LETTER TO EDITOR

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Branchial Cyst in a Zenker's Diverticulum

Torbiel branchiogenna w uchyłku Zenkera

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Abstract

Lymphoepithelial cyst, also known as branchial cyst, is a lesion lined by stratified squamous epithelium and surrounded by lymphoid tissue and is a very rare condition. Its origin is unclear. The authors describe a case of lymphoepithelial cyst in a very unusual location, i.e. within the wall of a cervical diverticulum of the esophagus. The lymphoepithelial cyst was diagnosed in a middle-aged female patient who underwent surgery due to the presence of a small Zenker's diverticulum causing symptoms of severe dysphagia. Surprisingly, the cyst was diagnosed on histopathological examination after excision of the diverticulum. Surgical excision of the branchial cyst is considered curative and, in some cases, diagnostic (**Adv Clin Exp Med 2008, 17, 6, 677–679**).

Key words: esophagus, Zenker's diverticulum, branchial cyst.

Streszczenie

Torbiel branchiogenna należy do bardzo rzadko rozpoznawanych patologii. Stwierdza się ją najczęściej w dnie jamy ustnej, gardle, języku, śliniance przyusznej, tarczycy i śródpiersiu. Cystę wyściela nabłonek wielowarstwowy płaski, który otacza tkanka limfatyczna, miejscami formułująca grudki chłonne. Pochodzenie torbieli pozostaje niewyjaśnione, chociaż przeważa teoria niekompletnego zamknięcia łuków lub kieszonek skrzelowych. Autorzy opisują bardzo rzadkie umiejscowienie torbieli w uchyłku Zenkera. Torbiel zdiagnozowano u kobiety w średnim wieku, którą operowano z powodu uchyłka Zenkera rozpoznanego badaniem endoskopowym i kontrastowym przełyku. Chora została zakwalifikowana do zabiegu, mimo że uchyłek miał niewielkie rozmiary, ze względu na znaczne trudności w połykaniu. Torbiel stwierdzono dopiero w badaniu histopatologicznym ściany wyciętego uchyłka (**Adv Clin Exp Med 2008, 17, 6, 677–679**).

Słowa kluczowe: przełyk, uchyłek Zenkera, cysta branchiogenna.

Branchial cysts, also known as lymphoepithelial cysts, are thought to appear as congenital disorders; however, their pathogenesis is under disputed. According to the most popular theory they result from incomplete closure of the fetal branchial arches, pouches, or both. Some authors opt for a lymph node or salivary gland inclusion theory [2, 4, 5]. The lesions appear in the lateral aspect of the neck: in the floor of the oral cavity, the larynx, the tongue, the parotid gland, the thyroid gland, and the mediastinum [2]. They are usually asymptomatic, but local compression of adjacent organs may cause corresponding symptoms. Secondary infection of the cyst is also possible [4]. The cyst wall most typically consists of stratified squamous epithelium resting on a bed of lymphoid tissue. Sometimes the squamous epithelium may contain occasional foci of columnar, cuboidal, or even ciliated epithelium, although the most characteristic feature of a branchial cyst is rich lymphatic tissue. Part of the cyst wall mimics a lymph node [2, 5].

Case Report

A fifty-seven-year-old female patient came to the present authors' clinic with a radiological diagnosis of a diverticulum of the cervical part of the esophagus. Otherwise asymptomatic, she com-

plained of dysphagia for two years. She found that the problem had been gradually increasing for a year, but she did not report any weight lost. There was no special family history or past diseases.

Radiological contrast examination was repeated because her complaints surprisingly did not correspond with the size of the diverticulum. The radiological examination confirmed the diagnosis. The diverticulum was located on the postero-lateral side of the cervical esophagus and measured 2 × 1.5 cm (Fig. 1). Endoscopy showed a wide opening to the small diverticulum located typically on the lateral wall of the cervical esophagus. It contained undigested bits of food. There were no changes in the esophageal mucosa except for some redness of the mucosa lining the diverticulum.

The patient then had elective diverticulectomy and cricomyotomy under general anesthesia. She had an unremarkable recovery. A control radiological contrast study proved good passage through the esophagus. Histological examination revealed a branchial cyst with a typical pseudostratified, partially columnar, ciliated epithelium surrounded by lymphoid cells within the wall of the diverticulum. The cyst measured 1 cm and did not communicate with the esophageal mucosa (Fig. 2). The case was diagnosed as a branchial cyst in a Zenker's diverticulum.

