

*Case Report*

## Warthin like Variant of Papillary Carcinoma of Thyroid Associated with Hashimoto's Thyroiditis

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### ABSTRACT

Defining the histologic variant of thyroid carcinoma is an important clinical implication as their progression; recurrence, aggressiveness, and prognosis differ. Warthin-like variant is one of the rarest histologic variants of papillary thyroid carcinoma. This is a case of a 20 year old female who presented with a left side neck swelling with mild intermittent pain. Thyroid function tests were within normal limits. Antithyroid microsomal antibodies were positive. USG guided Fine needle aspiration cytology revealed papillary carcinoma thyroid with few cells showing Hurthle cell change, following which left hemi-thyroidectomy was done. Histopathologic study revealed papillae lined by oncocyctic epithelial cells bearing optically clear nuclei with inclusions and grooves at places. Cytoplasm was abundantly eosinophilic and granular (oncocyctic).

**Key words:** Warthin, Papillary carcinoma thyroid, Hashimoto's Thyroiditis.

### INTRODUCTION

Papillary carcinoma is the most common primary malignant neoplasm of the thyroid gland. Warthin-like variant is one of the rarest histologic variants of papillary thyroid cancer, first described by Apel et al. in 1995. According to the current classification of thyroid tumors by WHO, the nine major morphologic variants of papillary carcinoma are follicular, macrofollicular, oncocyctic, clear cell, tall cell, columnar cell, and diffuse sclerosing, solid and cribriform variants. <sup>(1,2,4)</sup> This morphologic variant has distinct features of papillary architecture with prominent lymphocytic stroma in fibrovascular cores, resembling Warthin tumor of the salivary gland. <sup>(1)</sup>

### CASE REPORT

20 year old female presented with a thyroid swelling on the left side of the neck since two months, measuring 2 x 1 cm. Thyroid function tests were within normal limits. Antithyroid microsomal antibodies were positive. USG guided Fine needle aspiration cytology showed highly cellular smears comprising of poorly cohesive thyroid follicular cells as well as papillary arrangement. Most of the cells showed abundant cytoplasm (Hurthle cells) with intra-nuclear inclusions and grooves with sprinkling of lymphocytes. Thus, concluding a diagnosis of papillary carcinoma thyroid. Left sided hemi-thyroidectomy was done. Gross specimen of left hemithyroidectomy measured 2.5 x 2 x 0.5 cm. On cut section, a greyish white, ill defined tumor mass was seen within the thyroid parenchyma measuring 1.8 x 1.5cm.

Microscopy showed tumor cells arranged in papillae with fibro vascular cores. Papillae were lined by oncocytic epithelial cells bearing optically clear nuclei (Ground glass / Orphan Anne eye appearance) with inclusions and grooves at places, cytoplasm being abundantly eosinophilic and granular. Surrounding non-neoplastic thyroid tissue showed presence of lymphoid follicles along with abundant lymphoplasmacytic infiltrate features of Hashimoto's thyroiditis. Lymph nodes were free of tumour infiltration.

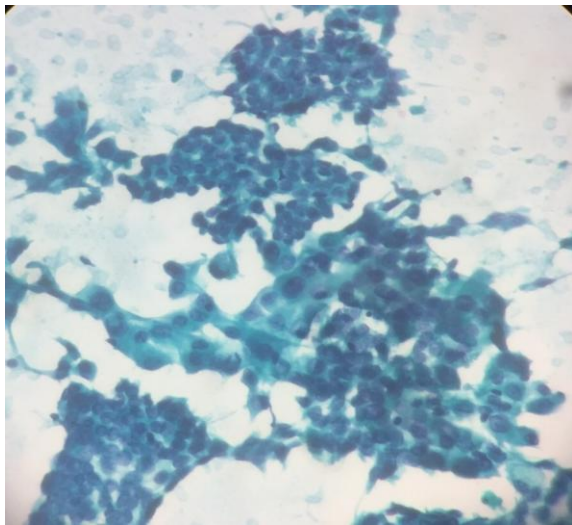


Figure 1: Cytologic findings on PAP stain (10x) -Follicular cells arranged in papillary fronds and syncytial sheets. Nuclei are enlarged with pleomorphism.

