## Scholars Journal of Medical Case Reports

Abbreviated Key Title: Sch J Med Case Rep ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online) Journal homepage: https://saspublishers.com/sjmcr/

# Vasculo-Nervous Conflict of the Pontocerbellous Angle Revealed by a **Hemiface Spasm**

Belhaj  $N^{1,3^*}$ , Rahim  $H^1$ , Ait Taleb Oumhand  $H^2$ , Bencheikh  $R^2$ , Benbouzid MA<sup>2</sup>, Essakalli L<sup>2</sup>

<sup>1</sup>Resident physician in otorhinolaryngology, Department of Otorhinolaryngology, Head and Neck Surgery, Ibn Sina University Hospital, Rabat, Morocco

<sup>2</sup>Professor of otorhinolaryngology, Department of Otorhinolaryngology, Head and Neck Surgery, Ibn Sina University Hospital, Rabat, Morocco <sup>3</sup>Faculty of Medicine and Pharmacy of Rabat, Mohammed V University, Rabat, Morocco

DOI: <u>10.36347/sjmcr.2020.v08i04.015</u>

| Received: 11.04.2020 | Accepted: 18.04.2020 | Published: 21.04.2020

#### \*Corresponding author: Belhaj Najoua

#### Abstract Case Report

Facial hemispasm is secondary to neuro-conflict vascular in the majority of cases; a lesion of the posterior fossa is rarely involved. MRI, thanks to volume sequences and angio-MRI, proves this. We report in this work, the observation of a patient who consulted for hemiface spasm in the radiological assessment is reported to have shown a vaculonervous conflict.

Keywords: Vasculo-Nervous Pontocerbellous Hemiface Spasm.

Copyright @ 2020: This is an open-access article distributed under the terms of the Creative Commons Attribution license which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use (NonCommercial, or CC-BY-NC) provided the original author and source are credited.

#### **INTRODUCTION**

Neurovascular conflicts of the ponto-cerebellar angle involving the facial nerve are quite rare. The nature of nerve compression is arterial in 87% and mainly from the antero-inferior cerebellar artery. The effect induced by the vascular beat against the wall of the nerve locally modifies the histology and physiological behavior of the latter. We propose from this work to specify the clinical and radiological particularities of this pathology.

### CASE REPORT

We report in this work 'observation of a 61year-old patient with no pathological history, who

presented for two months before his consultation the installation of a spasm of the left hemiface without other associated signs. the otological cochleovestibular clinical examination, are normal. The neurological examination did not find a sensory deficit motor, or cranial pair paralysis.

The clinical examination was supplemented by a biological assessment income normal, the additional imaging, brain scanner income normal, resonance imaging magnetic shows a crossing of the left AICA with the left facial nerve located at 6mm from its apparent origin and on the right side a visible crossover at 7mm from its origin (figure 1.2).

Fig-1 : irm axial sections T1 injected showing the vascular and nervous conflict





Fig-2: IRM axial sections T1 showing the vascular and nervous conflict

The patient received an injection of botulinum toxin.

#### DISCUSSION

Neurovascular conflicts (CNV) of the pontocerebellar angle are quite rare and can interest the Vth, VIIth, VIIIth, IXth cranial pairs.

The ponto-cerebellar angle is an anatomical region containing vascular-nervous elements, the cranial nerves cross it in a rectilinear way, the vessels describe very variable and sinuous paths there, this anatomical contiguity is responsible for the genesis of a CNV and the wear effect induced by the vascular beat against the wall of the nerve locally modifies the histology and physiological behavior of the latter. NVCs manifest as positional vertigo, unilateral tinnitus, or progressive unilateral hearing loss.

Ponto-cerebellar angle syndromes revealing an abnormal arterial loop artery-nerve conflicts can be manifested by hemi spasm of the face and trigeminal neuralgia [1].

The imagery is systematic in the face of any suspicion of vasculo-nervous in the ponto-cerebellar angle. She has triple interest; to eliminate pathology, to define precisely "the anatomy of the conflict", and to eliminate a congenital anomaly of the region, drainage venous in particular.

