Intravenous Tumour Thrombus from Papillary Carcinoma of Thyroid- A Case Report & Review of Literature

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Introduction

Papillary carcinoma of thyroid is the most common type among the thyroid cancers. The usual presentation is with asymptomatic swelling in front of the neck. These types of cancers may spread to the regional lymph nodes. Distant metastasis occurs usually in lung and bone. Although differentiated thyroid cancers may show microscopic vascular invasion, tumour thrombus into great veins is a rare phenomenon. We report a case of papillary carcinoma thyroid with a recurrence in thyroid bed associated with nodal metastasis and tumour thrombus in the great veins. Only few cases are reported with thyroid carcinoma with thrombus in vessels.

Case Report

68 year old female initially presented 1 year ago to a peripheral centre with a thyroid nodule. She underwent near total thyroidectomy and the post operative histopathology was reported as papillary carcinoma. This was followed by radioactive iodine ablation.

Multiple neck swellings on left side were noticed 1 year later. FNAC of the swelling was suggestive of metastatic node from papillary carcinoma of the thyroid. On evaluation with CT scan, lymph node enlargements were seen on left side at level II, III and IV. The lower end of internal jugular vein was seen to be filled with a thrombus. The thyroid bed showed a recurrent mass on left side. Hence a revision thyroidectomy and a selective neck dissection of levels II, III, IV and V on left side were planned. Peroperatively, distension of lower end of internal jugular vein (IJV) with tumour thrombus was seen (Fig. 1). The thrombus was seen extending into the left innominate vein. These veins were seen obstructed with the mass and there were many collateral vessels around this. The thrombus and involved veins were excised in toto after dividing the medial end of the clavicle (Fig. 2). The proximal and distal portions of IJV, innominate and subclavian veins were suture ligated. Reconstruction was not done as there were good communicating channels. Post operatively the recovery was uneventful without any limb oedema as there were collaterals in the obstructed vein.

Discussion

The presence of tumour in great veins referred to as tumour thrombus is reported to occur with certain malignant diseases like thyroid carcinoma, renal cell carcinoma, renal transitional cell carcinoma, uterine carcinosarcoma, Wilms' tumour, testicular tumour, adrenal cortical carcinoma, lymphoma, pancreatic cancer, osteosarcoma and Ewing's sarcoma [1–4]. The thyroid cancers usually causing such tumour thrombus have been seen in papillary, follicular, insular and anaplastic cancers of thyroid [2, 5–7]. Tumour thrombus occurs by direct extension or by occult vascular spread [2, 8].

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Fig. 1 IJV with thrombus in its lower part

The tumour thrombus may be detected along with the thyroid tumour at initial presentation or with recurrence in thyroid bed or nodes as in our case. Often the thrombus is not clinically detected by examination alone as it is not distinctly palpable. Some patient may have symptoms like pain in neck and on examination, may have tenderness over the sternomastoid muscle. They may appear as nodes along the IJV [8]. Preoperative imaging with ultrasonography often detects thrombus as an incidental finding. Suspected patient should be imaged with CT scan or MRI scans for definitive diagnosis. The thrombus has been detected in follow up Iodine scan after the initial treatment. Some patients are detected with elevated thyroglobulin levels [9].

The tumour spread along the venous flow from IJV downwards into subclavian, brachiocephalic or even superior vena cava and atrium. Thrombus extending into superior vena cava

Fig. 2 Surgical specimen- Thyroidectomy with neck dissection and excised IJV with the thrombus

may present as superior vena cava syndrome [10]. There are reports of thrombus in brachiocephalic vein [11]. Tumour thrombus has also been seen extending into the heart [12].

Long term survival data is not available as there are only anecdotal case reports. All the reported lesions were managed by surgical excision. There is no consensus whether thrombectomy alone would be sufficient. Venotomy and removal of thrombus has been done successfully and would be the treatment when there is extensive involvement into SVC or atrium [12]. Long term occlusion, opens up other communicating vessels, thereby reducing morbidity of excision of part of vein as seen in our patient. In reviewing the reported literature, it is also understood that thrombus occurs either with an advanced tumour, or with recurrence in thyroid or neck nodes or in higher grade tumours. These factors imply that such tumours behave aggressively and has poor prognosis. All the reported case report had limited survival as in our case.

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