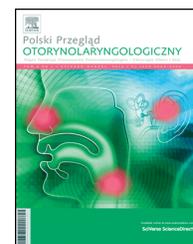


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Case Report/Kazuistyka

Horner's syndrome during spindle cell lipoma of the neck – a case report



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ABSTRACT

Horner's syndrome is most often caused by a tumour compressing the sympathetic trunk. Spindle cell lipoma (SCL) is a rare tumour, corresponding to just 1.5% of the benign tumours of soft tissues. Its most common localisation is subcutaneous tissue in the upper part of the body. This paper presents a rare case of Horner's syndrome caused by a SCL of the neck.

A 42-year-old male patient was admitted to the ENT Ward of the Mazovian Special Hospital in Siedlce because of a neck tumour on the left side. Laryngological examination revealed only a hard tumour with a limited mobility on the left side of the neck. Ophthalmological and neurological consultations indicated Horner's syndrome. Fine-needle aspiration biopsy gave no clear diagnosis. The patient was qualified for surgery. The tumour was radically excised and sent for histopathological examination. The final histopathological diagnosis was: SCL. Symptoms of the Horner's syndrome disappeared within 3 weeks after the surgery.

The discussed case should be noted because of untypical SCL localisation within the cervical perivascular space, and also because of presence of symptoms of Horner's syndrome caused by compression of the tumour on the sympathetic trunk that disappeared following the surgical treatment.

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Introduction

A syndrome of ocular symptoms caused by injury of the sympathetic innervation of the eyeball was first described in

1869 by a swiss ophthalmologist Johann Fridrich Horner [1]. Physiological foundations of those symptoms in animals were described in 1852 by Claude Bernard [2]. The triad of symptoms on the injured side involves: miosis, ptosis and sunken eyeball. Those three are nowadays referred to as

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Horner's or Bernard-Horner syndrome. Horner's syndrome is most often caused by a tumour compressing the sympathetic trunk. This paper presents a rare case of Horner's syndrome caused by a spindle cell lipoma (SCL) of the neck.

The first description of a SCL was made by Enzinger and Harvey in 1975 [3]. From the histological point of view SCL is characterised by large content on spindle-shaped mesenchyma cells similar to fibroblasts, and a low number of mature adipocytes. Collagen fibres dominate in the extracellular space. Despite the fact that SCL is a benign tumour, they may infiltrate surrounding structures, especially muscles and nerves. SCL is a rare tumour, corresponding to just 1.5% of benign tumours of soft tissues. Its most common localisation is subcutaneous tissue in the upper part of the body. It occurs more commonly in men compared to women (9:1). Surgical excision is a therapy of choice.

Case report

A 42-year-old male patient was admitted to the ENT Ward of the Mazovian Special Hospital in Siedlce because of a neck tumour on the left side. The admission was scheduled. The tumour appeared a year before and grew slowly causing no pain. Several weeks before the scheduled admission the patient started presenting symptoms of Horner's syndrome on the side of the tumour. The patient reported no other complaints. He had been never hospitalised before, used no medication. Laryngological examination revealed only a hard tumour with a limited mobility on the left side of the neck, extending from the field II to the field IV. Laryngological examination revealed no other lesions. Ophthalmological and neurological consultations indicated no other lesions, besides Horner's syndrome.

Computed tomography (CT) examination on the admission day indicated a tumour on the neck, on the left side, size 60 mm × 31 mm × 42 mm, well limited from the surrounding, showing a decreased echogenicity. The tumour modelled and caused a slight translocation of cervical vessels, but without an infiltration (Fig. 1). Fine-needle aspiration biopsy gave no clear diagnosis.

The patient was qualified for surgery. Under general anaesthesia a horizontal cut was made in the neck groove on the left side to reach the tumour positioned under the sternocleidomastoid muscle between large cervical vessels. The tumour was radically excised and sent for histopathological examination. Macroscopic examination revealed a solid, hard tumour in a thin capsule, of yellow-grey colour (Fig. 2). Besides the routine staining with Haematoxylin and Eosin also immunohistochemical examinations for CD34 (+ + +), S-100 (+ +), Actin (+ in the tumour vessels), Ki67 (sporadic) and Desmin (-) were completed. The final diagnosis was: SCL (Fig. 3). The surgery was uncomplicated and on day 7 the patient was discharged to home. Symptoms of the Horner's syndrome disappeared within 3 weeks after the surgery. For the last two years the patient has remained under supervision of the ENT clinic and no local recurrence of the tumour or of the Horner's syndrome symptoms has been found.

