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Case Report
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Extensive Polyostotic Fibrous Dysplasia Associated with DTC Evaluated With ^{99m}tc-MDP and ^{131}I Whole Body Scan

Liu Xiao, Hong Mei Zhu and Lin Li*

Department of Nuclear Medicine, West China Hospital of Sichuan University, China

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***Corresponding author:** Lin Li, Department of Nuclear Medicine, West China Hospital of Sichuan University, No. 37 Guo Xue Alley, Chengdu 610041, Sichuan, China

Abstract

Polyostotic fibrous dysplasia associated with differentiated thyroid carcinoma was not common. We should avoid misdiagnosis as bone metastases. We reported a case about low thyroglobulin after thyroidectomy associated fibrous dysplasia.

Case Report

A 45-year-old female patients with differentiated thyroid carcinoma (DTC) was admitted to our hospital for 131I treatment. By medical examination, we found that the patient walked with a limb. The thyroglobulin level at that time was 1.51 ug/L and TSH: 30.45mU/L. In order to exclude bone metastases, 99mTc-MDP whole body scan was performed (Figure 1). The result showed that sphenoid bone, multiple ribs, limb bone (including humerus, tibia, fibula, femur) had intense uptake (A: anterior view, B: posterior view). The digital X ray (DR) and computed tomography (CT) found that multiple ground-glass opacity and expansion in limb bone, which indicated polyostotic fibrous dysplasia (C-F). Four days after administration of 131I(100mCi), the therapeutic whole-body scan showed remnant thyroid tissue and bone lesions had no 131I uptake (A: anterior view, B: posterior view).

Figure 1: A 45-year-old female patients with differentiated thyroid carcinoma.

To the best of our knowledge, this is the first report about co-existing polyostotic fibrous dysplasia and DTC. The mechanism is not clear (Figure 2). In this patient, we should avoid misdiagnosis as bone metastases. Though the thyroglobulin level was very low, it is reported that low thyroglobulin in DTC patients can occur distant metastasis [1,2]. However, the DR and CT showed that typical fibrous dysplasia appearance(ground-glass opacity and expansion) and intense uptake on bone scan appeared in a bar shape and involved the whole bone, which supported polyostotic fibrous dysplasia rather than bone metastases [3]. In the end, the therapeutic whole-body scan also excluded the bone metastases.

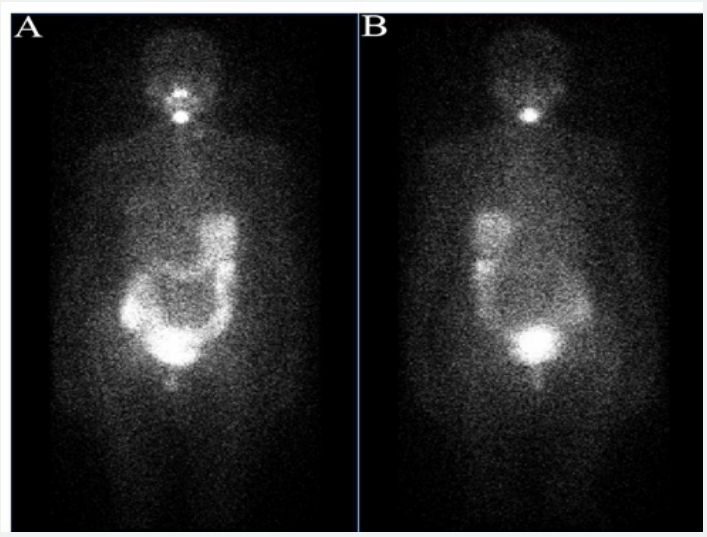

Figure 2: Therapeutic whole-body scan showed remnant thyroid tissue and bone lesions had no 131I uptake (A: anterior view, B: posterior view).

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