

Oncocytic cystadenoma of the larynx – case report

Onkocytarny torbielakogruczolak krtani – opis przypadku

Małgorzata Czesak, Antoni Bruzgielewicz, Kazimierz Niemczyk

Department of Otolaryngology, Medical University of Warsaw. Head of Department: Professor Kazimierz Niemczyk, MD, PhD

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ABSTRACT: An uncommon oncocytic cystadenoma of the larynx in a 60-year-old woman is presented. The only one symptom reported by the patient was hoarseness. She was treated by endolaryngeal surgery with CO₂ laser excision. Pathogenesis and methods of treatment are discussed.

KEYWORDS: tumor of the larynx, oncocytic cystadenoma, hoarseness, laser surgery

STRESZCZENIE: W pracy autorzy opisali przypadek 60-letniej kobiety z onkocytarnym torbielakogruczolakiem krtani. Jedynym symptomem zgłaszanym przez pacjentkę była chrypka. Kobieta została poddana mikrochirurgii krtani, w której przy pomocy lasera CO₂ usunięto guz. Przedstawiono patogenezę oraz metody leczenia.

SŁOWA KLUCZOWE: guz krtani, onkocytarny torbielakogruczolak, chrypka, chirurgia laserowa

INTRODUCTION

Oncocytic cystadenoma is a slow-growing tumor located mostly in the salivary glands and mucosal membrane of the upper respiratory tract. The tumor occurs in the larynx very rarely, it is most often located in the epiglottis, including the vestibular folds and the laryngeal vestibule [1, 2, 3]. The first case of the oncocytic cystadenoma was described by Koschier in 1897 [4]. It is a benign lesion composed of the oncocytes [1, 2, 3]. The tumor usually occurs in the patients older than 50 years of age and there is a marked female gender predilection [1, 3, 4].

Oncocytic cystadenoma typically presents with long-term hoarseness or voice changes [1, 2, 5]; dyspnoea and dry cough are not so commonly reported [6]. Pain and vocal folds paralysis occur very rarely, and the tumor may even lead to sudden death in extreme cases [7].

CASE REPORT

A 60-year-old female patient was referred to the Department of Otolaryngology in order to institute surgical treatment of the laryngeal tumor. The reason for implementing laryngological diagnostics was hoarseness which started 6 months earlier. A computed tomography examination with contrast enhancement was performed. There was a pathological mass visualized, of a soft-tissue density and 19x13x20 mm in size (APxTRxCC). The tumor was distorting the right vocal fold and growing outwards to the adjoining pre-epiglottic fat body. The lesion was bound laterally by the medial surface of the thyroid cartilage and anteriorly by the anterior commissure. There were no enlarged lymphatic nodes visualized in the imaging examination. A microdi-rectoscopy of the larynx was performed in one of the medical centres. A histopathological examination revealed a presence of benign lesions derived from the salivary glands, which resulted in the diagnosis of oncocytic cystadenoma.

On admission of the patient to the department there was an exophytic lesion of the right vestibular fold, obscuring the right vocal cord, visualized in the indirect laryngoscopy. Despite these findings, the rima glottidis was wide and both of the vocal folds were of a normal mobility. Moreover, there was oedema of the posterior commissure and the interarytenoid region visualized in the direct laryngoscopy with a rigid endoscope. On examination the only symptom turned out to be a persisting hoarseness. There was neither dyspnoea, nor dysphagia present. The patient was a heavy smoker - she has been smoking approximately 20 cigarettes a day for 40 years. Apart from that, she suffered from arterial hypertension and hyperthyroidism.

After preparation the patient underwent a laser microsurgery of the larynx. During the procedure the inferior throat and the larynx were visualized. After that a total tumor excision was performed using CO₂ laser beam under microscope control. The postoperative course was uneventful. On the second day after surgery the patient was discharged from hospital. So far there has not been a tumor recurrence in the follow-up examinations. The histopathological examination of the excised lesion confirmed the diagnosis of the oncocytic cystadenoma of the larynx.

DISCUSSION

Oncocytic cystadenoma is also called oncocytoma, eosinophilic cyst of the granular cells, oncocytic cyst, oncocytic papillary cystadenoma and oncocytic hyperplasia [2, 4, 6, 8]. It is a benign lesion. It results from the metaplasia of epithelial excretory cells characterized by high metabolic activity, the inflammatory and degenerative processes, and cellular aging [1, 9]. The tumor consists of oncocytes, which are cells containing a significant amount of eosinophilic cytoplasmic granules produced by numerous mitochondria [4]. So far no specific cause of oncocytes formation has been established. However, a correlation was observed between their presence and increased activity of the enzymes of the electron transport chain, including cytochrome c oxidase and succinate dehydrogenase [1, 9]. Oncocytoma is usually a solitary lesion [1, 10, 11], multiple tumors occur extremely rare [1, 11].

