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Case Study

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# UNUSUAL PRESENTATION OF PAPILLARY CARCINOMA OF THYROID AS PRIMARY ANTERIOR CHEST WALL MASS: A CASE REPORT

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**ABSTRACT**

Papillary carcinoma of thyroid presenting as a metastatic midline anterior chest wall mass with silent primary lesion in thyroid is a rare event. This case is discussed because of diagnostic challenge faced by us in a case of 61yrs old male presenting as painless cystic midline anterior chest wall mass since 1 year with no other co morbidities. USG examination revealed a soft tissue cystic lesion in anterior chest wall, following which excision was done and histopathological examination confirmed metastatic papillary carcinoma of thyroid which was further supported by immunohistochemistry. On further evaluation, MRI neck was done which showed 0.6 x0.6cm lesion in lower pole of left lobe of thyroid. Patient underwent total thyroidectomy and histopathological examination confirmed follicular variant of micro papillary carcinoma of thyroid in background of autoimmune thyroiditis.

**KEYWORDS:** Papillary carcinoma, chest wall metastasis, Thyroid, Immunohistochemistry.

## INTRODUCTION

Papillary carcinoma comprises 80%-85% of all thyroid malignancies.[1] Most of the time it presents as a thyroid nodule.[2] Metastasis to lung and bone is commonly observed in Differentiated Thyroid Carcinoma.[3] Silent thyroid carcinoma presenting as secondary deposit is rarely seen.[4] This poses a challenge to clinician for definitive diagnosis, treatment and highlights the importance of multidisciplinary approach to reach to a conclusion. Here we are discussing a case of 61yrs old male who presented as midline chest wall mass suggestive of cystic soft tissue lesion which turned out to be a metastatic thyroid cancer without evidence of any primary lesion in the thyroid during clinical as well as initial radiological examination.

## CASE REPORT

A 61yrs old gentleman presented with painless midline anterior chest wall mass since 1 year. It was gradually increasing in size and was not associated with any other symptom or co morbidities. On examination it was soft cystic swelling measuring 6x4x2cm in size, mobile and non-tender. USG neck suggested normal bilateral thyroid glands and an elongated subcutaneous cystic lesion measuring 5.4x2.1x4.6cm, overlying sternum and extending upto suprasternal notch, depicting diffuse internal echoes having echogenic septae and a small solid component was seen in inferior part of the lesion. No obvious extension was noted in the deeper structures. Thyroid gland was seen separately. Findings were suggestive of benign soft tissue tumor with cystic degeneration-? Neurogenic in origin.

Patient underwent complete excision and specimen was received in our department in 10% formalin solution.

Gross examination revealed a grayish brown soft cystic mass with multiple thin septations. The cystic spaces were filled with hemorrhage with a focal area of tiny delicate projections. Multiple sections were taken from the representative areas.

On microscopic examination multiple cystic spaces separated by fibrous septae, filled with hemorrhage were seen. The septae showed fibrosis, infiltration by lymphocytes, plasma cells, histiocytes and hemosiderin laden macrophages. The tiny projections showed papillae with fibrovascular core lined by atypical epithelium, having nuclear enlargement, nuclear clearing and nuclear grooving (Figure 1). Few benign follicles filled with colloid and occasional psammoma bodies were also seen.

In view of above histopathological findings, strong suspicion for papillary carcinoma of thyroid was considered and immunohistochemical panel related to it was performed.

Immunohistochemical stains for TTF1, CK-19, Thyroglobulin and HBME-1(Figure 2-5) were positive in majority of the tumor cells, which confirmed the

diagnosis of metastatic papillary carcinoma of the thyroid.

On receiving the histopathological report by clinician, Subsequent MRI Neck was performed, which showed nodular lesion measuring 0.69x0.59cm in inferior pole of left lobe of thyroid appearing hypointense on T1 and heterogeneously hyperintense on T2w1,which was otherwise not appreciated in USG neck performed earlier.

Patient underwent total thyroidectomy and specimen was received. It showed a solitary grayish white nodule measuring 0.6x0.6cm in inferior pole of left lobe of thyroid.