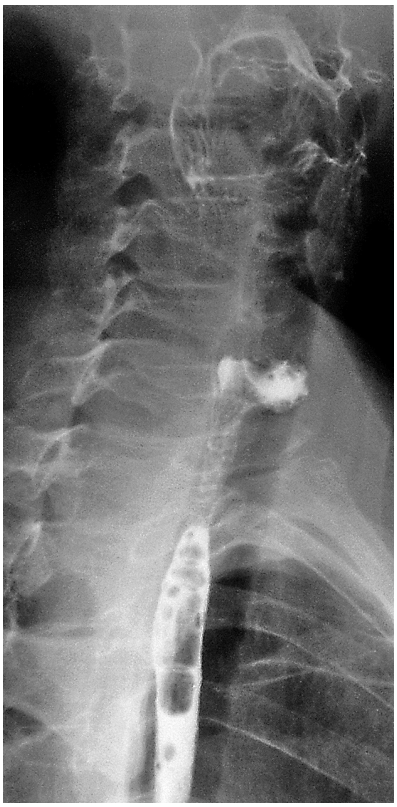

Fig. 1. Radiogram of the Zenker's diverticulum with a soluble medium. Lateral projection

Ryc. 1. Radiogram uchyłka Zenkera. Projekcja boczna

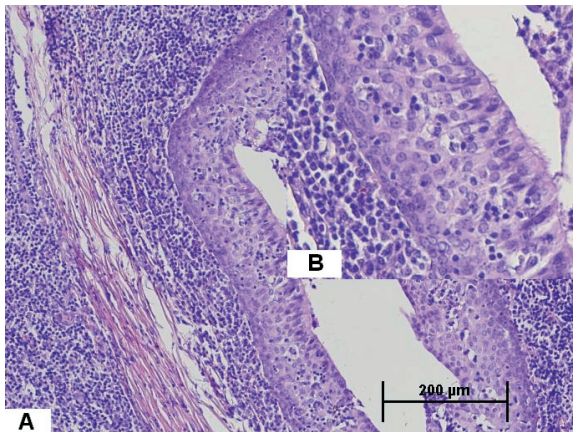

Fig. 2. The lesion wall is lined by pseudostratified squamous epithelium with areas of ciliated columnar epithelium and surrounded by mature lymphatic tissue forming follicles (hematoxilin-eosin, original magnification ×140 (A), ×280 (B))

Ryc. 2. Ścianę zmiany wyściela pseudowielowarstowy nabłonek płaski z obszarami nabłonka migawkowego walcowatego, otoczony dojrzałą tkanką limfatyczną miejscami formująca grudki (HE, oryginalne powiększenie 140× (A), 280× (B))

Discussion

The term branchial cyst refers to a lesion lined by pseudostratified, columnar, ciliated to cuboidal epithelium generally surrounded by lymphoid tissue, forming follicles and germinal centers. Its etiopathogenesis is unclear, an hypothesized congenital anomalous development of the branchial apparatus being the most popular [4, 5]. Following this theory a cyst located in the esophagus originates in the third branchial pouch [2]. A lymphoepithelial cyst may undoubtedly occur in the esophagus because esophageal glands are similar to parotid glands [1]. According to this theory the cyst may result from epithelial entrapment within the esophageal gland. To the present authors' knowledge, branchial cyst is a very rare founding in the esophagus. The presence of a branchial cyst in the wall of a Zenker's diverticulum is even more unusual.

In this patient the submucosal cyst would probably not have been discovered if the diverticulum had not developed. The presence of the cyst probably weakened the wall of the esophagus and, together with some degree of incoordination in swallowing, triggered the formation of the diverticulum. Enlargement of the diverticulum determined the severity of the symptoms in the otherwise asymptomatic small submucosal cyst. However, the dysphagia could have resulted from the coexistence of two components: the

increasing size of the cyst and enlargement of the diverticulum.

It is also worth underlining that the presence of a cervical diverticulum does not exclude and even might predispose to the development of carcinoma in its wall [2]. Using standard clinical procedures sufficient for the diagnosis of a diverticulum (contrast radiological study, endoscopy), a small submucosal tumor could be easily overlooked. For this reason, diverticulectomy should be considered in any case with a sudden exaggeration of severity of complaints [2]. Excision of branchial cysts from various locations is both diagnostic and curative. Complications such as dysphagia, dyspnea, and dysphonia due to changes in size or due to infection are therefore eliminated [1, 2, 4, 5].

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