Cervical Vagal Schwannoma: Difficulty Of Diagnosis And Particularity Of Treatment

M Sérémé, A Ouédraogo, Y Gyébré, K Ouoba

Citation

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Abstract

Introduction: Vagal cervical shwannomas are relatively rare tumors in the literature. We report through this clinical case, our recent experience in the support of this pathology.

Objectives: To point out possible misdiagnosis of imaging and therapeutic difficulties during treatment.

Study: vagal cervical shwannomas generally present in the form of a lateral-cervical isolated mass, asymptomatic, and have a very slow evolution. Their positive diagnosis is based on imaging (CT, MRI) and their certainty diagnosis on the histological examination of surgical resection piece. However radiological interpretation errors are frequent in the literature, causing the discovery of these tumors during the operation. The treatment of the shwannoma is essentially surgical.

Conclusion: Need for a team trained in cervical and nerve surgeries for adequate support for these cervical shwannomas.

INTRODUCTION

A vagal cervical schwannoma is rare and generally benign tumor developed exclusively from the nerve schwannoma cells [1]. The cervical schwannoma represents 25-40% of the total schwannomas observed in the body with a predilection for the shwannoma of agal nerve

[1, 2]. Diagnosis of vagal schwannoma is clinically not easy to handle particularly when there are not clinical signs. The new methods of imaging such as ultrasound, scanner and MRI have revolutionized the diagnosis of this affection. However basing on a recent clinical case of shwannoma of vagal nerve, we wanted to point out possible misdiagnosis in imaging and therapeutic difficulties during treatment.

CASE REPORT

A 47-year-old patient, operated two years ago for a cataract of the left eye, consulted us in our service for a right lateralcervical mass, which has been developing very slowly in volume for 1 year. This mass was isolated without local inflammatory signs (neck pain) or signs of associated compressions (hoarseness, dysphagia). Physical examinations showed a swelling of the region above the right side of the clavicle covering area III of the neck. It was painless, firm, mobile in the horizontal and vertical directions, well-limited and measuring 3 x 2 cm. The intraoral examination and the nasal endoscopy gave no specific results. Cervical ultrasonography showed a jugular paraganglioma 35 x 21 mm, developed at the expense of the jugular vein and corresponding either to a glomus tumor or to a chemodectome. The CT has highlighted a solid lesion area well wrapped and measuring 25 mm in diameter transversal and 40 mm height, located above the collarbone, adjacent to jugular and carotid vessels of enigmatic CT characterization (Figure1).

Figure 1

image from the CT showing a tumor next to the neurovascular pedicle of the right region of neck



We then suggested an exploratory cervicotomy. Surgical exploration realized under general anesthesia after a lateral cervicotomy showed an ovoid mass tissue well wrapped, intimately in connection with the internal jugular vein that it pushes laterally and common carotid artery that it pushes medially. This ovoid mass seems to develop at the expense of the vagal nerve (Figure 2).

Figure 2

intraoperative photograph showing the Schwannoma of the right vagus nerve, well encapsulated, and displacing laterally the internal jugular vein, expanding the space between internal jugular vein and carotid artery



A progressive intracapsular enucleation of the tumor with conservation of nerve continuity was done and the operating piece given to a pathologist for histological study. The histology indicated a benign proliferation of spindles cells forming solid waves of Antoni A without any signs of malignancy to favor a benign schwannoma (Figure 3).

Figure 3

microphotography Gx100. Fusiform cells arranged in palisades, realizing verocay nodules of Antoni A cervical shwannoma



The immediate postoperative facts were marked by brutal installation of disorder of phonation, in type of hoarseness that switches off gradually during the day and by the appearance of a chronic dry cough, triggered by the salivary deglutition or by the ingestion of liquid. Nasal endoscopy has highlighted a slow mobility of the right vocal cord. These right vocal cords paralysis symptoms gradually declined after sessions of speech therapy rehabilitation.

