

Banana-like Appearance of Rib Fibrous Dysplasia in Bone Scintigraphy and Single-Photon Emission Computed Tomography (SPECT)

Abstract

The patient, a 37-year-old male, initially presented with per rectal bleed. Colonoscopy revealed a circumferential lesion within the lower rectum, along with a few satellite lesions. At that time, we performed a biopsy, but the histopathological examination revealed consistent solitary rectal ulcer syndrome. Subsequent bone scan revealed increased radiotracer uptake at the left 6th rib, resulting in a “banana-like appearance” and a ground glass appearance on the corresponding single-photon emission computed tomography (SPECT), in keeping with fibrous dysplasia. Given his asymptomatic state, the patient received reassurance and surveillance regarding his benign bone lesion.

Keywords: *Banana-like appearance in bone scintigraphy, rib fibrous dysplasia, single-photon emission computed tomography*

Discussion

Fibrous dysplasia is a spectrum of disease; it can also appear as sclerotic and cystic, such as a uniformly dense sclerotic pattern is seen in two-thirds of temporal bone involvement cases. The cystic type is characterized by ovoid lucency surrounded by dense bone cortex.^[1-3] In plain radiographs, the differential diagnosis that has a similar appearance to fibrous dysplasia includes aneurysmal bone cyst, simple bone cyst, or giant cell tumor.^[4,5] The presence of cortical disruption associated with soft tissue mass/lesion should raise the possibility of malignant transformation of the fibrous dysplasia. Bone scintigraphy usually exhibits a marked increase in activity of the bone involved in fibrous dysplasia in early perfusion imaging as well as delayed scans.^[4]

Although the appearance of fibrous dysplasia in bone scintigraphy is nonspecific, there are some characteristics in bone scintigraphy that will help us to differentiate between this benign bone lesion and metastatic bone disease. In this case, bone scintigraphy and single photon emission computed tomography (SPECT) demonstrate homogenous increased tracer uptake in left anterior giving rise to

banana like appearance of rib [Figures 1 and 2].

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

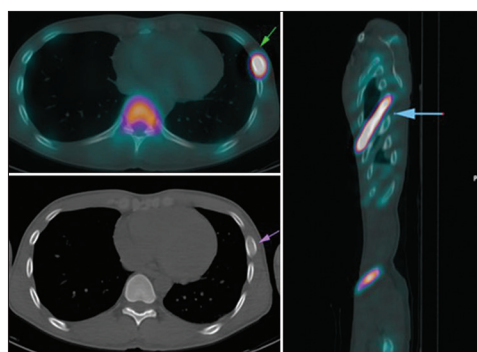


Figure 1: Fused single-photon emission computed tomography (SPECT) images axial and sagittal mid-thoracic level show homogeneous increased tracer uptake at left anterior 6th rib with corresponding to expansile bone lesion with ground glass appearance in CT (arrow) – banana-like appearance of rib fibrous dysplasia

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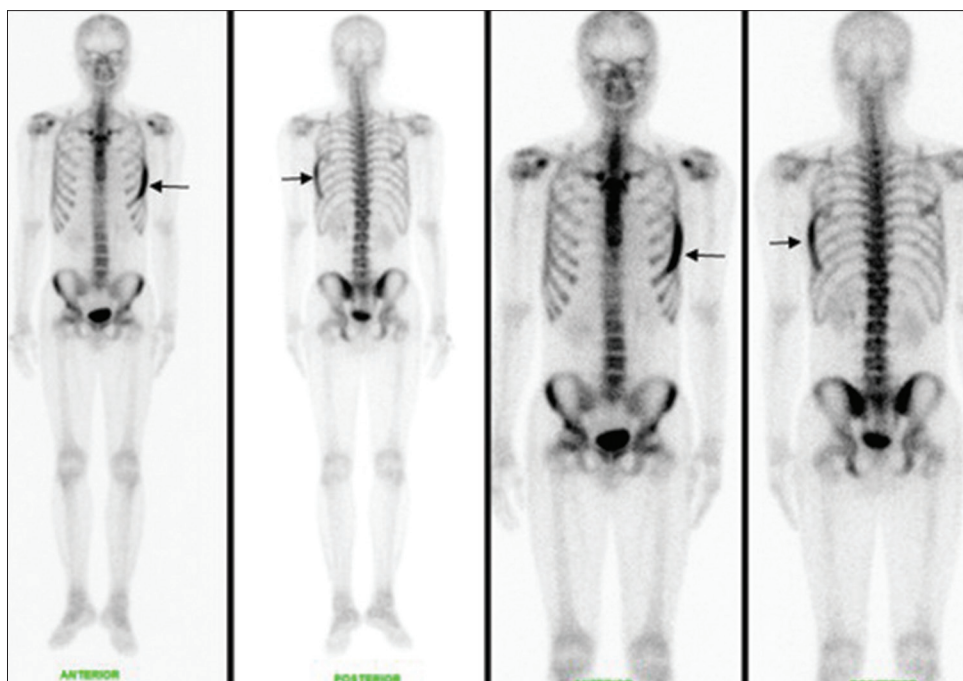


Figure 2: Bone scintigraphy in anterior and posterior views showing diffuse homogeneous tracer uptake at left anterior 6th rib – banana-like appearance of rib fibrous dysplasia as show with arrow in above images (arrow). Arrow : Left anterior 6th rib

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Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Amol J, Saurav M, Krutik P, Shaikh A, Shopnil P. Fibrous dysplasia: A case series of five cases. *Int J Adv Med* 2016;1068-73.
2. Konchada S, Mishra D, Sinha VK, Pradhan P, Salunke AA. Banana patella, fibrous dysplasia of patella: A rare case report. *J Clin Orthop Trauma* 2019;10:418-21.
3. Qu N, Yao W, Cui X, Zhang H. Malignant transformation in monostotic fibrous dysplasia: Clinical features, imaging features, outcomes in 10 patients, and review. *Medicine (Baltimore)* 2015;94:e369.
4. Kushchayeva YS, Kushchayev SV, Glushko TY, Tella SH, Teytelboym OM, Collins MT, *et al.* Fibrous dysplasia for radiologists: Beyond ground glass bone matrix. *Insights Imaging* 2018;9:1035-56.
5. Mallina S, Philip R, Chong AW, Gurdeep S. Fibrous dysplasia of the temporal bone. *Med J Malaysia* 2007;62.