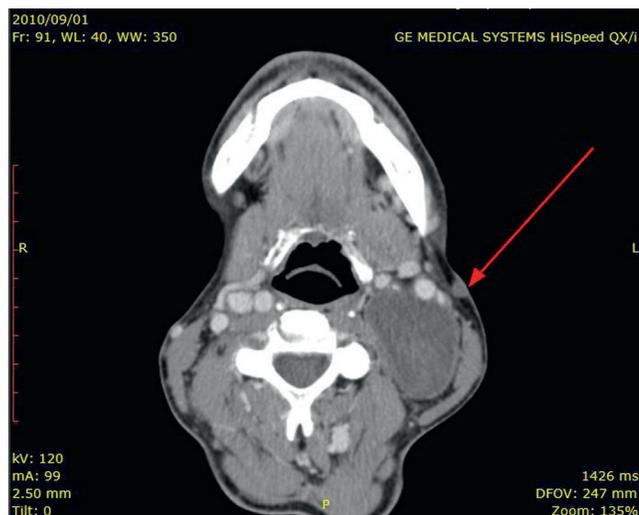


Fig. 1 – CT-scan of the neck. The tumour marked by narrow

Discussion

SCL is a tumour of mesenchymal origin, with the adipose tissue as a starting point. SCL is most often localised in subcutaneous tissue of the upper part of the body, although there are reports of SCL in lips, buccal mucosa, tongue, lower throat, maxilla and the orbit [4-8, 10-13, 15]. Depending on its localisation the tumour may cause various symptoms. Usually the tumour is hard and causes no pain. Only after it grows to a large size it may cause some pain associated with compression of surrounding structures. SCL of the lower throat causing swallowing disorders reported by Evcimik et al. was the most extreme case [5].

SCL is usually a single tumour, rarely occurring in multiple localisations. Men are more prone to SCL development compared to women (9:1). Family occurrence is also more commonly associated with men.