DISCUSSION

Neck nerve tumors have been known since 1742 thanks to the discovery of carotid corpuscle by Haller. The first description of schwannoma of the neck was made by Ritter in 1899 [3]. Schwannomas of the head and neck are relatively rare tumors. They represent 25 to 40% of the total of schwannomas observed in the body [1, 2, 3]. At the cervical level, vagal location seems to prevail over other locations [2].

Schwannomas occur at any age, the elective age being close to 40 years. Frequency is the same in both sexes for most of authors [1]. These tumors are characterized by a slow development; however, cervical schwannomas could present more important tumor upgradability, with an average delay of clinical evolution less than 6 months [4]. Most of the time, cervical shwannoma is in the form of an asymptomatic lateral and cervical isolated mass, slowly increasing in volume which could in the long run lead to cervical compressions with the consequences of appearance of pharyngeal discomfort or dysphagia by pharyngeal or esophageal compression and sometimes, a hoarseness resulting from the compression of the vagal nerve [1, 2].

In the literature, the positive diagnosis of the shwannoma is mainly based on imaging including CT, MRI and Angiography diagnosis [1, 2, 3]. These examinations permit to locate the tumor, to show its characteristics, to clarify its neurovascular links and to make the differential diagnosis with a carotid glomus, with a paraganglioma of the vagal nerve and with the congenital cyst[1, 2, 5]. The inconclusive results of the CT in our clinical case could be due to a lack of experience of the radiologist that most of these tumors are rare in our country (first documented case).

The treatment of cervical schwannomas is essentially surgical but we can discuss with the patient on the abstention to practice the therapy in case of a Schwannoma of small size [1]. Intracapsular enucleation of the tumor, preserving the nerve, is the treatment of choice

[1, 2, 3, 6]. In the literature, the concept of subtotal resection has appeared when the tumor is extensive and complete resection cannot be made without compromising the integrity of the nerve [6]. Histological study of surgical resection piece permits to confirm the diagnosis of Schwannoma. We have 2 histological types according to Antoni [1, 3, 6]: type A is made of spindle cells grouped into beams intersecting, or vortex, forming nodules of verocay with nuclei arranged in palisade. Type B made of egg cells scattered in a myxoid polymorphic core gel, pyknotic giving a myxoid and reticular aspects. Streevatsa et al [6] also described the existence of mixed type of schwannomas.

Vocal cord paralysis is the most postoperative complication. Intracapsular enucleation of the tumor helped by a nerve electronic stimulator and a surgical microscope help reduce the incidence of this complication from 30 to 80% according to Valentino and al [7]. The observation of post-operative vocal cord paralysis must lead to propose the patient speech therapy rehabilitation. Local recurrence is rare; it is most often due to an incomplete resection [2, 3, 8]. The degeneration of a primitive benign schwannoma is not possible. Schwannomas are either benign or malignant in their origin [3].

CONCLUSION

Shwannoma of the vagal nerve is a rare tumor in the literature. It is usually in a form of an isolated neck mass increasing very slowly in volume. Its positive diagnosis is made on imaging and its diagnosis of certainty is obtained on the basis of the histology of chirurgical piece. Its treatment is essentially surgical. Vocal cord paralysis is the most encountered complication and speech therapy rehabilitation should be proposed to the patient.

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Author Information

M Sérémé

Department of Otorhinolaryngology, Teaching Hospital Yalgado Ouédraogo of Ouagadoudou Ouagadoudou, Burkina Faso serememoustapha @yahoo.fr

AS Ouédraogo

Department of Pathology, Teaching Hospital Yalgado Ouédraogo of Ouagadoudou Ouagadoudou, Burkina Faso

YMC Gyébré

Department of Otorhinolaryngology, Teaching Hospital Yalgado Ouédraogo of Ouagadoudou Ouagadoudou, Burkina Faso

K Ouoba

Department of Otorhinolaryngology, Teaching Hospital Yalgado Ouédraogo of Ouagadoudou Ouagadoudou, Burkina Faso