CASE REPORT

INTRAORBITAL, INFRATEMPORAL AND INTRACRANIAL EXTENSIONS AS THE FIRST PRESENTATION OF FOLLICULAR THYROID CARCINOMA

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Metastatic skull deposits from follicular thyroid carcinoma are rare, and let alone this being the primary presenting symptom with no history of thyroid cancer is exceptionally rarer. A 40-year-old female patient presented with a mass in the temporal and occipital region of the skull. Fine needle aspiration cytology confirmed multiple fragments of a neoplasm composed of variably sized follicles lined by tumour cells having pleomorphic hyperchromatic nuclei. Further workup revealed Follicular thyroid carcinoma and subsequently, total thyroidectomy was done. Skull resection was not possible due to the extensive nature of disease and patient was advised radioactive iodine ablation therapy but couldn't survive past 4 months.

Keywords: Follicular Thyroid Carcinoma; Fine needle aspiration cytology; Neoplasm; Total Thyroidectomy

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INTRODUCTION

Follicular Thyroid Carcinoma (FTC) presenting as metastatic deposits to skull without a primary diagnosis is very rare and challenging with a reported incidence of only 2.5%.[1] Hematogenous spread to long bones and lungs being the most common sites account for this rarity.[2] Metastatic lesions to cranium are primarily from lungs, breast and prostate but not from thyroid gland.[3] Most of the cases reported previously showed that metastatic lesions to skull were not the presenting feature of this disease and the patients were already diagnosed and treated for FTC.[4] Considering the uncharacteristic presentation, preoperative diagnosis, per operative management and postoperative care can be very difficult. We present our management of a forty years old female who presented with infraorbital, infratemporal and metastatic deposits of FTC at initial presentation.

CASE REPORT

Forty years old female, belonging to poor socioeconomic status, presented with a mass in left temporal and occipital region for the last 2 and 1 years respectively. There was no history of pain but a recent increase in size was reported. On examination, a pulsatile, firm and fixed to skull 3.4×1.5 cm (coronal × vertical) mass was found on the left temporal region. Another pulsatile but firm 2×1.8 cm (coronal × vertical) mass was found on the left occipital region pushing the eyeball outwards. Further history suggested that patient had a swelling in the neck for the last 15 years. No pressure symptoms, dysphagia or a recent increase in size was noted by the patient. On examination, a 5×4 cm goitre with no retrosternal extension was found. Carotid bruit was negative however, cervical lymph nodes were enlarged largest measuring 0.5×0.5 cm. Rest of the general, respiratory and neurological examination was unremarkable. After discussion in multidisciplinary team (MDT) meeting diagnostic and treatment plan was formulated. Complete baselines along with thyroid function test (TFT), ultrasound of neck swelling, contrast-enhanced CT (CECT) brain and Fine needle aspiration cytology (FNAC) of temporal swelling were ordered. A CECT brain showed a lobulated soft tissue mass in the left infratemporal fossa with erosions of the lateral pterygoid process, the floor of the middle cranial fossa, sphenoid and squamous temporal bone with extension into the posterior medial aspect of the left orbit resulting in non-axial proptosis (Figure-1, 2). FNAC showed multiple fragments of a neoplasm composed of variably sized follicles lined by tumour cells having pleomorphic hyperchromatic nuclei.

The patient was euthyroid and ultrasound neck showed diffusely enlarged thyroid gland with multiple iso-echoic nodules of varying sizes and a few foci of calcification. Total thyroidectomy by collar incision was done. Recurrent laryngeal nerves were identified and secured. The specimen was sent for histopathology which confirmed follicular thyroid carcinoma. Extensive metastatic deposits in infratemporal, intra-orbital and intracranial regions made complete resection of the tumour impossible and patient was started on symptomatic treatment. After discharge, a referral was made to the Institute of Radiotherapy and Nuclear Medicine (IRNUM) Peshawar for further evaluation and treatment. The patient was on radioactive iodine for 2 months but died 4 months later due to extensive metastatic disease.

