Case 11132

Unusual Intra-osseous meningioma with intra and extra-cranial extension
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Section: Neuroradiology
Area of Interest: Head and neck
Procedure: Diagnostic procedure
Imaging Technique: MR
Special Focus: Neoplasia Case Type: Clinical Cases
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Patient: 70 years, male

Clinical History:

A 70-year-old man was admitted to hospital with a swelling in the frontal region, headache and forgetfulness. He had noticed the swelling 2 years before but refused consulting. Physical examination revealed a bi frontal non-tender fixed mass. Neurological examination was normal.

Imaging Findings:

MRI performed in T1 and T2 weighted sequences, and T1 with gadolinium: found a widely implanted mass on T1-hypointense and T2-hyperintense enhanced heterogeneously developed exo- and endocranial but remaining well-limited. A comet sign delimiting this lesion reflected its dural origin. The vault of the skull is thinned with no interruption. The SLS was clearly involved (coronal view) but MRA images are not included because of motion artefacts.

Discussion:

Meningiomas are usually benign tumours developed from arachnoid cells of the meninges. According to the Hoye classification of ectopic meningioma, endo-exocranial meningioma are Type A and are the result of the externalisation of an initially intracranial meningioma. This externalisation can be made through the holes in the base of the skull, sutures or Haversian canals. The extension occurs frequently to the orbit, the nasal, sinus, parapharyngeal space, the rock and skin.

In the skull, this lesion is usually in contact with a coronal suture or a fracture.

Several authors believe that these meningiomas come from trapped meningeal cells in sutures during embryogenesis, childbirth or head trauma with fracture [1]. The reason for consultation is the appearance of a swelling associated with infiltration of the skin responsible for headaches, focal neurological signs or seizures.

The appearance of the lesion is polymorphic in radiography and can take two forms: the so-called hyperostotic is most common with thickening of the vault, sometimes studded with “sunshine” bone spicules, and thinning osteolytic or even erosive form with bone lysis as in the case of our observation. Intratumoral calcifications may exist in 20% of cases.

The CT examination shows that a meningioma tissue density is usually higher than the cortex. MRI allows better anatomical definition by showing its various components. It allows a meningeal staging which is often underestimated by the scanner. MRI can detect intracranial extension and study the cerebellar pontine angle
in search of neurofibromatosis. The diagnosis is always histological. It is usually a benign tumour of meningo-endothelial or transitional-type, rarely fibroblastic or angiomatous.
In 5% to 10% of cases, meningioma may be malignant: sarcomatous or anaplastic.
The main differential diagnoses are essentially osteolytic dural metastases, osteosarcoma and myeloma gap. As surgery is the treatment of choice for these tumours, it was performed in our patient. The SLS involvement was source of per-operatory fatal haemorrhagic complications. Early removal may prevent neurological complications. The risk of recurrence is higher in case of incomplete resection [2].

**Differential Diagnosis List:** intra-extra cranial meningioma, Dural metastases, osteosarcoma of the cranial vault

**Final Diagnosis:** intra-extra cranial meningioma

**References:**

Description: T1 hypointense endo and exocranial bifrontal mass compressing the frontal parenchyma
Origin: Service de Radiologie- HMV
Description: T2 hyperintense homogeneous endo and exocranial mass compressing the frontal parenchyma and laminating the subarachnoidal spaces. Origin: Service de Radiologie, HMV
Figure 3

Description: Endo-exo cranial mass enhanced intensely. Origin: Service de Radiologie- HMV
**Description:** The intensely enhanced endoexocranial mass invades the superior longitudinal sinus and thins the vault of the skull. **Origin:** Service de Radiologie, Hopital d'enfants de Rabat