Tc-99m MIBI & Tl-201 scan in evaluation of various bone and soft tissue masses

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The aim of this study was to investigate Tc-99m MIBI uptake & Tl-201 uptake in bone and soft tissue masses.

In 27 paitents(mean age:25 years, 3-77), the scan was done with gamma camera at 30 min and 3 hours after Tl-201(74-111MBq) injection. And then Tc-99m MIBI scan was done in 24 patients. All patients were diagnosed by pathologic findings.

We evaluated masses with visual and quantitative analysis.

12 patienets had malignant bone and soft tissue pathologies, while 15 patients had benign .

The sensitivity and specificity of Tl-201 and Tc-99m MIBI scan was 100%, 80%, 100% and 83% by visual analysis. Tl-201 and Tc-MIBI scan detected lesions eqaully.

Tl-201 uptake index*, RI** and Tc-MIBI uptake index of true positive malignant tumor were 4.47±4.84, 0.32±0.21 and 3.53±2.10. Tl-201 index, RI(retension index) and Tc-MIBI index of true positive benign lesions were 1.07±0.24, 0.03±0.14 and 1.13±0.29. There was no significant difference between Tl-201 index and Tc-99m MIBI index in true positive groups.

As a conclusion, Tl-201 and Tc-99m MIBI scan was useful to diffenentiate between benign and malignant lesions. But there arn't any significant differences between Tl-201 and TC-99m MIBI uptake in the bone and soft masses.

* Uptake index: The average counts/pixel of the lesion over the counts/pixel of the contralateral area.

** RI=retension index: Delayed UI over early UI