CLINICAL CASE

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Patryk Szubert[1], Agnieszka Krauze[2], Iga Kondziela[2], Jerzy Sokalski[1]

Rare Case of Neurilemmoma of the Mental Nerve – Case Report

Rzadki przypadek nerwiaka osłonkowego nerwu bródkowego – opis przypadku

[1] Department of Dental Surgery, Poznan, University of Medical Science, Poland
[2] Student Research Group, Department of Dental Surgery, Poznan, University of Medical Science, Poland

Abstract

Schwannoma is the most common benign neuroectodermal tumor. Histologic classification shows two patterns: Antoni A type and Antoni B type. Diagnosis is based on histopatology because of unspecific symptoms. Surgical excision of pathological change is the treatment of choice. The aim of this study is to present a schwannoma case in mental area, which was documented by Dental Surgery Clinic, Medical University of Poznan (**Dent. Med. Probl. 2011, 48, 2, 267–269**).

Key words: neurilemmoma, schwannoma, neurinoma, mental nerve.

Streszczenie

Nerwiak osłonkowy to najczęściej występujący nowotwór pochodzenia neuroektodermalnego o charakterze niezłośliwym. Podział histologiczny wyróżnia 2 typy: Antoni A i Antoni B. Ze względu na niecharakterystyczne objawy rozpoznanie stawia się na podstawie wyniku badania histopatologicznego. Leczeniem z wyboru jest całkowite wyłuszczenie patologicznej zmiany. Celem pracy jest opis przypadku nerwiaka osłonkowego umiejscowionego w okolicy bródkowej udokumentowanego w Katedrze i Klinice Chirurgii Stomatologicznej Uniwersytetu Medycznego w Poznaniu (**Dent. Med. Probl. 2011, 48, 2, 267–269**).

Słowa kluczowe: nerwiak osłonkowy, *schwannoma*, *neurilemmoma*, nerw bródkowy.

Schwannoma (neurinoma, neurilemmoma) is a rare, although most common benign neuroectodermal tumor. There are the several different terminologies of this tumor in the literature, which is associated with differing points of view on its formation. Genesis of the term Schwannoma originates from described by German anatomist Theodor Schwann cells of nerve sheath of peripheral and cranial nerves [1, 2]. However, the term "neurilemmoma" is proposed by Arthur Stoudt and it is based on histopathological survey. However, both of these synonyms are now interchangeably used for describing this disease. Taking into consideration the histological structure, Schwannoma can be divided into two types. Antoni A type is represented by a tendency towards palisading of the nuclei about a central mass of cytoplasm (Verocay bodies). However, Antoni B type is a loosely arranged stroma in which the fibres and cells with oval nuclei form no distinctive pattern [3]. In addition, Erlandson distinguishes seven subtypes: classical, cellular, plexiform, cranial nerve, melanotic, degenerated, granular cell schwannoma [1]. According to different authors, occurrence of neurinoma in the head and neck ranges from 25 to 48% [1, 3–6]. The tumors are connected with the cranial nerves: trigeminal, facial, vestibulo-cochlear, glossopharyngeal and vagus, accessory and hypoglossal [3, 4]. The tumor can develop within the bone or in the soft tissues. Neurinoma can involve bone in three mechanisms: expansion within the nutrient canal, arise centrally within a bone, or secondarily as a result of infiltration of soft tissue tumors [1]. The most common places for its development in the

oral cavity are: the tongue, hard palate, floor of the mouth, alveolar mucosa. Schwannoma is found among men as well as women. It is detected at any age, although many authors report that it generally occurs between the 2nd and 5th life decade [5, 6]. However, Artzi et al. [4] reported that cases of the oral cavity are more frequently observed among children than in adults. The tumor grows slowly and painlessly. It is elastic-hard, sliding to the ground, with a diameter of 1 to 5 cm [1, 5]. A complete removal of pathological changes is the treatment of choice. In most cases, the prognosis is favorable. In the English-language literature there are documented only isolated cases of malignant transformation [1, 4, 6–8]. The aim of this study is to present a case of schwannoma in mental area, which was documented by Dental Surgery Clinic, Medical University of Poznan.