Microscopy showed infiltrating follicles, lined by atypical epithelium with nuclear enlargement, nuclear clearing and grooving, the background showed features of autoimmune thyroiditis, one lymph node included in the specimen showed metastasis. The findings were suggestive of Follicular variant of papillary microcarcinoma with lymph node metastasis.

**DISCUSSION**

Differentiated thyroid carcinoma is most common endocrine malignancy.[5] Papillary thyroid carcinoma is the predominant form of thyroid cancer accounting for 80-85% of all thyroid cancer cases.[6,7] Follicular type and columnar cell type are the most common morphological variants.[8] A solitary thyroid nodule or mass in the neck is most common clinical presentation of PTC. Rarely, it can present as distant metastatic disease mimicking primary malignancy as seen in our case. Distant metastasis of differentiated thyroid carcinoma is infrequent and the metastasis rate of PTC is lower than that of FTC. This can be explained by the fact that the papillary thyroid cancer metastasize via the lymph nodes whereas follicular thyroid cancer metastasize hematogenously. The distant metastases derived from PTC have been observed in approximately 4% cases.[3] Cervical lymph node involvement is common presentation in PTC with level 3 & 4 lymph nodes being the most common site of metastatic disease in the lateral compartment of neck.[9] Other than the lymph nodes, the most common sites of metastases are the lung and bones.[10] More than 80% of bone metastasis occurs in vertebrae, ribs and pelvis. The rate of metastasis to sites other than the lung and bones is less than 5%.[11]The presence of distant metastasis at the time of presentation reduces the 10 year survival rate by 50%.

Occult thyroid carcinoma is defined as thyroid cancer, with or without local metastasis which was identified after final histology. It can be categorized as: incidental finding of thyroid carcinoma in patients who underwent thyroidectomy for benign disease or at autopsy, incidentally detected papillary thyroid microcarcinoma on imaging studies, clinically apparent metastasis from a clinically undetectable thyroid malignancy and thyroid cancer arising from ectopic thyroid tissue. In our case, patient presented with clinically apparent metastatic deposits in midline anterior chest wall mimicking as primary tumor of this site. USG neck was suggestive of normal bilateral thyroid glands. Grossly, the lesion was greyish brown, soft and cystic with multiple thin septations. Microscopy of the sections from tumor showed multiple cystic spaces filled with hemorrhage. A tiny focus of atypical cells arranged in follicles and formation of occasional papillae was seen. Morphological features of papillary thyroid carcinoma like nuclear clearing and grooving was present in the cells. A positive immunohistochemical staining for TTF-1, CK-19, Thyroglobulin and HBME-1 supported the diagnosis of papillary carcinoma of thyroid. Subsequent MRI neck was done which revealed nodular lesion in inferior pole of left lobe of thyroid measuring less than one centimeter. The patient underwent total thyroidectomy and a diagnosis of follicular variant of papillary thyroid carcinoma was confirmed on histology.

Total thyroidectomy followed by postoperative radioactive iodine therapy is considered as standard treatment of metastatic differentiated thyroid carcinoma. Anti-osteoclastic activity of bisphosphonates has beneficial effect on patients with skeletal metastasis.

