

## Synchronous Malignancies-Follicular Variant of Papillary Carcinoma of Thyroid And Squamous Cell Carcinoma of Cricopharynx – A Case Report

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### ABSTRACT

*Patients with head and neck Squamous cell carcinoma are at increased risk for the development of a second primary malignancy (SPM), defined as a second malignancy that presents either simultaneously or after the diagnosis of an index tumor. Here, we report a case of a rare synchronous presentation of follicular variant of Papillary carcinoma (FVPC) of thyroid and Squamous cell carcinoma (SCC) of cricopharynx. A 35 year old female presented with swelling in front of neck since 8 months. Ultrasonography revealed hypoechoic lesion in both lobes of thyroid and lymph node enlargement. Patient underwent thyroidectomy and modified neck dissection. A diagnosis of follicular variant of papillary carcinoma thyroid was made with metastasis from thyroid in two out of five (2/5) lymph nodes and one lymph node showed Squamous cell carcinoma deposits. SCC was found to be from cricopharynx by endoscopy and postoperative histopathological examination of cricopharynx.*

**Keywords:** *synchronous, follicular variant of papillary thyroid carcinoma, cricopharynx, squamous cell carcinoma.*

### INTRODUCTION

Papillary carcinoma (PC) belongs to well-differentiated thyroid cancers. It is most common of all thyroid cancers and is among the most curable cancers. The annual incidence rate of PC in different parts of the world varies from 0.5-10 per 100,000 populations <sup>[1]</sup> and squamous cell

carcinoma of oral cavity including pharynx is the most common subtype of all carcinomas <sup>[2]</sup>. The occurrence of multiple primary malignancies is a well-known fact in oncology. Rates between 2% and 10% have been described in autopsy cases <sup>[3]</sup> Synchronous primary malignancies refer to the occurrence of a novel type of cancer concurrently

or within six months of the diagnosis of the initial primary malignancy

Warren and Gates <sup>[4]</sup> defined multiple primary cancers as satisfying the following three conditions:

- Each tumor shows specific malignant findings
- Two cancers in different sites
- One tumour is not a metastatic focus from the other tumour.

Earlier studies have demonstrated that up to 5% of patients with cancer of the head and neck may harbour clinically unsuspected thyroid cancer<sup>[5]</sup>. Second primary diagnosed within a month of Head and neck cancers is 5.8% <sup>[6]</sup>

Multiple primary tumours appearing synchronously seems unlikely to be merely coincidental, but is suggestive of carcinogen exposure, or perhaps a sort of a “cancer syndrome”. The associated thyroid carcinoma was always detected as a consequence of the surgical treatment of head and neck SCC <sup>[6]</sup>. Thyroid cancer was more frequently found in patients with head and neck SCC having an unfavourable outcome. The 5- year overall survival was only 41% <sup>[7]</sup>

The present study conducted a literature review, which indicated that no report currently exists documenting a simultaneous case of follicular variant of papillary carcinoma of thyroid and cricopharynx Squamous cell carcinoma (SCC)

## CASE HISTORY

A 35 year female came to surgical O.P (outpatient) with C/o Swelling in front of neck since 8

months otherwise asymptomatic. Ultrasonography revealed hypoechoic lesion in both lobes of thyroid and lymph node enlargement. Patient underwent thyroidectomy and modified neck dissection.

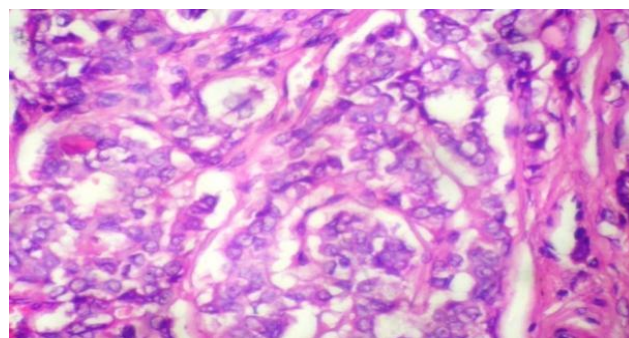
## Pathological findings

We received 6x5x1cm Total thyroidectomy specimen with vaguely nodular surface. Also received irregular yellowish soft tissue masses of sizes 1x1x0.5cm-0.2x0.2x0.5cm.

Cut section of thyroid showed 1cm dia., grey white, and firm to hard circumscribed nodule surrounded by grey brown normal appearing thyroid. Identified five lymph nodes in the irregular fibro fatty tissue.

