

Scintigraphic detection of a metastatic bone disease of unknown etiology mimicking Tennis Elbow: A rare case report

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Abstract

We report a rare case of metastatic bone disease mimicking tennis elbow. Elbow pain was the presenting complaint in a middle aged female patient. A variety of diagnoses were entertained. No abnormality was identified on plain x- ray films, tomogram but an isotopic bone scan was helpful in isolating the lesion. The case report illustrates the utility of isotopic bone scan in undiagnosed patient of chronic lateral epicondylitis.

Key words: Tennis elbow, Bone metastasis, Epicondylitis, isotopic bone scan.

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Introduction:

Tumor of bone involving lower end of humerus is rare and occasionally picked up by physician, unless the patient has been already diagnosed as having either primary tumor or metastatic disease from known or unknown tumor¹. The most frequent origin of neoplastic involvement of humerus in a metastatic disease becomes more frequent over the age of 40 years. Solitary bone metastasis in the lower proximal part of humerus occurs in 20% of patients². The primary tumor of humerus are osteosarcoma, fibrous histiocytomas, chondrosarcomas can be misdiagnosed as metastatic lesion. The primary tumors to cause metastasis to bone

are those from lung, breast, prostate, kidneys, and thyroid^{3,4,5}. Pathologic fracture is reported to occur in only 10% of metastasis to the humerus^{5,6}. The result of lytic bone lesion is chronic disabling bone pain. The treatment of primary bone tumor and metastatic bone disease is different especially in cases of curable bone tumors. So need of early diagnosis and biopsy of lesion be taken prior to any decisive treatment. Tc-99m MDP whole body scan helps in differential diagnosis in patients of chronic persistent bone pain.

Case presentation:

In July 2011, a 40 year old female from south Kashmir presented to our department

of physical medicine and Rehabilitation at Sher-i-Kashmir Institute of Medical sciences soura a multispecialty hospital with recurrent episodes of right lateral epicondylitis for last six months in absence of trauma or unusual efforts. Physical examination revealed a marked soft tissue swelling in the lateral epicondyle area associated with pain on palpation and rest of examination was unremarkable. Laboratory work up revealed hemoglobin of 11gm/dl ,Leukocyte count 4.8/mm²,Platelet 268/mm³ ,EsR of 10mm 1st hr, Urea 30m /dl,creatinine 0.9mg/dl,Total protein 7.6,ALP 95, Ca 9.56mg/dl,Phos 3.8mg/ml.Rheumatiod factor negative, uric acid 5.4mg/dl,TSH2.31.Patient received non steroidal anti-inflammatory drugs and physiotherapy for six weeks with no improvement. In response to recurrent and increasing intensity of pain, impairing of flexion and extension of elbow joint further investigations were done which revealed, X-Ray elbow and chest were Normal, X-Ray Head revealing lytic lesion in occipital region of skull vault, USG abdomen normal.MRI of spine revealing collapse of D7 with destruction of left transverse process of D8 with paravetebral mass at D 8. CEA<1.5ng/ml, AFP 2.86ng/ml.CA125 < 15IU/ml, Calcium 19.9 &10.28 IU/ml.

Tomography of neck, lungs, abdomen were normal with destruction of D7 and D8.techneom 99m TCM DP of whole body revealed foci of increased tracer uptake seen in skull,lower end of right humerus,D7,D8,8th rib on right side,subtrochantric region of right femoral head. Mammography of both breasts was normal. CT guided Aspiration from thoracic D7-D8 paravetebral soft tissue revealed features of metastatic carcinoma suggestive of follicular carcinoma. PET CT done revealed intense FDG avidity in the liver and multiple FDG avid lytic skeletal lesions suggestive of wide spread metastasis.

A diagnosis of metastatic bone disease with unknown etiology was made and patient received Radiotherapy at local site followed by chemotherapy 6 cycles of paclitaxel with cisplatin and Zoledronic acid five doses and repeat PET scan done was compared with previsions scan revealed decrease in FDG avidity of liver lesion and skeletal lesions showing good response to treatment.

Discussion:

Tumors of elbow are uncommon. The differential diagnosis of elbow pain should always be considered in clinical practices. Lateral epicondylitis (tennis elbow) is one of frequent periarticular lesion and diagnosis is often predominantly based on history and

physical examination leads sometimes incorrect diagnosis and symptomatic treatment is often prescribed without defining the anatomical substratum of the pain⁷. Marcova and freiberger⁸ reported a series of four cases of osteoid osteoma of elbow that could not be diagnosed until surgery and biopsy were performed. A review of literature found eleven cases of osteoid osteoma at the elbow⁸⁻¹⁴. Improved investigation techniques, particularly bone scan and tomography have improved diagnostic accuracy. Tc-99mMDP whole body bone scan is cost effective and helps in narrowing down the differential diagnosis in such patients of chronic persistent bone pain mimicking tennis elbow. Bone scan is invaluable in selecting an appropriate site for bone biopsy. Serial isotopic bone scan can be useful follow up the patients for assessing the response to treatment and documenting progression or regression of disease. In young adults with unexplained elbow pain, primary tumors and metastatic bone diseases should be considered in the differential diagnosis of tennis elbow. Surgical excision of primary tumor and chemo radiation in secondary metastatic tumors is the treatment of choice in the management of disease.

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