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Original Research Paper

Meningioma of the Anterior (Olfactory) Level Operated About 75 Cases

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ABSTRACT:
Olfactory meningiomas represent 9 to 12% of all meningiomas of all locations. We report a series of 75 cases of meningiomas of the anterior level. The main symptom in more than 68% of cases was personality and psychological disorders, Hypertension syndrome The average age is 52 years with a clear female predominance. Neuroimaging was performed in all our patients. The number of postoperative deaths over 10 years is 9%, Several series have been published, explaining the different approaches. The quality of surgical excision reflecting the study's surgical technique and relationship between tumor excision and mortality, morbidity. Olfactory meningiomas Is a relatively common entity which remains silent for a long time with a symptomatology which reaches a considerable volume and size, the improvement of the surgical and microsurgical technique has a good post-operative evolution.

Keywords: Olfactory meningioma, surgical approach

INTRODUCTION:

Olfactory meningiomas represent 9 to 12% of all meningiomas in all locations combined. And around 15 to 25 of the membranes lining the central nervous system (pia mater, arachnoid mater, dura mater). They mainly develop.
There are 03 varieties.

- Earlier variety; Falco orbital meningioma
- Medium variety; the meningioma is inserted on the Olfactory groove or on the base of the Crista Galli process – it is present (Anterior cerebral artery) plus Fronto polar arteries of the ACA (anterior cerebral artery).
- Later variety; the meningioma is inserted on the posterior part of the riddled blade of the ethmoid which extends to the Early reaching the optic nerve, anterior cerebral then the chiasma or even the anterior part of the 3rd v Making surgica excision difficult or even dangerous .
- Total Variety concerns all three varieties. [6]

MATERIALS AND METHODS:

We report a series of 75 cases of olfactory meningiomas out of 570 cases of meningiomas operated on in our hospital department and 2021

- We note a female predominance with a sex ratio of 3 to 2, the average age of which was 52.8 years • The clinical picture was characterized by:
- Frontal syndrome which combines behavioral disorders, mood, personality change in The meningioma, pressing on surrounding nervous tissue, can cause internal neuronal excitation.

Other signs of a psychiatric nature such as change in mood, irritability, also indicate non-frontal meningioma.

- Alteration of higher functions: with memory problems of recent events (Fixation)
- Epileptic seizures: can be seen and can be Generalized or Localized.
- Visual Disorders = Often observed in the Posterior Variety we note a drop in visual acuity BAV: direct compression of the NO optic nerves

The extension of the Meningioma - Schematic presentation showing the dural attachment of the olfactory meningiomas and their ext chiasma and the optic nerves.

The anterior base is delimited in front by the vertical portion of the frontal bone, behind by the ethmoid It is formed embryologically from the seventh week.

Neuro-Imaging:

- All our patients benefited from a brain scan accompanied by a brain MRI.
- The CT scan revealed the classic character of this tumor: spontaneously hyperdense process enhancing f
- MRI shows an isointense process in T1 and isoor hyperintense in T2. taking Gadolinium

Symptoms	Number of Patients	Percentage
Personality Change	40	64,5%
Syndrome H.I.C	35	56,45%
Anosmia	40	69,3%
Visual Disorders	25	38,7%
Epileptic Crisis	9	

Table 1: Distribution of Patients According to Symptomatology

Aspect CT:

Figure 1: CT with Gado's In Meninioma of the anterior stage Total variety.

Aspect MRI:

Aspet MRI Pre and Postoperative for an olfactory meningioma. It makes it possible to specify the extension towards the ethmoid the nasal fossae the optic nerve the chiasma and possibly.