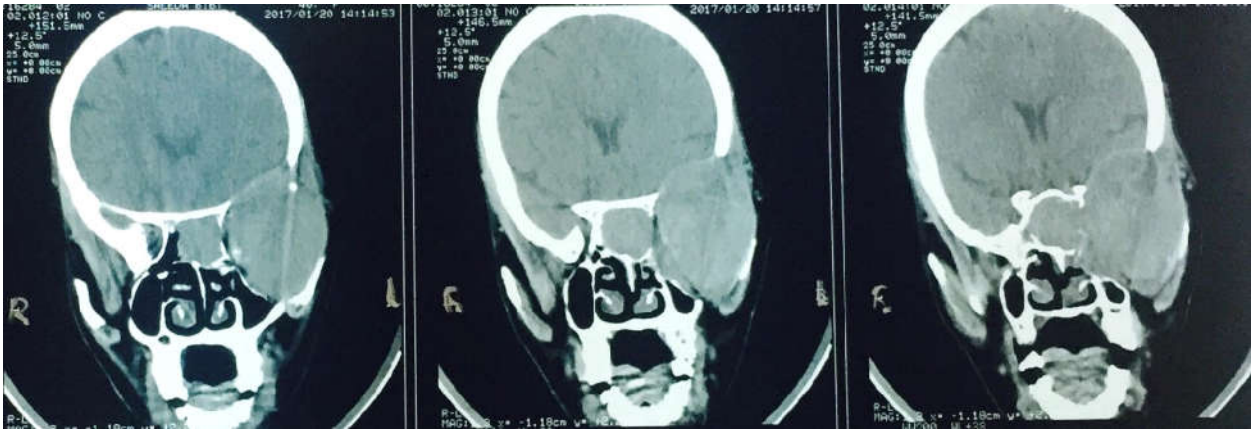

Figure-1: CT Skull shows a mass in the left orbital region extended intracranially, infraorbital and eroding the surrounding bones.

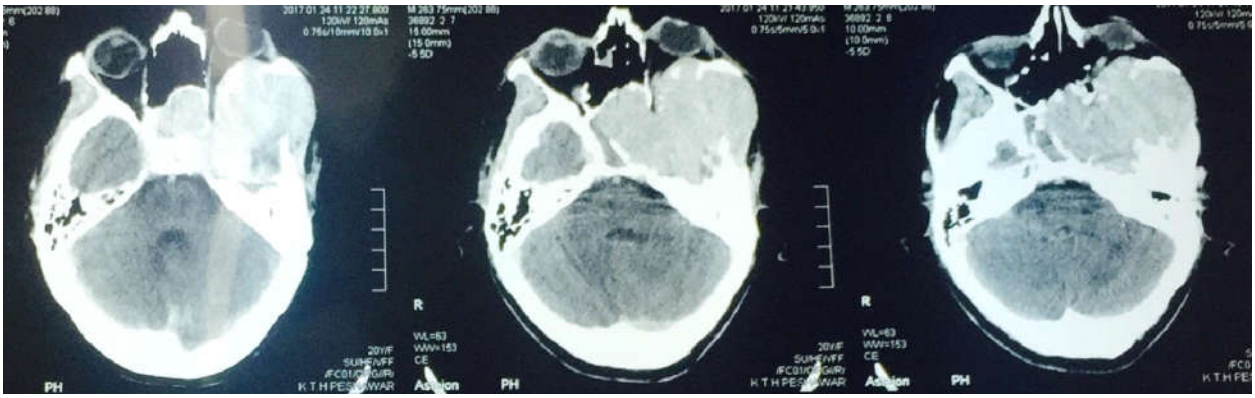

Figure-2: CT Skull shows a mass in the Orbital region pushing the left eye outward

DISCUSSION

Cancers involving the thyroid gland are very common with a reported incidence between 0.5–1.5%.[5] Comparing follicular with papillary carcinoma, the former has a much faster blood borne progression, encompassing the older population and usually present with metastatic deposits.[6] Lungs and bones (vertebrae, ribs and sternum) are the principal sites of these deposits; however, the skull being a very rare site with only a hand full cases reported.[4] Among skull deposits, base and the occipital region accounts for the most common sites contrary to our case who presented with temporal mass.[7] Most patients suffering from skull deposits complain of headaches, altered sensorium, body weakness and eye problems such as exophthalmos and blurry vision.[8] Nevertheless, the sole presentation of FTC as skull mass makes the diagnosis and treatment very difficult. X-ray skull can be of little help as most of the lesions are osteolytic but CT angiogram can show the vascular pattern[1]. Shamim et al. reported two cases without any history of thyroid cancer that presented with a scalp lump and later diagnosed as carcinoma of the thyroid gland.[9] In another report, a 72-year-old female with right supraorbital lump turned out to be a metastasis from thyroid carcinoma.[10] Skull metastatic deposits carry a very poor prognosis with 10 years survival rate of only 27% however, timely diagnosis and therapeutic resection have a favourable outcome with a calculated survival of 14 months to 3.5 years.[4,11]

Patients presenting with skull metastasis as a sole initial presentation of FTC can pose great difficulties in diagnosis and treatment which in turn have a significant impact on mortality and morbidity. A multi-team approach with a timely therapeutic resection should be adapted as a first-line treatment of skull metastasis along with total thyroidectomy.

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