

ROLE OF TC-99M MIBI SPECT/CT IN PRE-SURGICAL LOCALIZATION OF PATHOLOGICAL PARATHYROID GLANDS



O. Bourogianni, N.Kapsoritakis, A.Tsaroucha, M. Stathaki, E.Papadaki, S.Koukouraki
 Department of Nuclear Medicine, University Hospital of Crete

Introduction

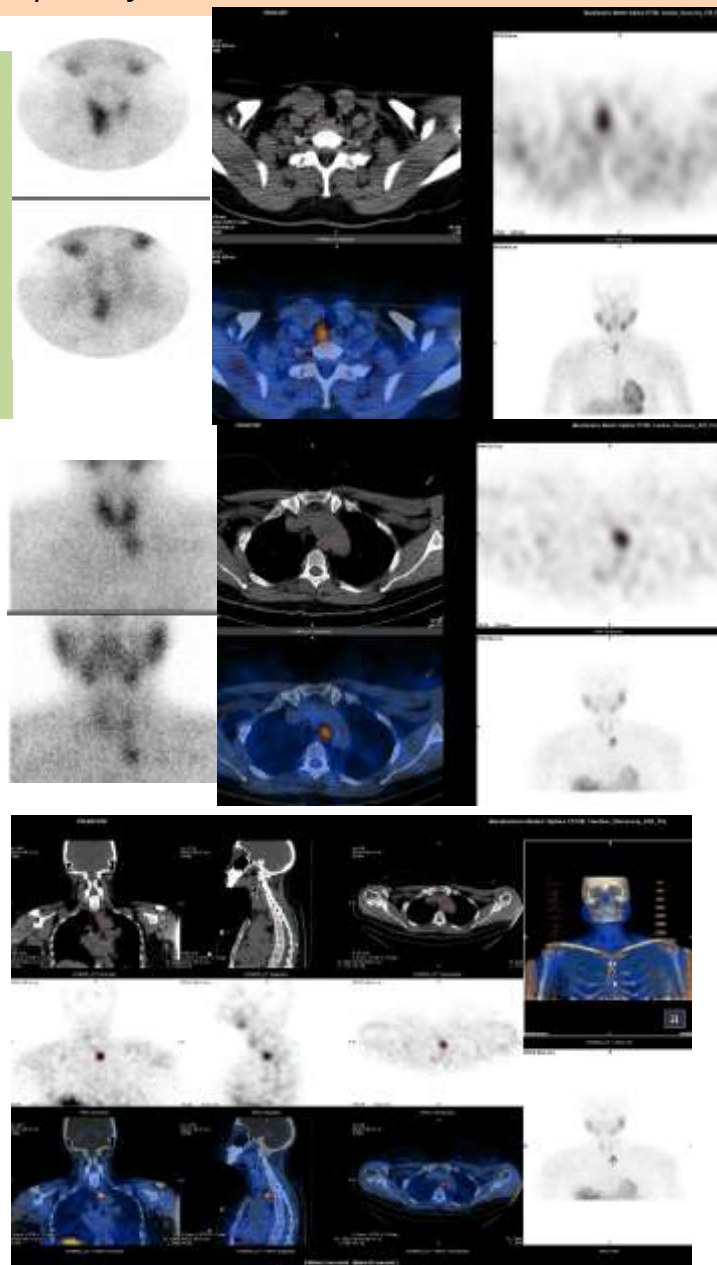
In this study we aimed to evaluate the diagnostic performance of 99mTc-MIBI planar scintigraphy and SPECT/CT in patients suspicious for Primary Hyperparathyroidism (PHPT). Planar scintigraphy has limited spatial resolution. SPECT/CT can provide more accurate localization, especially in the case of ectopic lesions as well as an improvement in specificity for the detection of pathological parathyroid tissue.

Methodology

139 patients with suspicion of PHPT were injected with 99m Tc- Sestamibi and neck and chest planar dual-phase imaging was performed after 15 minutes and 2 hours. Early and late Tc-99m MIBI SPECT/CT Images were acquired.

No abnormality : 84 patients

In **55 patients** the planar images showed a tracer focus in the thyroid region and in ectopic site.



Location			Number
Thyroid region N=38	Left	Upper	6
		Lower	14
	Right	Upper	6
		Lower	12
Ectopic site			17

Results

In 18 cases the suspicious lesion was revealed into the thyroid and was interpreted as thyroid nodule. In 37 cases SPECT/CT showed with high accuracy the localization of hypofunctioning parathyroid lesions

Conclusion

Nuclear Medicine imaging techniques have become an essential tool for the localization of pathological parathyroid glands. SPECT/CT has an incremental value in accurately localizing lesions, facilitating minimally invasive surgeries

	True positive	True negative	False positive	False negative	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy
Planar images	37	84	18	0	100	82,3	67,3	100	87
SPECT/CT Early, Late	37	102	0	0	100	100	100	100	100