Fig 2: T1 brain MRI with Gado Inj Meningioma of the anterior level Total variety

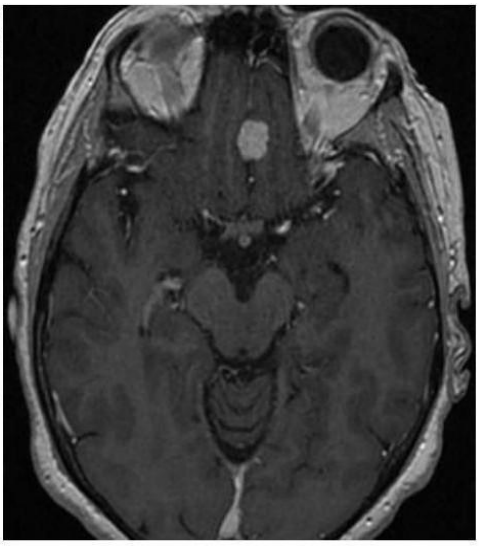


Fig 3 : T1 brain MRI with Gado Inj Meningioma of the anterior level Posterior Variety

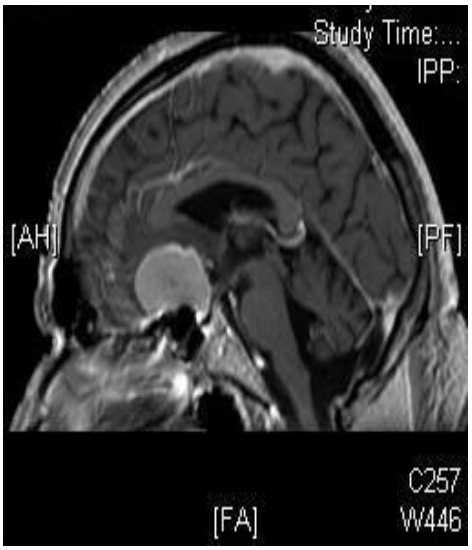


Fig 3: T1 brain MRI with Gado Inj Meningioma of the anterior level Medium variety

MRI: [2,3,4] it is necessary for meningiomas of the base in order to better clarify the relationships with the large vas optics. Especially in later forms.

- in T1 sequence without gadolinium the tumor is isointense to the gray matter Fig, 2, 3 , 4
- in T2 sequence the signal is, as in T1, isointense to the gray matter

in T1 sequence with gadolinium injection there is a very significant increase in signal (contrast enhancement difference from the scanner because the areas of necrosis, microcysts, intratumoral vessels, more anaplastic areas are objectified than on the scanner.

The arachnoid interface between the parenchyma and the tumor appears as a thin hyperdense line on T1 plus - the peri-lesional edema is demonstrated by a more or less extensive heterogeneous hyper signal on T2. Angio MRI Allows You to See The relationship between the tumor and The anterior cerebral artery , The internal carotid and The Anterior Communicator. Cerebral angiography was performed in 25 patients which corresponds to 40.31%. The aim of assessing the vascularization of the tumor, with the caliber of the anterior and posterior ethmoidal arteries in relation to the carotid artery and the A1 segment. Cerebral angiography apart from a few cases of olfactory meningiomas, is often necessary preoperatively, it must include an external carotid artery. Meningioma is characterized by three signs usually found:

The pedicle of insertion coming from the meningeal arteries which is often unique and corresponds to a standard artery. Arteries, usually invisible under standard conditions, can thus be objectified: - Anterior and posterior ethmoidal arteries, Branch of the Ophthalmic artery. Relationship with the anterior communicating artery.

TUMEUR	TAILLE	NOMBRE DE CAS
PETITE	0-2 Cm	05 cas
MOYENNE	2-4Cm	08 cas
VOLUMINEUSE	4-6Cm	27 cas
GÉANTE	Plus de 6 Cm	30 cas

Table 2 Distribution of Olfactory Meningiomas According to Their Sizes After Radiological Evaluation

In the majority of cases it was a large tumor measuring 5.54 cm in diameter

TREATMENT:

The only treatment for olfactory meningioma remains **surgical[7] The objective** of the intervention is the total excision of the tumor and the bone invaded by the tumor: Grade I excision of Simpson or Kabayachi I

Surgical excision As this is a generally benign tumor, it is the only curative treatment; but she co Tumor, its topography and bone invasion, hence the SIMPSON classification (SIMPSON, 1957) which defines five.

