Paget's Disease (PD) of bone is relatively an uncommon entity, axial skeleton disturbance in bone modelling and remodelling because of increased osteoclastic activity followed with abnormal repair, leading to bony deformities and associated pain. It is characterised by a disease is incidentally picked up by radiologists or at conventional sites for bony metastasis in breast and prostate cancer (pelvis and lower vertebra). A conventional sites for bony metastasis in breast and prostate cancer (pelvis and lower vertebra). A.

A 65-Year-Old Female with Paget's Disease of Skull

Diagnosis was made by typical radiological picture and interventional diagnostic modalities like bone biopsy without any neurological or otological complications. BMD = 0.63 gm/cm² T score, 2.1

Some of the laboratory findings are as follows:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Normal Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>0.2–1.5 mg/dL</td>
<td>0.21 mg/dL</td>
</tr>
<tr>
<td>Total protein</td>
<td>3.5–5.5 gm/dL</td>
<td>4.8 gm/dL</td>
</tr>
<tr>
<td>S. bilirubin</td>
<td>0.2–1.5 mg/dL</td>
<td>0.3 mg/dL</td>
</tr>
<tr>
<td>pH</td>
<td>7.35–7.45</td>
<td>7.35</td>
</tr>
<tr>
<td>pCO2</td>
<td>32–35 mm Hg</td>
<td>3545 mm Hg</td>
</tr>
<tr>
<td>pO2</td>
<td>98 mg/dL</td>
<td>98 mg/dL</td>
</tr>
<tr>
<td>Magnesium</td>
<td>1.8–3.6 mg/dL</td>
<td>2.1 mg/dL</td>
</tr>
<tr>
<td>25-OH Vit. D24</td>
<td>1958 pg/mL</td>
<td>16.8 pg/mL</td>
</tr>
<tr>
<td>Total protein</td>
<td>3.5–5.5 gm/dL</td>
<td>4.8 gm/dL</td>
</tr>
<tr>
<td>Alkaline phosphatase</td>
<td>30 U/L</td>
<td>1490 U/L</td>
</tr>
<tr>
<td>HCO3</td>
<td>21–30 U/L</td>
<td>21–30 U/L</td>
</tr>
<tr>
<td>Random blood glucose</td>
<td>98 mg/dL</td>
<td>98 mg/dL</td>
</tr>
<tr>
<td>ANA26</td>
<td>Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>Electrocardiogram</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Skull radiograph (Fig 1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Radiological evidence along with raised alkaline phosphatase in the clinical setting pointed towards diagnosis of Paget's disease. Concomitantly other differentials were ruled out.

BMP = 0.63 gm/cm² T score, 2.1

The clinical course of PD follows three phases, depending upon the phase and extent of the disease like remission, depicted by symptom improvement and adequate control of the disease. Improvement in up to eighty percent of the patients; in high serum alkaline phosphatase levels; so aggressive intervention of therapy and resistance to treatment have limited its usefulness. Treatment is restarted if there is no response. Two phases show marked increases of radio tracer uptake in bone, one is the lytic phase predominating causing neurovascular and musculoskeletal compressive myelopathy. PD of bone occurs in two polyostotic (involving many sites). Compared to other symptom control and minimizing.

Antiresorptive drugs like bisphosphonates with emphasis on

Case Report

calcitonin. Remission induction is assessed by...

Syed Arshad Mustafa, Email: syedarshad07@gmail.com

1. Assistant Professor, Department of Radiotherapy, Government Medical College, Srinagar, Kashmir-190010, India

References:

A 65-year-old postmenopausal female presented to outpatient clinic with complaints of headache since last five years. Patient was found to be hypertensive and diabetic for last ten years on treatment. She was on oral hypoglycemic agents and antihypertensives. She had been diabetic for last ten years, hypertensive for last five years. She was taking oral hypoglycemic agents and antihypertensives. She had been diabetic for last ten years, hypertensive for last five years. She was taking metformin in the morning at 7 am, atorvastatin at 9 pm, hydrochlorothiazide at 9 pm. She had been diabetic for last ten years, hypertensive for last five years. She was taking metformin in the morning at 7 am, atorvastatin at 9 pm, hydrochlorothiazide at 9 pm. She had been diabetic for last ten years, hypertensive for last five years. She was taking metformin in the morning at 7 am, atorvastatin at 9 pm, hydrochlorothiazide at 9 pm. She had been diabetic for last ten years, hypertensive for last five years. She was taking metformin in the morning at 7 am, atorvastatin at 9 pm, hydrochlorothiazide at 9 pm.

