Lipoma of the corpus callosum
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Clinical History:
A 14-year-old girl with no previous pathological history was admitted to the hospital with atypical headache without fever or any other specific signs. The neurological examination was normal and the patient was sent to our department to conduct a brain CT.

Imaging Findings:
The brain CT showed a fat density formation of the centerline, occupying the splenium and stretching out with the body, measuring 16 mm in thickness and extending to the left lateral ventricle, where it was very close to the choroid plexus, with dysgenesis of the CC. We also noticed the presence of microcalcifications in the upper rim area. For better understanding, an MRI was performed, and showed just like the CT: a fat formation of the centerline, which appeared hyperintense on both T1 and T2 FLAIR, occupying the splenium and lying above the CC to the knee. This formation had an extension to the left lateral ventricle. A fat suppression sequence was conducted, and the lesion dropped signal, which confirmed the diagnosis.

Discussion:
Intracranial lipomas are not true neoplasms, but congenital malformations, which represent a persistence of menix primitiva, a mesenchymal neural crest derivative [1]. Approximately 30% of intracranial lipomas are found in the region of CC and half of these are associated with various degrees of callosal dysgenesis [2]. Other sites of intracranial lipomas are optic chiasma and the basal cisterns, mainly involving the circumesencephalic, interpeduncular and cerebellopontine (CP) cisterns. Infratentorial lipomas are seen in the CP angle cisterns. Pericallosal lipomas have an incidence of 1:1700 and are divided into two categories: the anteriorly located bulky tubulo-nodular, which have a mean diameter of more than 20 mm, and the posteriorly located ribbon-like curvilinear with a mean diameter of more than 10 mm [3]. The first type is frequently associated to forebrain and rostral callosal abnormalities while the second type is associated to a normal CC [1]. The curvilinear type of pericallosal lipomas can be associated to fronto-nasal dyplasias [4] and Goldenhar syndrome [5]. In 50% of the cases there are no clinical signs and the patients are asymptomatic. In the rest of the cases, it is usually observed as a headache, seizure and behavioural disturbances which are usually due to anomalies of the CC.
Infratentorial lipomas can include the VII and VIII nerves, causing deafness and vertigo. Imaging is the primary mean to diagnose intracranial lipomas. Plain radiographs of the skull can show curvilinear calcification, especially the tubulo-nodular type. On CT the mass appears smooth and hypodense with a density of 50 to 100 negative HU. It is often marginated by a nodular or curvilinear calcification. On MRI, lipomas appear homogeneously hyperintense.
on both T1 and T2 weighted images, with areas of low intensity signals due to peripheral calcification. The diagnosis is often confirmed on fat suppressed images which show signal loss due to the suppression of fat [6]. Sometimes central flow voids representing pericallosal arteries coursing through the substance of the tumour are noticed. Treatment of intracranial lipomas is surgical but often difficult, as many nerves and vessels pass through it and it has little or no effects on seizures [7].

**Differential Diagnosis List:** Lipoma of the corpus callosum, Fatty transformation of some brain tumours: glioma, Ependymoma, Dermoid teratoma

**Final Diagnosis:** Lipoma of the corpus callosum

**References:**


Figure 1

a

Description: Axial Origin: Imaging department, Mohamed V Military Hospital, Rabat, Morocco

b

Description: Sagittal Origin: Imaging department, Mohamed V Military Hospital, Rabat, Morocco
Description: Coronal Origin: Imaging department, Mohamed V Military Hospital, Rabat, Morocco
**Figure 2**

**a**

**Description:** Axial T1: the formation appears hyperintense  
**Origin:** Imaging department, Mohamed V Military Hospital, Rabat, Morocco

**b**

**Description:** Sagittal T2 FLAIR: the formation appears hyperintense  
**Origin:** Imaging department, Mohamed V Military Hospital, Rabat, Morocco
Description: Sagittal FAT SAT: the formation has dropped signal
Origin: Imaging department, Mohamed V Military Hospital, Rabat, Morocco