

Anterior inferior iliac spine (AIIS) avulsions fracture with Anterior hip dislocation -A Surgical Approach

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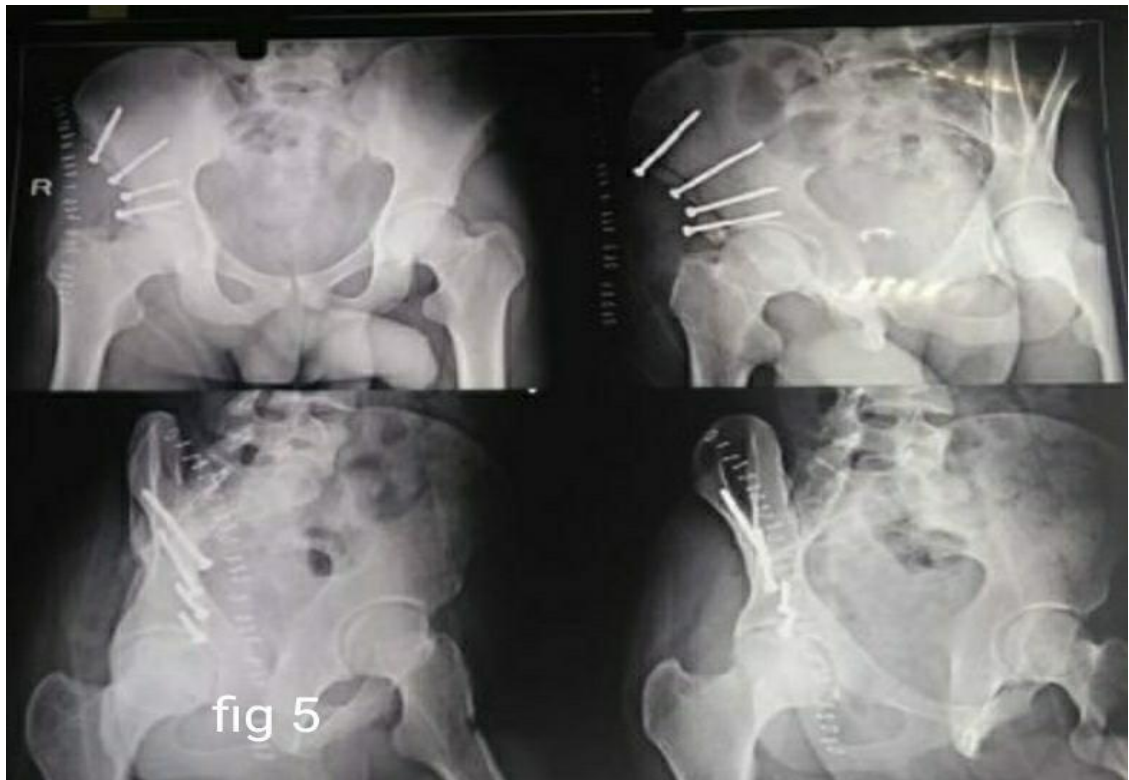
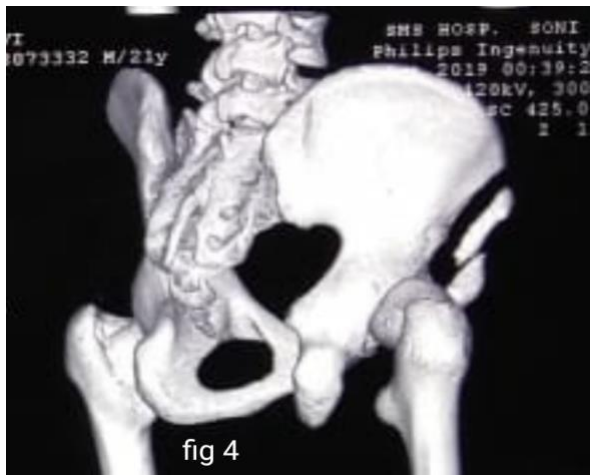
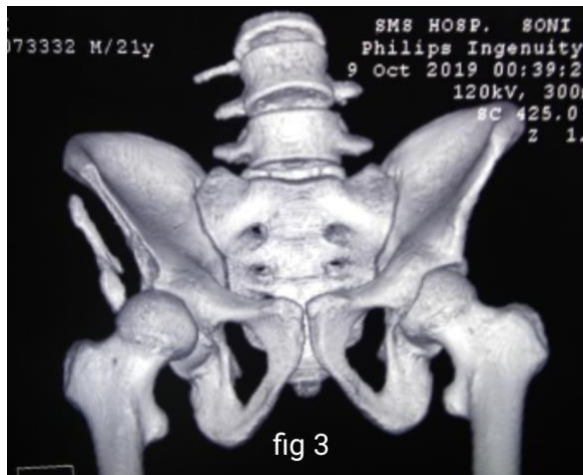
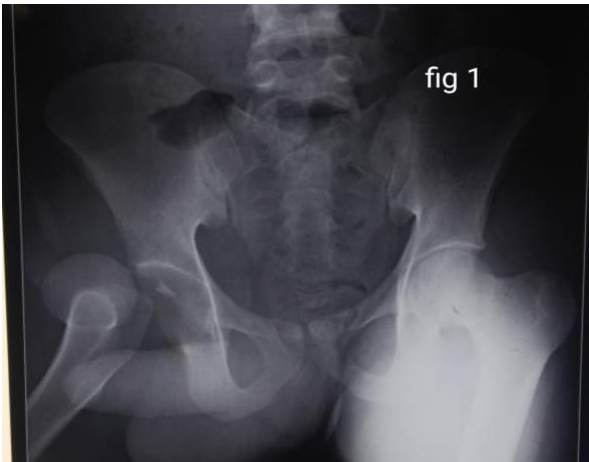
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I. Introduction

