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CASUISTIC PAPER

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Tumor of the pharynx – an unexpected diagnosis

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ABSTRACT

Introduction. Head and neck haemangiomas occur quite rarely. These are benign lesions, often involving the pharynx and larynx. They almost always pose a diagnostic and therapeutic problem.

Case description. This paper describes the case of an asymptomatic internal carotid artery aneurysm manifested by a throat tumour. A 78-year old woman with sudden deafness and vertigo was additionally diagnosed with a throat tumour. After radiological diagnosis of a haemangioma, the patient refused surgery. This article presents diagnostic methods and various types of treatments for head and neck haemangiomas. Attention was paid to the possibility of serious complications when deciding on surgical intervention of haemangiomas without a confirmed diagnosis.

Conclusion. Suspicion of head and neck haemangiomas necessitates using all available diagnostic methods. The treatment plan should take into account the pace of progression, the patient's age and co-morbid conditions.

Keywords. head and neck, haemangioma, diagnosis, treatment.

Introduction

Tumours occurring in the throat and larynx can be categorized as either malignant or benign. Benign lesions can be further sub-categorized based on their cell of origin into vascular, epithelial, neuroendocrine, and intramuscular.

Vascular tumours of the head and neck are quite rare.[1-5] They represent a diverse group of lesions, both morphologically and clinically. Due to the location of these lesions, they cause cosmetic defects and in some cases, due to their location and/or size, can lead to life-threatening conditions.[6] In 1982, Mulliken and Głowacki introduced the biological classification of vascular lesions of the skin and soft tissues, dividing them into two groups:

— Haemangiomas: benign vascular tumours occurring in children with a proliferative phase during infancy that abruptly diminish in early-childhood. They appear in the neonatal or early-infancy period. They are characterized by a sharp increase in

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incidents in the first year of life and a period of involution in older children. Haemangiomas are more prevalent in females [1:6 (Male:Female)] .[6]

— Vascular malformations: benign tumour-like lesions, resulting from abnormal vascular tissue morphogenesis. These can be further subdivided into capillary malformations, venous malformations, arterial malformations, arteriovenous malformations, lymphatic malformations and mixed vascular malformations. Although they are congenital anomalies, they may be asymptomatic until puberty and may even go undetected into adulthood. They are present at the time of birth, grow proportionally with the baby and they never regress. The incidence rate among men and women are similar with a 1:1 male to female ratio.[6]

The most common symptoms associated with vascular tumours include hoarseness, foreign body sensation in the throat, haemoptysis, choking, dysphagia, periodic haemorrhages and dyspnoea. They may also be asymptomatic.

Haemangiomas of the larynx often become dark red masses, covering the larynx epithelium and the piriform sinus. Lesions attributed to the vascular malformations have the appearance of a tumour coated in an unchanged mucous membrane or skin, resulting in posterior pharyngeal embossing and distortion or asymmetry of palatal tonsils. They may take the form of a pulsating tumour along the jaw.[7-11]

Approximately 60% of all haemangiomas are located in the head and neck. They are most commonly found in the pharynx and less so in the larynx. In adults they usually involve the glottis and epiglottis, while in children the area of the infraglottic cavity.[6,10-13]

Haemangiomas located on the extraocular internal carotid artery are the least common and most often occur in congenitally-linked cases. Other causes may include injury, atherosclerosis, infection, iatrogenic traumas (ex. tonsillectomy, adenectomy), and fibro-muscular dysplasia.[12-14]

Case Study

In 2012, a 76-year old female patient reported to the Otolaryngology Clinic at the Clinical Provincial Hospital No. 1 in Rzeszów due to sudden hearing loss, accompanied with dizziness. Her symptoms persisted for several days. The patient had previously been treated for ischemic heart disease (undergoing a CABG in 2007), hypertension and depression. Laryngological examination on the day of her admission revealed: nasal septum deviation, which impaired its permeability, preserved pearl grey tympanic membranes, a mobile and symmetrical tongue, small cryptic tonsils and a normal larynx. A tumour was clearly visible on the back of the right side of the throat. It was covered in an unchanged mucous membrane, 3 × 2 cm (Figure 1).

The patient denied having any problems with swallowing, choking, foreign body sensation in the throat or pain.

During her stay at the clinic, in addition to treating her hearing loss and dizziness, a diagnostic imaging CT scan of the neck was performed (Figure 2). The clinical note stated: "the right side of the internal carotid artery is elongated and forms a tight bend towards the medial surface at the level of the C1-C2 vertebrae causing a prominence on the posterior lateral wall of the mouth and throat. There were no pathological structures in this area. Numerous calcified atherosclerotic plaques in the

Figure 1. Throat tumour on the admission (2012)

Figure 2. CT scan

Figure 3. Follow up (2016)

right internal carotid artery are not causing significant morphological narrowing (about 30%)".