Fig. 2 – Tumour removed

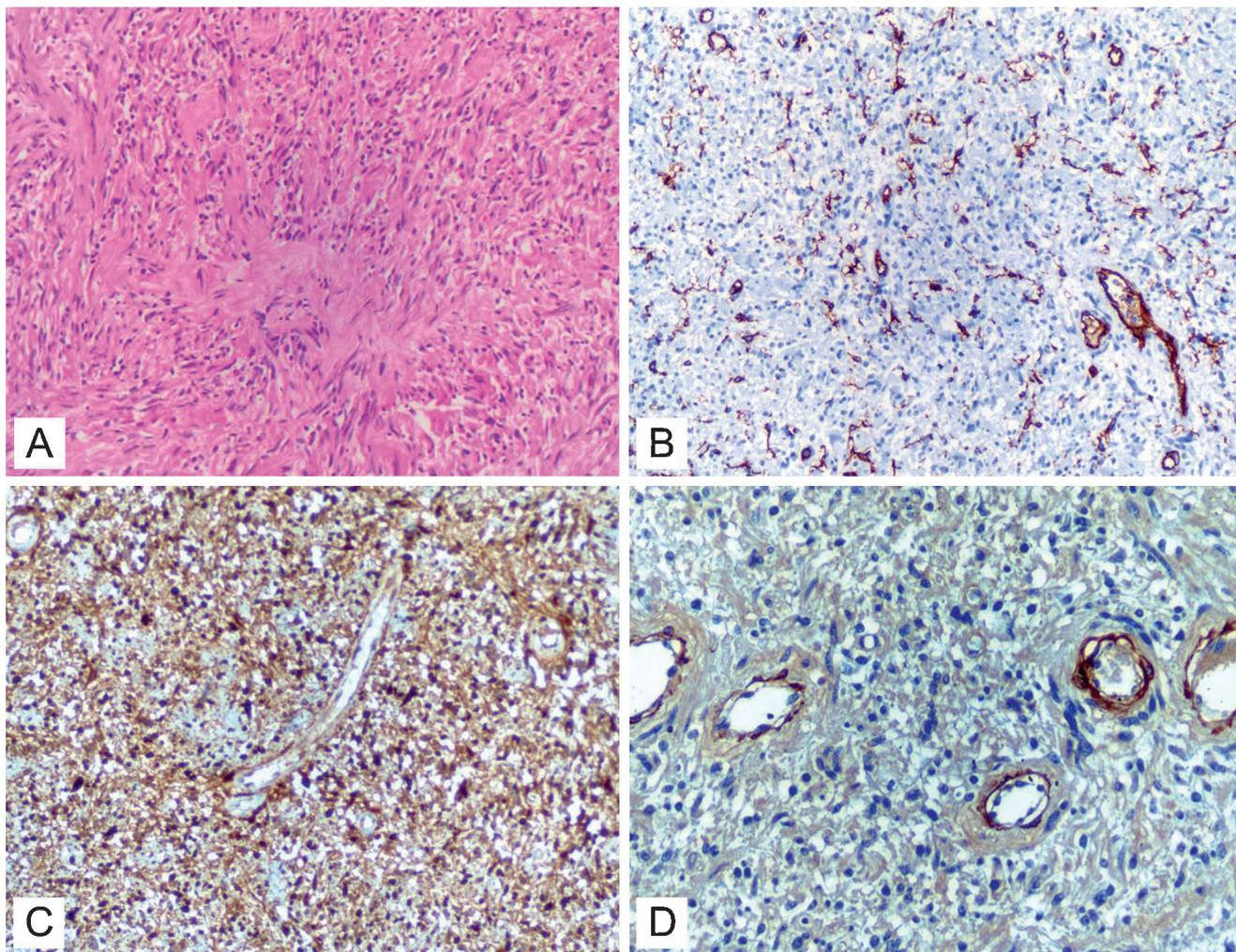


Fig. 3 – Histological specimens of the tumour. A – H+E; B – CD34 (+) in vessels; C – S100 (+); D – SMA(+)

Causes of SCL are not known. Some authors suggest an injury or micro-bleeding episodes. Genetic tests of SCL patients revealed a partial deletion of the long arm of the chromosome 13, del(13)(q12) and the translocation t(2;6)(p16~21;p21) [14, 18, 19].

Diagnosis of SCL is based on clinical examination, imaging diagnostics – computed tomography and magnetic resonance (CT and MRI), but most of all on histopathological examination. Macroscopically, the tumour appears as a hard structure. Its yellow or grey colour depends on the ratio of adipose cells to no-fat spindle cells. Immunohistochemical tests for CD34 and S100 protein are conclusive [16, 17].

Horner's syndrome may be caused by primary conditions of the central or peripheral nervous system, and also by tumours compressing or infiltrating the sympathetic trunk from the outside. Schwannoma – a tumour originating in the sympathetic trunk sheath, and Pancoast tumour – infiltrating or compressing the sympathetic trunk may serve as examples. Dissecting aortic or carotid artery aneurysm may be another cause of Horner's syndrome. Gonzales-Aguado et al. described cases of iatrogenic

Horner's syndrome in patients operated on for cervical tumours. In those cases symptoms of Horner's syndrome were not observed before the surgery, and complete disappearance of those symptoms was observed in 2 of 6 of cases within 5 and 11 months, respectively [9]. In the presented case Horner's syndrome was caused by compression of the sympathetic trunk by SCL growing in the area of the internal carotid artery. No infiltration of the sympathetic trunk was found. Three weeks after excision of the tumour symptoms of Horner's syndrome completely resolved.

Available literature contains no description of Horner's syndrome caused by SCL. Considering localisation of the tumour in the subcutaneous tissue, it rarely causes compression of structures located in deep tissues, including the sympathetic trunk.

Conclusions

The discussed case should be noted because of untypical SCL localisation within the cervical perivascular space, and

also because of presence of symptoms of Horner's syndrome caused by compression of the tumour on the sympathetic trunk, that disappeared following the surgical treatment.

Authors' contributions/Wkład autorów

According to order.

Conflict of interest/Konflikt interesu

None declared.

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None declared.

Ethics/Etyka

The work described in this article has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans; EU Directive 2010/63/EU for animal experiments; Uniform Requirements for manuscripts submitted to Biomedical journals.

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