



### Case Report

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## Meningioma of the lateral ventricle: A rare cerebral localization

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### Abstract

The intraventricular meningioma is a rare pathology, benign whose healing can be obtained by the surgical treatment. We report a case of meningioma of the lateral ventricle in a young girl of 15 years of age with a notion of headache evolving since 1 year with gradual decline of the hearing, complicated, 6 months before her admission of an exophthalmia. A clinical examination: Conscious patient, left hemiplegia, dysarthritique and deafness of left perception. Cerebral MRI makes it possible to objectify the presence of a voluminous right intraventricular tissue process. The operation under a microscope allowed complete removal of the tumor. The immediate postoperative sequences are marked by a partial recovery of the hearing. Pathologic examination of an intraventricular meningioma (WHO grade I fibroblast meningioma 2007).

**Keywords:** Meningioma, lateral ventricle, surgery.

### INTRODUCTION

Meningioma constitutes the first tumor of meningeal envelopes. It represents 15% of the whole brain tumors and 25% of spinal tumors primitives. The localization intra-ventricular is very rare (0.7% of ventricular tumors). The diagnosis is often delayed because of the slow development of the tumor in a space extensible, rests on the magnetic resonance imaging (MRI) of the brain and the pathology. The surgery represents the essential part of the supported, but nevertheless it is not stripped of complications.

### CASE REPORT

Patient aged 15 years with no previous history consults for headache rebel to medical treatment, evolving for 1 years with a gradual exophthalmia complicated 6 months before its admission by the installation of a deafness and convulsive crisis.

On clinical examination: conscious patient, left hemiplegia, dysarthritique and deafness of left perception.

A cerebral CT performed showed a right intraventricular tumor enhanced after injection of contrast product with perilésionel edema (Figure 1).

Cerebral MRI has demonstrated the presence of a voluminous right intraventricular tissue process. It is in hyposignal heterogeneous in T1, enhanced after injection of gado; Hypersignal T2 (Figure 2). The operation under a microscope allowed complete resection of the tumor (Figure 3). The immediate postoperative sequences are marked by a partial recovery of the hearing. A control scan was performed at the patient's exit showing total tumor excision (Figure 4).

Histopathological examination of an intraventricular meningioma (WHO grade I fibroblast meningioma 2007 (Figure3).

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## DISCUSSION

Meningioma represents approximately 15% of intracranial tumors. Intra-ventricular localization usually occurs in the lateral ventricles (v1) and more rarely in the third (V3), and fourth (V4) ventricle [1, 2, 3, 4]. The incidence of meningiomas in the lateral ventricle varies from 0.5 to 4.5% (Scheithauer BW 2002, unpublished data). On a Series of 1800 meningiomas, the team of Samii M has found 0.7% of locations intra ventricular [5]. There is a little more than 500 cases of ventricular meningiomas published in the literature, since the review of Delandsheer [3]; the tumors are essentially localized in the lateral ventricle (77.8%), or the V3 (15.6%); the V4 meningiomas are exceptional (6.6%).

Female predominance is classic and most patients are from the fifth or sixth decade [6]. The cases described in the child are quite rare, representing 2 cases on a series of 54 tumors in a series of Zuccaro [7], but are sometimes considered more frequent compared to an adult population [1].

Diagnosis is often delayed because of the slow development of the tumor in an extensible space [8]. These meningiomas derive from arachnoid cells which overlap and invaginate with the choroid plexus at the time of embryogenesis [9], especially in the seventh and eighth weeks of development. The VL meningiomas are very preferentially localized at the atrium [10, 11], curiously enough rather on the left side [5].

These are often slow growth tumors, but some reported cases show very rapid tumor growth or a 6 cm diameter meningioma occurs within a year [8]. Clinical signs are non-specific, dominated by signs of intracranial hypertension, disorders of superior functions, deficit of the campus or contralateral motor deficits [11].

At the scanner, the meningioma is rather hyperdense and well circumscribed with a homogeneous contrast [5]. In magnetic resonance imaging, the signal is hypo to isointense in T1, iso- to hyperintense in T2 with respect to the cortex [5]. A heterogeneous signal due to tissue necrosis would be linked to a risk of malignancy increased [8, 12]. Spectroscopy preferentially found an increase in choline and alanine with a decrease in creatine and N-Acetyl-Aspartate [6]. Cerebral arteriography is generally no longer required in the balance sheet.

The surgery is most often done through a direct parieto-occipital abord, the factors conditioning the excision depends on the degree of vascularization, tumor size; Obvious, the dominant side left hemispheric complicates the surgical approach. Other therapeutic options may be discussed including radio surgery when the size of the tumor allows it as well as medical surveillance and abstention when the lesion is not progressive. No effective mortality is described, clinical improvement has been seen in symptoms such as intracranial hypertension syndrome, paresis, visual disturbances. The risk of recurrence is rare if surgical removal is complete.

