

Think beyond metastases!! Fibrous dysplasia of mandibular head masquerading metastatic deposit from Prostatic Carcinoma

Faisal Naeem, Aamna Hassan

Department :Nuclear Medicine, Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore.

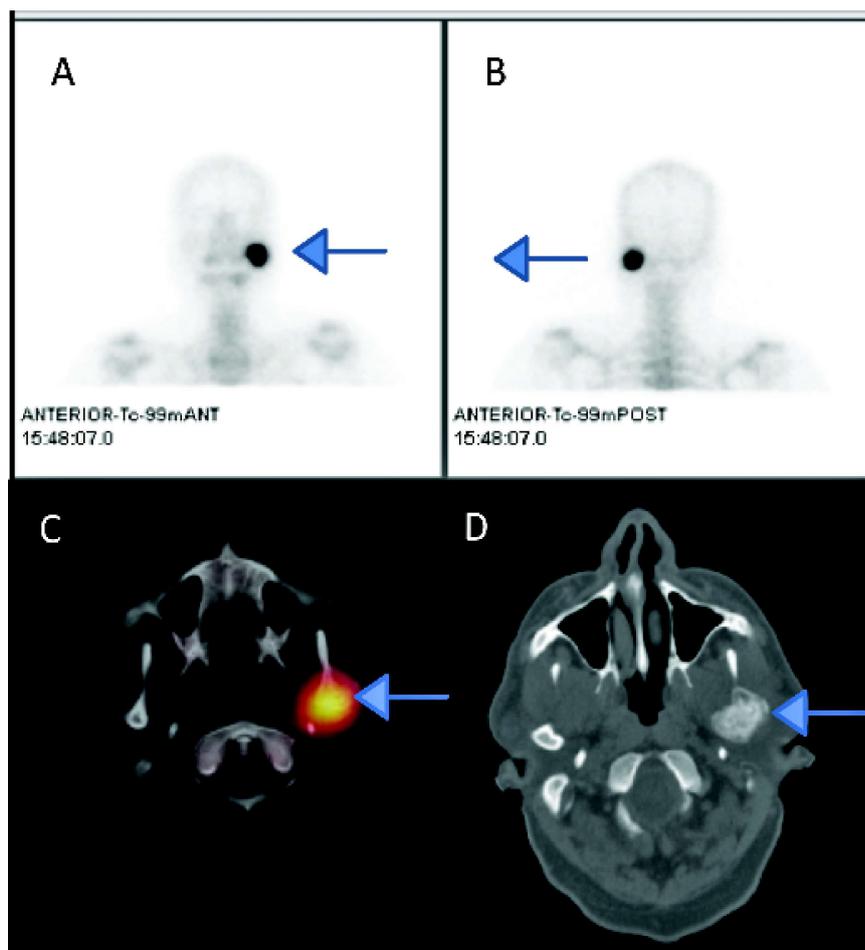
Correspondence: Aamna Hassan. e-mail: aamnah@skm.org.pk

Abstract

Fibrous dysplasia (FD) is a rare non-malignant fibro-osseous bone disorder characterised by replacement of normal bone by immature fibro-osseous tissue. FD shows significantly increased ^{99m}Tc -methylene diphosphonate (^{99m}Tc -MDP) uptake on whole-body bone scintigraphy (WBS), which may imitate bone metastases or skeletal involvement in patients with known cancer.¹⁻³ Patients are usually asymptomatic and detected incidentally on imaging studies performed for other purposes. Craniofacial FD typically presents at around 10 years of age and then progresses throughout adolescence.⁴ The disease was initially thought to become inactive after childhood but subsequent reports have proven this to be untrue.⁵ The clinical presentation depends on the site, duration, extent and nature of the lesion. It may range from a mild local swelling with little or no pain to a gross deformity with complications such as proptosis, visual disturbance and sensorineural hearing loss.⁶ We present a case of incidentally detected craniofacial FD.

A 50 year old male presented with urinary frequency since 1 year, on and off burning micturition, and occasional lower abdominal pain. Transurethral sonography guided biopsy was performed and revealed adenocarcinoma prostate. Bone SPECT-CT scan was performed after the intravenous injection of 784 MBq ^{99m}Tc MDP. Planar images (A) and (B) demonstrated increased focal uptake in the region of the temporomandibular joint on the left side (blue arrow) and on SPECT-CT hybrid imaging (C) localized this uptake to the condylar head of the mandible on the left side. (blue arrow) CT imaging (D) characterized the area of uptake as a well-marginated expansile sclerotic lesion with intramedullary ground glass haze.

FD is a benign disease that has the potential to cause significant cosmetic and functional disturbance, especially visual impairment depending on the site of involvement. The main types of fibrous dysplasia include:



- o Monostotic fibrous dysplasia - Affects a single bone and accounts for 70 to 80% of cases. It occurs in the ribs (28%), proximal femur (23%), and craniofacial bones (10-25%)
- o Polyostotic fibrous dysplasia - Two or more bones affected by FD are accounting for 20-30% of cases. In 2-3% cases of polyostotic FD; McCune Albright Syndrome develops which is characterised by skin pigmentation changes and hormonal disturbances.

FD has a fairly characteristic appearance on SPECT/CT. It should be enrolled in the differential diagnoses especially when solitary lesions show elevated ^{99m}Tc-MDP uptake on WBS image. On SPECT/CT image, the CT features of ground glass haze and expansion in the areas of abnormal radiotracer uptake are helpful for the diagnosis of FD.

References

1. Nakahara T, Fujii H, Hashimoto J, Kubo A. Use of bone SPECT in the evaluation of fibrous dysplasia of the skull. *Clin Nucl Med.* 2004;29:554-559.
2. Rambalde E, Parra A, Santapau A, Tardin L, Freile E, Banzo J. SPECT/CT with (99m)Tc-MDP in a patient with monostotic fibrous dysplasia of the rib. *Rev Esp Med Nucl Imagen Mol.* 2013;32:126-127.
3. Tuncel M, Kiratli PO, Gedikoglu G. SPECT-CT imaging of polyostotic fibrous dysplasia. *Rev Esp Med Nucl Imagen Mol.* 2012;31:47-48.
4. Chen YR, Kao CC. Craniofacial Tumors and Fibrous Dysplasia. In: Achauer BM, Eriksson E, Guyuron B, Coleman JJ III, Russell RC, Vander Kolk CA, eds. *Plastic Surgery: Indications, Operations, and Outcomes, Vol 2: Craniomaxillofacial, Cleft, and Pediatric Surgery.* St Louis: Mosby, 2000 pp:729-39.
5. Leeds N, Seaman WB. Fibrous dysplasia of the skull and its differential diagnosis. A clinical and roentgenographic study of 46 cases. *Radiology* 1962;78:570-82.
6. Morrissey DD, Talbot JM, Schleuning AJ 2nd. Fibrous dysplasia of the temporal bone: reversal of sensorineural hearing loss after decompression of the internal auditory canal. *Laryngoscope* 1997;107:1336-40.