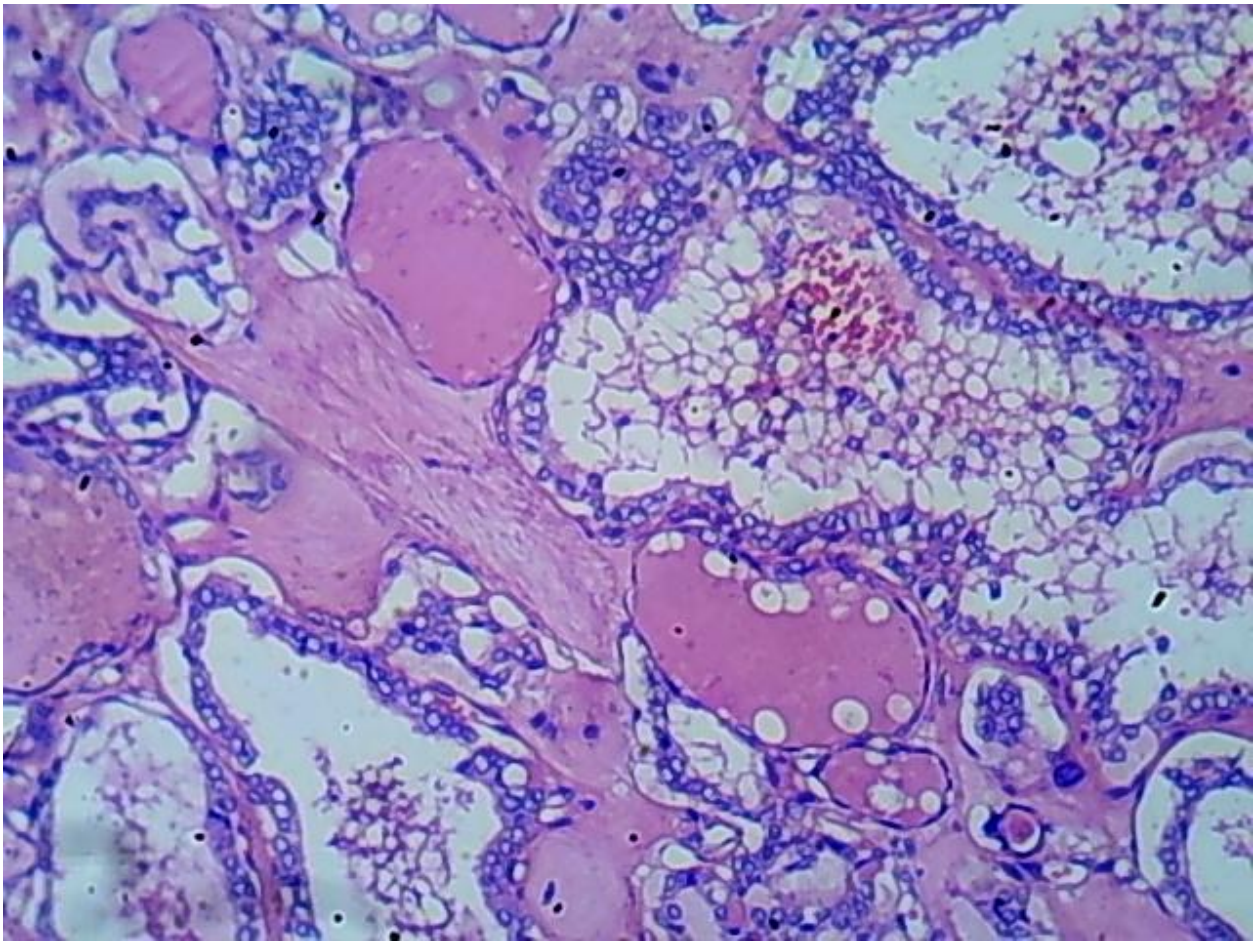

**Figure 1: H&E stained section showing atypical cells with nuclear clearing, follicles filled with colloid, surrounded by lymphohistiocytic infiltrate.(40X)**

