

Complication Of Upper Tibial Pin Traction In Fracture Shaft Femur: A Case Report

S Aggarwal, Z Singh, S Sangwan, R Mittal

Citation

S Aggarwal, Z Singh, S Sangwan, R Mittal. *Complication Of Upper Tibial Pin Traction In Fracture Shaft Femur: A Case Report*. The Internet Journal of Orthopedic Surgery. 2003 Volume 2 Number 1.

Abstract

INTRODUCTION

In third world countries it is not uncommon to manage the cases of shaft femur conservatively either due to lack of facilities and/or patients' apprehension for operative management. Linberger¹ has recommended proximal tibial pin traction for fractures of the shaft femur.

CASE REPORT

Thirteen-year-old male, 42.8 kg weight, sustained fracture shaft femur right side, was treated conservatively by local masseur by wooden splints, reported to us one month after injury with shortening of 3 cm. Osteoclasis was done (Fig 1). Patient was kept on traction for 10 days. Patient refused open reduction and internal fixation after attainment of the proper length of the lower limb through traction. Hence he was maintained on traction of 4.5 kgs. Patient landed in lengthening of 2 cm. On roentgenological examination there was consolidation at fracture site, but patient had epiphysiolysis of lower end (Fig 2).

Figure 1

Figure 1: X-ray Showing osteoclasis of malunited fracture.



Figure 2

Figure 2: X-ray showing the union of the fracture with distraction of the epiphysis.



DISCUSSION

Overgrowth after femoral fracture is common and may be due to the fracture being overpulled at the time of healing².

The phenomenon of overgrowth is controversial³. However the reported case shows epiphyseal distraction post-union of fracture, which should also be considered as the cause of lengthening. Therefore, distal femur is the location of choice for traction pin to avoid such complications.^{4,5} Moreover the serial roentgenograms of the injured lower limb should include the epiphysis; lest there is any distraction or subluxation. This seems to be more important as soon as the fracture is in the stage of soft callus. The traction should be reduced as soon as the desired length has been obtained. We have not quantified the results which need further evaluation. Growth arrest of proximal tibia and subsequent recurvatum deformity is associated with the use of upper tibial pin traction. Also, knee ligament and meniscal injuries associated with fracture shaft femur are aggravated because of chronic pull of traction across the knee.

References

1. Humberger FW, Eyring EJ. Proximal tibial 90-90 traction in treatment of children with femoral shaft fractures . J. Bone Joint Surg.1969; 51A: 499-504
2. Aitkin AP, Blackett CW, Gnolli JJ. Overgrowth of the femoral shaft following fracture in childhood. J. Bone Joint Surg.1939; 21: 334-338
3. Shapiro F. Fractures of the Femoral shaft in children: The overgrowth phenomenon. Acta Orthop Scand.1981; 52: 649-55
4. Aronson DD, Singer RM, Hingis RF. Skeletal traction for fractures of femoral shaft in children. J. Bone Joint Surg. 1987; 69A: 1435-1439
5. Ryan JR. 90-90 skeletal femoral traction for femoral shaft fractures in children. J. Trauma. 1981; 21: 46-48

Author Information

Soneet Aggarwal, M.S. Ortho

Registrar, Post Graduate Institute Of Medical Sciences Paraplegia And Physical Medicine Rehabilitation

Zile Singh, M.S., D.N.B.

Post Graduate Institute Of Medical Sciences Paraplegia And Physical Medicine Rehabilitation

S.S. Sangwan, M.S., D.N.B.

Post Graduate Institute Of Medical Sciences Paraplegia And Physical Medicine Rehabilitation

Rajeev Mittal, M.S.

Post Graduate Institute Of Medical Sciences Paraplegia And Physical Medicine Rehabilitation