

# An uncommon thyroid carcinoma: sclerosing mucoepidermoid carcinoma with eosinophilia of thyroid gland

*Dr. S. Thuraisamysarma  
Senior Registrar in Surgery,  
Teaching Hospital, Jaffna.*

*Dr. R. Vaaheesan  
Registrar in Surgery,  
Teaching Hospital, Jaffna.*

*Dr. S. Raviraj  
Consultant Surgeon,  
Teaching Hospital, Jaffna.*

## **Abstract:-**

Sclerosing Mucoepidermoid Carcinoma with Eosinophilia (SMECE) is recently recognized Thyroid malignancy associated with Hashimoto's Thyroiditis. It was first described by Chan et al(1) in 1991. Up to now only 25 cases of SMECE have been reported in the literature. Most of these cases had a relatively prolonged survival. But in some patients aggressive behaviour and extra thyroidal extension or distant metastasis have been noted. Mucoepidermoid carcinoma is a rare primary thyroid tumour with indolent biologic potential. Two types of tumours have been described in this category; mucoepidermoid carcinoma (MEC) and Scierosing mucoepidermoid carcinoma with eosinophilia (SMECE). We present il 62 year old patient with SMECE of thyroid, who underwent total thyroidectomy in 2005

## **Keywords:-**

Mucoepidermoid Carcinoma, Sclerosis, Eosinophilia, Thyroid

## **Introduction:-**

Sclerosing Mucoepidermoid

Carcinoma with Eosinophila (SMECE) is a recently recognized thyroid malignant neoplasm. It was first described by Chan et al (1) in May 1991 by Department of Pathology Vale University School of Medicine, New Haren. They reported eight case of distinctive low grade carcinoma of Thyroid gland occurring in a back ground of Hashimoto's Thyroiditis.

At present only 25 cases of this entity have been described in the literatures(1-9/15)

We report a case of' SMECE and briefly review with the literatures.

## **Case Report:-**

A 62 years old female patient presented with a firm painless lump in the Thyroid region for two years and rapidly increasing in size for last three months. The physiological status on clinical evaluation was euthyroid and she had mild hoarseness of voice for last two months. Physical examination revealed multinodular goiter with firm masses on both lobes of Thyroid measuring 8 cm X 6 cm in size with no cervical lymphadenopathy. Routine

investigations include blood counts, biochemical tests which includes thyroid function test and tumour markers (serum calcitonin, Thyroglobulin) were within normal range. The indirect laryngoscope examination revealed sluggish movement of right vocal cord. Ultra Sound Scan of neck revealed multinodular goiter with Hypo echogenic area in the right lobe of Thyroid with increased vascularity and suggested FNAC. U/S guided FNAC done, the report revealed suspicious cells with background of Hashimoto's thyroiditis and suggested biopsy.

The patient underwent total thyroidectomy with preservation of parathyroid glands & recurrent laryngeal nerves. Post operative period was uneventful.

The biopsy revealed neoplastic areas consists of short cords and small solid islets which were formed by atypical cells in a densely hyalinized fibrous stroma. These atypical cells were medium to large in size, round or polygonal in shape and contained moderate amount of pale eosinophilic clear cytoplasm. The nuclei were round with centrally placed nucleolus. In some areas the cells showed obvious squamous differentiation with Keratin pearl formation. There was a minimal vascular invasion particularly of medium size vessels with luminal obstruction. Mitotic figures were observed in the tumour cells. Non neoplastic portion of thyroid tissue showed typical features of Hashimoto's thyroiditis and suggested for immune histochemistry study for cytokeratin. It was done and tumour cells were strongly positive for cytokeratin.

Pathological diagnosis was compatible with SMECE of thyroid.

The patient is following the surgical and oncological clinic without any complications.

#### **Discussion:-**

SMECE is diagnosed by histopathological appearance. Histologically it consists of small nests of strands of squamous cells with rare mucus cells. Extensive sclerosis, squamous and globular differentiation, and concomitant inflammatory infiltrate rich in eosinophils with the background of Hashimoto's thyroiditis suggestive of SMECE. The neoplastic cells are strongly positive immunoreactive for cytokeratin and not for thyroglobulin or calcitonin. The cause for eosinophilic infiltration is not known. But the tumour cells produce eosinophilic chemotactic factors which secrete these eosinophilic material (11).

