Title : Diagnostic accuracy of ultrasound imaging in Hashimoto's thyroiditis

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Asbstract :

There are studies describing the ultrasound (USG) features of Hashimoto's thyroiditis in literature; however, we have not come across studies determining the accuracy of USG in diagnosing Hashimoto's thyroiditis. Aims: We evaluated the cases referred to our institute with suspected thyroid abnormalities and studied in them the accuracy of USG in diagnosing Hashimoto's thyroiditis and also studied the associated malignancies and their USG characteristics. Settings and Design: The patients referred to our department with suspected thyroid abnormalities were included in the prospective study. The study period was of 1 year; we included 28 patients with Hashimoto's thyroiditis. Materials and Methods: We evaluated the USG features of the cases namely echogenicity, echotexture, micronodules, and increased vascularity and followed them up for final diagnosis by fine needle aspiration cytology, histopathology, or antithyroglobulin and thyroid peroxidase tests, other 60 cases were used as a control. The results were analyzed. Statistical Analysis Used: Sensitivity, specificity, positive predictive value, negative predictive value, and accuracy. Results: Hashimoto's thyroiditis was present in 28 patients. The most sensitive parameter in diagnosing Hashimoto's thyroiditis was hypoechogenicity and increased vascularity. The most specific parameter was micronodules. Nodules were seen in 13 patients, out of which malignant nodules was present in six patients. Microcalcification, thick halo, and internal vascularity increase the likelihood of nodules being malignant. Conclusions: The most sensitive parameter in diagnosing Hashimoto's thyroiditis was hypoechogenicity and increased vascularity. The most specific parameter was micronodules. Coarsened echo texture had an intermediate sensitivity and specificity. The USG is a specific modality for diagnosing Hashimoto's thyroiditis with a good sensitivity. Microcalcification, thick halo, and internal vascularity also increase the likelihood of nodules being malignant in the background of Hashimoto's thyroiditis. Hence, these nodules must be subject to FNA.