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Case Pictorial

Adrenal Metastasis: A Rare Presentation of Metastatic Carcinoma of Thyroid

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Metastasis from differentiated thyroid malignancy is very rare. We present a 73-year-old lady, with oligometastatic thyroid cancer having adrenal metastasis.

A 73-year-old lady presented with complaints of left sided loin discomfort for 3 months, with a history of decreased appetite and easy fatigability. She had no urologic symptoms. She had undergone right hemithyroidectomy 12 years back (benign histopathology). Physical examination revealed a fullness of the left hypochondrium and basic laboratory workup was normal. Ultrasonogram showed a left suprarenal mass. Contrast enhanced computed tomogram revealed a 11 × 9 mm well defined arterially enhancing lesion noted in the left suprarenal region with necrotic center [Figures 1 and 2]. Endocrinology workup was done and was confirmed as a non-functioning adrenal mass. The patient underwent open left adrenalectomy. The histopathology was metastatic well-differentiated thyroid carcinoma [Figure 3]. IHC was done which was thyroglobulin positive, confirming metastatic thyroid carcinoma [Figure 4]. General surgeon's opinion was sought for evaluation of the thyroid primary. Ultrasonogram of the neck revealed a suspicious hypoechoic nodule in the right lobe of thyroid, and fine needle aspiration cytology confirmed malignancy. Left completion thyroidectomy was done, which showed residual infiltrating carcinoma multifocal type with features of papillary thyroid carcinoma. Post-operative I-131 study showed no tracer uptake in the thyroid or adrenal region. The patient is under follow-up for 1 year and is doing well.

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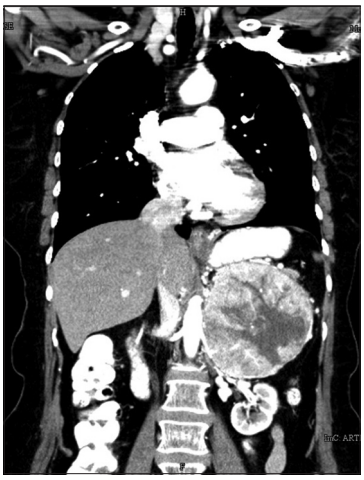

Figure 1: Contrast enhanced computed tomogram arterial phase shows a large enhancing adrenal lesion pushing the kidney

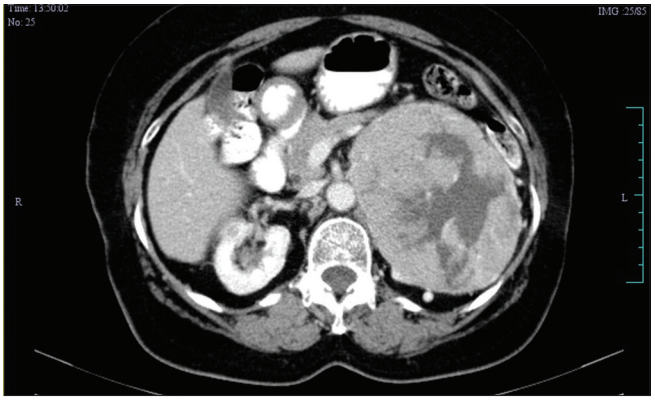

Figure 2: Axial section of the adrenal mass

Thyroid malignancy is a heterogeneous disease, and the incidence is rising.[1] The majority of thyroid malignancy is well differentiated, of which papillary type is 79%.[2] 10-year mortality in these tumors is <7%.[3] Distant metastases are quite rare, seen in <2% of patients with papillary thyroid carcinoma and most commonly affect the lungs and bone.

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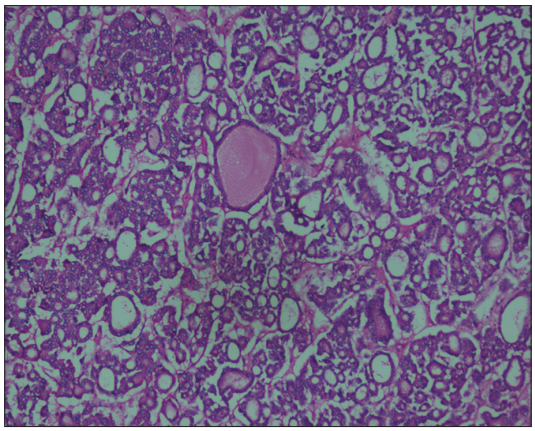

Figure 3: Microphotograph shows neoplastic cells arranged in follicular pattern with periphery showing normal adrenal gland

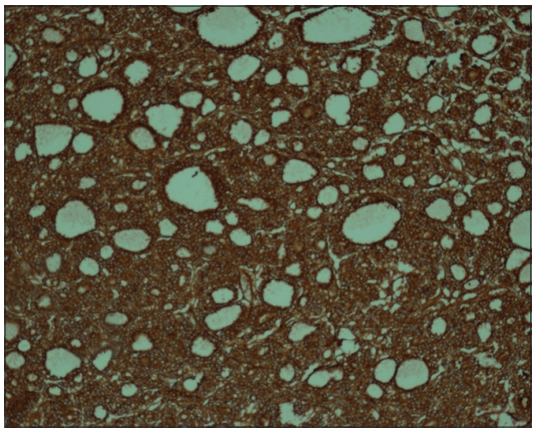

Figure 4: Immunohistochemistry thyroglobulin positive

For patients who present with metastases, 50% 10-year survival is reported.[4] Metastasis from thyroid cancer to genitourinary organs is extremely rare. Only 11 cases of adrenal metastasis from thyroid have been reported in literature. Moreover, majority of the adrenal metastasis reported in literature are bilateral. In our case, we found a unilateral metastasis to the adrenal from thyroid.

Points to Ponder

- Metastasis from thyroid primary can present late, in our case 12 years after the thyroidectomy.
- Thyroid gland should be considered as a potential but rare source of metastases in a setting of the adrenal secondary.

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