RESULTS AND DISCUSSION:

They correlate with those in the literature between 9 and 10% of all localized meningiomas • The choice of

approach depends on the size of the tumor, the extension, and can be combined microsurgery from the basics.

Uni or Bilateral Subfrontal Approaches:
Bilateral is indicated in the "geante" MO described by HORSLEY and CUSHING • DISADVANTAGES

- an anatomical region rich in vascular-nervous elements thus making the symptomatology very p realization.

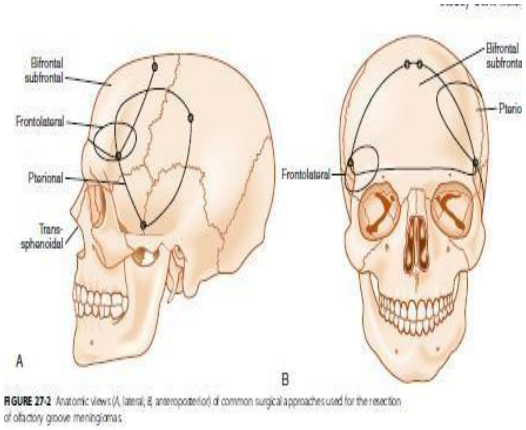


FIGURE 27-2 Anatomic views (A, lateral; B, anteroposterior) of common surgical approaches used for the resection of olfactory groove meningiomas.

Fig. 4Illustration of the approach route

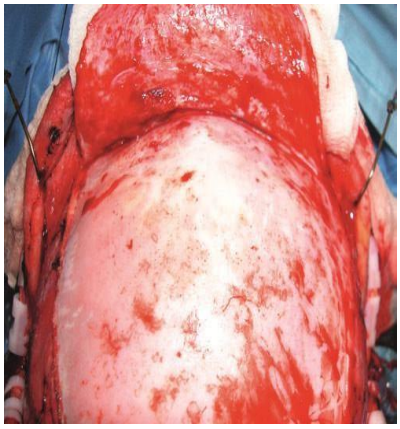
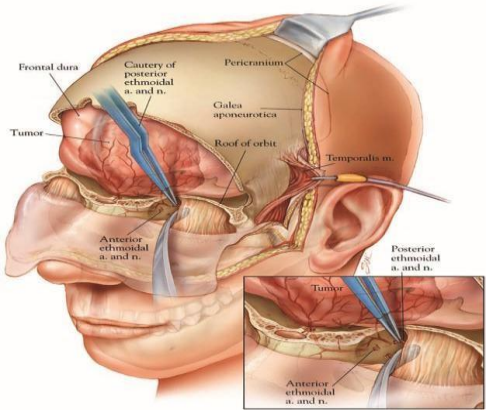


