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Case report

Malunion in displaced intracapsular fracture of femoral neck:
A rare caseNikhil Verma^{*}, M.P. Singh, Rehan Ul Haq, Aditya N. Aggarwal, Anuj Jain

Department of Orthopaedics, University College of Medical Sciences & GTB Hospital, New Delhi 110085, India

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ABSTRACT

Intracapsular fracture of femoral neck is treated by anatomical reduction (preferably closed) and cannulated cancellous lag screw fixation. Malunion of these fractures have been described in the coronal plane (coxa valga or coxa vara). We reported a case of young adult patient with displaced intracapsular fracture of femoral neck that had malunited in sagittal plane with callus formation with excellent functional outcome. The radiographs revealed intracapsular fracture of femoral neck right side (Garden type 4 and Pauwel type 3). The patient was operated and closed reduction and internal fixation with three cannulated cancellous screws was performed. The postoperative radiograph revealed a loss of reduction in the lateral view. Due to this technical error, the patient was counselled for revision fixation for which he refused. At 9 months we observed union of the fracture in the displaced position by callus formation. Harris hip score at 2 years was 96 that indicate excellent functional outcome and the radiographs did not reveal any evidence of avascular necrosis of femoral head. We advised revision surgery to our patient as he had increased chances of implant failure and nonunion. However he refused the revision surgery and was continued with the suboptimal reduction. However, the fracture united and that too with callus formation, which is not a described phenomenon in neck of femur fracture.

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1. Introduction

Intracapsular fracture of femoral neck is treated by anatomical reduction (preferably closed) and cannulated cancellous lag screw fixation. Nonunion and avascular necrosis (AVN) are the common complications associated with this fracture despite treatment.¹ Malunion of these fractures have been described in the coronal plane (coxa valga or coxa vara).² To the best of our knowledge, there is no report on sagittal plane malunion in intracapsular fracture of femoral neck. We reported a case of young adult patient with displaced intracapsular fracture of femoral neck that had malunited in sagittal plane with callus formation with excellent functional outcome.

2. Case report

A 27-year-old male presented to the emergency room following road traffic accident. On clinical examination, patient had tenderness in his right Scarpa's triangle with the right lower

limb lying in an attitude of external rotation. He was unable to perform active straight leg raising test on right side. After head injury and other life threatening conditions were ruled out, plain radiographs of the pelvis and cross table lateral view of the right hip joint were taken. The radiographs revealed intracapsular fracture of femoral neck on the right side (Garden type 4 and Pauwel type 3, Fig. 1). After 7 days of injury, the patient was operated and closed reduction and internal fixation with three cannulated cancellous screws was performed. The postoperative radiograph revealed a loss of reduction in the lateral view; however the cancellous screws were still in place (Fig. 2). Due to this technical error, the patient was counselled for revision fixation for which he refused. Patient was allowed toe touch walking with the help of two crutches till 6 months. At 9 months we observed union of the fracture in the displaced position by callus formation (Fig. 3). At two years follow-up patient had no pain on weight bearing and was able to do all the activities including squatting and sitting cross legged and had full active range of motion at the right hip joint (Fig. 4). Harris hip score at 2 years was 96 that indicate excellent functional outcome and the radiographs did not reveal any evidence of AVN of femoral head (Fig. 5).

^{*} Corresponding author. Tel.: +91 9871222215.

E-mail address: drnikhilucms@gmail.com (N. Verma).

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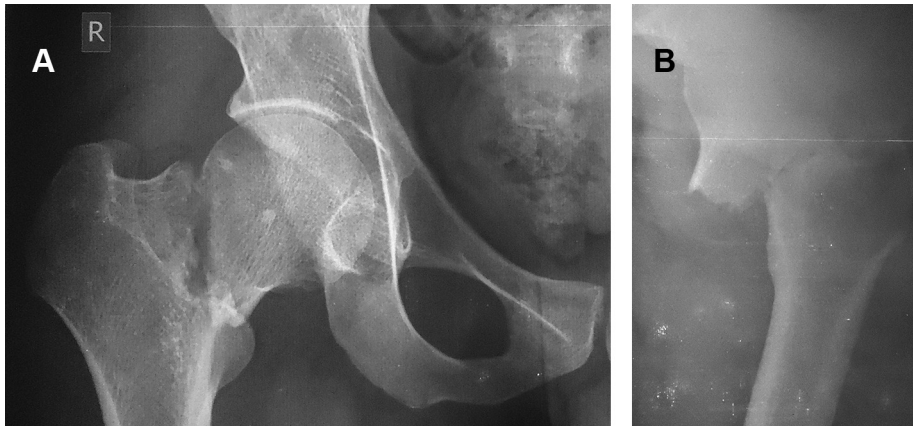