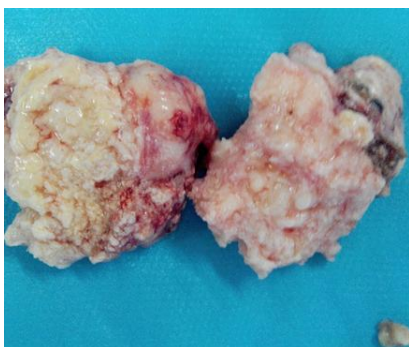


Figure 3: Procedure for a large intraventricular meningioma

## ILLUSTRATIONS

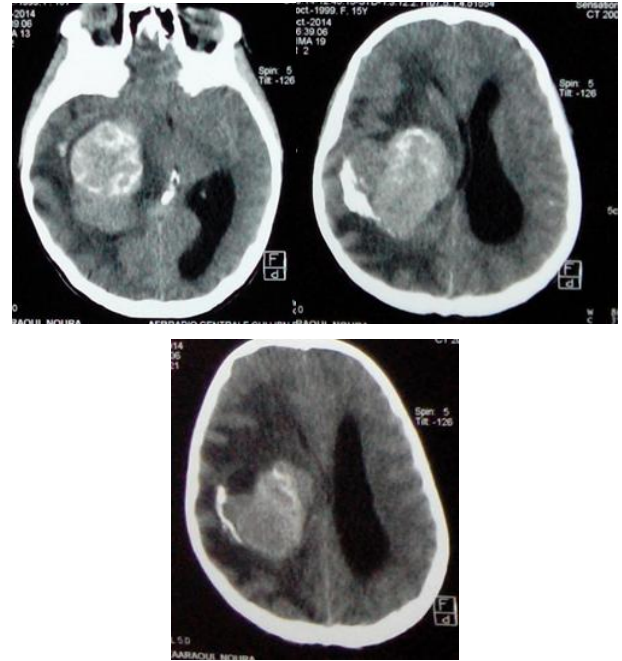


Figure 1: CT scan showing a right intraventricular tumor With enhanced peritumoral edema after injection of contrast agent.

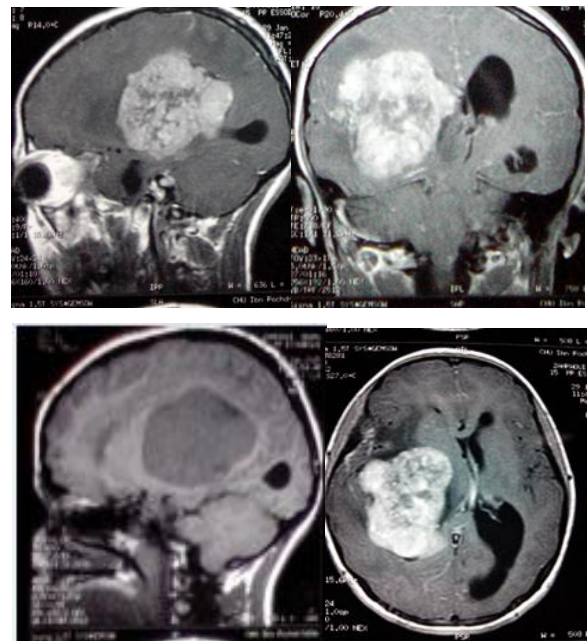


Figure 2: Cerebral MRI showing a voluminous right intraventricular tissue process. It is in hypointense heterogeneous in T1, enhanced after injection; Hyperintense T2.

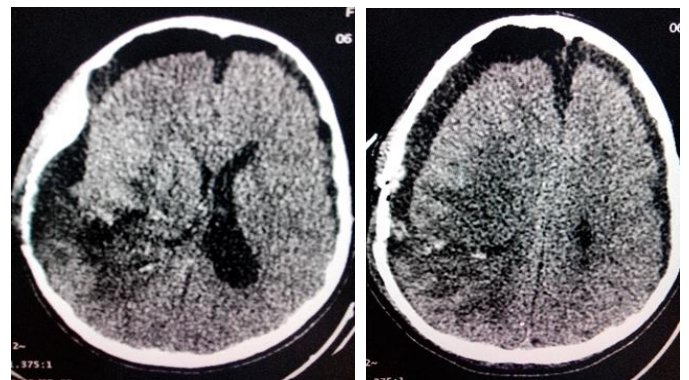


Figure 4: Brain CT of control confirming a total excision of the tumor.

## CONCLUSION

Intraventricular meningiomas are rare tumors, often benign lesions that can be cured by surgical treatment, If the complete excision is not risky on the functional plan, it should constitute the treatment of first intention to avoid sometimes cumbersome and ineffective adjuvant therapies. Surgery to reduce volume and release the ventricle often remains necessary. Block excision should be avoided except for very small tumors, so a tumor fragmentation is preferable in order to mobilize the tumor before interrupting the vascular pedicles. The first step is to minimize the manipulation of neurological structures and vital vascular structures.

## Conflict of interest

The authors declare no conflict of interest

## Acknowledgements

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