

## THE 'COCA-COLA BOTTLE SIGN' IN GRAVES' OPHTHALMOPATHY

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A 45-year-old female patient with a one-year history of hyperthyroidism presented with progressive bilateral exophthalmos over the past two months. She denied ocular pain or diplopia. On examination, bilateral exophthalmos was noted without other ocular abnormalities. Thyroid function tests confirmed hyperthyroidism, and thyroid ultrasound showed a multinodular goiter with structural thyroid changes. Orbital computed tomography revealed bilateral exophthalmos, increased retro-ocular fat, and marked hypertrophy of the inferior, superior, lateral, and medial rectus muscles, with tendon sparing-findings consistent with Graves' ophthalmopathy. The "Coca-Cola bottle sign," describing fusiform muscle enlargement, was clearly visible on the scan (Fig. 1). Due to the severity of the exophthalmos and potential risk to the optic

nerve, the patient was referred for orbital decompression surgery to relieve intraorbital pressure and improve functional and cosmetic outcomes.

Graves' ophthalmopathy is a common extrathyroidal manifestation of Graves' disease, affecting many patients with hyperthyroidism. The underlying pathophysiology involves immune-mediated inflammation leading to expansion of orbital fat and muscles. Imaging is essential for diagnosis, revealing characteristic muscle enlargement with tendon sparing. Management depends on symptom severity; surgical decompression is indicated in cases of optic nerve compression risk or significant cosmetic and functional impairment, aiming to reduce orbital pressure and restore ocular function.

Figure 1 |