Several sequences are carried out and then analyzed: the T2-CISS sequence which allows you to see on the same cut heavy vessels and nerves, native sections and 3D reconstructions of the angioIRM (3D TOF) which allow a better analysis of the entire vascular circuit of the region. Thanks to 3 Tesla MRI, the surgeon is now able to visualize and locate the place of the conflict. The images recorded on CD are reproduced on computer screen and dynamic section reading successive allows understanding perfectly the route of vessels and their relation to the nervous axes. The MRI determines in the event of suspected CNV the place of the conflict, the deformation of the nerve and the orthogonal path of the vessel relative to the path of the nerve thus carrying out a pre-surgical mapping and the angio-MRI better defines the vessel in question[3-5].

Exclusively, the clinic manifests first itself unilaterally in the form of clonic periocular movements. Rarely, at the beginning, these spasms occur more and more frequently with the years, at the same time as they extend down the face to reach the labial commissure. Little to little, these jerky movements become incessant. The patient cannot control them while clinical examination of the facial nerve shows no motor deficit. Over the years, tonic movements appear, integrated resembling the hemiface and coming more and more often to complete the clonic movements, the whole resulting in a very unsightly and embarrassing grimace for the patient, even if the contraction is not painful. This tonic phase lasts long seconds and then the muscles of the face relax before new clonies followed by a "Tonic blockage [6]".

The initial treatment is unequivocal: the injection of botulinum toxin into the territory of the spasm allows, by inhibiting the effect of the nerve on the muscle at the level of the motor plate, immediately suppress the spasm for a few months. The injection must be perfectly controlled because, failing this, it could induce paralysis in the facial territory. She is regularly renewed and, logically, more and more frequently since the cause of the spasm remains present, the nerve continuing to suffer under arterial "aggression". Logically therefore, the doses injected are more and more important and close, the effectiveness of the toxin is exhausted, the patient enters a disabling and resistant phase medical treatment. It is time to offer him a decompression surgery [7].

### CONCLUSION

Imaging remains the essential element for the diagnosis of the vascular and nervous conflict of the ponto-cerebellar angle, and this by objectifying the deformation of the nerve and the orthogonal path of the vessel with respect to the nerve path.

#### REFERENCES

- 1. Pan Afr Med J. 2014; 18: 129. Published online 2014 juin French. DOI: 10.11604/pamj.2014.18.129.3589 PMCID: PMC4236767PMID: 25419267 Taoufik Africha1, & et Mohammed Touati2
- Vasculo-neural compression syndromes in the ponto-cerebellar angle. Surgical treatment. A Chays, M Labrousse, A Bazin, L Pierot, P Rousseaux 1634-0647 - © 2010 Académie nationale de chirurgie.

- Ph. Romanet. Pathologie vasculaire en ORL. Rapport annuel de la Société d'otorhinolaryngologie et de pathologie cervico-faciale; 2000.
- Placko-Parola G, Lavieille JP, Deveze A, Magnan J, Girard N. Imagerie de l'angle pontocérébelleux et du méat auditif interne normale et pathologique. EMC (Elsevier Masson SAS, Paris), Oto-rhino-laryngologie. 20-047-A-80, 2010.
- Elaini S, Miyazaki H, Rameh C, Deveze A, Magnan J. Correlation between magnetic resonance imaging and surgical findings in vasculo-neural compression syndrome.Int. Adv. Otol. 2009; 5(Suppl) 1-23.
- Magnan J, Bremond G, Chays A. Vestibular neurotomy by retrosigmoid approach: technique, indications, and result Am J Otol. 1991;12: 101-104.
- Magnan J, Chays A, Broder L, Bruzzo M, El Garem H, Girard N, Raybaud C. Le traitement des conflits artères-nerfs dans l'angle pontocérébelleux. Radiologie. 1999; 19(2): 63-72.