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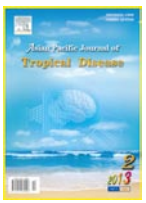

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Tuberculosis of greater trochanter presenting as avulsion fracture of greater trochanter-A case report

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PEER REVIEW

Peer reviewer

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Comments

A rare case report of tuberculosis of greater trochanter in elderly, radiological presentation as a avulsion fracture of greater trochanter.
(Details on Page 160)

ABSTRACT

Isolated tuberculosis of greater trochanteris unusual and clinical presentation is often vague. Isolated fracture of greater trochanter is also rare. We are reporting a case of tuberculosis of greater trochanter in adult female with radiological presentation in form of avulsion fracture of greater trochanter which has not be reported in literature till now to our knowledge.

KEYWORDS

Tuberculosis greater trochanter, Greater trochanter fracture

1. Introduction

Tuberculosis has been reported in almost all bones of body. Tuberculosis of greater trochanter is well establish but is comparatively rare site of involvement. Greater trochanter tuberculosis is about 2% of musculoskeletal tuberculosis[1]. The clinical presentation of tuberculosis of greater trochanter is often vague[2]. Isolated fracture of greater trochanter is also rare[3]. We are reporting a very rare presentation of tuberculosis greater trochanter as fracture of greater trochanter in an adult patient.

2. Case report

A sixty year old female presented with pain over the lateral aspect of the proximal thigh , swelling and difficulty in walking. There was history of fall two years back after which she had pain over trochanteric region. Patient had mild systemic features in the form of low grade fever and anorexia. There was a diffuse fluctuating swelling over the greater trochanter which was extending into the thigh. Hip joint movements were mild painful. A complete blood count showed white blood cells to be 10 300/μL with 74.3% lympho-mononuclear predominance, and 10.6 g/dL of hemoglobin. Erythrocyte sedimentation rate was 50 mm/h. On plain radiograph of left thigh with hip showed displaced fracture of the greater trochanter, without obvious local osteopenia there was no involvement of the hip joint (Figure 1). A plain thoracolumbar spine radiogram showed no destructive changes. Aspiration of swelling revealed pus, surgical exploration was done for drainage and to fix the

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displace fracture greater trochanter. Lateral incision based over the greater trochanter was taken around, two hundred millilitres of frank pus was drained on cutting the deep fascia. There was gross involvement of trochanteric bursa along with trochanter (Figure 2). Trochanteric fragment was found to be extremely friable and was not suitable for screw purchase. Major fragment along with gluteus medius muscle was sutured to proximal femur with non absorbable sutures. Histopathological examination revealed an inflammatory granuloma with caseous necrosis and giant Langherns cell confirming the diagnosis of tuberculosis (Figure 3). Post operative recovery was uneventful and postoperative radiograph revealed adequate reattachment of major fragment of greater trochanter to femur (Figure 4).

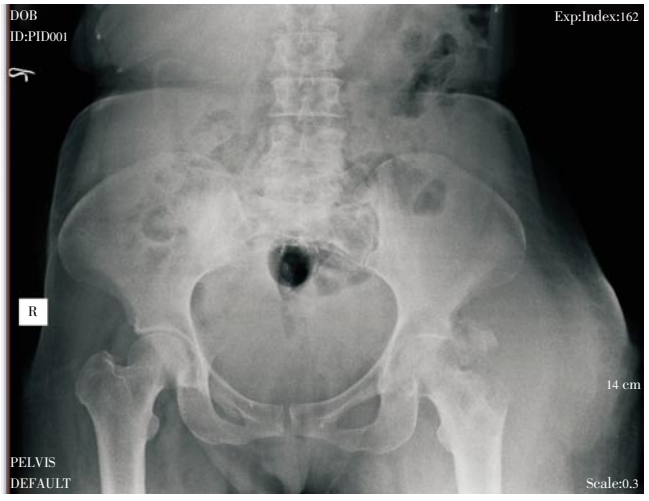

Figure 1. Plain radiograph of pelvis with both hip, showing avulsion fracture of greater trochanter with soft tissue swelling.

Figure 2. Intraoperative picture on exploration of swelling over greater trochanter, showing pus and cheesy material.

Following surgery, anti tuberculosis therapy was started with four anti tubercular drugs given per day with divided doses for two months, followed by combination of isoniazid and rifampicin up to 10 months. At the end of the therapy, clinical, laboratory, and radiographic examinations showed recovery. Patient was non weight bearing for the next six weeks. Her constitutional symptom gradually decreases. Patient has slight limp on walking there is no sign of recurrence till her recent follow-up at the end of two years.

