

Peripheral Halo in a Thyroid Nodule - A Sign of Benignity

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Thyroid pathology is very common in general population, even when on inspection no abnormality is detected, nodules are seen on ultrasound sonography (USG). We are describing importance of peripheral halo sign in the diagnosis of benign nodules.

Among all the endocrine gland lesions noted in India, thyroid lesion is the most common. In about 19 - 60 % of the adult population thyroid nodules are seen; however, less than 1 % of the thyroid nodules are malignant. Halo seen on ultrasound near the thyroid is considered as reliable and specific sign of benignity.¹

The morphological characteristics that suggest that the thyroid nodule is benign are echogenicity of thyroid gland in that being the identical echo signal or being moderately hyperechogenic corresponding to surrounding normal thyroid tissue. The solid nodule may be accompanied by a hypoechoic halo, which represents compressed thyroid tissue, fibrous connective tissue and vessels. The cystic nodule lesion contains colloid, and this appears as a hyper-echogenic spot with "comet-tail shadowing or ring-down sign".² The spongiform appearance on ultrasound has specificity of 99.7 % for benign disease it has 98.5 % negative predictive value for malignancy.^{3,4} At the peripheries of the nodule, complete eggshell calcification is noted.⁵

A thyroid nodule with the above-mentioned characteristics is considered to be benign nodule and it does not require fine-needle aspiration cytology (FNAC) and in such patients there is neither a risk of malignancy nor a follow up USG is recommended.² In benign thyroid lesion, there is rapid and controlled growth of thyroid cells compressing the surrounding thyroid parenchyma appearing as the echogenic rim called as sonolucent halo, on the contrary, malignant lesion has spontaneous but uncontrolled growth of the cells which lack cellular cohesion causing incomplete halo.⁶

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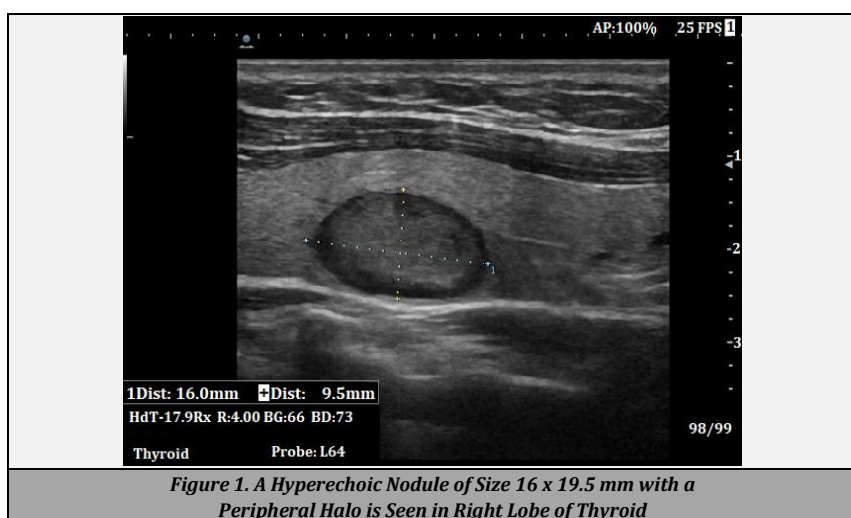
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