THE ROLE OF POSITRON EMISSION TOMOGRAPHY-COMPUTED TOMOGRAPHY IN THYROID NODULES

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Background/Purpose: To investigate the potential value of maximum standardised uptake (SUVmax) values of 18-fluorodeoxyglucose (FDG) positron emission tomography (PET)-computed tomography (CT) to predict thyroid pathology.
Methods: The medical records of 2521 patients who underwent whole body imaging by FDG PET-CT for staging of lung carcinoma in Atatürk Chest Disease and Chest Surgery Hospital were retrospectively reviewed. The patients with incidental focal thyroid uptake were investigated with subsequent ultrasound (USG)-guided fine needle aspiration biopsy (FNAB) from corresponding areas. Age, sex, size, SUVmax and cytopathology results were recorded.
Results: Thirty nine patients (28 male and 11 female) with 40 focal nodules were found. Mean age was 59,2±8,6. Mean nodule size was 2,05 cm (min 0,7-max 5,4cm). Malignancy was identified in 6 (15%) of the lesions, 4 of them being primary (papillary carcinoma) and the remainder 2 being metastatic lung carcinomas (1 adenocarcinoma, 1 small cell carcinoma). The mean SUVmax values were 10,1±5,2 and 7,08±3,9 for malignant and benign lesions respectively, which were not statistically significant (p=0,095).
Discussion & Conclusion: High cellular glucose uptake seems to be nonspesific in thyroid nodules. USG- guided FNAB remains to be more accurate to differentiate between malignant and benign lesions.