

MISMATCH OF F-18 FLUORODEOXYGLUCOSE (FDG) POSITRON EMISSION TOMOGRAPHY (PET) AND TC-99M PERTECHNETATE THYROID SCAN IN SUBACUTE THYROIDITIS

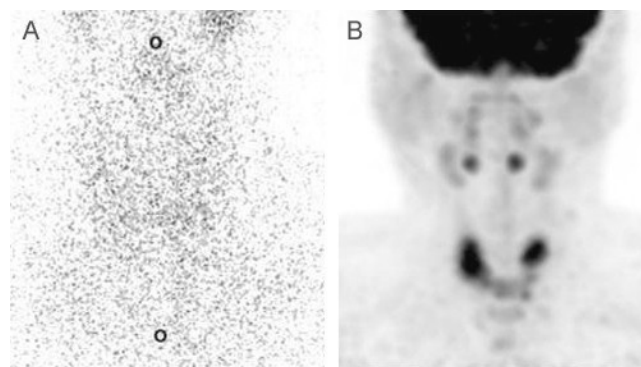
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The diagnosis of subacute thyroiditis (de Quervain's thyroiditis) is usually obvious when typical clinical features such as neck pain and exquisitely tender thyroid gland at palpation are present. In atypical cases, fever may be the prominent inaugural symptom (1).

A 39-year-old man first presented with low-grade fever (max. 38°C) of 3-week duration, associated with mild sore throat of recent onset. Clinical examination, including ENT exploration, was unremarkable. The only laboratory abnormality was an elevated serum CRP at 8.4 mg/dl (normal value [NV] < 1.0 mg/dl). A thyroiditis was considered without excluding other diagnostic possibilities, so that a Tc-99m pertechnetate thyroid scintigraphy (Figure A) and a F-18 FDG PET (Figure B) were both performed. On F-18 FDG PET, an intense, diffuse and slightly heterogeneous thyroid uptake

was demonstrated, contrasting with an absence of visualization of the thyroid on Tc-99m pertechnetate scintigraphy, a finding in keeping with the diagnosis of subacute thyroiditis. A few days later, the patient presented with intense anterior cervical pain radiating to the jaws and ears, associated with a tender and enlarged thyroid gland at palpation. Pertinent laboratory data were: CRP 10.4 mg/dl, serum TSH 0.07 μ U/ml (NV: 0.2-3.5), serum free T4 2.8 ng/dl (NV: 0.9-1.8), serum free T3 7.6 pg/ml (NV: 2.1-4.3) and serum thyroglobulin 125 ng/ml (NV: < 40). There were no antithyroid antibodies. After corticosteroid treatment, fever and neck pain rapidly disappeared but the hyperthyroid phase lasted for 2 weeks without subsequent evolution



Absence of visualization of the thyroid gland on Tc-99m pertechnetate scintigraphy (Panel A), contrasting with an intense, diffuse and slightly heterogeneous thyroid uptake of F-18 fluorodeoxyglucose (Panel B).

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to hypothyroidism. Repeat Tc-99m pertechnetate scintigraphy after 4 months showed a normal tracer uptake.

Interestingly, such a mismatch has recently been reported in a patient with a euthyroid multinodular goiter (2). Our observation illustrates the additional potential contribution of opposite imaging results between F-18 FDG PET and Tc-99m pertechnetate in subacute thyroiditis, and also confirms the value of F-18 FDG PET in the work-up of fever of unknown origin (3).

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