

## Comments on Wale et al. : Combined $^{99m}\text{Tc}$ -methoxyisobutylisonitrile scintigraphy and fine-needle aspiration cytology offers an accurate and potentially cost-effective investigative strategy for the assessment of solitary or dominant thyroid nodules

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Dear Sir,

Wale et al. present a comprehensive study of  $^{99m}\text{Tc}$ -methoxyisobutylisonitrile scintigraphy in cold thyroid nodules (CTNs) [1]. They conclude that MIBI scintigraphy can usefully exclude malignancy of nondiagnostic (Thy1) and

nonneoplastic (Thy2) lesions, but consider MIBI scintigraphy as a second-line investigation in the management of CTNs (see their Fig. 4) [1]. To expand this point, we suggest that MIBI scintigraphy should be considered as a first-line investigation in the management of CTNs.

We assessed the clinical significance of  $^{99m}\text{Tc}$ -MIBI scintigraphy in the assessment of 104 patients with CTNs, in 14 of whom the histological findings were malignant and in 90 benign [2]. When  $^{99m}\text{Tc}$ -MIBI uptake was regarded as the criterion of malignancy in  $^{99m}\text{Tc}$ -MIBI scintigraphy, the accuracy using seven different methods was in the range 69.46 – 92.21 % [2]. There were six malignant cold nodules based on histopathology which were considered as benign nodules on fine-needle aspiration cytology (FNAC). All such nodules showed some degrees of  $^{99m}\text{Tc}$ -MIBI uptake [2]. These findings are of particular interest considering the fact that our previous study showed a sensitivity of FNAC of just 53.84 % in the detection of malignancy of the thyroid as compared with final histopathology in 198 thyroidectomized patients [3]. The sensitivity in the current study was 66.66 % [2]. We also see a number of cases of discrepancy between FNAC and  $^{99m}\text{Tc}$ -MIBI scintigraphy in our ongoing daily practice.

Therefore, based on these findings and previous evidence [4] and the inadequate ability of FNAC to detect thyroid malignancy [5], we believe that  $^{99m}\text{Tc}$ -MIBI scintigraphy may have a great impact on the management of CTNs, and we recommend using this method in routine practice and management of CTNs. On the other hand, there are different

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methods of  $^{99m}\text{Tc}$ -MIBI scintigraphy acquisition (early, delayed or both; planar or SPECT) and interpretation (equal, increased  $^{99m}\text{Tc}$ -MIBI uptake or both) in the imaging of CTNs with different results. However, we observed that when a nodule with equal or increased  $^{99m}\text{Tc}$ -MIBI uptake in delayed views is considered a malignant lesion, the sensitivity is 100 % [2]. In addition, it should be noted that a reliable judgement of  $^{99m}\text{Tc}$ -MIBI uptake in CTNs less than 1 cm in diameter cannot be made due to the limited resolution of current gamma cameras.

Overall, we suggest a combination of FNAC and MIBI scan as a routine diagnostic approach to CTNs. The need for a pragmatic approach to the education and training of medical practitioners and nuclear medicine assistants and physicians to achieve a change in the management of patients with CTNs is more important following this evidence.

**Conflicts of interest** None.

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