CASE REPORTS

OCCULT MEDULLARY THYROID CARCINOMA: AN UNUSUAL PRESENTATION OF CARCINOMA OF THE THYROID GLAND

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INTRODUCTION

Medullary thyroid carcinoma is a rare malignancy of thyroid gland. It can occur alone or as a part of multiple endocrine neoplasms. Its usual presentation is as a thyroid nodule or lymph node enlargement in neck with or without goiter. An occult primary in medullary carcinoma is recognized in familial cases. It is rare, and even rarer in sporadic cases. A case is reported with metastatic medullary carcinoma thyroid presenting as a large swelling, involving completely left side of neck due to cervical lymph node involvement. The microscopic primary was in apparently normal thyroid gland.

CASE REPORT

A 33 years old, male patient, resident of Attock reported with swelling left side of neck of 4 years duration. This young man noticed a soft, painless swelling in the left side of his neck, just above the left clavicle. The swelling was small, and gave the patient no discomfort at all initially, so he avoided going to the hospital. The patient was clinically euthyroid. The swelling increased very slowly in size over the following three and a half years, until by December 2003 it had become large enough to cause significant disfigurement. However, it remained painless and there were no pressure symptoms. At this time, the patient also noticed two smaller swellings adjacent to the original larger one. Worried, he now reported to the hospital for treatment. The patient's younger brother, aged 19 years, had a similar swelling on the anterior aspect of the neck. His first cousin, aged 30 years, also had a similar swelling in her neck. Both had not consulted a doctor so far. There was no family history of hypertension or diabetes mellitus. On examination his vital signs, including his blood pressure were within normal limits. There were no café- au- lait patches or neurofibromas on the skin. A large 7 by 9 cm swelling was present on the left side of the neck, extending from just left side of the midline to anterior border of left trapezius, and from mandible to clavicle. It did not move on swallowing. Its temperature was not raised, and was nontender. It had lobulated surface, firm consistency, with regular, well-defined edges except inferiorly where lower limit was not palpable. It had little mobility in transverse direction and was deep to left sternocleidomastoid muscle (fig. 1). Two smaller swellings of a similar character were palpable just lateral to the large swelling. No other swellings or lymph nodes were palpable in the neck. Thyroid gland was not enlarged. FNAC of the swelling was suggestive of metastatic follicular carcinoma of the thyroid gland. Serum TSH was not raised. Blood hemoglobin, and creatinine and electrolytes were with in normal limits. Radical lymph node dissection was done on the left side of the neck (fig. 2), with total thyroidectomy. Thyroid was normal on naked eye examination. Histopathological examination showed it to be metastatic medullary carcinoma of the thyroid gland with microscopic primary in the left lobe of thyroid gland and not metastatic follicular carcinoma. Patient had smooth recovery from the operation. After diagnosis serum calcitonin and CEA levels were done. They were not raised. Serum parathyroid and corrected serum calcium were also normal. Ultrasound abdomen was normal. Vanillyl mandelic acid was within normal limits in 24 hour collected urine. Following healing of

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neck wound, external beam radiation was given to the neck and superior mediastinum. His brother and cousin have been advised to consult us for counseling, which they had not consented so far.

DISCUSSION

Thyroid epithelial cells are of foregut endoderm (follicular cells) and of neuroectodermal deviation (C cells) origin. Medullary thyroid carcinoma (MTC) arises from C cells and secretes calcitonin [1]. Medullary carcinoma of thyroid (MTC) comprises less than 10% carcinomas of thyroid. Majority are sporadic. 25-29% cases are familial. Familial MTC is due to germ line mutation in the RET proto-oncogene. Search for germ line mutation is effective means of identifying new families at risk [2]. Its behavior and treatment is different from Differentiated thyroid cancers especially follicular carcinoma [3]. It can occur either alone or as the thyroid manifestation of MEN-2 syndrome. In our patient it was unlikely manifestation of MEN syndrome as there was no history of hypertension. Serum parathyroid level, serum corrected calcium levels were normal. His ultrasound abdomen was also normal. Vanillyl mandelic acid was within normal limits in 24 hour collected urine. An occult primary in medullary carcinoma is recognized in familial cases. It is rare, and even rarer in sporadic cases [4]. It is not infrequent finding among patients with thyroid nodules (nearly 1 in 250 cases) to have MTC. Routine measurement of basal calcitonin level is recommended in evaluation of thyroid nodules [5]. Other do not agree with it [6]. Medullary carcinoma may be suspected on FNAC on the basis of characteristic cytological behavior and immunostaining for calcitonin. The diagnosis is usually made at the time of surgical removal of thyroid nodule. Frozen section can confirm the diagnosis and guide surgical therapy [7]. Calcitonin is a 'tumor marker' for medullary carcinoma of thyroid and its level correlates with extend of the tumor and its volume [8]. Ultrasonography, CT scan, or

