

Unusual Presentation of a Solitary Thyroid Cyst

Dear Editor,

Recurrent laryngeal nerve (RLN) lies in close proximity with the thyroid gland. Thus, thyroid diseases, mainly the malignant ones, tend to cause irreversible recurrent laryngeal nerve damage due to the infiltration of the tumour cell. RLN damage due to benign lesion particularly from a solitary thyroid cyst is a rare incident. We report a case of a patient with right vocal cord palsy due to compression from a lymphoepithelial cyst of the thyroid. The patient regained his normal vocal cord functions 6 months post-right lobectomy.

Case Report

A 49-year-old Malay businessman presented with 3 months' history of hoarseness. There were no other symptoms except a change in voice and a visible neck mass. On examination, a solitary mass on the right side of the neck was established. It measured 3 x 3 cm, was non-tender, firm and moved with swallowing. The right vocal cord was immobile at paramedian position.

The initial fine needle aspiration cytology (FNAC) sampled parathyroid tissue and the second aspiration revealed colloid goitre. Computed tomography (CT) scan showed a large cystic mass on the right side of the thyroid invaginating into the right tracheoesophageal groove and pressing onto the vertebra body.

The patient underwent right lobectomy. Intraoperatively, a large oval cystic mass was found within the right lobe of the thyroid. The mass was located in the posterior-inferior part of the right lobe seated in the tracheoesophageal groove. Right recurrent laryngeal nerve could not be identified. An extracapsular dissection and excision of the cyst with partial lobectomy was carried out.

The final histopathological examination revealed that the cystic lesion was lined by stratified squamous epithelium with areas of ulceration. The cystic wall composed of fibrocollagenous tissue with focal areas of lymphoid aggregates. In some areas, there were lymphoplasmic cells infiltrations in the cyst wall. Within the cyst wall there were a few smaller cysts which were also lined with squamous epithelium (Fig. 1). The rest of the thyroid tissue exhibited a pattern colloid goitre. No malignant features were identified. There were a few clusters of solid cell nest (SCN) seen nearby. These clusters were strongly positive for epithelial membrane antigen (EMA), cytokeratin (CK) and thyroglobulin immunohistochemicals staining. However, it

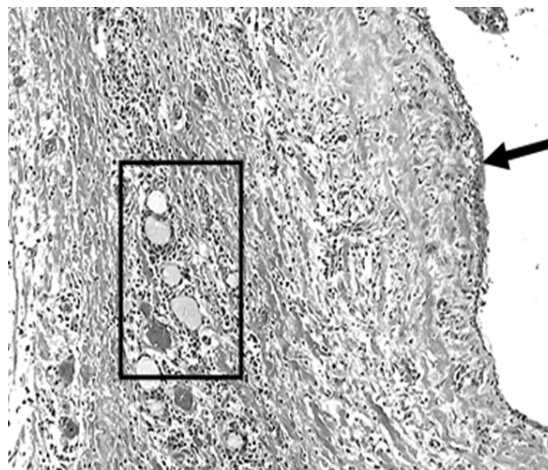


Fig. 1. Few smaller cysts within the cyst wall which were also lined with squamous epithelium.

was negative for calcitonin and carcino-embryonic antigen (CEA) marker.

The patient regained his normal voice within 4 months after surgery but the right vocal cord showed sluggish movement. After 6 months, the right vocal cord recovered fully.

Discussion

Vocal cord paralysis in the presence of a thyroid mass usually points towards malignancy. The causes of vocal cord palsy is quoted as 25% due to malignancy, 20% due to surgical trauma, 15% due to non-surgical trauma, neurological and idiopathic causes, respectively.¹ The common malignancies associated with vocal cord palsy are lung carcinoma, oesophageal carcinoma and thyroid carcinoma. In the case of thyroid mass, it invariably indicates recurrent laryngeal nerve tumour infiltration.

However, there are a few cases documented that in the absence of malignant thyroid lesion, vocal cord paralysis can occur. The vocal cord paralysis in benign lesion can be due to several pathophysiologic processes. It could be due to stretching, inflammation and oedema, thrombosis of blood supply, toxic neuritis, perineural fibrosis and calcification.

In this patient, there was a single cystic lesion surrounded by benign thyroid tissue changes. The cyst wall was made of fibrocollagenous tissue and lined by stratified squamous epithelium. There were patches on the wall where instead of epithelial covering, it showed signs of inflammation.

Furthermore, SCN was seen in the vicinity. These histopathological features could be inferred to branchial cyst anomaly.

There are no specific features of branchial cyst. Two-thirds of branchial cysts occur anterior to upper third of sternocleidomastoid muscle. The remaining one-third of cases could occur anywhere in the neck including posterior triangle, pharynx and parotid gland. The cyst linings are stratified squamous epithelium but occasionally non-ciliated columnar epithelium may also present. Eighty per cent of the cyst wall also contains lymphoid tissue in their wall;² however, they lack medullary region and interfollicular zones.³ The cyst usually contains straw-coloured fluid with cholesterol crystals.

Initially similar findings were reported as branchial cleft like cyst due to the presence of squamous cell epithelial lining and SCN. It is only later on that the term, lymphoepithelial cyst of the thyroid becomes popular. The presence of branchial-derived tissue such as thymic and parathyroid tissue in thyroid supported the theory that the cyst may arise from branchial remnant.⁴ The cyst may be derived from SCN, which is thought to have originated from the ultimobranchial body. This relation is supported by immunohistochemistry staining. Both structures stained strongly to CEA. Another differential diagnosis is thyroglossal cyst (which is thought to be derived from the tract of embryonal thyroid gland to its adult position) and the metaplasia of follicle lining.

This report might be a unique case of the lymphoepithelial cyst of the thyroid resulting in vocal cord palsy. Even though the true origin of this type of cyst is unknown, it represents a separate entity of differential diagnosis of thyroid mass. A complete recovery after the decompression further supports the mechanism of vocal cord paralysis secondary to compression.

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