Isolated Fracture of the Lesser Trochanter- An Indicator of Malignancy at Proximal Femoral Head: A Case Report

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Abstract

Isolated fracture of lesser trochanter is a rare type of fracture. It is noted occasionally by case reports and most of them are known as manifestation of malignancy at proximal femoral head. We report a case of isolated fracture of right lesser trochanter secondary to a nasopharyngeal cancer metastasis. A 58 years old male patient came to the emergency room because of an acute (R) hip pain and low back pain after having fallen down on the buttock. 1 year ago, he had a nasopharyngeal cancer and received a full radiotherapy. Physical examination revealed a decrease of ROM of (R) hip joint and a firm and painful (R) Scarpa’s triangle. Plain pelvic X-ray showed an isolated avulsion of (R) lesser trochanter. CT scan found an osteolysis at proximal femoral head. MRI showed a widely spreading metastasis at lumbar spine, pelvic ring and both of proximal femoral heads, with infiltration of soft tissue and numerous hypertrophic aortic ganglions. The biopsy of (R) proximal femoral head showed a non-differentiated carcinoma. Due to the financial condition, our patient refused further treatment and has been discharged. Isolated fracture of lesser trochanter in adults, traumatic or not, should be seen as a sign of malignancy until proven otherwise.

Keywords: Isolated fracture of lesser trochanter in adults; Pathognomonic sign

Abbreviations: MRI: Magnetic Resonance Imaging; ROM: Range of Motion; AP: Anteroposterior; ENT: Ear, Nose and Throat; (R): Right Hand Side

Introduction

Isolated lesser trochanter fracture is a rare type of fractures. Most of reported cases are found in athletic adolescent population [1-5]. The mechanism is usually indirect, due to repetitive contractions of the psoas muscle that lead to epiphyseal avulsion of the lesser trochanter. Isolated lesser trochanter avulsions in adults are even more seldom. They were presented in the English literature by case reports and most of them had malignant origine [6-12].

Case Report

A 58 years old male patient came to the emergency department of our hospital because of an acute (R) hip pain after having fallen on the buttock 2 days before. He felt an increasing hip pain overtime, which made him difficult to ambulate. On further history, he has been diagnosed with nasopharyngeal cancer and received full radiotherapy one year ago. ENT examination revealed no sign of nasopharyngeal tumor. Orthopedic examination found a remarkable decrease of (R) hip ROM in all directions due to pain. Palpation revealed a firm and painful (R) Scarpa’s triangle. We also noticed a dull pain at the lumbar sacral junction, with a mild contracture of the paravertebral muscles.

The patient was then indicated to have a plain pelvic X-ray. On the AP view pelvic X-ray, we found an isolated (R) lesser trochanter fracture (Figures 1a & 1b). On the CT scan, beside the fracture of the (R) lesser trochanter, we found osteolytic lesions at the (R) proximal femoral head, likely secondary to metastasis (Figure 2). MRI of the patient showed a wide spread of metastatic lesions at the pelvic ring and both of proximal femoral heads, with infiltration of soft tissue (Figure 3). The biopsy result was non-differentiated carcinoma. Due to financial reason, the patient refused further treatment and was discharged from the hospital.
Discussion

Isolated lesser trochanter fracture in adults is a rare type of fractures, occasionally reported in the English literature [6-12]. According to Rouvelain [12], until 2011, there were only 33 cases of this type of fractures and all of them came from malignant origine. 70% of those cases were secondary to metastasis and the 30% left were pathological fractures due to primary bone tumors.

i. Bertin [9] reported 4 cases of metastasis (thyroid, pancreas, prostate, unidentified origine).

ii. Phillips [7] reported 4 cases, 3 cases secondary to metastasis (colon, prostate, lung) and 1 case of non hogkin lymphoma.

iii. Afra [8] reported 4 cases of primary tumor (2 cases of chondrosarcoma, 1 Ewing sarcoma and 1 myeloma)
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Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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