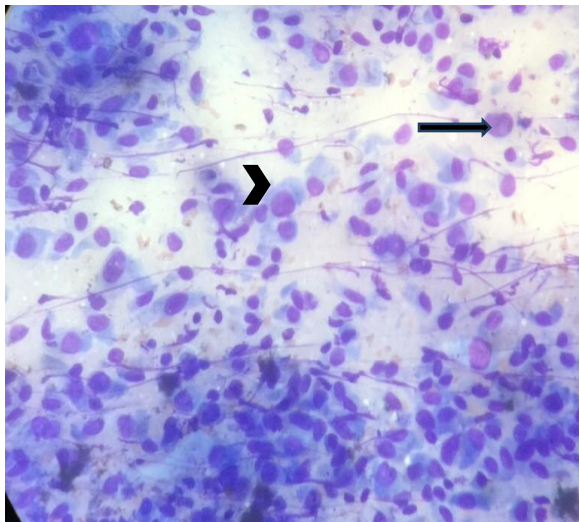


Figure 2: Cytologic findings on Giemsa stain (40x) – Epithelial cells showing nuclear inclusions (→) and abundant oncocytic cytoplasm (➤)



Figure 3: Gross - Cut section of thyroid showing yellowish white infiltrating tumour.

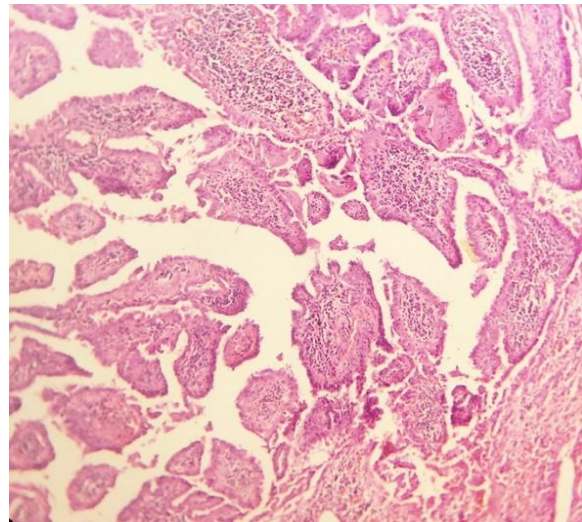


Figure 4: H&E stain (4x) - Branching papillae with central fibro vascular core.

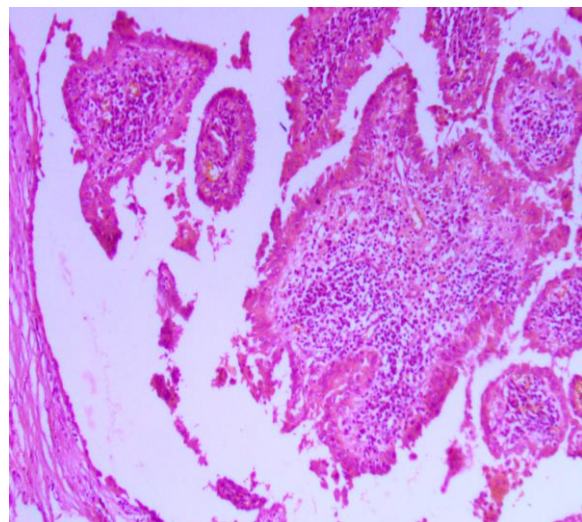


Figure 5: H&E stain (10x) - Papillae lined by oncocytic epithelium along with dense lymphocytic infiltrate

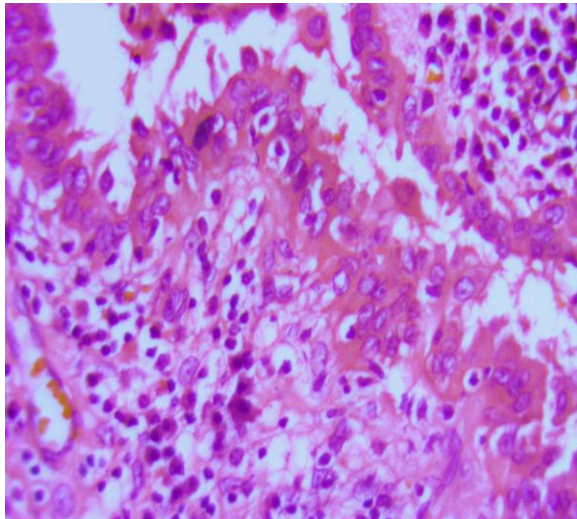


Figure 6: Warthin variant showing nuclear clearing, grooving and overlapping abundant, oxyphilic, granular cytoplasm. Stroma shows lymphocytes, plasma cells and foamy macrophages - H&E stain (40x)

