ONCOCYTIC VARIANT OF A DUCTAL RETENTION CYST IN THE INTERARYTENOID REGION

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Abstract: Laryngeal cysts are a mixed group of benign lesions that have been classified as per their site of origin and histopathology. We report a case of an interarytenoid cyst in a 56 year old male with hyperparathyroidism. The cyst was resected under an operating microscope using KTP532 laser. It was reported on histopathology as an oncocytic variant of a ductal retention cyst.

Keywords: Interarytenoid region; retention cyst; KTP 532 laser.

INTRODUCTION

Majority of laryngeal cysts present in the glottic area followed by the ventricular folds and the aryepiglottic folds¹. Retention cysts are an abnormal dilatation of mucous glands which are numerous in the commonly affected ventricle and ventricular folds. The involvement of the interarytenoid region which also contains mucous glands is rare. Oncocytes are granular, intensely eosinophilic swollen cells that replace ductal and acinar cells with age². Interarytenoid cysts may be an incidental finding due to their location. In the adjacent inferiorly located postcricoid region the cyst may cause dysphagia³.

CASE REPORT

A 56 year old male patient, a known case of hyperparathyroidism admitted under the surgical unit was referred to our department with a history of foreign body sensation in the throat of 1 month duration. Indirect laryngoscopy revealed a globular pedunculated lesion in the posterior aspect of the interarytenoid region. The vocal cords were normal and mobile equally. There was no pooling of saliva. The serum calcium and prothrombin levels were elevated.

The patient was taken up for excision biopsy of the lesion under general anaesthesia using a lasoflex endotracheal tube. A Weerda's distending laryngoscope was used to expose the mass (Figure 1). The mass was globular with a pedicle attached to the posterior aspect of the interarytenoid region. Under an operating microscope with the help of KTP 532 laser (8 watts, 350 joules), the mass was excised in toto. The cut margins were sutured using 4-0 vicryl^R.

The gross specimen weighing 1 gm was a 2x1.5x0.5cm cystic mass containing mucinous material. The inner surface was grayish white and corrugated. Microscopically, sections from the cyst wall showed tissue lined by squamous epithelium with congested vessels and lymphocytic infiltrate with occasional lymphoid aggregate (figure 2a). In some areas the cyst was also lined by columnar cells with oxyphilic metaplasia partly single layered and partly hyperplastic forming papillary infoldings

focally (Figure 2 b). The histopathological report of the specimen was an oncocytic variant of a ductal retention cyst. On follow up after 3 weeks the interarytenoid region appeared healthy.

DISCUSSION

Verneuil (1852) originally divided the laryngeal cysts into retention, congenital, lymph or blood and traumatic or implantation cysts⁴. A revised classification into ductal and saccular cysts was made based on location and depth of the cyst in the larynx⁵. Newman et al created a modified working classification dividing laryngeal cysts into epithelial cysts with or without lymphoid tissue, tonsillar cysts and oncocytic cysts⁶. This classification takes into account operative trauma which may obscure the relation of the cyst to surface epithelium. In the series of Ramesar and Albizzati (n=72pts.) it was noted that epithelial cysts were more common, tonsillar cysts tend to be multiple and oncocytic cysts occurred in the older age group⁷. Most of the series of laryngeal cysts include vallecular cysts^{5,6,7}. The vallecula is a region described in the oropharynx.

Cysts in this region are relatively more common compared to laryngeal cysts. Though on histopathology the cysts of these two anatomical sites have similarity, vallecular cysts should be classified separately. Laryngeal cysts present with hoarseness, foreign body sensation, dysphagia and, rarely, stridor^{1,6,7}. Cysts in the interarytenoid region may be an incidental finding but may cause dysphagia if there is an inferior extension or if they arise from the post cricoid region. For detection of an inferiorly located cyst a dynamic videofluoroscopic swallowing study and a prelaryngeal skin traction or a trumpet maneuver during rigid / flexible endoscopic examination is required³.

The interarytenoid area contains abundant secretory glands which can account for the presentation of the ductal retention cyst in this region. The oncocytic variation in the above case could be age related. The process may be of a retention cyst formation followed by degeneration of the epithelial cells into eosinophilic, swollen oncocytes and pressure necrosis². Differential diagnosis for a mass in the interarytenoid region should include a fibroma, lipoma, papilloma or granulomatous

Fig I: Intraoperative microendoscopic view of the interarytenoid cyst

Figure II :Histopathology (H&E x100) - lining squamous epithelium with underlying lymphocytic infiltrate and occasional lymphoid aggregate.

Figure III :Histopathology (H&E x400) - lining columnar cells with oxyphilic metaplasia.

lesions. An underlying malignancy should be ruled out especially in the older age group. Marsupialization of the laryngeal cyst is adequate in most of the cases. It is suitable for cysts which are large, associated with secondary infection or adherent to the surrounding tissue, where chances of cyst remnants is very high after excision. Aspiration of the cyst contents may be required for very large cysts which may make the removal easier and may relieve the stridor if present, avoiding a tracheostomy.

Resection of the interarytenoid cyst was done in our case as it was small and pedunculated with a stalk attached to the interarytenoid region. The defect was sutured to facilitate early healing as delayed healing with fibrosis in this region may affect the movements of the arytenoids and thereby the voice.

REFERENCES

1. Arens, C, Glanz, H, Kleinsasser, O.(1997): *Clinical and morphological aspects of laryngeal cysts*. *Eur Arch Otolrhinolaryngol* 254:430-436.
2. Martin-Hirsch, D.P, Lannigan, F.J, Irani, B, Batman, P.(1992): *Oncocytic papillary cystadenomatosis of the larynx*. *J Laryngol Otol* 106:656-658.
3. Guo, Y-C, Chu, P-Y, Lee, R-C, Chang, S-Y.(2001): *Retention cyst of the post cricoid region (Quiz case 2)*. *Arch Otolaryngol Head Neck Surg* 127:84 & 86.
4. Myerson, M.C.(1933): *Cysts of the larynx*. *Arch Otolaryngol* 18:281-290.
5. DeSanto, L.W, Devine, K.D, Weiland, L.H.(1970): *Cysts of Larynx – classification*. *Laryngoscope* 80:145-176.
6. Newman, B.H, Taxy, J.B, Laker, H.I.(1984): *Laryngeal cysts in adults: A clinicopathologic study of 20 cases*. *American Journal of Clinical Pathology* 81:715-720.
7. Ramesar, K, Albizzati, C.(1988): *Laryngeal cysts: Clinical relevance of a modified working classification*. *J Laryngol Otol* 102:923-925.

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