Fig. 5(a) and (b) [8]Illustration bicoronal bi coronal incision



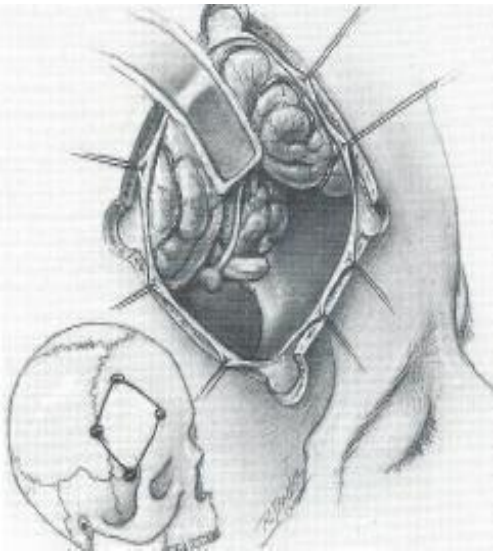


Fig 6. Olfactory Meningioma Unilateral Subfrontal Approach

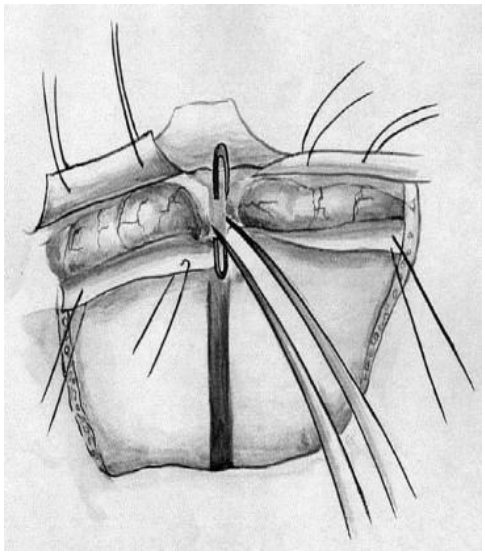


Fig. 7. ligature of the superior longitudinal sinus

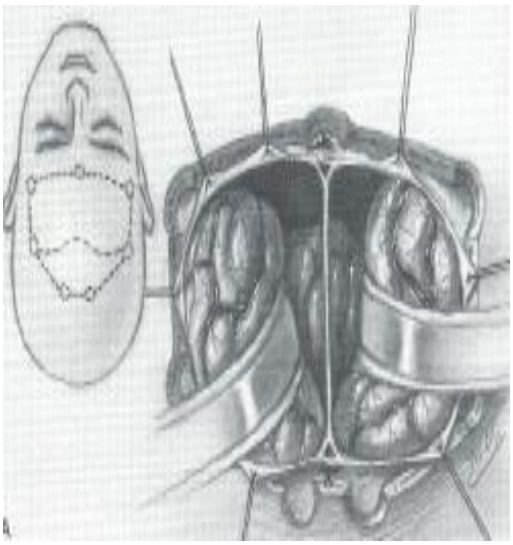


Fig 8. Illustration of the bi-frontal approach

The ligation of the superior longitudinal sinus and the section of the falx which can include rhinorhea and infection due to the installation of cerebral edema therefore has the major intra-operative incident the opening of the frontal sinus therefore an el risk significant prolonged retraction of the frontal lobe, as well as the veins and arteries certain complications psychological disorders, anosmia, venous infarction and h.