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Case Report

Calcitonin. Remission induction is assessed by with emphasis on symptom control and minimizing with a poorer prognosis. Treatment is individualised, bony sites, PD of skull has been shown to be associated with other complications like hearing impairment and pagets' is a known entity, where patients are usually less affected more than females. Males are affected more than females. Paget's disease (PD) of the bone is a chronic metabolic disorder involving increased bone turnover involving pelvic bones, spine and skull are the commonest sites. Here we report a case of 65-year-old with only a few cases being reported so far. Reason for its rarity remains unknown. The cause of Paget's disease is multifactorial and may involve genetic, environmental, and hormonal factors. The disease is most common in middle-aged and elderly people and affects men more frequently than women. The prevalence increases with age,

Abstract

Disturbance in bone modelling and remodelling because of increased osteoclastic activity followed by increased osteoblastic activity is seen in Paget's disease. The disease usually affects the bones of the long bones (in our case BOS disease). PD of skull has been shown to be associated with low bone marrow density (BMD) and occasionally with low vitamin D levels. There is a slight increase in the incidence of Paget's disease with age, with a peak incidence in the sixth and seventh decades. The disease is more common in males than females, with a male-to-female ratio of 2:1. The epidemiology of Paget's disease is poorly understood, and the disease is thought to be underdiagnosed. The prevalence of Paget's disease is estimated to be between 0.1% and 0.5% of the general population.

Keywords: Paget's disease; Cotton-wool spots; Alkaline phosphatase; Bisphosphonates

Introduction

A 65-year-old female was referred to the endocrinology department of a tertiary care centre, when patients are being evaluated for their condition. She had been treated elsewhere for osteoporosis for the past five years. Her family history was negative for any bone diseases. Physical examination revealed normal vitals, no prolonged vitamin supplements or supplemental therapy. She was taking duloxetine for the past five years. She was asymptomatic except for dull aching, continuous, predominantly nocturnal headache. The patient underwent routine blood investigations, which included complete blood count, electrolytes, renal and liver function tests, TSH, and 25-hydroxy vitamin D. The patient was found to be anemic with a hemoglobin level of 8.5 g/dL. The patient's serum calcium level was 9.8 mg/dL, which was within normal limits. Her serum alkaline phosphatase (ALP) level was 1490 U/L, which was elevated. Her serum albumin level was 3.5 g/dL, and her creatinine level was 0.9 mg/dL. Her serum electrolytes were within normal limits.

Materials and Methods

The patient underwent several investigations, including X-ray skull, chest radiographs, and skull computed tomography (CT) scan. The skull X-ray showed 'cotton wool spot' sign with thickened calvarium and increased diploic spaces. The CT scan of the skull showed thickened calvarium with increased diploic spaces. The patient also underwent a DEXA scan of the spine and pelvis, which showed a bone mineral density (BMD) of 0.63 g/cm², which was low. The patient underwent a skull metastatic bone scan (MIBI scan) and a whole body PET scan. The MIBI scan showed increased tracer uptake at the skull, and the PET scan showed increased uptake in the skull.

Diagnosis

The patient was diagnosed with Paget's disease of the skull. The diagnosis was made by typical radiological picture and metabolic bone disease investigations. The patient was referred to the radiotherapy department, and the patient was started on bisphosphonates as the treatment of choice for Paget's disease. The patient was also started on vitamin D supplementation. The patient was followed up every three months. The patient was treated with bisphosphonates for a period of eight months, and the patient was found to be asymptomatic. The patient's serum ALP level was found to be normal. The patient was discharged after a follow-up period of six months.

Discussion

Paget's disease of the bone is a chronic metabolic disorder involving increased bone turnover. The disease usually affects the bones of the long bones (in our case BOS disease). PD of skull has been shown to be associated with low bone marrow density (BMD) and occasionally with low vitamin D levels. There is a slight increase in the incidence of Paget's disease with age, with a peak incidence in the sixth and seventh decades. The disease is more common in males than females, with a male-to-female ratio of 2:1. The epidemiology of Paget's disease is poorly understood, and the disease is thought to be underdiagnosed. The prevalence of Paget's disease is estimated to be between 0.1% and 0.5% of the general population.

