

Tc-99m Ethambutol Scintigraphy with Single-Photon Emission Computed Tomography in Diagnosis of Tubercular Iliopsoas Abscess

Abstract

Very few imaging techniques can demonstrate the presence of *Mycobacterium tuberculosis in vivo*. Technetium-99m Ethambutol scintigraphy is one of them, although literature on the utility of this technique is scarce. We describe a patient with iliopsoas abscess showing increased uptake on Tc-99 m ethambutol scintigraphy which was later confirmed to be tubercular by the microbiological analysis of pus.

Keywords: 99mTc-ethambutol, iliopsoas abscess, single-photon emission computed tomography, tuberculosis

A 43-year-old male, a known case of chronic myeloid leukemia, on treatment since 2003, presented 2 years ago with severe pain in the right lower abdomen associated with difficulty in walking. He was given analgesics initially with moderate control; however, the pain worsened. A musculoskeletal ultrasound revealed the presence of pus in the iliopsoas muscle. MRI revealed a 30 mm × 32 mm × 12 mm iliopsoas abscess with chronic osteomyelitis of the right iliac bone. Tc-99m ethambutol scintigraphy revealed a band of increased uptake in the right lower abdomen, pelvis, and upper thigh on the planar image (a, blue arrow), with physiological uptake seen in the gall bladder (a, red arrow). Transaxial (b and c) and coronal (d and e) computed tomography (CT) and single-photon emission CT (SPECT)/CT images revealed an abscess with heterogeneous increased tracer uptake in the right iliopsoas (findings depicted by arrows). [Figure 1] Ultrasound-guided extraction of pus revealed Gene-Xpert positive for

Mycobacterium tuberculosis sensitive to rifampicin. The patient was started on anti-tubercular therapy for 2 years. Repeat magnetic resonance imaging revealed no abnormal enhancement, marrow edema, or soft-tissue abscess formation. Following this the patient stopped his anti-tubercular therapy (ATT) and is asymptomatic for the past 6 months. Tubercular iliopsoas abscess is an infrequent manifestation of extrapulmonary tuberculosis.^[1] Tc-99m Ethambutol scintigraphy is a sensitive and specific noninvasive tool for detecting tubercular lesions in pulmonary and extrapulmonary disease.^[2-5] The favorable property of its retention by the tubercular lesions can be harnessed for various indications such as multicentricity of lesions, response to therapy, and giving an approachable site to the clinician for biopsy.^[2] With this imaging, the authors want to demonstrate a rarely used potentially specific agent for tuberculous infection imaging which can be produced in-house and provides rapid results.

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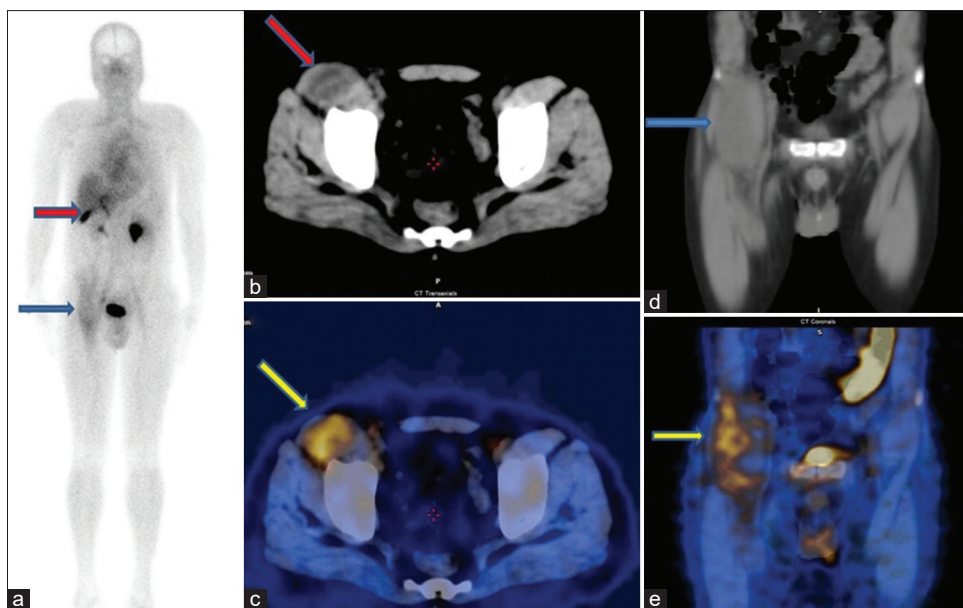


Figure 1: The whole body planar [a] image of Tc 99m ethambutol scintigraphy revealed a band of increased uptake in the right lower abdomen, pelvis, and upper thigh (blue arrow) and physiological uptake in the gall bladder (red arrow). Axial and coronal CT and fused SPECT/CT images [b-e] show an abscess with heterogeneous increased tracer uptake in the right iliopsoas (arrows) respectively

Declaration of patient consent

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

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Conflicts of interest

There are no conflicts of interest.

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