

Post-Thyroidectomy Metastatic Thyroid Cancer

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ABSTRACT

Background: The objective of this paper is to highlight the importance of tissue biopsy for histopathological diagnosis.

Method: A report of a 46-year-old farmer with post-thyroidectomy metastatic thyroid cancer.

Result: A post-thyroidectomy patient presenting with extensive skull and lumbar spine metastasis, paraparesis, huge occipital swelling and good healed scar without tumour residue. The thyroidectomy specimen was not subjected to histopathological diagnosis. Fine needle aspiration cytology of the occipital swelling revealed metastatic follicular carcinoma. Patient was placed on thyroxine 0.5mg daily with great improvement of lower limb muscle power.

Conclusion: These bony metastases could have been reduced if proper investigation was done. There is need for continuous medical education for all clinical medical personnel.

KEY WORDS: Post-thyroidectomy; Thyroid cancer; Bone metastasis; Histopathological Diagnosis.

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INTRODUCTION

Metastatic tumours are the most frequent of all malignant neoplasms of bone¹. About 70% of bone metastases affect the axial skeleton (cranium, ribs, spine, sacrum), and the remainder involves the appendicular skeleton (long bones) or both compartments. Bony metastases are preferentially situated in red bone marrow². Follicular thyroid carcinoma disseminates haematogenously and characteristically metastasizes to the bones, lungs, brain and liver rather than lymphatics or regional nodes^{3,4}. The skeletal metastases have a predilection for the shoulder girdle, sternum, skull and iliac bone⁵.

We present a post-thyroidectomy male patient with extensive bone metastases due to thyroid carcinoma in our tertiary institution.

CASE HISTORY

A 46-year-old farmer from a goitre endemic area of Northeastern Nigeria was referred to the University of Maiduguri Teaching Hospital (UMTH), with painless swelling on the occiput. The patient presented to the referring hospital 18 months previously with a painless anterior neck swelling he had for 5-years. There was no associated occipital swelling then. This was noticed 4-months before presentation. The anterior neck swelling which was increasing slowly in size with no pressure or toxic symptoms was surgically removed (subtotal-thyroidectomy). The specimen removed was thrown away and so not subjected to histopathological diagnosis. He had an uneventful recovery and was discharged home on the 10th postoperative day. He subsequently noticed occipital swelling that is rapid and progressing in size and associated with weakness in the limbs as well as low back pain radiating to the lower limbs. The weakness became worse 4 months before presentation and he was unable to use the lower limbs. There was no history of trauma, cough or contact with a person with chronic cough. There was no past medical history of irradiation to the neck. He is married and did not smoke cigarette.

The clinical examination revealed a middle-aged man, not anxious and not wasted. The pulse rate was 88beats/min and blood pressure was 130/80mmHg. He had a nicely healed collar (thyroidectomy) scar with no cervical lymph node enlargement (Fig 1a). The occipital swelling extends to the left parietal region measuring 40 cm in circumference, soft, fluctuant, not tender and pulsatile (Fig.1b). Another small swelling measuring 2x1cm was also noticed on the left forehead. This is not visible on the photograph (Fig.1). There was no evidence of exophthalmos or tremor. He had a gibbus with grade 3/5 power of the lower limbs, reduced muscle bulk and no sensory loss. An impression of a metastatic lesion to the scalp and spine was made. The patient had a fine needle aspiration cytology (FNAC) of the

occipital mass. This showed a cellular smear composed of neoplastic thyroid epithelial cells arranged in follicles confirming a metastatic thyroid cancer. The X-ray of the skull showed erosion of the skull (Fig.2), collapse of the 3rd lumbar spine (Fig.3) but the chest X-ray was clear. The full blood count and differentials, urea, creatinine, serum proteins, calcium and alkaline phosphatase were all normal. The thyroid function tests were normal. The patient was commenced on thyroxin 0.5mg daily. The

smaller forehead mass disappeared with reduction in the size of the occipital mass from 40cm to 32cm. The back pain was less and patient regained power in all the muscles of the lower limbs and was able to walk. ¹³¹I was not available to commence radiotherapy. The patient was discharged on thyroxin 0.5mg daily while effort was being made to get ¹³¹I radioiodine. The patient however was lost to follow-up after the first follow-up.



Fig 1. Photograph showing a healed collar (thyroidectomy) scar (1a) and a hemispherical swelling on the occipital region (1b)

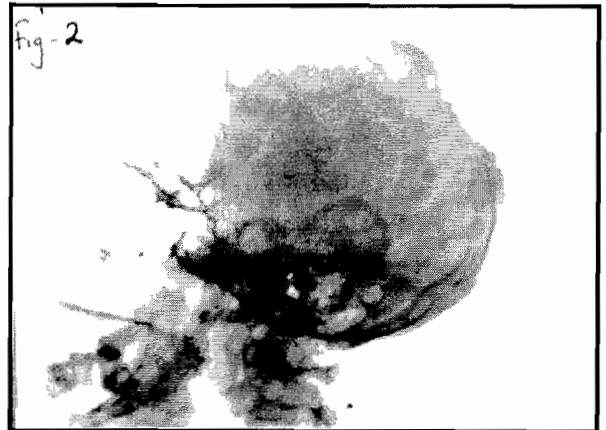


Fig 2. X-ray of the skull. Note erosion of the bone at the occipital region



Fig 3. X-ray of the Lumbar spine Note collapse of the 3rd Lumbar spine (Arrow)

DISCUSSION

Thyroid malignancy especially follicular carcinoma spreads haematogeneously to the bone and has predilection for the skull and lumbar spine⁵. The lumps on the occiput and forehead coupled with the thyroidectomy scar raised the suspicion of thyroid carcinoma, which was confirmed by FNAC as metastatic follicular carcinoma of the thyroid. The role of FNAC in the diagnosis of tumours has been reported⁶. The diagnosis of thyroid follicular adenoma and follicular carcinoma is difficult with cytology but some authors have reported differentiation on smear using AgNOR stain⁷. The X-rays of the skull and the spine showed extensive erosion of the skull and collapse of the 3rd lumbar vertebral spine (Figs 2, 3). The initial investigation of the thyroid gland was not properly handled in the peripheral Hospital since histological diagnosis was not achieved. The lesson to learn from this patient is that any lump or swelling removed must be subjected to histological diagnosis. The thyroid swelling is commoner in females than males with a variable ratio ranging from 7.9:1 to 10:1^{8,9}. However, if a thyroid swelling occurs in a male, a high index of suspicion about the possibility of malignancy should be entertained.

In conclusion, thyroid gland carcinoma metastasizing to the bone is not unusual. Every thyroidectomy specimen should be subjected to a histopathological analysis so that patients can benefit from the management. There is also need for continuous medical education for all clinical medical personnel so as to improve quality health care services to our patients.

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