The main tumor location in the head and neck are the salivary glands and mucosal membrane of the upper respiratory tract. The tongue, the throat, the oesophagus, the thyroid gland and the larynx are affected less commonly [1, 4]. The lesions can be observed mainly in the epiglottic area of the larynx, in the vestibule and on the vestibular folds, where the mucous glands are located. Stewart et al. as well as Ranger and Thackeray et al. describe also the lesions in the subglottic area, and Figi et al. and Nassar



Fig. 1. An axial computed tomography scan of head and neck. There is a tumor of the larynx on the right, reaching the thyroid cartilage.

and Bridger et al. report the vocal fold involvement [6]. Oncocytic cystadenoma can locate itself in every part of the larynx, but the margin of the vocal fold is never involved, as it contains no glandular epithelium [1].

Oncocytoma occurs mainly in people between 48 and 88 years, with a mean age at diagnosis of 64 years [4], and there is a marked female gender predilection. However, Tomblin et al. report the peak incidence in the 7th and 8th decade of life. Mollica and Rossi claim that there is an increase in the number of oncocytes in



Fig. 2. A macroscopic view of a tumor of the right vestibular fold after excision.



Fig. 3. Laryngoscopic examination of the larynx. There is a tumor of the right vestibular fold, obscuring the vocal fold.

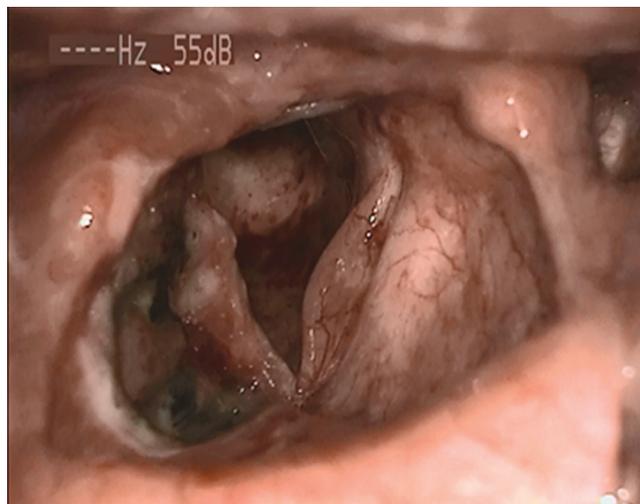


Fig. 4. Laryngoscopic examination of the larynx on the first day after the laser microsurgery

the mucosal membrane of the larynx associated with aging [12], which would support the higher incidence in the elderly.

The cysts of the larynx can be divided according to DeSanto into ductal and saccular ones. The ductal cysts are more prevalent; they occur as a result of the obstruction of excretory ducts of the mucoserous gland and involve vocal folds and the epiglottis. By contrast, the saccular cysts occur due to obstruction of the sac of the mucoserous gland of the larynx [2].

The main symptoms include hoarseness and voice changes, sometimes dyspnoea may be present, and in rare cases even the paralysis of the larynx or death can occur. Pain or dry cough are present extremely rarely [1, 2, 4, 5, 6].

The diagnosis is based on the direct and indirect laryngoscopy, computed tomography of the larynx, and first of all - on the histopathological examination. Surgical therapy is the treatment of choice and it consists of total tumor excision with preservation of the function of the larynx. The surgical approach varies depending on the size and location of the tumor. In case of oncocytoma located within the mucosal membrane or submucosal space, endoscopic approach with total tumor excision is recommended, rather than its marsupialization [2, 3]. The advantage of the endo-

scopic approach is a lack of necessity of making skin incision and division of the thyroid cartilage, and performing tracheostomy. External approaches, such as through lateral or median laryngofissure, and pharyngotomy, are reserved for the tumors distorting cartilaginous parts of the larynx, and insufficiently visualized during the endoscopic procedure [3].

Despite the fact that oncocytic cystadenoma is a benign tumor, it requires performing regular follow-up examinations after surgery, in order to allow early detection of a potential recurrence. A follow-up period of minimum 5 years is recommended [3].

SUMMARY

Oncocytic cystadenoma is a benign lesion, which originates from oncocytes and extremely rarely can be found in the larynx. It is usually a solitary tumor, less often multiple, diagnosed in the patients over 50 years of age, and there is a female gender predilection. Typically symptoms include hoarseness and voice changes. Surgical treatment through the endoscopic approach is recommended, with total tumor excision using a laser beam. It is also mandatory to perform regular follow-up examinations.

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Corresponding author: Małgorzata Czesak: Katedra i Klinika Otolaryngologii Warszawskiego Uniwersytetu Medycznego, Warszawa, ul. Banacha 1a, 02-097 Warszawa, tel.: +48 22 599 25 05, e-mail: malgosiacz@poczta.onet.pl

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