The patient was informed about the diagnosis of an aneurysm and the possibility of surgical treatment, to which she did not consent. A follow-up was conducted 4 years later, in 2016, and it showed a posterior tuberous structure of the same size as had previously been observed, and covered in an unchanged mucous membrane (Figure 3). The patient reported a feeling of an obstructed throat and periodic pain radiating to the right ear. She did not observe any bleeding, haemorrhaging or trouble breathing. She also did not report problems during food intake.

Discussion

Thrombotic vesicular cancers are rarely diagnosed. In addition to the posterior wall of the throat, soft palate and palatine tonsils, they are also found on the base of the tongue an in the parotid gland. Sometimes they may be mistakenly interpreted as esophageal varices.[15] They take the form of dark red tumours of varying sizes.

Internal carotid artery (ICA) aneurysms are also rarely observed in the practice of laryngology. Causes of ICA aneurysms may include: atherosclerosis, fibro-muscular dysplasia, traumas, surgical procedures (ex. removal of tonsils), and infections. They most often occur in the proximal segment of the artery. They can present asymptomatically as in the case described here, but they are more often accompanied by swallowing disorders, hoarseness, feeling of a foreign body in the throat, haemoptysis, choking while eating or sore throat.[10,14] These tumours require very precise diagnosis. Due to the often significant asymmetry of the tonsils of the palate or the posterior wall of the throat, they should be differentiated from other neoplasms.[14,16] Haste to qualify patients for surgery can pose a threat to their health or even their life. Diagnostic methods for haemangiomas include: Doppler ultrasonography, angiography and MR angiography. They allow for accurate determination of the size of the lesion, its relation to large arteries and the point of departure in the case of aneurysm lesions. Fine-needle biopsies are contraindicated because of the high risk of profuse bleeding.[17-18]

In the case of minor vascular changes, observation is recommended, whereas major changes which may cause bleeding, airway obstruction or cosmetic defects may require more radical approaches, such as multidisciplinary surgical treatment or radiation therapy.[17-19] Conservative treatments include local or general administration of glucocorticoids. According to Bilewicz, the effectiveness of such treatment is about 30%.[10] The operative interventions include the use of CO_2 laser, potassium titanyl phosphate (KTP) laser, cryosurgery, harmonic scalpel, or radiotherapy. Up to now, there has been no uniform schema for the surgical treatment of haemangiomas due to their rarity and relatively wide variety.[2]

For giant vascular tumours, a tracheotomy is often recommended before surgery. The treatment of internal carotid artery aneurysms, may involve the resection of the vessel and its surrounding connective tissue or intravascular embolization with detachable coils.[20] Allergic reactions, advanced atherosclerotic lesions and abnormal vascular connections are contradictions to embolization treatment.

In the case of superficial and small tumours, laser therapy offers high efficacy of between 77 and 100%.[19,20]

Radiotherapy (40 Gy total dose in 20 fractions) is rarely used, usually after ineffective glucocorticoid treatment and in the case of massive tumours that are ineligible for surgical intervention. By qualifying a patient for

radiotherapy, one must consider the risk of secondary tumour development. Radiation therapy can effectively reduce tumour mass by up to 30% without significant complications.[8,17-18]

Wang *et al.* believe that an effective, safe surgical method is the use of the harmonic scalpel. According to the authors, this method is less invasive, reduces the duration of the surgery, reduces the risk of bleeding during surgery and reduces the probability of tumour re-growth during a 2 year follow-up.[2]

Each type of tumour of the pharynx or larynx requires very thorough diagnostic investigation. A pulsating tumour is an indication of the lesion's vascular nature. When deciding on how to deal with vascular pharynx and larynx tumours, one should consider the pace of progression, the age of the patient, and co-morbid conditions.[10,14]

The authors wish to emphasize the need for accurate tumour diagnosis, especially in the case when pulsating tumours are observed. Of course, it is necessary to communicate the nature of the malady to the patient, all treatment options and the possible complications of the surgical intervention. This should raise the clinician's awareness of the possibility of vascular lesions and the subsequent consequences regarding the patient's health and life, as well as of potential medicolegal allegations against the medical team in case of complications.

Compliance with ethical standards

Conflict of interest: The authors declare that they have no conflicts of interest.

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