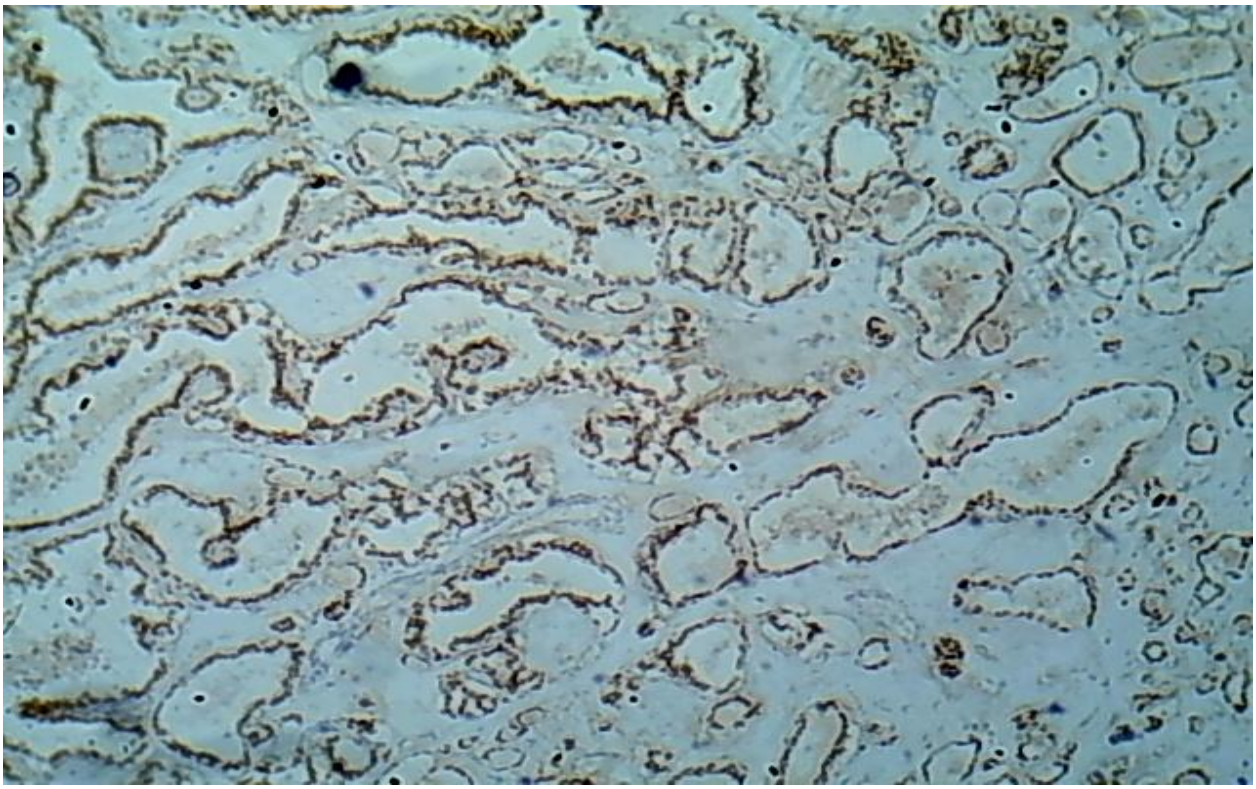

**Figure 2: Nuclear positivity for TTF-1(40X)**

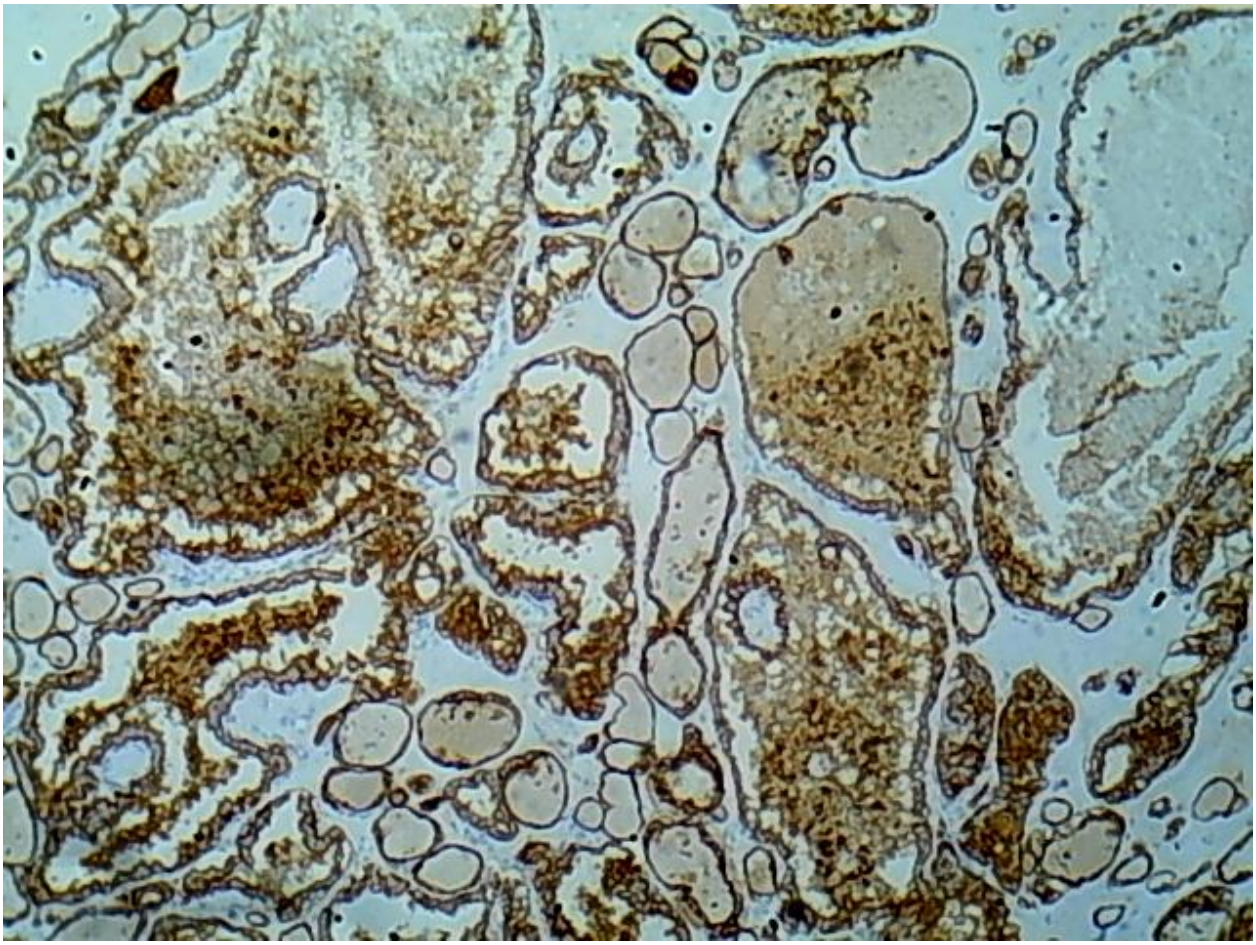

**Figure 3: CK19 highlighting the cells of papillary thyroid carcinoma (40X).**

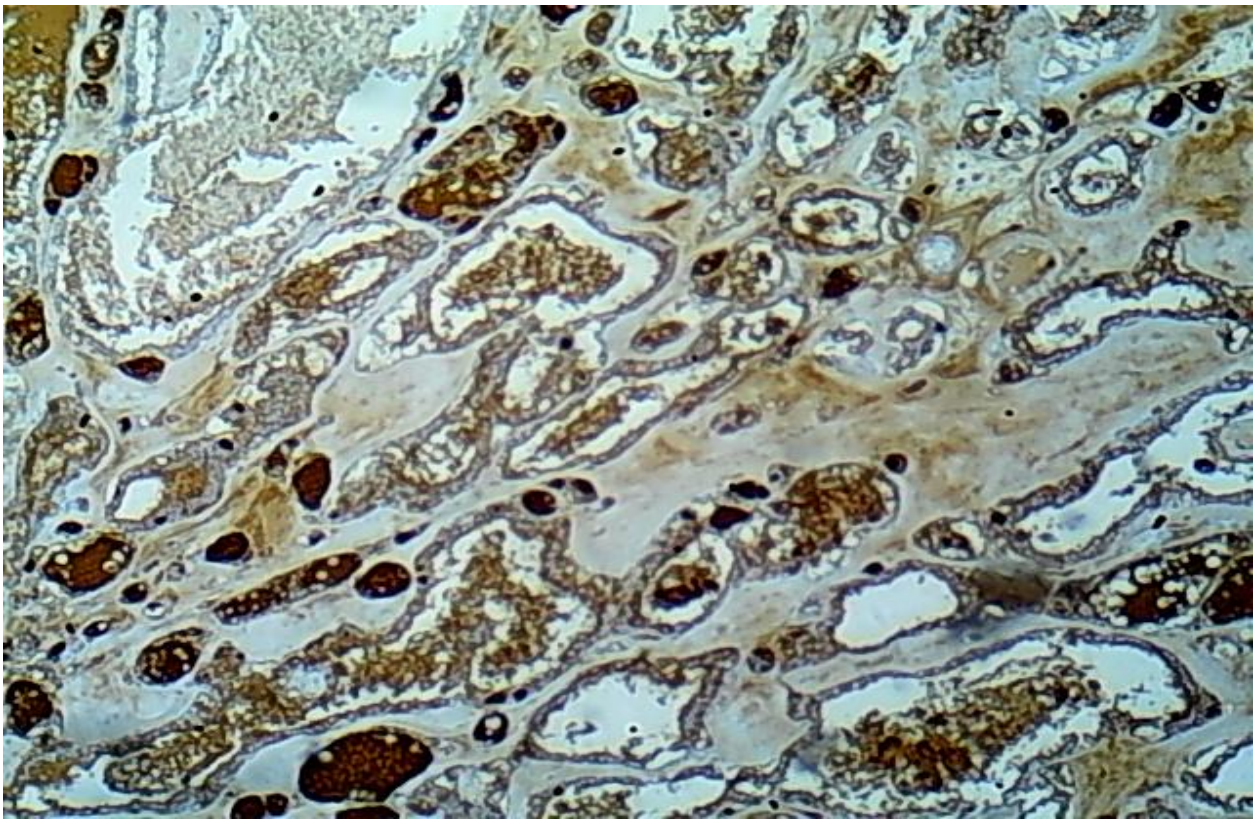

**Figure 4: Luminal and cytoplasmic positivity for Thyroglobulin (40X).**

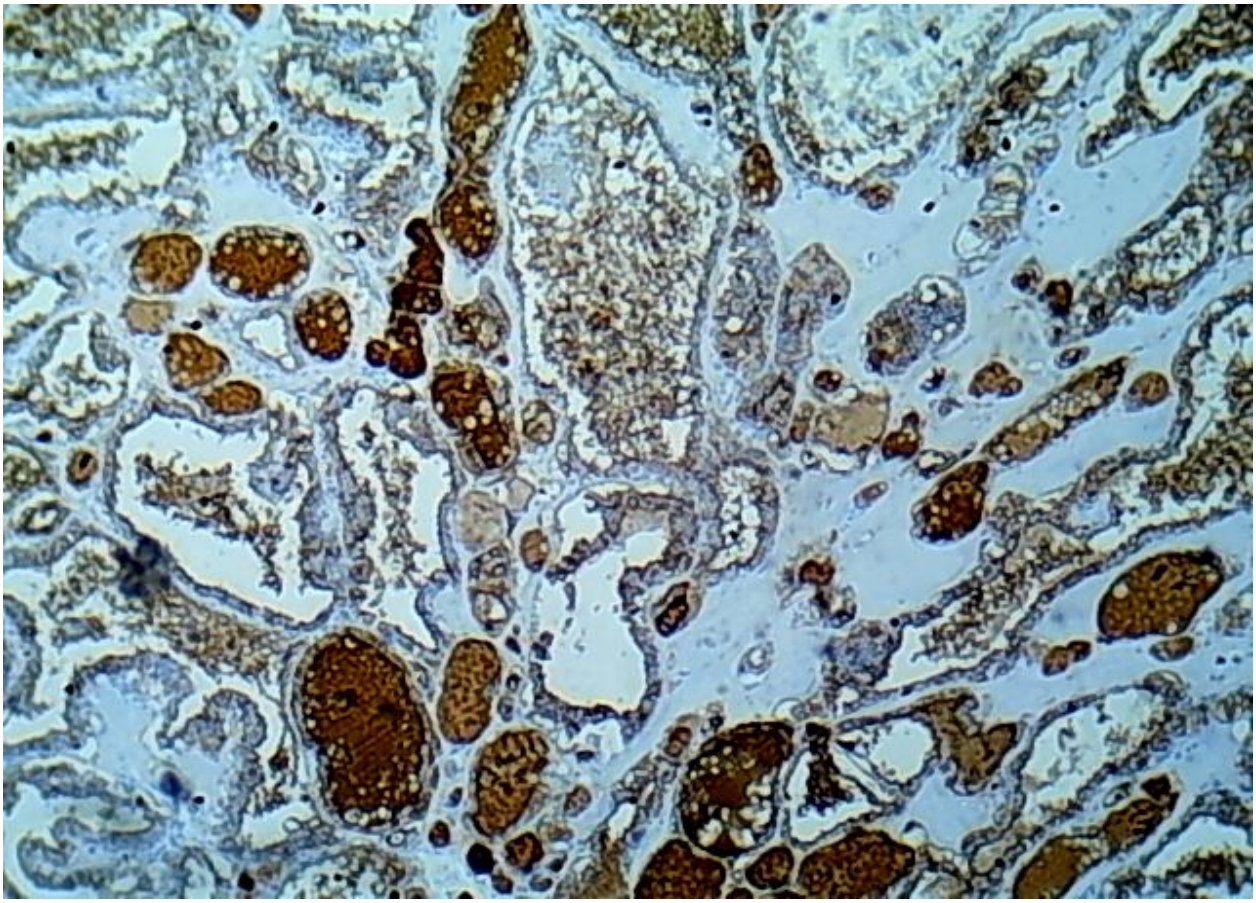

**Figure 5: Strong membranous staining of HBME-1 in papillay carcinoma of thyroid (40X).**

## CONCLUSION

Papillary thyroid carcinoma is the most common endocrine malignancy. Distant metastatic thyroid malignancy presenting as primary chest wall mass is unusual. Cases with distant metastasis are associated with poor