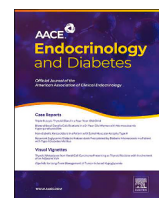




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Visual Vignettes

Marine-Lenhart Syndrome During Transition From Hashimoto's Thyroiditis to Graves' Disease

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Case Presentation

A 32-year-old woman with a history of euthyroid Hashimoto's and multinodular goiter presented with 2 months of newly developed hyperthyroidism. She showed no signs of thyroid-associated ophthalmopathy or dermopathy. Thyroid function tests revealed total T3 of 173.7 ng/dL (reference range: 60.7–176.7 ng/dL), free T4 of 1.9 ng/dL (reference: 0.9–1.7 ng/dL), and thyroid-stimulating hormone <0.01 μ U/mL (reference: 0.27–4.20 μ U/mL). Thyroid ultrasonography demonstrated multiple nodules ranging from 0.4 cm to 2.0 cm (Figure 1A). A technetium-99m pertechnetate thyroid scan was performed (Figure 1B).

What is the diagnosis?

Answer

Marine-Lenhart syndrome. The thyroid scan in this patient revealed diffusely increased uptake in both lobes, along with focal areas of intense uptake in the lower poles bilaterally and the mid-portion of the left lobe, consistent with hyperfunctioning nodules. These findings of thyroid scan and ultrasonography were suggestive of Marine-Lenhart syndrome. The diagnosis was confirmed by a positive thyroid-stimulating hormone receptor

antibody level of 5.32 IU/L (reference: <1.75 IU/L). Marine-Lenhart syndrome is a rare variant of Graves' disease, characterized by the coexistence of autonomously functioning thyroid nodules or multinodular goiter.¹ Although rare (0.2%–4.3% of patients with Graves' disease), its diagnosis by functional imaging together with ultrasound is necessary to guide appropriate definitive treatment. In this patient, radioiodine therapy was scheduled for definitive treatment.²

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Informed Patient Consent for Publication

Signed informed consent was obtained directly from the patient.

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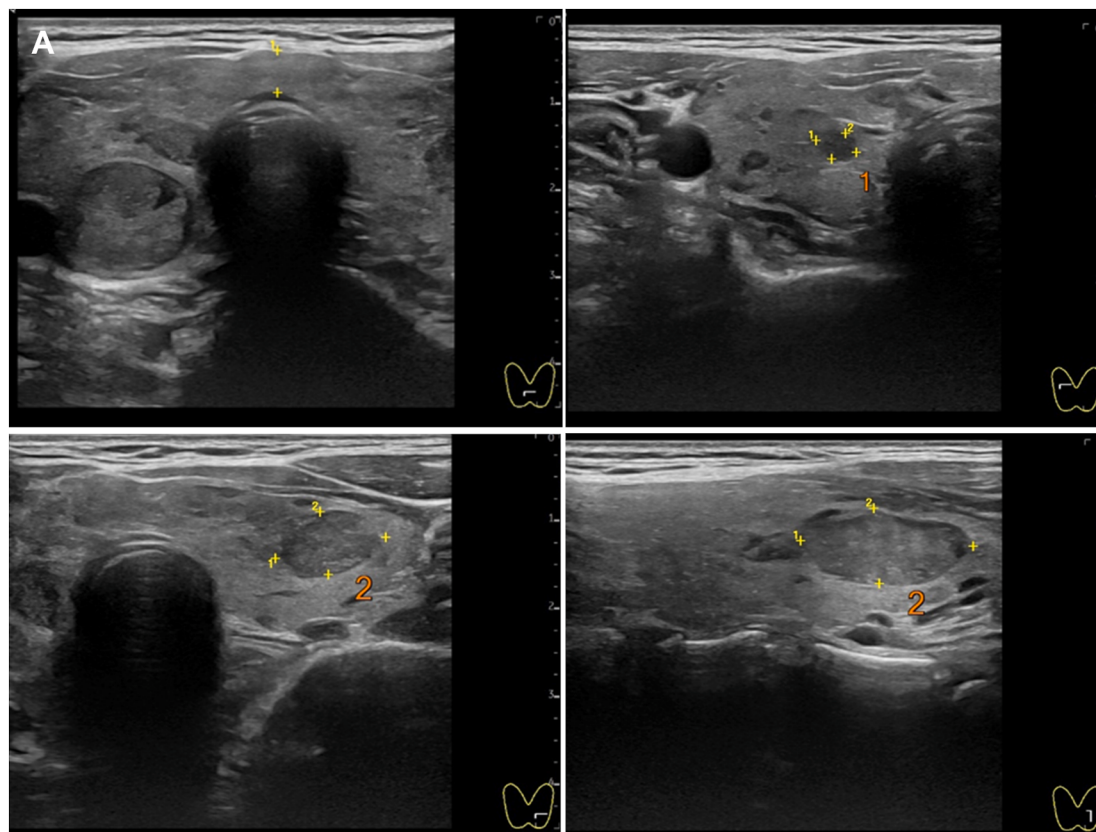
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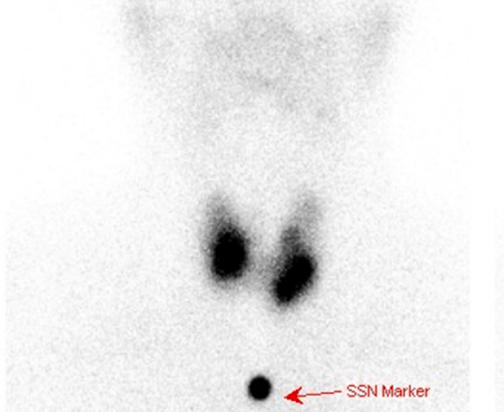
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B Anterior thyroid with Marker



Anterior thyroid



Right anterior oblique



Left anterior oblique



References

1. Marine D, Lenhart CH. Pathological anatomy of exophthalmic goiter. The anatomical and physiological relations of the thyroid gland to the disease; the treatment. *Arch Intern Med (Chic)*. 1911;8(3):265–316. <https://doi.org/10.1001/archinte.1911.00060090002001>.
2. Danno H, Nishihara E, Kousaka K, et al. Prevalence and treatment outcomes of Marine-Lenhart syndrome in Japan. *Eur Thyroid J*. 2021;10(6):461–467. <https://doi.org/10.1159/000510312>.

Fig. 1. (A) Thyroid ultrasound demonstrates diffuse, inhomogeneous glandular enlargement with multiple nodules in both lobes, ranging from 0.4 cm to 2.0 cm in size. The yellow marks show the size of nodules. (B) A technetium-99m pertechnetate thyroid scan reveals focal areas of increased uptake in both lower poles and the mid-portion of the left thyroid lobe, consistent with hyperfunctioning nodules. The remaining thyroid tissue shows diffusely increased uptake, characteristic of Graves' disease. SSN, suprasternal notch.