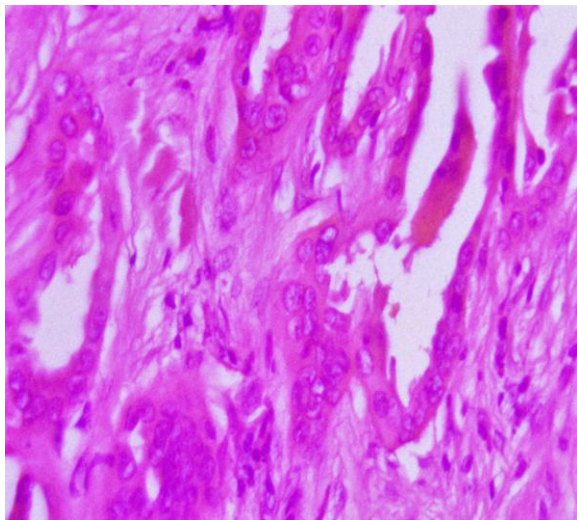


Figure7: H&E stain (40x)–Dense fibrous stroma with lining epithelium.

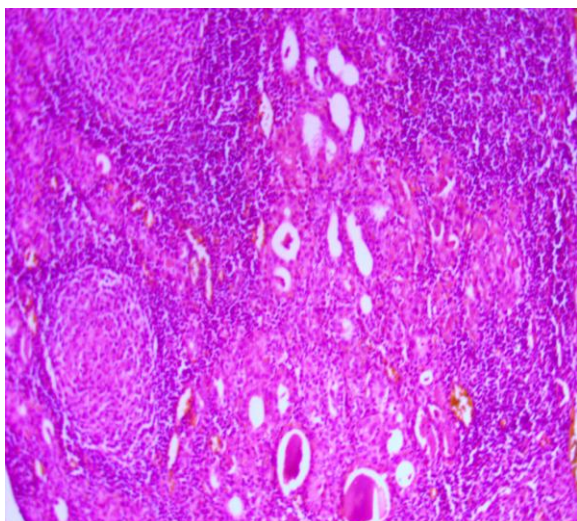


Figure 8: H&E stain (10x) - Areas showing lymphoid follicles with prominent germinal centres and atrophic thyroid follicles (Hashimoto's Thyroiditis)

## DISCUSSION

Warthin-like variant is one of the rarest histologic variants of papillary thyroid cancer, first described by Apel et al. in 1995. Apel et al. chose the name “Warthin-like tumor” because of its histological resemblance to papillary cystadenoma lymphomatosum or Warthin tumor of the salivary glands. <sup>(7)</sup> Approximately 80 cases had been reported by P. Amico et al in 2010. <sup>(8)</sup> According to the current classification of thyroid tumors, WHO recognizes 9 major morphologic variants of papillary carcinoma: follicular, macrofollicular, oncocytic, clear cell, tall cell, columnar cell, diffuse sclerosing, solid and cribriform variants. <sup>(1,4)</sup> It is important to acknowledge all these variants due to a more aggressive biological behavior of at least two of them (tall and columnar cell variants). <sup>(1)</sup> Warthin-like tumors can be mistaken for benign lymphoepithelial lesions of the thyroid, Hürthle cell carcinoma, and tall cell variant of papillary carcinoma in both fine-needle aspiration and histology specimens. <sup>(3)</sup> The nuclear characteristics of tumoral cells are generally those of PTC (nuclear chromatin clearing, membrane thickening, grooves, and pseudoinclusions) and oncocytes (round nuclei with coarse chromatin and prominent nucleoli). <sup>(6)</sup> This morphologic variant has distinct features of papillary architecture with prominent lymphocytic stroma in fibrovascular cores, resembling Warthin tumor of the salivary gland. Diagnosis is histopathological and is based on morphology rather than immunohistochemistry. Surgical and post-op management is same as other thyroid cancers but prognosis is better. <sup>(5)</sup>

## CONCLUSION

Warthin-like variant is an uncommon, relatively unknown variant of papillary thyroid carcinoma, having an excellent prognosis similar to papillary carcinoma.

It is frequently associated with Hashimoto's thyroiditis presenting unique

morphological features that make it easily recognizable on the histologic examination. Further studies and long-term follow-up of the patients are needed to highlight the biological and clinical behaviour of these tumours.

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