

THE ROLE OF RADIONUCLIDE IMAGING IN EVALUATION OF THYROID NODULES WITH INDETERMINATE CYTOLOGY

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Background/Purpose: Thyroid lesions with indeterminate cytology (IC) represent about 15% of all thyroid biopsies with the risk of malignancy 15-30%. So the identification of low risk patients in this group is very important.

Few studies evaluated thyroid Tc-99m MIBI [MIBI] scan as a tool for work-up of indeterminate cytology thyroid lesions. The negative predictive value of this test in excluding malignancy appears to be high (95%). But it is not used routinely.

Objective: To evaluate the contribution of I 123 and MIBI scans, in the assessment of IC nodules.

Methods: Twenty patients (4 men and 16 women, aged 52±15) with IC nodules (Bethesda 3, 4) were included.

I123 scan was replaced by Tc-99m pertechnate scan (Tc scan). All patients underwent Tc scan: 'Hot' nodules were followed, and 'Cold' nodules go through MIBI scan.

Results: Two patients had "hot" lesion on Tc scan. Four of eighteen patients with "cold" Tc scan nodule had 'cold' lesions on MIBI scan too. Three were followed up with no sonographic and clinical changes in 12-36 m. One had surgery with benign pathology. Ten of fourteen patients with 'hot' MIBI lesions were operated. Five had malignancy. Four patients with "hot" MIBI nodule refused surgery and continued follow up with stable sonographic characteristics during 6-12 months.

Discussion & Conclusion: This protocol defined low malignancy risk in 30% patients with IC nodules and prevented unnecessary surgery. Malignancy detection rate increased to 25%.

Larger and longer studies are needed to validate the long term consequences of "active surveillance" policy in this unique patient's subgroup.