Fig. 1. Preoperative radiographs of right hip joint in anteroposterior (A) & lateral (B) views showing intracapsular fracture neck of femur (Garden type 4).

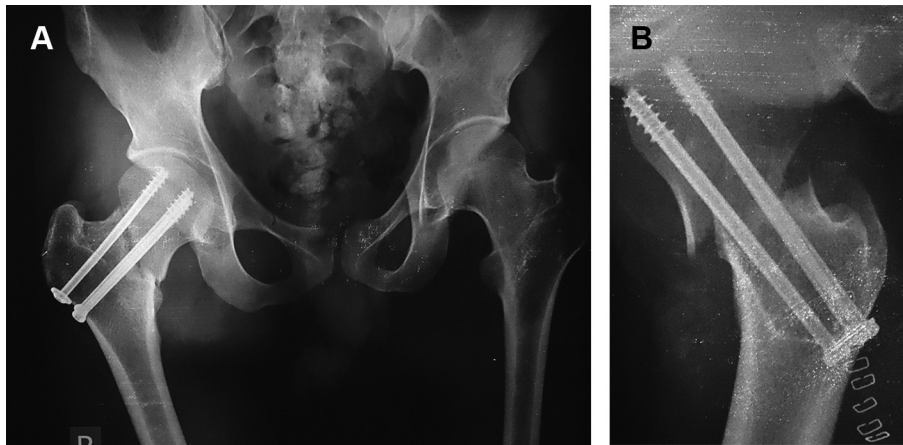


Fig. 2. Immediate postoperative radiographs of right hip joint in anteroposterior (A) & lateral (B) views showing loss of reduction with head fragment going into retroversion.

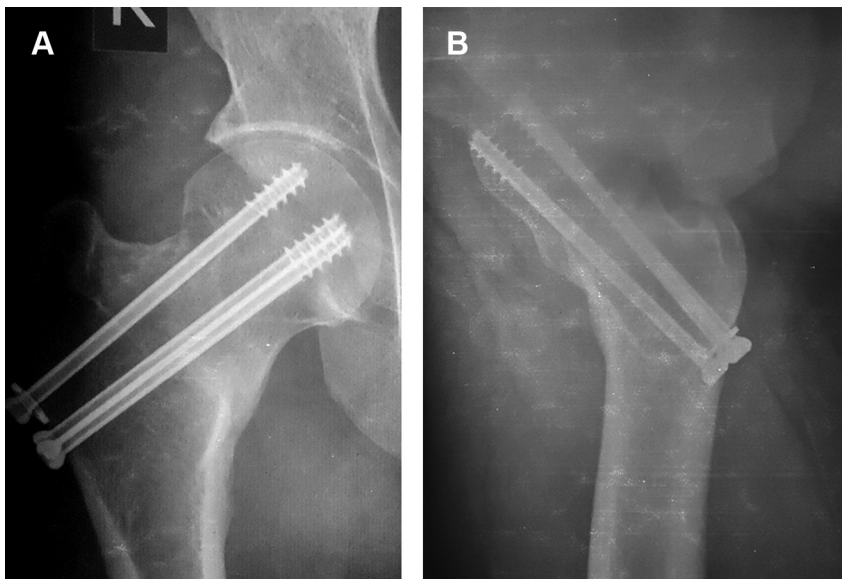


Fig. 3. Nine months follow-up radiographs of right hip joint in anteroposterior (A) & lateral (B) views showing callus formation.

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