

Pulsatile Proptosis in a Metastatic Tumor of the Orbit from Carcinoma Thyroid

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Metastatic dissemination to the orbit from thyroid carcinoma occurs primarily through a hematogenous route. Although extremely rare, there have been a few reports to document this type of metastasis.^{1,2} Much rarer is unilateral pulsatile proptosis as an initial manifestation of metastatic carcinoma.^{2,3} Most often, it is due to hemodynamic force transmitted to the eye directly as is with a carotid-cavernous fistula, or indirectly through the intervening soft tissue, as in herniation of brain through bony dysplasia. Pulsatile proptosis secondary to a metastatic tumor of the orbit is extremely uncommon, and is perhaps a direct indication of wide spread destruction of orbital plates. However, vascular metastases particularly of the thyroid origin can demonstrate intrinsic pulsation due to high internal blood flow.³ We present a case, wherein a patient presented with pulsatile proptosis and ulceration of her left periorbital region.

A 64-year-old lady was admitted for evaluation of a slowly progressive painless mass in the left periorbital region with ulceration, and loss of vision of 18 months duration. She also complained of lower back pain of approximately four months duration.

Physical examination revealed a pulsatile, ulcerated lesion of 5 × 4 cm in the left periorbital region with proptosis and ulceration with a tendency to bleed on touch. There was complete loss of vision in the left eye (Fig. 1). The right eye examination was normal.



Fig. 1: Clinical photograph of the patient at initial presentation

Examination of the neck revealed a 6 × 4 cm firm enlargement of the left lobe of thyroid with the retrosternal extension. There was no significant cervical adenopathy.

Examination of the central nervous system revealed normal higher mental function and preserved cranial nerves function. There was tenderness over the lower dorsal and lumbar spines. Her lower limb power was 3/5 in the hip and knee and ankle. Her bowel and bladder functions were however normal.

Fine needle aspiration cytology from the thyroid and periorbital swelling was suggestive of degenerated atypical follicular cells infiltrates with increased cellular nuclear pleomorphism, consistent with degenerated carcinoma arising from thyroid (Fig. 2).

MRI of the brain revealed a soft tissue mass measuring 53 × 46 × 33 mm in the extra conal space of the left orbit with erosion of roof of the orbit and lamina papyracea with extension into the ethmoidal sinus with intracranial extension. The left eyeball was pushed outwards, downwards and laterally by the tumor. The lacrimal gland, lacrimal sac, superior oblique and superior rectus muscles could not be made out separate from the tumor (Fig. 3).

MRI spine revealed a burst fracture of D9 (Dorsal 9) vertebral body with secondary spinal canal stenosis and the

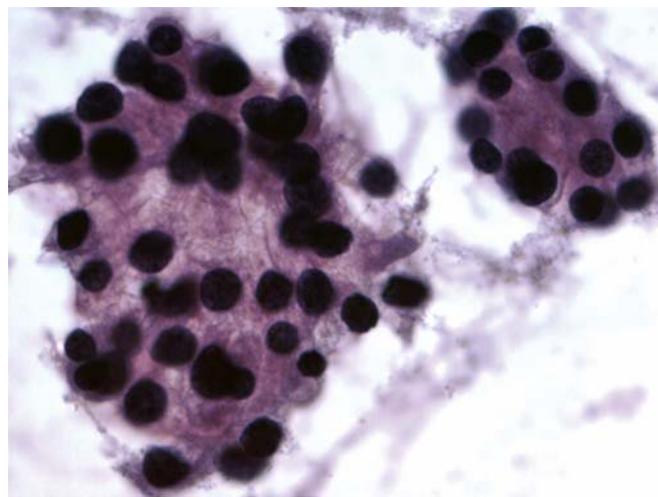


Fig. 2: 100X-aspiration cytology from the orbital mass suggestive of metastatic carcinoma thyroid



Fig. 3: MRI scan showing the periorbital mass and its intracranial extension

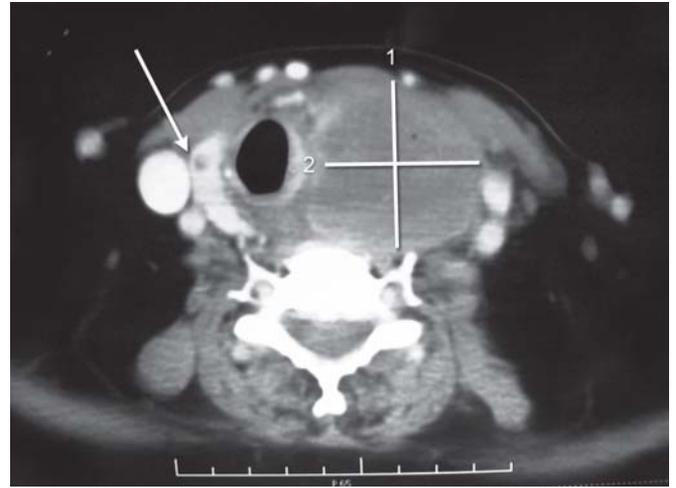


Fig. 4: Axial CT of the thyroid showing the left lobe tumor and the nodule in the right lobe

wedging of the L4 (Lumbar 4) and L5 vertebrae, findings suggestive of metastatic involvement.

CT scan of the neck revealed a large, heterogeneous predominantly hypodense mass measuring 6×4 cm in the left lobe of the thyroid gland with peripheral calcification and retrosternal extension and a subcentimeter nodule in the right lobe of thyroid (Fig. 4).

In view of the critical location of metastatic lesions, the initial plan was to give palliative radiotherapy to the spine and left orbit and follow it up total thyroidectomy and radioiodine ablation.

She received 30 grey to the left orbit, 30 grey to the D9 and a similar dose to the L4, 5 vertebrae.

The patient was symptomatically better, although there was no change in the dimensions of left periorbital lesion bleeding episodes had stopped and pain in lower back had

reduced. The patient wanted time prior to consenting for her thyroid surgery and was hence discharged on suppressive doses of eltroxin.

In conclusion, orbital metastasis as a primary manifestation of thyroid carcinoma is a rare event. Upper eye swelling and proptosis may be the initial clinical manifestation of an aggressive metastatic process of the orbit.

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