Fig 9. Illustration of the bi-frontal approach

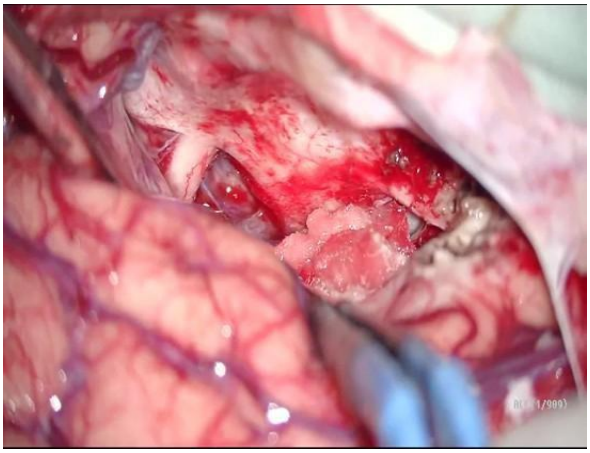


Fig 10: Surgical Exeresis

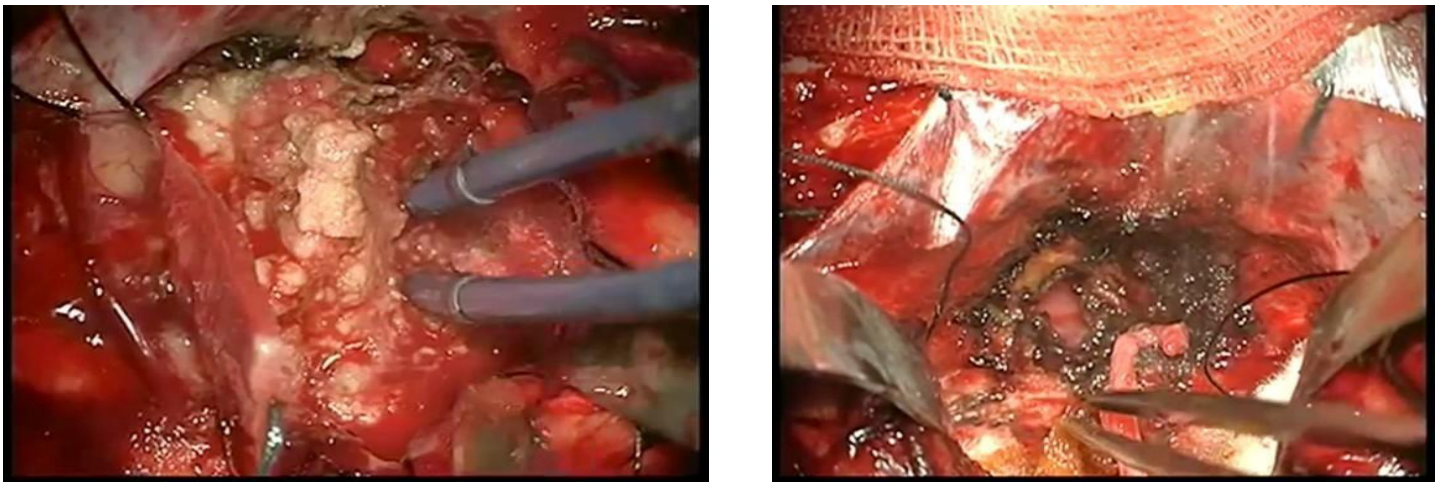


Fig 11 Surgical Exeresis By Morcellation and hemostasis of the surgical cavity (This route makes it possible to first approach the insertion pedicles (ethmoidal artery)

