

Osteolytic and osteoblastic lesions of the skull

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DESCRIPTION

We report a case of an 87-year-old woman who presented to the emergency room with pain in her left arm and hip radiating to the ipsilateral leg. She reported tingling sensations on her lower limbs, and mild weakness of the left arm and leg. Her family reported a period of alteration of consciousness. At admission, examination showed irregular pulse rate of 135 bpm and blood pressure 145/87 mm Hg. Systemic examination was positive for globally reduced breath sounds and

mild oedema on her ankles, but dry mouth and axilla and abnormal skin turgor. No focal deficits were found in neurological examination. ECG showed atrial fibrillation with controlled ventricular rate.

To rule out acute cerebrovascular disease or other lesions responsible for her symptoms a head CT scan was ordered. The only positive findings were osteolytic and osteoblastic lesions of the skull (figure 1A,B) that were reported to be characteristic of multiple myeloma.

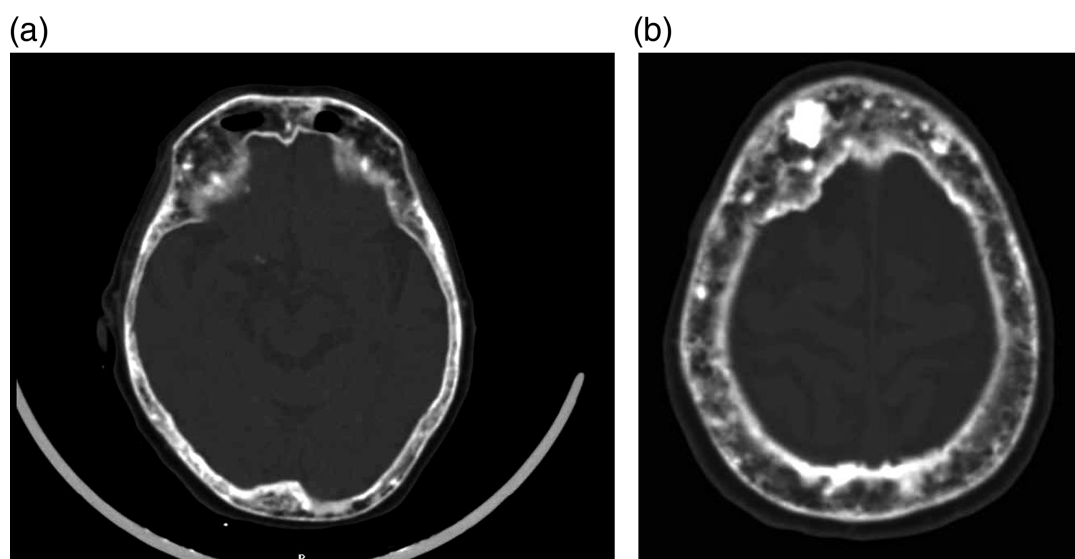


Figure 1 (A) Osteolytic and osteoblastic lesions. (B) Image showing several osteoblastic lesions with bone expansion and cortical thickening.

