

Staged Restoration of Chronic Patella Alta with Ilzarov fixator and Tension Band Wire

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INTRODUCTION:

Chronic Patella alta is defined as a high riding patella with an injury more than 6 week that functionally impairs requiring surgical intervention.

CASE REPORT:

A 31 year old lady presented with chronic patella alta sustained from a fall 5 years ago. On physical examination, she had high riding patella and inability to extend the knee .X ray indicated a non union of inferior pole of patella avulsion fracture with patella alta and Insal-salvati ratio (ISR) of 2.6. Clinically patella was migrated proximally with full knee range of motion(ROM). The x ray indicated a patella alta with non union of inferior pole of the patella. MRI done confirmed intact patellar tendon . In view of severely contractured quadriceps with high riding patella, we opted to use an Ilzarov external fixator for gradual distraction to the anatomical position .In 6 weeks once the patella was in anatomical position with ISR of 1.07 ,we removed Ilzarov external fixator and proceed to fix the inferior pole patella with a tension band wire. The patient was allowed weight bearing over the knee. In 3 months she had improved LYSLM scores from 19 to 84 with an active range of motion of 0-90 degrees and a united inferior pole patella fracture.

DISCUSSION:

Chronic patella alta presents us with a challenge in which we have to manage (1)proximal migration of the patella (2)severe contracture and atrophy over the quadriceps tendon (3) non union of the inferior pole of patella .The gradual distraction of the patella to its anatomical position with ilzarov external fixation was effective as we were able to avoid injury to the atrophied quadriceps while lengthening. It

allows the ability to control the rate of distraction while restoring the patella to its anatomical position. Ilzarov distraction activate tissue growth by the law of tension stress and increases the vascularity surrounding the patella .In return we are able to fix the inferior pole patella without the need for biologics despite it being a non union. Drawbacks of this procedure (1) anterior knee pain (2) extensor lag (3)limited ROM



FIG 1 FIG 2 FIG 3

Figure 1: Pre-op

Figure 2: 6 weeks post distraction

Figure 3: 8 weeks post tension band wire

CONCLUSION:

We have demonstrated that staged procedure with restoring chronic patella alta has good outcome and would suggest it as a mode of management.

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