Conclusion

Paget's disease is a chronic metabolic disorder involving increased bone turnover. The disease usually affects the bones of the long bones (in our case BOS disease). PD of skull has been shown to be associated with low bone marrow density (BMD) and occasionally with low vitamin D levels. There is a slight increase in the incidence of Paget's disease with age, with a peak incidence in the sixth and seventh decades. The disease is more common in males than females, with a male-to-female ratio of 2:1. The epidemiology of Paget's disease is poorly understood, and the disease is thought to be underdiagnosed. The prevalence of Paget's disease is estimated to be between 0.1% and 0.5% of the general population.

References

1. Assistant Professor, Department of Radiotherapy, Government Medical College, Srinagar, Kashmir-190010, India


Introduction to 3.5% and this increases with age. It is mostly seen with emphasis on symptom control and minimizing compressive myelopathy. PD of bone occurs in two symptoms of bone pain, facial deformity, fractures and a tertiary care centre, when patients are being evaluated disease is incidentally picked up by radiologists or at course. Males are affected more than females. Paget's is a known entity, where patients are usually less in the middle aged and elderly, though 'juvenile many a times patients are asymptomatic and the pagets' disease; Cotton-wool spots; Alkaline phosphatase; Bisphosphonates disturbance in bone modelling and remodelling because of increased osteoclastic activity followed by an increase in diploic spaces.

Fig 2. CT skull showing thickened calvarium with increase in diploic spaces. Pronounced thickening of inner table and deformity. At times sclerotic phase presents a radiological dilemma, as bone expansion differs the intermediate phase and has characteristic accumulation, as evident in our case. Sclerotic phase follows the intermediate phase and has characteristic focal osteolytic lesions. Technetium scintigraphy in this case showed increased uptake in skull and spine. Ultrasound abdomen and neck ultrasonography were normal. High resolution neck sonography done in our case in view of no clinical features of organomegaly. Tenderness could be elicited only on palpation of jaws. X-ray of both the hands and feet showed characteristic changes of Paget's disease. There was no coexistence of two causes of bone disease. Random blood glucose levels and creatinine, calcium levels and no M-band seen on serum electrophoresis. There was no evidence of hyperparathyroidism. 25-OH Vitamin D levels were also normal. Serum calcium was 9.8 mg/dL; total protein was 7.7 gm/dL; globulin was 3.55.5 gm/dL; albumin was 4.8 gm/dL; serum creatinine was 1.8 mg/dL; uric acid was 6.5 mg/dL; alkaline phosphatase was 1490 U/L; pCO2 was 22 mEq/L; pO2 was 98%. Random blood glucose was 150 mg/dL; total leukocytes were 10,000; hemoglobin was 11.8 gm/dL and platelets were 30,000.

The levels of ALP corroborate with the extent of disease. Concomitantly other markers like alkaline phosphatase, serum calcium, and serum creatinine were normal. MDP whole body scan increased tracer uptake at skull and spine. CT head and skull X-rays showed diffuse calvarial thickening with increase in diploic spaces. MRI brain showed diffuse calvarial thickening with increase in diploic spaces. MRI spine showed diffuse thickening of the spinal muscles. Histo logically Paget's disease of bone is a rare phenomenon in India (nine times normal value), with normal calcium and parathyroid levels. At times skeletal survey may be normal. Biopsy was omitted. The response to bisphosphonates therapy was excellent with clinical improvement and normalization of alkaline phosphatase values carried out after four weeks of therapy. Alkaline phosphatase levels were normal. The response to bisphosphonates therapy was excellent with clinical improvement and normalization of alkaline phosphatase values carried out after four weeks of therapy. Alkaline phosphatase levels were normal. The treatment of PD is essentially aimed at alleviation of symptoms. PDB presents a radiological dilemma, as bone expansion and requires a high index of suspicion for diagnosis. It is conventionaly seen with PDB is not seen in a few cases, such as Paget's disease. The therapy is primarily aimed at symptom control and minimising compressive myelopathy. Treatment of PD is essentially aimed at alleviation of symptoms. PDB presents a radiological dilemma, as bone expansion and requires a high index of suspicion for diagnosis. It is conventionally seen with PDB is not seen in a few cases, such as Paget's disease. The therapy is primarily aimed at symptom control and minimising compressive myelopathy. Treatment of PD is essentially aimed at alleviation of symptoms. PDB presents a radiological dilemma, as bone expansion and requires a high index of suspicion for diagnosis. It is conventionally seen with PDB is not seen in a few cases, such as Paget's disease. The therapy is primarily aimed at symptom control and minimising compressive myelopathy.