Case Report

A woman aged 44 was admitted to the Department of Dental Surgery for consultation of tumor in the mental area at the left side. A patient in the medical interview informed of pain located in the area of endo-treated tooth 33, which appeared about three months earlier. In a clinical examination an exorbitance with a diameter of about 1 cm was stated, on the border of the mucosa of mobile and immobile, painful on compression and shifting to the ground. The tumor covered with an unchanged mucosa, was characterized by a smooth surface, elastic-hard consistency and a moderate soreness. The patient was referred for an X-ray which showed no pathological changes in the bones. Preleminary clinical diagnosis was a fibroma. It was decided to remove the pathological changes under a local anestesia. A substance without shrink blood vessels component – Scandonest 3% (2 amp. 3.6 ml) was used. During the operation, the change occured to be slightly separated from the surrounding, without a typical peduncle. The tumor was removed with a margin of healthy tissue. Safil 3.0 sutures were laid. The change was sent to histopathological examination. The obtained result was described as a "schwannoma Antoni B type". On the control visit, the patient reported symptoms of loss of sensation in the area of surgery, which could indicate the damage of the branches of mental nerve. The next examination performed after 6 weeks showed normal healing, and paresthesia subsided. The patient remains under observation.

Discussion

This clinical case of neurinoma presents unusual symptoms. Taking into consideration its incidential occurrence in the oral cavity and rare possibility of malignant transformation it became crucial to conduct appropriate clinical differential diagnosis. There are several morphological changes with similar clinical manifestation: fibroma, lipoma, gigantocellulare tumor, salivary glands tumor and neurofibromatosis [1, 3, 6]. The latter, called the Reclinghausen disease as well, together with neurinoma is the most common benign tumor of peripheral nervous system. The disease is inherited autosomal dominant and is characterized by blue changes on the skin and subcutaneous nodules located along the nerves [2, 7].

The final diagnosis can be stated only as the result of histopathological examination. Equally sensitive immunohistochemistry test which shows protein expression and S-100 surface antigen CD34 in the test choice in diagnosis [3, 6, 8, 9]. Diagnostic imaging performed using computer tomography and magnetic resonance imaging may be perfomed to show the extension of the tumor and possible infiltration on surrounding structures.

Complete surgical excision is considered a standard treatment for schwannoma. Incomplete removal of neurilemmona carries the risk of tumor recurrence or its malignant transformation. This draws attention to the need for a long-term observation of the patient. Malignant forms grow rapidly with the possibility of metastasis through blood vessels and lymph [2]. The presence of capsule surrounding the tumor makes it possible to perform surgery saving the nerve trunk because of limited area of change, in opposition to non-encapsulated cases [5, 10–12]. In our study, in surgically removed change no capsule was observed.

In the Clinic of Dental Surgery one case of schwannoma has been documented in the recent years. The clinical features of this case were very similar to those presented in this article. A woman aged 15 reported a change in the alveolar process of mandibule on the lingual side around the teeth 31, 32, 33 [2]. Histopathological examination revealed neurinoma Antoni A type, which clearly prevails in the cases described in the English-language literature over the Antoni B type confirmed in our study [2–6, 8]. Both cases confirm the tendency observed in the literature indicating a more freuqent occurence of such lesions among females. According to Artzi et al. [4] the ratio of women to men is 60/40 (n = 184). This discrepancy of results can be caused by the various numbers of patients in each group. In the open literature different trends are reported, however the described discrepancy

arises most likely due to lack of the opportunity for a proper statistical evaluation caused by a very small number of cases.

According to Artzi et al. [4] and Gallo et al. [13] neurinoma occurs most commonly on a tongue (50% and 45.2% respectively), then on a buccal mucosa, floor of the mouth, palate and lip. In the case described in this report the rarest of the identified locations – the area of the mental nerve is observed.

In the described patient temporary loss of sensation in the area of surgery was reported, but this complication according to Bień et al. [7] is not rare – it concerns nearly half of the patients (47%). However it should be noted that the described paresthesia is temporary and it passes after a few weeks after surgery.

The diagnosis of schwannoma in the oral cavity is a major challenge because of the full range of nonspecific symptoms, which is confirmed by the described case. Careful diagnosis and proper treatment should allow to avoid dangerous complications.

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Address for correspondence

Patryk Szubert
Department of Dental Surgery
University of Medical Science
Bukowska 70
60-812 Poznań
Tel.: 061 854 70 79
E-mail: patryk.szubert@gmail.com

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