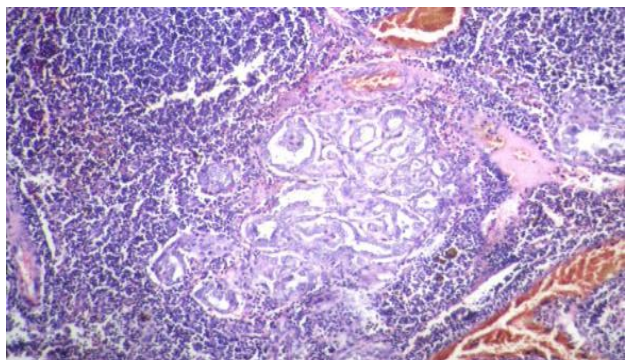
## HISTOPATHOLOGY

Thyroid showed follicular variant of Papillary Carcinoma of thyroid [Figure 1]. Two (2/5) lymph nodes -showed Papillary carcinoma of Thyroid deposits [figure 3] and One (1/5) lymph nodes showed Squamous cell carcinoma deposits [Figure 4]. All confirmed by IHC markers, thyroid carcinoma positive for CK 19 [Figure 4] and Thyroglobulin [Figure 5] and 1/5 lymphnode deposit positive for CK cocktail [Figure 6]. Other lymph nodes showed nonspecific reactive changes.

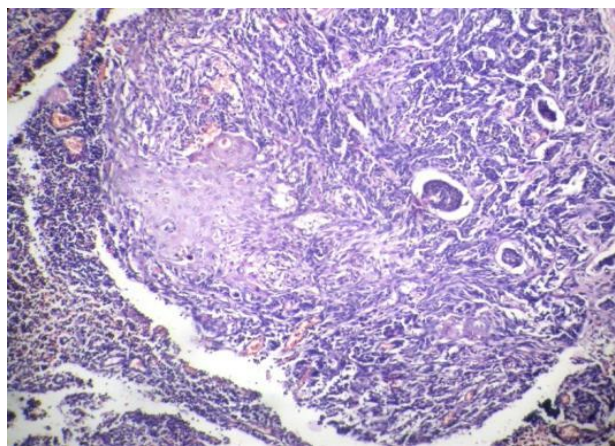


**Figure 1.** Follicular variant of Papillary carcinoma of thyroid (H&E, 40X)

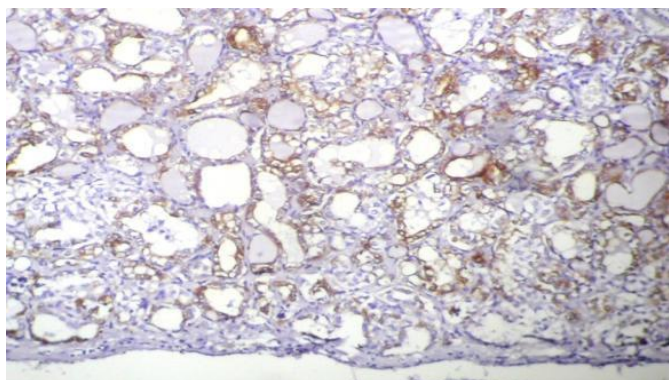




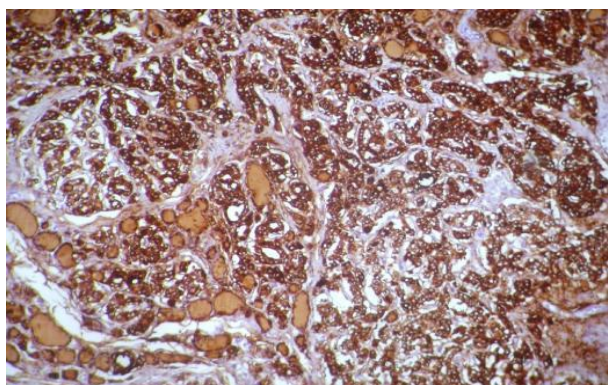
**Figure 2.** Lymph node –Papillary carcinoma deposits



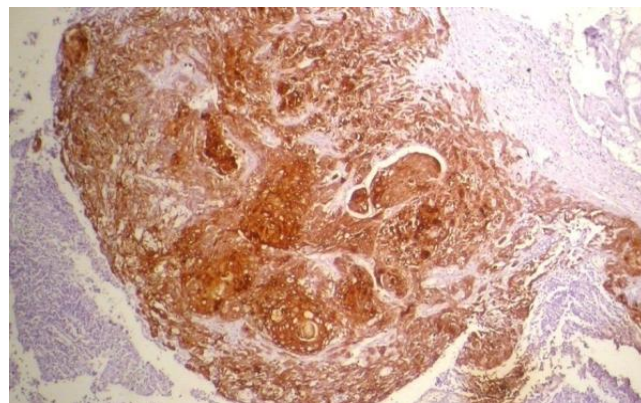
**Figure 3 .** Lymph node -Squamous cell carcinoma deposits