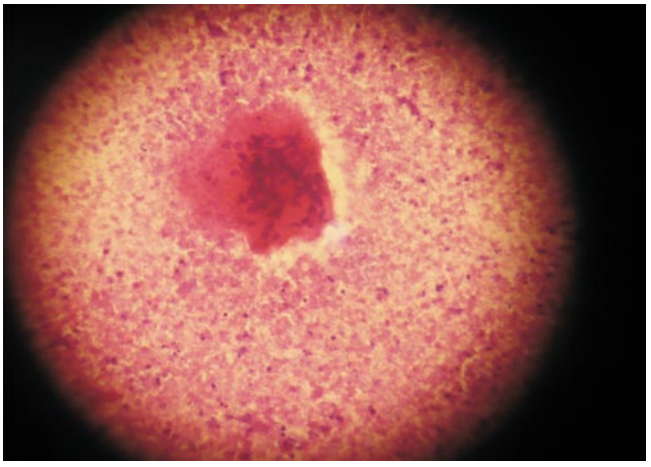

Figure 3. Histopathology slide seen under 10× magnification of biopsy material from greater trochanter, showing caseating material with giant cell suggestive of tuberculosis.

Figure 4. Postoperative radiograph after surgical exploration, showing fragmented greater trocanhter and major chunk attached to femur.

3. Discussion

Incidence of tuberculosis of greater trochanter have been reported 1.8%-2.3% of musculoskeletal tuberculosis[1,4,5]. Teale in 1870 first describe tuberculosis of greater trochanter. Clinical presentation is usually vague and usually there is delay in diagnosis.

There are many report of tuberculosis of greater trochanter with various presentations. Wassersug in 1940 described eighteen cases of tuberculosis of greater trochanter with incidence of 1.8%. pain in hip was the most common presentation in fourteen cases in rest four cases lump/swelling was mode of initial presentation[5].

Ahern in 1958 described thirty two patients; common presentation was pain swelling and sinus. Radiological presentation in these cases were in form of erosion, cavity and sequestrum of Greater trochanter[6]. Lynch 1982 reported clinical details of eight tuberculosis of greater trochanter in past six cases presented initially as a swelling and in one of them it was confused as Lipoma and in two cases sinus was presenting symptom[2]. Mc Neur and Pritchard in 1955 reported thirty eight patient and described either lesion in some cases was tuberculous bursitis swelling of short duration or, it was osteitis of such an extent that it must have been present much longer.

In radiograph the typical osseous lesion described was destruction, generalized rarefaction and sequestration, of greater trochanter[7].

In recent reports by Moushine E *et al*.[8], and Yüksel HY *et al*.[9], magnetic resonance image was done to see involvement of greater trochanter and its bursa We have not gone for magnetic resonance image and CT scan as on aspiration of swelling there was frank pus so immediate exploration was planned and on histopathological examination there was confirmation of tuberculosis.

There are no specific radiographic features that are pathognomonic of tuberculosis of bones or joints. Common findings that may arouse suspicion of joint involvement include osteopenia, soft-tissue swelling with minimum periosteal reaction, narrowing of the joint space, cysts in bone adjacent to a joint, enlargement of the epiphysis in children, and subchondral erosions involving both sides of the joint[10]. In most of tuberculosis of greater trochanter, radiological picture was in either in form of erosion, cavity, calcification. Till now, there is no case reported with radiological picture of avulsion fracture of greater trochanter.

As such isolated fracture of greater trochanter are rare injury[3,11], these fracture are seen as two distinct types which occur in two different groups. First type is epiphyseal separation which occurs in adolescent group and second is communited fracture of greater trochanter seen in adult[11]. In our case it was like avulsion of greater trochanter which is rare in that age group. Greater trochanter tuberculosis radiologically might present like avulsion fracture of greater trochanter in elder population.

Conflict of interest statement

We declare that we have no conflict of interest.

Comments

Background

Tuberculosis has been reported in almost all bones of body. Tuberculosis of greater trochanter is well establish but is comparatively rare site of involvement. Clinical presentation is usually vague and usually there is delay in diagnosis. Isolated fracture of greater trochanter is also rare.

Research frontiers

Greater trochanter tuberculosis present in various way such as lumb, pain swelling and sinus over hip, but presentation as avulsion fracture of greater trochanter is not reported till now.

Related reports

Lynch *et al*. 1982 reported clinical details of eight tuberculosis of greater trochanter in past Six cases presented initially as a swelling and in one of them it was confused as Lipoma and in two cases sinus was presenting symptom. McNeur & Pritchard in 1955 reported thirty eight patient and described either lesion in some cases was tuberculous bursitis swelling of short duration or, it was osteitis.

Peer review

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