Occult metastatic follicular thyroid carcinoma masquerading as a soft tissue sarcoma of the gluteal region

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Summary

This is a case of an occult follicular thyroid carcinoma in a 61 year old civil servant presenting with bony metastasis to the left iliac bone twenty years after an initial subtotal thyroidectomy. There was a soft tissue mass with associated cup shaped lytic detruction of the iliac bone and on ultrasound scan the mass was found to be of mixed echogenicity and areas of sonolucencies which were due to necroses. At autopsy, the thyroid gland appeared macroscopically within normal limits but histology confirmed Follicular Thyroid Carcinoma.

Keywords: ***Thyroid-carcinoma, Soft-tissue sarcoma, Follicular thyroid carcinoma, Bone metastasis.***

Résumé

Il s'agit d'un cas de l'occulte Thyroide carcinome Folliculaire chez un vieil homme functionnair de l'Etat âgé de 61 ans qui était malade du metastasis osseux au côté droite de l'os iliaque vingt ans après la première thyroidectomie totale partielle. Il'y avait un tissu en masse mou avec un lytique associe en forme d'une tasse qui est une destruction de l'os iliaque et après avoir fait le balayage ultrasonde on a déniché que le tissu en masse était un mélange d'échogénicité et des coins de sonolucencies causé par les nécroses.

Durant la autopsie, la glande à la thyroide s'était présentée macroscopiquement dans les limites normales mais l'histologie a confirmé la thyroide carcinomie Folliculaire.

Introduction

Thyroid cancer is the most frequently diagnosed malignant endocrine lesion, and most of the tumours are well differentiated (Lorberboym *et al*, 1996). One of the principal targets for metastasis of follicular thyroid carcinoma (FTC) is the skeleton (Smith *et al*, 1998). Follicular carcinoma of the thyroid with distant metastases is considered a relatively progressive tumour associated with a poor five-year survival rate. It is uncommon in the absence of any abnormality in the neck by palpation or scan (Boehm, Rothouse and Wartofsky, 1976). According to Heyes and Thomas 1997, any soft tissue swelling beneath the deep fascia should be considered a sarcoma until proven otherwise. In this report, we present a patient who was initially thought to have a soft tissue sarcoma of the left gluteal region but histological proved to be a metastasis from a residual occult FTC twenty years after a subtotal thyroidectomy.

Case history

Mr. K. J. is a 61 year old retired civil servant referred from the General Out-patient clinic to the Surgical Out-patient clinic both of the University College Hospital (UCH) on account of left flank painful mass of 1 year duration. The mass, which started as a tender nodule gradually increased in size, but was not associated with backache. On examination of the left flank, the mass was found to be firm and immobile, extending from the iliac bone on the lateral abdominal wall to just below the subcoastal margin and medially towards the midline and measured approximately 10cm x 6cm. There were scarification marks and distended veins over the mass but no bruit was heard on auscultation. The past medical history revealed that the patient had partial thyroidectomy at the State General Hospital in 1978, on account of a painless, fluctuant small anterior neck swelling of one year duration and was removed for cosmetic reasons. No abnormality was found on review of the other systems. A provisional diagnosis of soft tissue sarcoma was made. Plain radiograph coned to the area showed a well defined soft tissue mass causing a large cup shaped defect in the crest and body of the left iliac bone with no associated cortical reaction (Fig. I). No other bony abnormally was seen. Radiological differential diagnosis included plexiform neurofibromatosis of the bone, soft tissue sarcoma and ganglioneuroma. Ultrasound ex-

Figure 1 ***Coned AP radiograph of the side of the abdomen. Note the well defined rounded soft tissue opacity and bone defect in the iliac wing giving an "egg in cup" appearance.***

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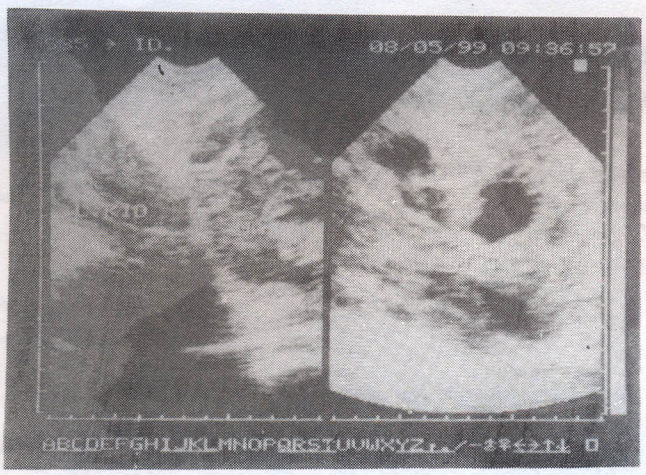

Figure 2 ***Ultrasonography of the mass seen below the left kidney. Note multiple areas of necroses seen as irregular sonolucencies within it.***

amination of the mass revealed a well-defined thick walled mass with mixed echogenic and sonolucent areas seen within it. The outline was irregular and was seen to have displaced the left kidney slightly medially (Fig. 2). Both kidneys were normal in size, architecture and with good corticomedullary differentiation. The liver, spleen, prostate, and the urinary bladder were within normal limits.

The mass was biopsied and revealed cells compatible with follicular thyroid tissue; leading to a histological diagnosis of metastastic follicular carcinoma to the left illiac crest. Patient was referred to the radiotherapy unit for further management, but he died before radiotherapy could be commenced. Postmortem histological examination of the remnant thyroid tissue confirmed FTC.

Discussion

Papillary carcinoma is the commonest form of thyroid malignancy (55–75%) followed by follicular carcinoma (15–20%), anaplastic carcinoma (5 – 15%) and medullary carcinoma (5%) (Naik and Bury 1998). Although metastases from other occult forms of thyroid carcinoma are well recognised, metastases from clinically occult follicular carcinoma are rare (Boehm, Rothouse and Wartofsky, 1976). Ten-year survival in FTC ranges from 50% to 70%, with most patients dying from distant metastases as in this case. In a study done by Smith *et al*, 1998, they were able to demonstrate the involvement of integrins in the binding of FTC cell lines to bone matrix. Their result did not however explain the preferential targeting of FTC to bone in contrast to other types of thyroid carcinoma, which metastasizes to the lungs, the central nervous system and the lymphoid tissues.

A similar case masquerading as a chordoma was reported by Casals *et al* 1995. Their patient also had thyroidectomy seven years prior to the discovery of the metastasis, and the initial thyroid pathology showed no evidence of malignancy. The case here reported is remarkably similar in that palpation of the neck did not reveal any abnormalities but at autopsy and histology, a well-differentiated follicular carcinoma was seen.

This case also illustrates that clinically significant distant metastases can arise from occult follicular thyroid cacinoma. Distant sites of metastasis found on ^{131}I scanning include, in decreasing order of frequency, lungs, skeleton, CNS and other soft tissue sites (Naik and Bury, 1998). We suggest that all patients with history of previous thyroidectomy as in this patient should be closely followed up. This could be done using whole body ^{131}I scintigraphy (Boehm, Rothouse and Wartofsky, 1976); and in centres such as ours where this facility is not available a total thyroidectomy is an alternative. Ablation with radioisotope could be done especially if the extent of the mass makes it inoperable (Hoefnagel *et al*,1986).

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