

## Extraskeletal Tc-99m MDP uptake Accumulation in a calcified Uterine Leiomyoma: A benign mimic on Bone scan

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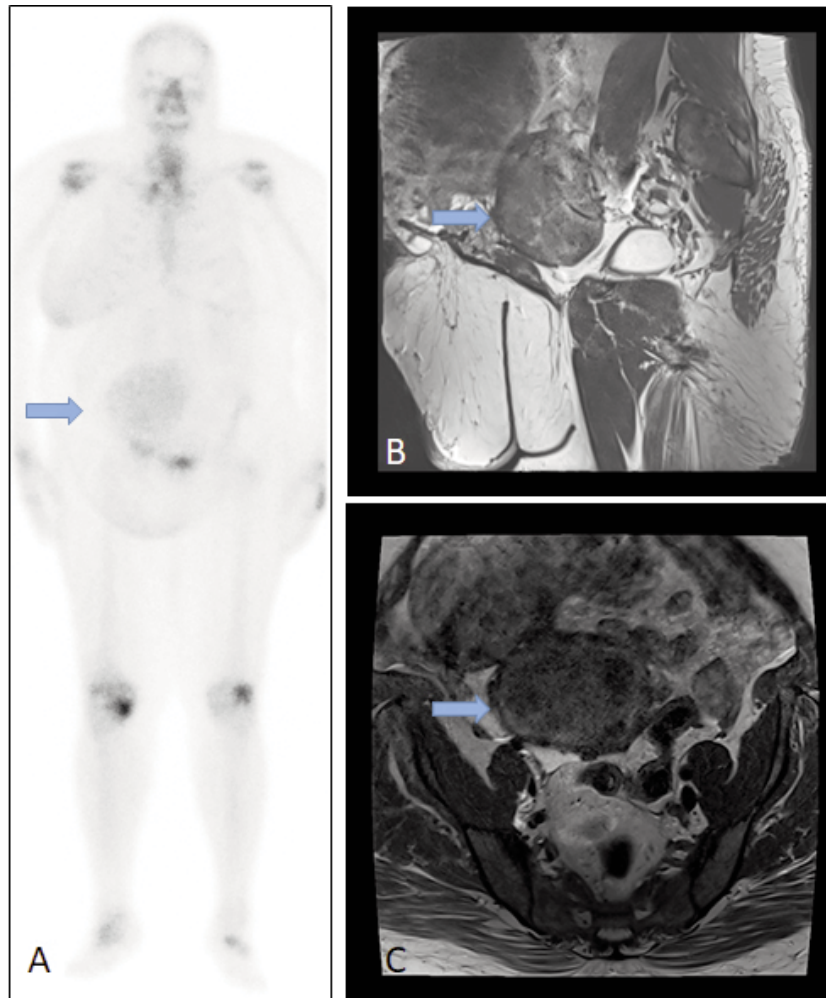
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### Abstract

Bone scintigraphy is primarily used for the assessment of osseous structures, soft tissue uptake of Tc-99m Methylene deoxy- phosphonate (MDP) is unusual in normal circumstances and may lead to unsuspected diagnosis. We present a case highlighting the importance of studying the soft tissues to assess for findings other than osseous on bone scintigraphy in a patient with prior history of breast carcinoma.

**Keywords:** Breast cancer, calcified uterine fibroid, Tc-99m MDP bone scan

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**Figure:** A show planar bone scan which demonstrates increased MDP uptake in right iliac region, Figure B and C shows MRI images which shows large heterogeneous cystic mass that is separable from uterus, likely subserosal fibroid.

### Case Discussion

A 58-year-old female with history of breast adenocarcinoma was referred for bone scintigraphy to assess for skeletal metastases. Three hours after the administration of Tc-99m MDP intravenously, a whole body scan was performed which showed no osteoblastic lesion. Mildly increased uptake was seen in the pelvic region. Correlative Magnetic resonance imaging (MRI) revealed a large calcified fibroid – a benign lesion (Figure 1).

On Tc-99m MDP labelled bone scan, extra osseous uptake is sometimes seen which can be misinterpreted as metastases.<sup>1</sup> Increased soft tissue radiotracer uptake may be seen in both malignant and benign tumours<sup>2</sup> and can be explained by several causes, micro and macrocalcification of tissues being one of them.<sup>3</sup> Calcified uterine fibroid can demonstrate increased radiotracer accumulation. Proper interpretation requires comprehensive approach involving correlation with patient history. MDP uptake in soft tissues may give false positive or negative findings due to overlap with bony structures on planar structures. Detailed medical history and correlative imaging studies like CT, SPECT-CT, MRI help decrease chances of misinterpretation and can also provide

crucial information for diagnosing underlying condition. In addition, extra skeletal activity on bone scans can have various causes; technical problems such as inadequate preparation and pathologies not related to bone.<sup>4</sup>

Approximately 0.6% of bones scans show soft tissue tumour uptake outside the bone, most commonly in liver, lungs and breasts.<sup>1</sup> Uterine leiomyomas are very common in females and these benign lesions can be investigated further via radiographic imaging. Calcified tissue form due to tissue injury and inflammation.

## References

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