Hip dislocation is a high energy trauma .(1) Hip is stabilized by bony anatomy and arrangement of anatomical structure around it (capsule and labrum) and acetabulum socket also play an important role in stability. Dislocation are classified according to involvement of femur and acetabulum as simple or complex. Anatomically hip dislocation is classified as posterior(90%) ,anterior and central .(2,3) Isolated avulsion injury of pelvis ring is uncommon in adults .(4)Tile classified the avulsion injury of the pelvic ring into A1 (stable ring /not involving the ring) which in general managed conservatively . (5) But for dislocation of the hip with Tiles A1 type bony injury no specific guideline of management is present . We here reporting a case of anterior dislocation of the hip with anterior inferior iliac spine (AIIS) managed surgically .

II. Case Report

A 15-year-old man presented in emergency department on (8/10/2019) with rta .Patient was conscious oriented and vitals were stable at the time of presentation . With complain of rt side hip pain and swelling , on examination inspection short, externally rotated right leg . on palpation tenderness was present and edematous right hip joint , the distal pulses were bilaterally comparable . X ray was done and it shows an anterior dislocation of the right hip with bony fragments (Fig.1). The hip was reduced under mild sedation (Fig.2) then further x-ray and CT scan studies shows two small fragments of AIIS at the level of origin of head of rectus femoris . The acetabulum appeared intact in the weight- bearing area but a CT image showed a small fragment near lateral part of acetabulum (Fig.3,4).Surgical fixation of the lesion was done after complete hematological evaluation on 2nd day . Open reduction and internal fixation of the displaced fragments with 4mm cc screw and labrum and capsule tear was repaired with ethibond 5 under direct vision through an ilioinguinal approach. Post operative xray of the pelvis and b/l hip joint done showing good reduction(fig 5) . This type of finding may share an analogy with traumatic shoulder instability (bankart lesion) but limitation is sparsity of literature. Postoperatively the patient was advised for bed rest for 2 weeks with active range of motion was permitted. Toe touching were then permitted but without full weight bearing for 1 months . Appropriate antibiotics coverage peri and post operative period with Ceftriaxone 1000 mg bd for 2 days. No complications occur during subsequent follow-up. At the end of one year follow-up patient is able to do his regular activities and x-ray shows good bony healing with intact labrum and capsule.



III. Discussion

Avulsion fracture of pelvis comes under the Tiles A1 with relatively less severity in comparison to other group of fractures. The pelvis ring is relatively stable in this kind of injury and mostly managed conservatively with excellent result. AIIS avulsion injuries are associated with eccentric contraction of rectus femoris muscles in extended hip joint in athletic young males.(5,8). Dislocations of hip are serious injuries as hip joint itself is stable and considerable amount of force needed to dislocate it . The posterior hip dislocation is far more common than anterior (1) Anterior dislocation are usually caused by direct blow in abducted and externally rotated hip joint . Mostly younger males and sports personalities are affected . (6,7) Here the mechanism of injury may be a hyperextended hip resulting in AIIS avulsion and external rotation and abduction of hip joint which leads to anterior dislocation with associated labrum and capsule tear. In cases of hip dislocation the cause of persistent symptoms even after normal x-ray may be due to labrum or capsule lesions which in due course of time may give rise to osteoarthritis . Detailed study in this aspect is still pending and the establishment still to be done.

IV. Conclusion

There is no clear cut guideline regarding the management of hip dislocation with AIIS avulsion. In older days post reduction traction and non weight bearing was recommended .But in recent studies the early weight bearing doesn't affect the femoral head and hip joint in due course . In traumatic hip dislocation with capsule, labrum and bony avulsion injury proper radiological evaluation and individualization of treatment is recommended .

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