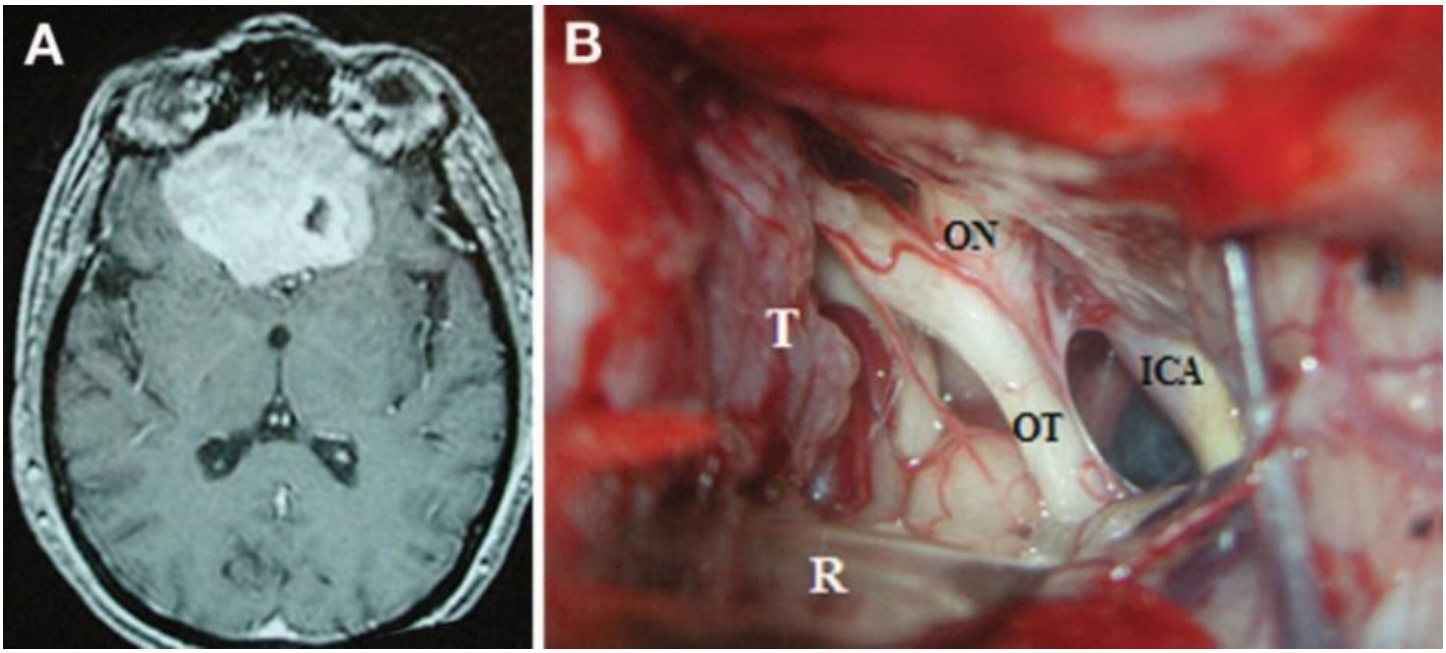


Fig 12 visualization of the optic nerve and carotid artery after tumor excision

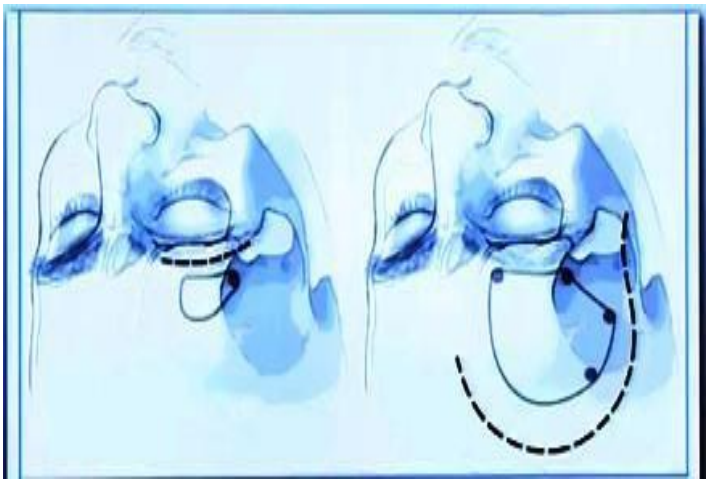


Fig 13. Fronto-lateral approach

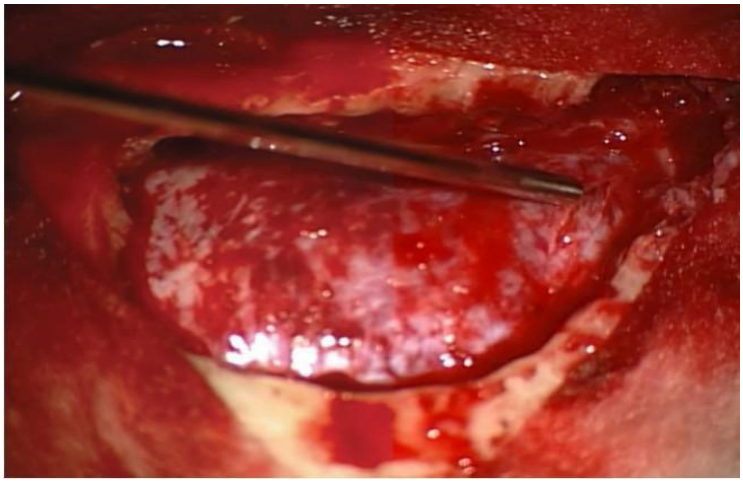


Fig 14. intraoperative Fronto-lateral

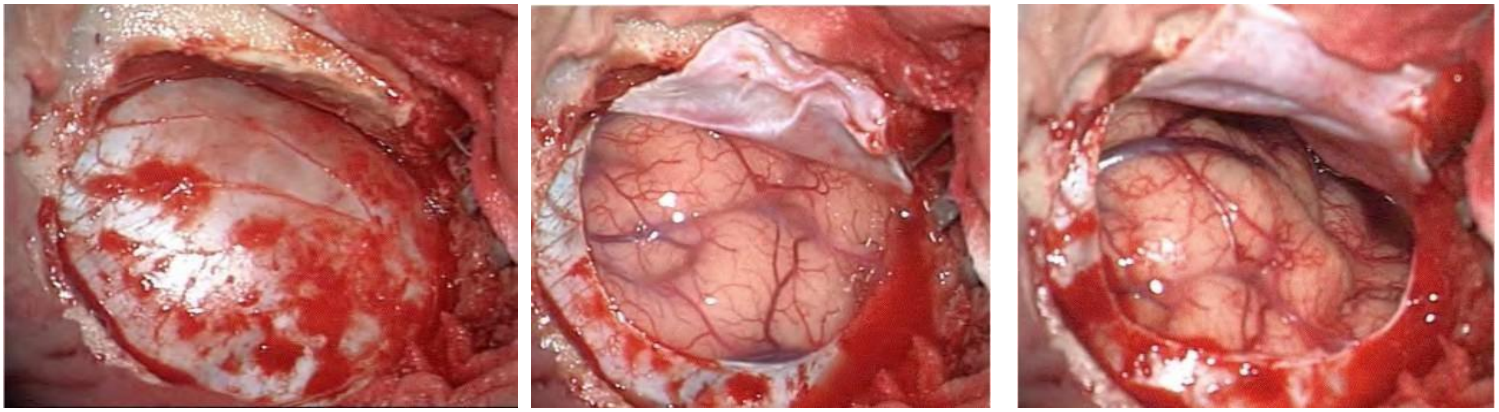