In view of all 25 SMECE cases, (15) described in the literature, the patients' age group ranged from 32 - 74 years. This patient is 62 years old. Females are predominantly affected, female male ratio is 23:1. Most of the patients with SMECE had a relatively indolent clinical course and the prognosis is fairly good - survival more than 10 yrs. Rare cases of Lung, bone and other distant metastasis have been reported (3,4,7,8)

This patient is also still following the clinic without any complications.

SMECE should be differentiated from other primary thyroid tumours that can show foci of squamous differentiation, extensive sclerosis, eosinophilic infiltration and neoplastic cells are strongly positive immunoreactive for cytokeratin. Vascular invasion with luminal obliteration of medium sized vessels is observed as a special feature of SMECE.

#### **Conclusion:-**

The histogenesis of SMECE of thyroid remains unclear and controversial. Based on its constant association with Hashimoto's thyroiditis, it has been suggested that the SMECE originates in the

benign squamous nests, that are often found in Hashimoto's thyroiditis. (1,3,4)

Many authors have suggested that SMECE develops from ultimobronchial body vestiges of solid cell nests (9,14)

SMECE originally described as a relatively indolent neoplasm as in this case. But there are few reported cases with aggressive behavior with distant metastasis (8) It occurs predominantly in older women with Hashimoto's thyroiditis.

#### References :-

1. Chan KJC, Albores-Saavedra J, Battifora H, et al. Sclerosing mucoepidermoid thyroid carcinoma with eosinophilia. A distinctive low-grade malignancy arising from the metaplastic follicles of Hashimoto's thyroiditis. *Am J Surg Pathol* 1991;15:438-48
2. Bondeson L, Bondeson AG. Cytologic features in fine-needle aspirates from a sclerosing mucoepidermoid thyroid carcinoma with eosinophilia. *Diagn Cytopathol* 1996;15:301-5
3. Sim SJ, Ro JY, Ordonez NG, et al. Sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid: report of two patients, one with distant metastasis, and review of the literature. *Hum Pathol* 1997;28:1091-6.
4. Geisinger KR, Steffee CH, McGee RS, et al. The cytomorphologic features of sclerosing mucoepidermoid carcinoma of the thyroid gland with eosinophilia. *Am J Clin Pathol* 1998;109:294-301.
5. Ro JY, Sim SJ, Ordonez NG, et al. Sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid (SMECE): clinicopathologic and immunohistochemical studies of 4 cases. *Mod Pathol* 1998;11:59A.
6. Cavazza A, Toschi E, Valcavi R, et al. Sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid: description of a case. *Pathologica* 1999;91:31-5.
7. Chung J, Lee SK, Gong G, et al. Sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid glands: a case report with clinical manifestation of recurrent neck mass. *Korean Med Sci* 1999;14:338-41.
8. Solomon AC, Baloch ZW, Salhany KE, et al. Thyroid sclerosing mucoepidermoid carcinoma with eosinophilia: mimic of Hodgkin disease in nodal metastases. *Arch Pathol Lab Med* 2000;124:446-9.
9. Baloch ZW, Solomon AC, Iivolsi VA. Primary mucoepidermoid carcinoma and sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid gland: a report of 11 cases. *Mod Pathol* 2000;13:802-7.
10. Wenig BM, Adair CF, Heffess CS. Primary mucoepidermoid carcinoma of the thyroid gland: a report of six cases and a review of the literature of a follicular epithelial tumor. *Hum Pathol* 1995;26:1099-108.
11. Lowe D, Jorizzo J, Hutt MSR. Tumor-associated eosinophilia: a review. *J Clin Pathol* 1981;34:1343-8.
12. Cameselle-Teijeiro J, Febles-Perez J, Sobrinho-Simoes M. Papillary and mucoepidermoid carcinoma of the thyroid with anaplastic transformation: a case report with histologic and immunohistochemical findings that support a provocative histogenetic hypothesis. *Path Res Pract* 1995;191:1214-21.
13. Iivolsi VA. *Surgical pathology of the thyroid*. Philadelphia: WB Saunders; 1990
14. Rosai J, Carancui MI, Delellis RA. *Tumors of the thyroid gland. Atlas of tumor pathology. 3rd series, Fascicle 5*. Washington, DC: Armed Forces Institute of Pathology. 1992.
15. Ozkan Kanat et al. Sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid gland: Description of a case and review of the literature. *Turk J of Can* 2004, 34: 122-26.