALYSIS PATIENT-A CASE

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ABSTRACT The survivors of polio are still living with its consequences in different parts of the world. In post polio paralysis patient (PPRP) bones are deformed, small, osteoporotic and surrounded by contracted less vascular soft tissue. Fracture neck talus is rare reported case in literature. In this case fracture neck talus operated without delay with ateriomedial and anterolateral approach resulted in fracture union with satisfactory outcome like non polio patient.

KEYWORDS : Post-polio residual paralysis (PPRP), Fracture, Fixation.

INTRODUCTION:

Poliomyelitis is on the verge of eradication from most parts of the world [1]. In developing countries like India patients with post-polio residual paralysis (PPRP) are attending orthopedics clinics in routine practice. In India approximately 6.5 million patient with PPRP are living [1,2,3]. Falls and subsequent fractures are common in these patients, which are difficult to manage and cause considerable morbidity. A thorough clinical knowledge is essential to be known to all orthopedic surgeons who are involved in the management of such patients for treatment of such fractures as a considerable number present in emergency services. Poliomyelitis being primarily a disease of the motor system leads to flaccid asymmetric paralysis and muscle atrophy which reduces stability, mobility, alters the gait pattern and hence predisposes to falls[4].The exact prevalence of osteoporosis in polio patients is not known but it has been found that poliomyelitis is a risk factor for regional osteoporosis[4,5]. It is difficult to achieve pre-injury ambulatory status in these patients after fracture [6]. Long period of immobilization and non-weight bearing contribute to worse prognosis in post-polio patients with fractures [7]. In addition despite the best surgical efforts hardware failure and subsequent reoperation rate is high in these cases. The aim of the treatment of fractures in polio patients should be achieving early union, early mobilization and rehabilitation to prevent joint contractures and further muscle wasting. Fracture fixation in polio patients is a challenging job. The bones of the affected limb are often hypoplastic, deformed, osteoporotic, together with paralyzed and less vascularized muscle envelope [8].Incidence of fracture neck of talus in polio survivors is not much reported in literature. Unique problems here included are altered bony anatomy affecting reduction and conventional implant placement. The screw purchase in poliotic bones may be inadequate, decreasing the pull-out strength and hence predisposing to construct failure [7,8].

Case: 55 Years male adult, known case of post-polio residual paralysis (PPRP) right lower limb presented in emergency room with history of fall and complained of right hind foot pain, swelling and unable to bear weight. On examination right lower limb was weak as compare to left, right ankle was fix dorsiflexed as compare to left and tenderness in talus region appreciated. X-ray right ankle with foot AP and lateral view advised. Fracture neck Talus (Hawkin's type 2) was noticed. Patient operated on next day. Intra operative it was noticed due to fix ankle dorsiflexion and soft tissue contracture of affected foot, close reduction is not possible for percutaneous screw fixation. Anteromedial and anterolateral approach used to get prefect reduction which was difficult due to surrounding soft tissue contracture. Intraoperative it was noticed that talus is not of normal shape, small and osteoporotic in nature. Medial comminution was noticed. Open fracture reduction achieved and two 4 mm PTCS of appropriate size in retrograde and cross manner used to fix fracture. Postoperative wound healed well like other patient without delay. Fracture healed at 8 weeks. Patient returned to preinjury ambulatory state in 2 months. Delay in surgery would have resulted in difficult reduction, nonunion, (avascular necrosis) AVN of talus, ankle and subtalar arthritis, stiff foot-ankle complex and loss in previous ambulatory state. Bilateral approach made reduction easy and without further soft tissue injury due to minimally soft tissue stretch injury. Anteromedial approach helped in addressing bone comminution at fracture site. Bilateral approach helped in perfect implant placement.

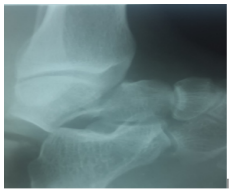

Fig No 1 Pre-op Xray

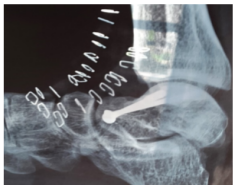

Fig No 2 Post-op Xray

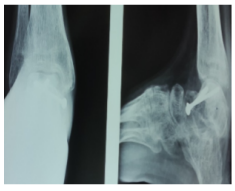

Fig No 3 2months Follow Up

Fig No 4 2 Months Follow Up

DISCUSSION:

Fracture neck talus in PPRP patient healed at same rate as in non-polio patient and was not associated with excess callus formation or heterotrophic bone formation. As fracture neck talus is fracture of necessity and in PPRP patient fracture neck talus is further associated with deformed shape of bone, osteoporosis and contracted surrounding soft tissue. So time of surgical intervention to fix fracture is of paramount important to prevent nonunion, avascular necrosis, soft tissue issues to gain preinjury ambulatory state in polio affected limb. In this PPRP patient with fracture neck talus we achieved satisfactory outcome because of early and appropriate surgical intervention and bilateral approach.

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