

## Case Report

### Synchronous Primary Dual Malignancy of Thyroid and Breast: A Case Report

Sahni HS, Nagpal N, Goyal V.

Department of Surgery, GGS Medical College and Hospital, Faridkot, Punjab, India

#### **ABSTRACT:**

Known triad of primary tumors presenting in a synchronous fashion is a proven entity, as in MEN syndrome, linked with specific genetic alterations. However synchronous occurrence of an invasive ductal carcinoma in the breast and a papillary carcinoma in thyroid is an uncommon event sparsely reported in literature. The present study has discussed the presentation, evaluation and management of such a case of dual malignancy.

We hereby report a case of 55 year old female presenting to us with lump in the left breast which was cytological proven Infiltrating ductal carcinoma. On further evaluation with PET CT uptake study also showed increased uptake in the thyroid, FNAC from was suggestive of malignancy. The patient was subject to Left modified radical mastectomy and total thyroidectomy in the same setting. The patient's recovery was uneventful and excised specimens were sent for HPE. The breast specimen showed infiltrating ductal carcinoma with SPR grade 3. Histopathology from thyroid nodule revealed the presence of Papillary carcinoma with chronic lymphocytic changes in the surrounding tissue. The synchronous presentation of dual primary malignancy in Thyroid and Breast is a rarely reported event and should be subject to thorough analysis as treatment options are different for two and may need to be managed accordingly.

**Key words:** Primary Dual Malignancy, Breast, Thyroid.

Received: 18 February 2018

Accepted: 28 February 2018

**Corresponding Author:** Sahni H.S, Department of Surgery, GGS Medical College and Hospital, Faridkot, Punjab, India

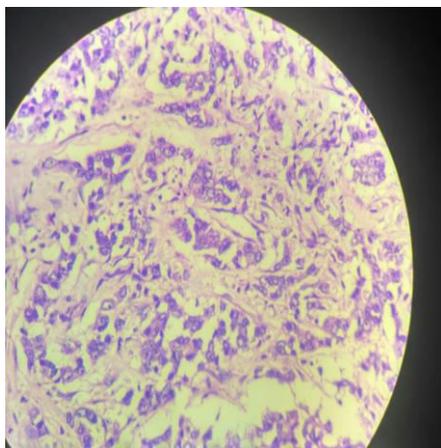
**This article may be cited as:** Sahni HS, Nagpal N, Goyal V. Awareness Regarding Implant among Dental Undergraduate Students: A Survey. J Adv Med Dent Scie Res 2018;6(4):1-3.

#### **I**NTRODUCTION

Known triad of primary tumors presenting in a synchronous fashion is a proven entity as in MEN syndrome, linked with specific genetic alterations. However, synchronous occurrence of carcinoma of different histology in one person is an uncommon event sparsely found in the reported literature. The first report on this dual malignancy was written by Bililroth in 1889.[4] Incidence of death or disease recurrence differentiated thyroid and breast cancer have been steadily increasing for at least 2 decades[1]. They have become the most common malignancies in females [2,3]. However, synchronous neoplasm of the thyroid and breast are rare in the clinic [4]. Herein, we report a rare case of a 55-year-old female who was diagnosed with synchronous primary invasive ductal cancer of breast and papillary thyroid carcinoma

#### **C**ASE REPORT

A 55 year old female presented to us with c/o painless and progressive lump Left breast of size 6\*3 cm in upper outer quadrant of left breast which on cytology was reported as infiltrating ductal carcinoma. A PET-CT was conducted as routine pretreatment evaluation, revealed increased uptake in thyroid of 8\*12 mm which on evaluation with cytology was found to be malignancy (Typing was not defined by this report). Patient was subjected to left modified radical mastectomy and total thyroidectomy in the same sitting. Postoperative course of the patient was uneventful. The histopathology from breast was reported as infiltrating ductal carcinoma(fig 1) with SBR grade 3 without any lymph node metastases. Overlying skin, nipple areola complex and deep surgical resection limit were found free of tumor.

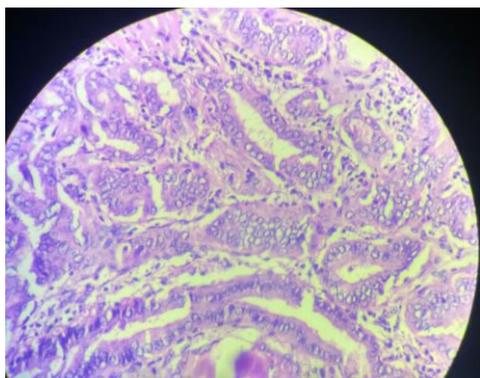


**Fig. 1) Infiltrating ductal carcinoma.**



**Fig 2). Resected breast specimen**

The histopathology from right side thyroid(fig 3) revealed the papillary carcinoma with surrounding thyroid showing chronic lymphocytic changes. Thus, it was concluded that patient had synchronous double primary malignancy.