**Figure 4.** CK 19 tumor cells – Positive

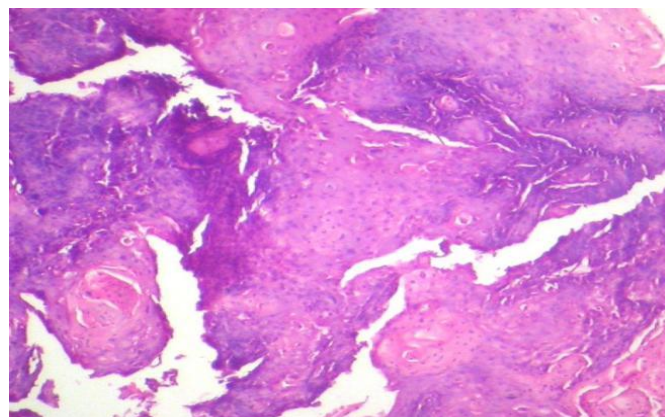


**Figure 5.** Thyroglobulin tumor cells - Positive



**Figure 6.** Cyokeratin cocktail-Positive in SCC deposits.

As SCC deposits were found in one of the lymph node, we retrospectively searched for the SCC primary and SCC was verified as cricopharynx SCC by endoscopy and postoperative histopathological examination of cricopharynx. [Figure 7].



**Figure 7.** Post cricoid growth-Well differentiated Squamous cell carcinoma [H&E, 10X]

So, our final diagnosis was: Synchronous malignancies-Papillary carcinoma of Thyroid and Squamous cell carcinoma of Cricopharynx with both types of metastasis in lymph nodes

## DISCUSSION

Even with the development of novel diagnostic techniques, the incidence rate of single patients exhibiting multiple primary malignant neoplasms has seen a rapid global rise. However, the

occurrence of co-existing primary cancers involving the cricopharynx and thyroid gland remains rare. To the best of our knowledge, the present study reports the first case of asymptomatic, synchronous development of FVPC of thyroid and cricopharynx SCC.

Synchronous double primary malignant neoplasms are secondary malignancy occurring at the same time or within 6 months after the first malignancy <sup>[8]</sup>. Review of literature revealed an increase in incidence of synchronous or metachronous malignancies probably due to: 1) An Increase in the proportion of elderly people 2) Technical advances in the early diagnosis and treatment of cancer.

With regard to the occurrence of a second malignancy, Sandeep Thekkepat et al<sup>[9]</sup> found a 30% increased risk of occurrence of second primary cancer, in thyroid cancer patients, compared general population. Thyroid cancer patients are at an increased risk of developing many specific cancers like: Salivary gland , Pharynx Stomach ,Small intestine ,Colon, Rectum, Bone, Soft tissue sarcoma, on-melanoma skin, Female breast cancer, Prostate ,Kidney, Brain, Adrenal gland and Non-Hodgkin lymphoma

Several theories have been put forth by the authors, to explain the occurrence of this malignancies i.e combination of two primary cancers. Most often, second primary tumour following head and neck cancer, also develops at this level, due to the persistent carcinogenic

Influence on the mucosa of upper aero-digestive tract, even after termination of exposure to

carcinogen factors, due to a genetic instability, chemotherapy and radiotherapy treatments, genetic susceptibility, immune deficiency and prolonged survival after some primary tumours <sup>[10,11,12]</sup>

Other theory was so-called "field cancerization", a phenomenon that occurs during aero-digestive tract when mucosa at this level is exposed to the same types of carcinogens, if they act consistently and for a long time <sup>[13,14,15]</sup>

Review of literature also showed that up to 5% of patients with head and neck squamous cell carcinoma (SCC) may harbor clinically undetected thyroid malignancy, which are always detected as a consequence of the surgical treatment for head and neck SCC <sup>[5]</sup> , but an inverse situation was noted in our case, wherein Head and Neck SCC was detected in the postoperative period of thyroid cancer.

## CONCLUSION

Multiple cancers of the head and neck are not uncommon. In recent years, due to increased life expectancy and high population survival, number of patients who develop multiple cancers are also increased. So it is very important that a patient who has survived to a cancer of the upper digestive tract is to be monitored.

Clinicians overseeing health of patients with primary thyroid cancer should be aware of the risk of occurrence of second primary cancers and also Clinicians treating patients with other cancers must be aware of the potential for thyroid cancer and investigate regularly for early detection of second primary cancers.



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