Figure 15. Brain Relaxation

- This step is crucial to avoid any trauma to the frontal lobe
- It is obtained by the opening of the proximal Sylvian cistern and gentle suction of CSF
- It allows you to obtain very good exposure

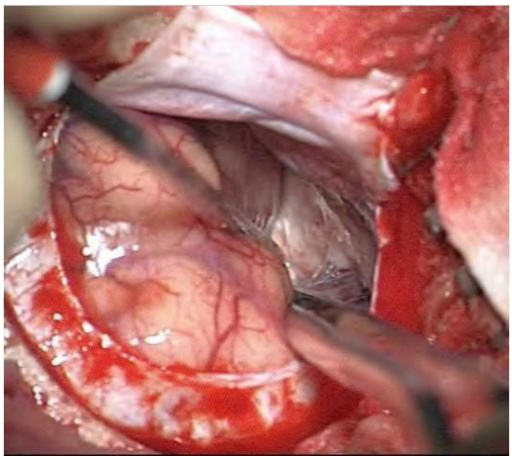
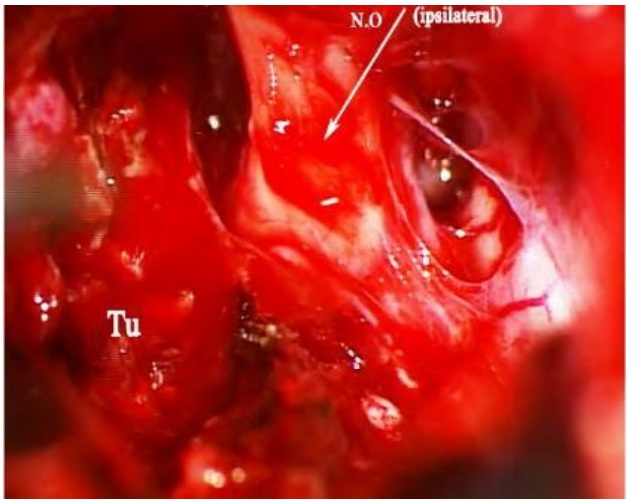