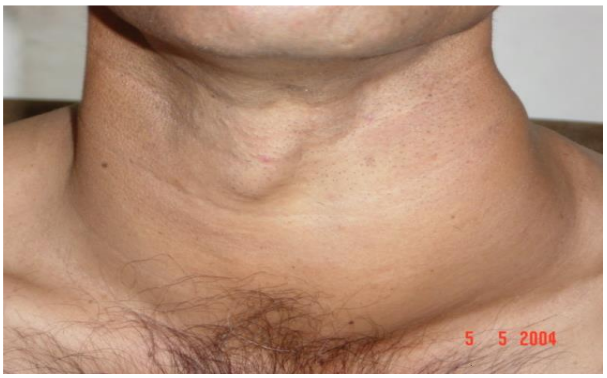

Fig. 1: Enlarged lymph nodes causing swelling on the left side of neck

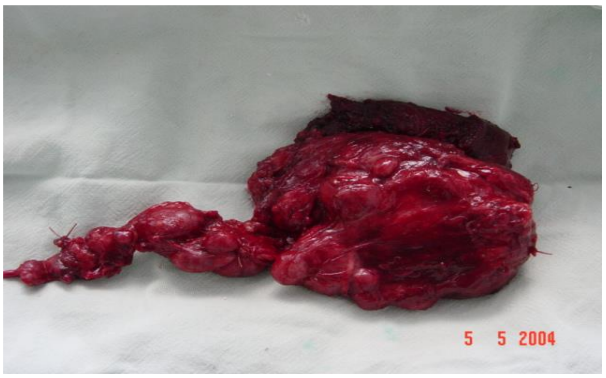

Fig. 2: Radical Lymph node of neck-dissected specimen.

MRI of the neck are used to evaluate extend of the disease. Patients may have rarely chronic diarrhea, lichen amyloidosis or features suggestive of chronic ACTH production. Pheochromocytoma should be ruled out preoperatively in all suspected cases. CT scan is effective diagnostic imaging tool [9].

Compartment oriented surgery (COS) minimizes cervical recurrence [10]. The essential element is total thyroidectomy, because intraglandular spread occurs in 20% patients, radioactive iodine treatment for microscopic spread is not effective, and if it is hereditary the genetic alteration of whole C cell system exists. The lymph node spread occurs in well-defined lymph node compartments before spreading to adjacent compartment. The compartments are central, cervico lateral, and mediastinal. In more than 60% cases the cancer spreads to lymph nodes. The central compartment is invariably involved and has to be removed with total thyroidectomy. The ipsilateral cervico lateral

compartment is also involved in 35% cases. Therefore ipsilateral (unilateral) modified radical neck dissection should be combined with central compartment lymph node dissection [11].

Bilateralism is not infrequent (28-49%) that justifies bilateral complete neck dissection in all cases with more than microscopic disease [12]. Tumor is staged in accordance to AJCC system, which is based on tumor size, lymph node involvement and distant metastasis.

Risk factors for recurrence and prognosis depends upon preoperative calcitonin level, advanced age and incomplete excision of tumor in addition to tumor size, lymph node metastasis and distant metastasis. Serum calcitonin should be measured postoperatively after 2 to 3 months to detect residual disease, which should be searched and excised. CT scan, MRI scan and various radioisotope scans are used in search of metastatic disease [13]. Adjuvant therapy lacks efficacy. There is general agreement that role of radionuclide therapy is palliative and limited [14]. Chemotherapy is not effective.

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