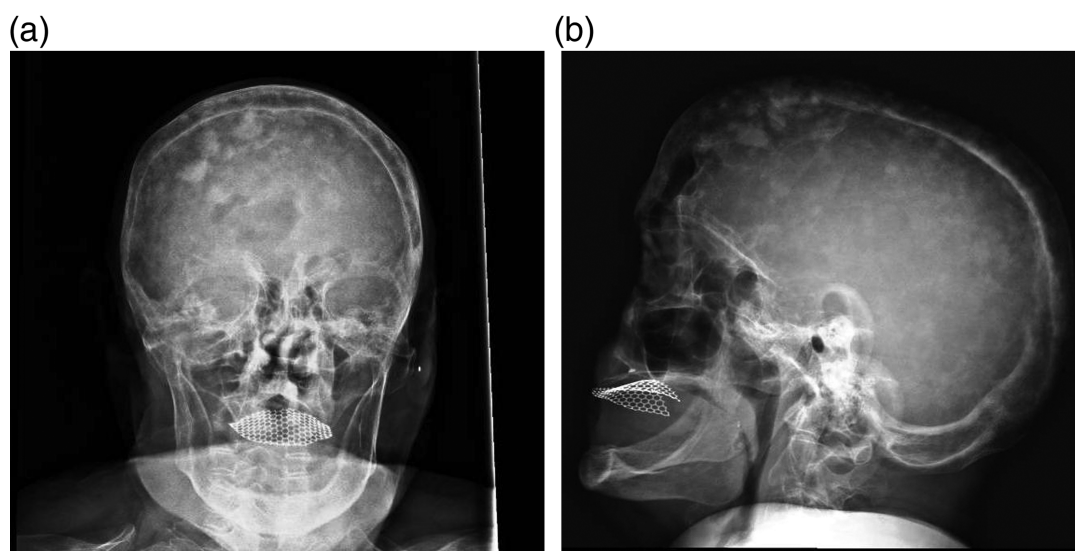


Figure 2 (A) The skull X-ray showing osteoblastic and osteolytic lesions resembling salt and pepper pattern. (B) Image showing lesions resembling 'salt & pepper'.



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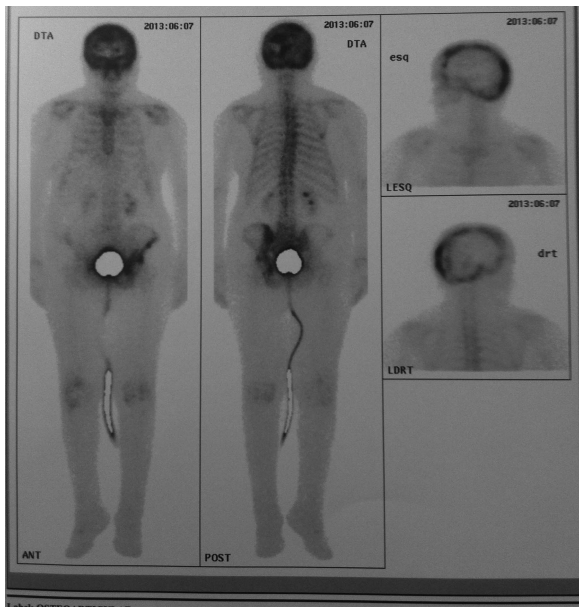


Figure 3 Bone scintigraphy showing characteristic uptake in remodelling bone lesions with osteolytic and disorganised osteoblastic activity in the skull and her left hip.

She was admitted for investigation. Her blood work showed haemoglobin 11 g/dL, erythrocyte sedimentation rate 105, normal renal function, alkaline phosphatase 179 U/L with normal liver enzymes and γ -glutamyltransferase, sodium 146 mEq/L, normal serum electrophoresis. B2-microglobulin 2.43 mg/L and Bence Jones proteinuria was negative. Albumin corrected calcium was 10.2 mg/dL (upper limit of normal). A full-body CT scan with contrast did not reveal any other lesions suggestive of primary or secondary tumour.¹ A bone marrow biopsy was innocent and long bone X-rays did not show any other lesions. The skull X-ray showed the characteristic cotton wool appearance² in early stages which may resemble 'salt & pepper' lesions (figure 2A,B). A bone

scintigraphy confirmed that it was not a case of plasma cell disorder but Paget's disease since it showed characteristic uptake in remodelling bone lesions with osteolytic and disorganised osteoblastic activity² in the skull and her left hip (figure 3).

There were no other periods of alteration of consciousness or neurological symptoms during the time she was admitted. The authors attribute these initial symptoms to transient hypercalcaemia in the setting of dehydration.

After she was stable she was offered first line treatment with bisphosphonates¹⁻³ with great improvement of pain and without calcium imbalance.

Learning points

- ▶ Paget's disease may be an incidental finding on radiographic examination.¹⁻³
- ▶ Differential diagnosis includes osteosclerotic metastases and multiple myeloma.¹
- ▶ Bone scintigraphy is extremely useful in diagnosing and the definition of extension of Pagetic disease.^{2 3}

Contributors All the authors actively contributed to the diagnosis and the treatment of the patient. All authors agree with the article submission.

Competing interests None.

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