**Fig 3).Papillary carcinoma thyroid**



**Fig 4). Resected thyroid**

## DISCUSSION

Multiple primary tumors are defined as two or more malignancies in a single individual without any relationship between cancers. Synchronous cancers are second tumors occurring simultaneously or within 6 months after the first malignancy, while metachronous multiple malignancies are secondary cancers that develop after more than 6 months from first malignancy(5) . The etiological risk factors of commonly occurring MPM's are generally genetic for example as in MEN syndrome or exposure to environmental carcinogens as told in theory of field cancerization.(6) Three diagnostic criteria have been proposed for MPMs: 1) each tumor must present definite features of malignancy, 2) each must be distinct , and 3) the chance of one being the metastases of other is excluded(7).

Synchronous primary tumors of the thyroid and breast are very rare in clinical practice, however, recently there has been an increase in the occurrence of such dual malignancies. Studies conducted in the past mainly

focused on possible increases in the incidence of contralateral breast carcinoma. However, the risk of synchronous thyroid carcinoma among women with breast cancer is a subject of recent interest(8).

As suggested by the current guidelines(9), the Analysis of the USA National Cancer Institute's Surveillance, Epidemiology, and End Results data has demonstrated that the incidence of thyroid cancer is higher in patients with a pre-existing malignancy than in patients without a preexisting malignancy and that the incidence of other malignancies is higher in patients with thyroid cancer than in patients without thyroid cancer[10]

Van et al[10] assessed data from the American Cancer Society and discovered that thyroid cancer in female patients led to a 0.67-fold increase in the subsequent development of breast cancer, but thyroid cancer in males led to a 29-fold increase in the subsequent development of breast cancer. Moreover, breast cancer in female patients led to a 2-fold increase in the subsequent diagnosis of thyroid cancer, whereas breast cancer in male patients led to a 19-fold increase in the subsequent diagnosis of thyroid cancer. These data may have important implications for

patient follow-up and screening after primary cancer treatment.

Goto, *et al.* in their article have described a case of synchronous papillary carcinoma of thyroid and breast IDCC.(11)

It is essential to establish the primary nature of both tumors as the treatment modalities for both may differ significantly. Also the cause of such a presentation needs to be thoroughly investigated whether environmental or genetic. The surgical treatment of multiple primary malignancies are curative resection of each malignant tumor in condition that they are operable and resectable(12).

## CONCLUSION

A strong clinical suspicion and thorough evaluation should be done if such a scenario arises. Establishing the primary nature of tumor is epitome as treatment modality and prognosis may differ stage by stage for each primary malignancy.

## REFERENCES

1. Siegel R, Naishadham D, Jemal A. Cancer statistics, 2013. *CA Cancer J Clin* 2013;63:11–30.
2. Jemal A, Bray F, Center MM, et al. Global cancer statistics. *CA Cancer J Clin* 2011;61:69–90.
3. DeSantis C, Siegel R, Bandi P, et al. Breast cancer statistics, 2011. *CA Cancer J Clin* 2011;61:409–18.
4. Ghosh S, Rao PB, Sarkar S, et al. A rare case of a synchronous anaplastic carcinoma thyroid with ductal carcinoma breast. *Case Rep Oncol Med* 2014;2014:468159.

5. Suzuki T, Takahashi H, Yao k,. Multiple primary malignancies in the head and neck : A clinical review of 121 patients. *Acta Otolaryngol suppl.* 2002;547: 88-92.
6. Kaneko S, Yamaguchi n, Epidemiological analysis of site relationships of synchronous and metachronous multiple primary cancers in national cancer centre,Japan,1962-1996.*jpn j clin oncol* 1999;29:96-105
7. Warren S, Gates O,. Multiple primary malignant tumors: A survey of literature and a statistical study. *Am J Cancer.*1932;16:1358-1414.
8. Huang J, Walker R, Groome PG, et al. Risk of thyroid carcinoma in afemale population after radiotherapy for breast carcinoma. *Cancer*2001;92:1411–8.
9. Haugen BRM, Alexander EK, Bible KC, American Thyroid Association Management Guidelines for Adult Patients with Thyroid Nodules and Differentiated Thyroid Cancer. *Thyroid* 2015;26:1–33.
10. Van Fossen VL, Wilhelm SM, Eaton JL, et al. Association of thyroid,breast and renal cell cancer: a population-based study of the prevalence of second malignancies. *Ann Surg Oncol* 2013;20:1341–7.
11. Goto K, Takeuchi Y, Yakihara A, Kotsuji F. Synchronous invasive squamous cell carcinoma and clear cell adenocarcinoma of the uterine cervix:A different human papillomavirus status. *Gynecol Oncol* 2005;97:976-9.
12. Yoshino K, Asanuma F, Hanatani Y, Kumai K, Ishibiki K. Statistical studies on multiple primary cancers including gastric cancers. *Gan No Rinsho.*1984;30(12Suppl);1514-1523.

**Source of support:** Nil

**Conflict of interest:** None declared

This work is licensed under CC BY: *Creative Commons Attribution 3.0 License.*