prognosis due to difficulty in diagnosis and lack of management guidelines in such patients. In addition to primary tumors of chest wall, distant metastases from other organs to be kept in mind for differential diagnosis.

## REFERENCES


1. Faris C. Scott-Brown's Otorhinolaryngology, Head and Neck Surgery, 7th edn. P.2672.
2. Singh A, Butuc R, Lopez R. Metastatic papillary thyroid carcinoma with absence of tumor focus in thyroid gland. The American journal of case reports. 2013; 14: 73.
3. Shaha AR, Shah JP, Loree TR. Patterns of nodal and distant metastasis based on histologic varieties in differentiated carcinoma of the thyroid. The American journal of surgery. 1996 Dec 1; 172(6): 692-4.
4. Sevinc A, Buyukberber S, Sari R, Baysal T, Mizrak B. Follicular thyroid cancer presenting initially with soft tissue metastasis. Japanese journal of clinical oncology., 2000 Jan 1; 30(1): 27-9.
5. Nawarathna NJ, Kumarasinghe NR, Chandrasekera DN, Senevirathna RJ. Unusual presentation of occult follicular carcinoma of thyroid: As thoracic wall lump. Thyroid Research and Practice. 2016 Jan 1; 13(1): 36.
6. Davies L, Welch HG. Increasing incidence of thyroid cancer in the United States, 1973-2002.Jama. 2006 May 10; 295(18): 2164-7.
7. Limaiem F, Mazzoni T. Cancer, Papillary Thyroid Carcinoma (PTC). InStatPearls [Internet] 2019 Jan 15. StatPearls Publishing.
8. Lloyd RV, Buehler D, Khanafshar E. Papillary thyroid carcinoma variants. Head and neck pathology. 2011 Mar 1; 5(1): 51-6.
9. Caron NR, Tan YY, Ogilvie JB, Triponez F, Reiff ES, Kebebew E, Duh QY, Clark OH. Selective modified radical neck dissection for papillary thyroid cancer—is level I, II and V dissection always necessary?.World journal of surgery. 2006 May 1; 30(5): 833-40.
10. Wexler JA. Approach to the thyroid cancer patient with bone metastases.The Journal of Clinical Endocrinology & Metabolism. 2011 Aug 1; 96(8): 2296-307.
11. Madani A, Jozaghi Y, Tabah R, How J, Mitmaker E. Rare metastases of well-differentiated thyroid cancers: a systematic review. Annals of surgical oncology. 2015 Feb 1; 22(2): 460-6.