Fig 16. Spacing of the brain and highlighting the tumor



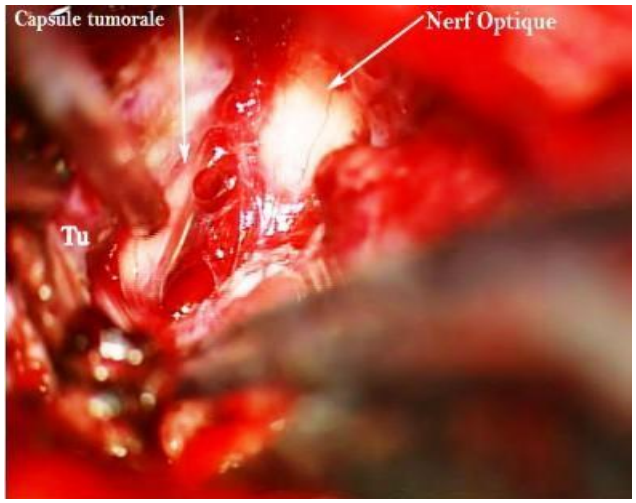
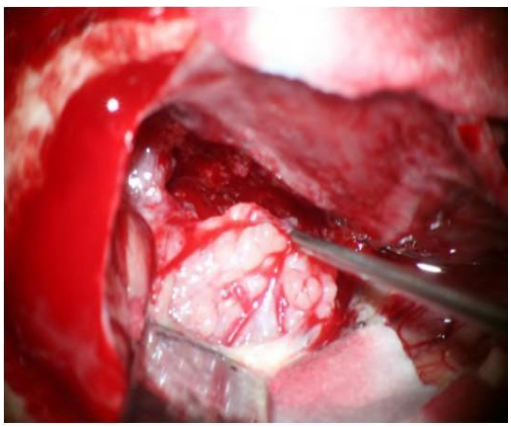
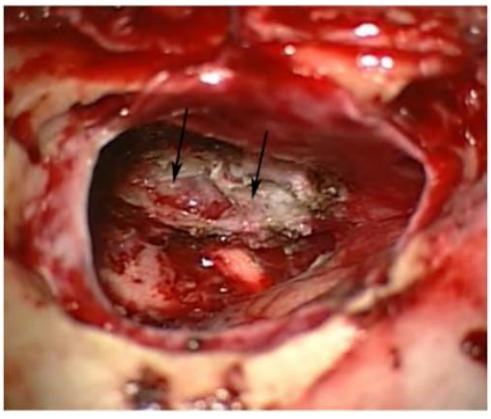


Fig 17. Identification of the lateral ipsi optic nerve and the carotid

In the case of a large tumor, these structures will only appear after satisfactory excision.





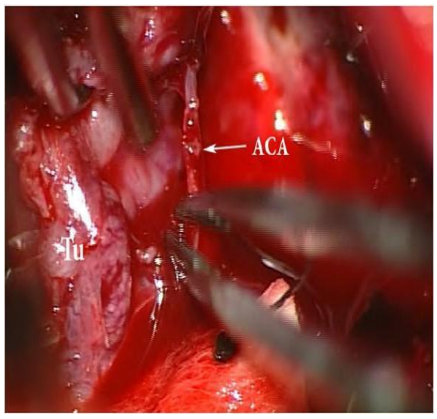


Fig 18. Reaming of hyperostosis in case of ethmoid infiltration •Placement of a pericranial flap on the base using glue

COMPLICATIONS:

- Morbidity is: 5% to 10%
- Recurrences: 5% to 41% (10 to 20 years of follow-up)
- Mortality

We deplore 5 deaths, or 8.06% , (accidental injury to an artery, hemorrhagic brain ischemia, etc.).

- Pertuiset (acta 85) on 353 cases == 7%
- Ran schof (95) 33 cases ==6.1%
- Morbidity
- Ran schof (91)== 10.8%
- Survival at 10 years in 90% of cases
- Intracerebral hematomas were present in our studies in 3 cases which were necessary given the neurological deterioration occurring immediately postoperatively.
- The mortality figures in our series are close to those in the BASSIOUNI literature
- Residives Postoperative Survival Time Estimated At 7.9 Years
- Loss of Sight 6 Patients

CONCLUSIONS:

- Ethmoidal meningiomas are benign tumors, small meningiomas are difficult to diagnose symptomatic at the start of the disease, the surgical technique is adapted to each case.
- An adequate route allows a minimum of retraction and a maximum exerese is satisfactory.
- In current practice, for the clinician, the appearance of atypical thymic disorders must absolutely be researched • These are impressive tumors by their volume which reach at low noise posing numerous problems Not reducing risk An early diagnosis is desirable often the psychiatric syndrome is PresentM Histological These are tumors known for their recurrence.

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