

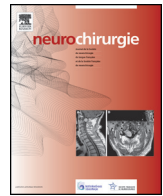


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Clinical case

Endoscopic endonasal approach for the treatment of schwannomas of the pterygopalatine fossa: Case report and review of the literature



Approche endoscopique endonasale pour le traitement de schwannomes de la fosse ptérygopalatine : un cas et revue de la littérature

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ABSTRACT

Introduction. – Pterygopalatine fossa (PPF) schwannomas are rare lesions most often arising from branches of the trigeminal nerve. Symptomatic lesions have been traditionally treated by conventional external approaches. However, the development of an expanded endonasal approach (EEA) enables skull base surgeons to reach these deeply seated lesions via a different route with its own advantages and drawbacks.

Methods. – Case report and review of the literature.

Case description. – A 41-year-old woman presented with a 6-year history of right facial pain and numbness. Her symptoms had increased progressively over a year, and she recently had developed right-sided otalgia. MRI revealed a right PPF mass, hypointense on T1 and T2 sequences with homogeneous enhancement following the use of gadolinium. A biopsy, attempted at another institution, was considered non-diagnostic. We totally removed the lesion through an endoscopic endonasal transmaxillary approach. Final pathology confirmed the diagnosis of schwannoma. Post-operatively, the patient noted a significant improvement of her facial pain (V2 territory).

Conclusion. – The endonasal endoscopic transmaxillary approach provides adequate access to the PPF, thus enabling safe tumor removal with less morbidity than conventional routes.

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R É S U M É

Introduction. – Les schwannomes de la fosse ptérygopalatine (PPF) sont des lésions rares issues des branches du nerf trijumeau. Les lésions symptomatiques sont classiquement abordées par les voies d'abord externes. Cependant, le développement des voies endoscopiques endonasales étendues (EEA), associées à d'autres avantages et inconvénients qu'il convient de connaître, permet également aux chirurgiens d'atteindre ces lésions complexes de la base du crâne.

Méthodes. – Cas clinique et revue de la littérature.

Description. – Une patiente âgée de 41 ans présente, depuis 6 ans, une douleur de l'hémiface droite associée à un engourdissement. Ces symptômes s'aggravent progressivement depuis un an et elle développe une otalgie droite. L'IRM révèle une masse de la fosse ptérygopalatine droite, prenant le contraste. Une biopsie ne sera pas contributive. Une chirurgie réalisée via une approche endoscopique endonasale permet une exérèse complète. L'histologie confirma le diagnostic de schwannome. La névralgie faciale s'améliora en post-opératoire.

Mots clés :

Schwannome

Fosse ptérygopalatine

Nerf trijumeau

Chirurgie endoscopique endonasale

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Conclusion. – L'approche endoscopique endonasale transmaxillaire permet d'aborder les lésions de la fosse ptérygopalatine avec des avantages non négligeables par rapport aux approches conventionnelles.

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1. Introduction

Surgery within the pterygopalatine fossa (PPF) is challenging due to its limited dimensions, its deep location, and the presence of important neurovascular elements crossing its space. Traditional approaches to this deep region are chosen based on various factors: histopathology, size and extension of the lesion, as well as the surgeon's training and biases (otolaryngologist, maxillo-facial surgeon and neurosurgeon). PPF lesions can be reached via:

- anterior routes (transfacial, transmaxillary, and transoral approaches);
- postero-lateral route (infratemporal approach);
- superolateral route (subtemporal approach).

All these approaches are invasive which include their respective morbidities. The development of endoscopic endonasal approaches (EEA), during the past two decades, has facilitated access to these deep lesions through less invasive routes.

The aim of this article is to illustrate the potential of the endonasal endoscopic approach for the surgical treatment of PPF lesions. We also report a rare case of PPF schwannoma removed

via an EEA and present a review of the literature regarding the management of similar lesions.

2. Case report

A 41-year-old woman presented with a 6-year history of right facial pain and numbness associated with fullness in the right ear. In April 2009, an MRI revealed a PPF mass, which was subsequently biopsied. However, the sample was considered insufficient to achieve a pathological diagnosis. Her symptoms progressed and she was eventually referred to our department for evaluation in October 2009. Physical examination showed hypoesthesia on the right side in the distribution of the second branch of the trigeminal nerve (V2).

