Incidence of thyroid carcinoma in fluorodeoxyglucose positron emission tomography-positive thyroid incidentalomas

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ABSTRACT

Objective

Fluorodeoxyglucose (FDG) whole body positron emission tomography (PET) scan may show clinically occult second lesions. Such lesions in the thyroid are increasingly common. There are several recent reports of a high probability of malignancy in these lesions ranging from 14% to 63%.

Study Design and Setting

This is a retrospective review of 15,711 PET scans at a multi-disciplinary thyroid clinic at a tertiary care university medical center. Twenty-two patients were referred with thyroid PET "incidentalomas." The review included 18 FDG-PET scans, ultrasound guided fine needle aspiration biopsies, and thyroid surgery pathology. Aspiration cytology or pathology were the main outcome measures.

Results

Three patients had malignancy of the PET-positive thyroid lesions. Papillary thyroid micro carcinomas were detected in four of the specimens that showed a benign pathology of the dominant nodule.

Conclusion

Our experience shows a 14% malignancy rate for the dominant (imaged) nodule and a total malignancy rate of 32% when the incidental micro carcinomas are included. Both of these rates are significantly lower than results published previously.