MRI revealed a right $30 \times 20 \times 26$ mm mass filling the PPF, hypointense on T1 and T2 sequences with homogeneous enhancement following gadolinium injection (Fig. 1). This mass extended into the medial infratemporal fossa. The lesion's radiological characteristics were consistent with a benign nerve tumor involving V2.

Therapeutic options including incisional or excisional biopsy, via open or endoscopic approaches were presented to the patient.

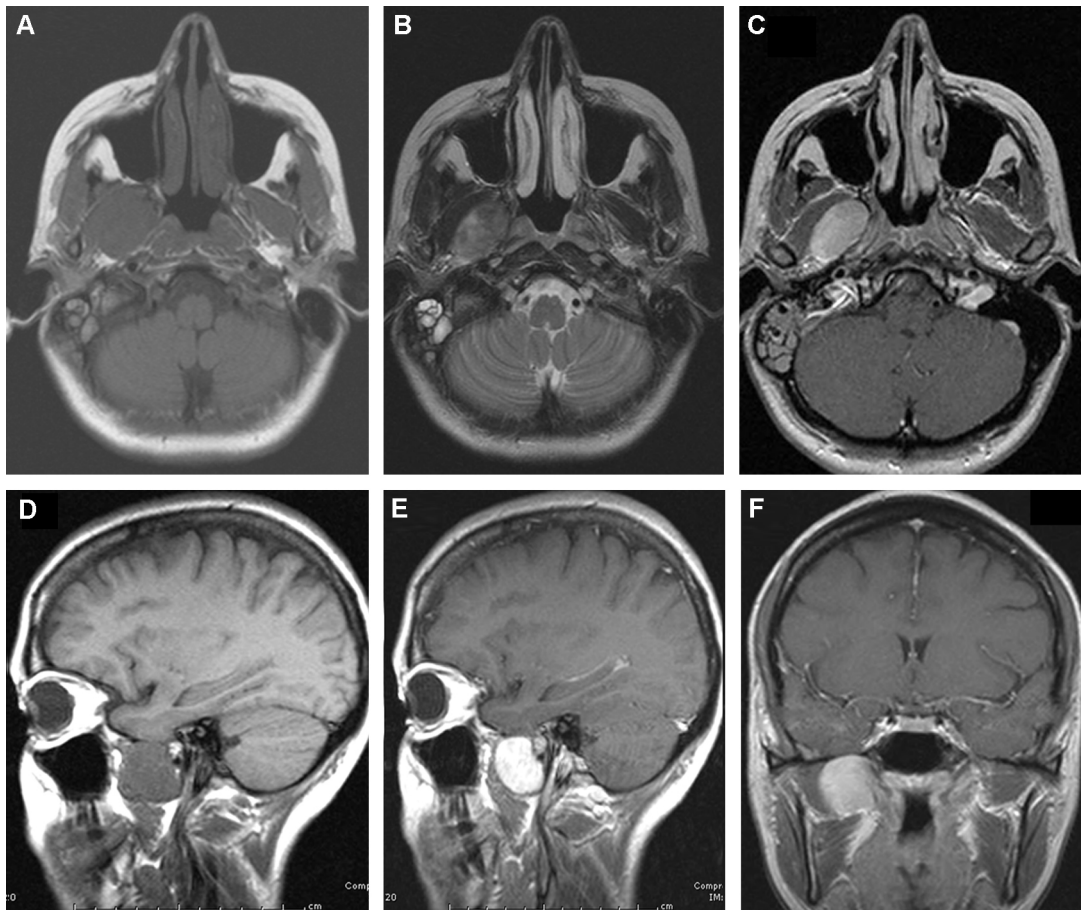


Fig. 1. Pre-operative MRI in axial (A–C), sagittal (D–E) and coronal plane (F). C, D and F are gadolinium enhanced. *IRM préopératoire en coupe axiale (A–C), sagittale (D–E) et coronale (F). C, D et F ont été réalisées après injection de gadolinium.*

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