

## Rare Anatomical Anomaly: Aneurysmal Malformation of the Falcine Sinus in a Pediatric Patient

**Abir Lemrabet\*, Yassine Zerhari, Hajar Zebbakh, Nazik Allali, Latifa Chat and Siham El Haddad**

*Radiology Department, Mother and Child Hospital IBN SINA, Rabat, Morocco*

**\*Corresponding Author:** Abir Lemrabet, Radiology Department, Mother and Child Hospital IBN SINA, Rabat, Morocco.

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### Abstract

Aneurysmal malformation of the falcine sinus is a rare vascular abnormality in the pediatric population. We present a case of a 3-year-old male with macrocephaly and cerebellar symptoms, who was found to have an aneurysmal malformation of the falcine sinus associated with multiple cerebral and cervical collaterals on magnetic resonance imaging (MRI). We discuss the imaging findings and clinical implications of this rare vascular anomaly.

**Keywords:** *Aneurysmal Malformation; Falcine Sinus; Pediatric; MRI; Collaterals*

### Introduction

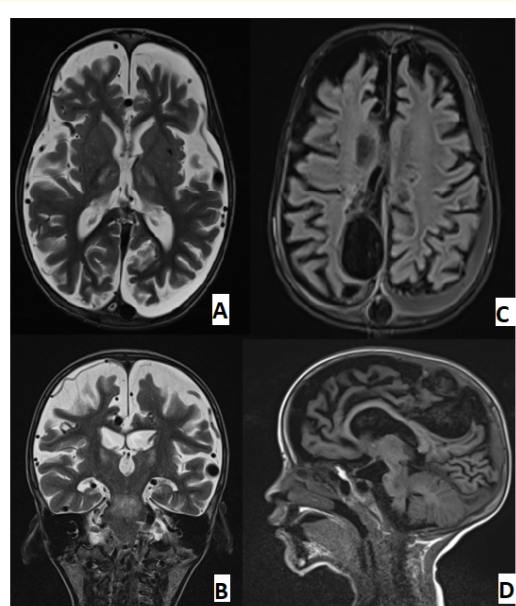
Aneurysmal malformation of the falcine sinus is a rare vascular abnormality in the pediatric population.

### Case Presentation

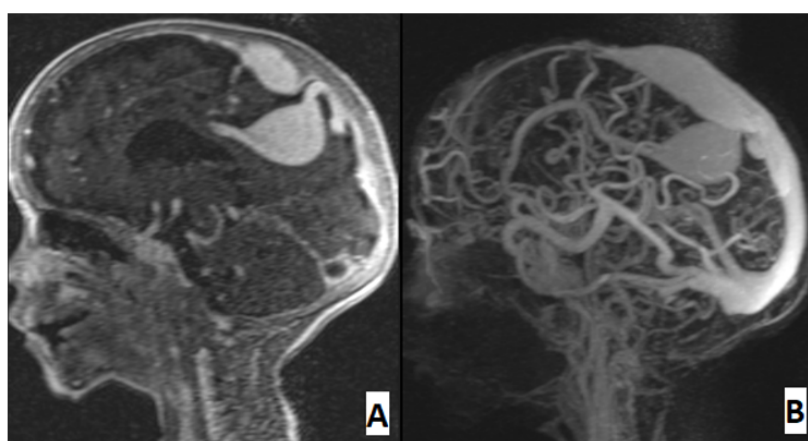
A 3-year-old male presented with macrocephaly and cerebellar symptoms, including gait ataxia and dysarthria. MRI revealed cerebral and cerebellar cortico-subcortical atrophy with aneurysmal malformation of the falcine sinus (Figure 1). The vascular structure had a saccular appearance, suggesting an aneurysm, and was associated with multiple collaterals extending into the cerebral and cervical vasculature (Figure 2).

Further MRI with time-of-flight angiography confirmed the presence of an aneurysmal malformation of the falcine sinus, which was fed by multiple arterial branches and drained into the superior sagittal sinus. No evidence of associated arteriovenous malformations or dural venous sinus thrombosis was identified.

The patient underwent surgical resection of the aneurysm and the associated collaterals. The procedure was successful, and postoperative MRI showed complete resection of the vascular abnormality.



**Figure 1:** MRI in T2 sequence in axial section (A), coronal section (B), Flair in axial section (C) and sagittal section (D) showed cerebral and cerebellar cortico-subcortical atrophy with aneurysmal malformation of the falcine sinus.



**Figure 2:** MRI T1-WI with Fat saturation after gadolinium administration (A), 3D venous reconstruction sequence (B) showed recanalization and aneurysmal dilation of the falcine sinus associated with multiple cerebral and cervical collaterals.

## Discussion

Aneurysmal malformation of the falcine sinus is a rare vascular anomaly that can present with various neurological symptoms, including headache, seizures, and focal neurological deficits. The malformation is characterized by a sac-like outpouching of the falcine sinus, which may be associated with multiple arterial collaterals.

Imaging modalities, such as MRI and time-of-flight angiography, are essential in the diagnosis and management of this rare condition [1,2]. In our case, MRI with time-of-flight angiography provided detailed information on the vascular abnormality, including the location, size, feeding vessels, and draining veins.

Surgical resection remains the mainstay of treatment for aneurysmal malformation of the falcine sinus. However, the surgical approach and extent of resection depend on the size and location of the lesion, as well as the associated collaterals [3,4].

### Conclusion

Aneurysmal malformation of the falcine sinus is a rare vascular abnormality that can present with various neurological symptoms in the pediatric population. MRI with time-of-flight angiography is essential for diagnosis and management of this condition. Surgical resection remains the mainstay of treatment, and successful outcomes can be achieved with appropriate surgical planning and execution.

### Bibliography

1. Sener RN. "Association of persistent falcine sinus with different clinikoradiologic conditions: MR imaging and MR angiography". *Computerized Medical Imaging and Graphics* 24.6 (2000): 343-348.
2. Sarma A., *et al.* "Imaging the Cerebral Veins in Pediatric Patients: Beyond Dural Venous Sinus Thrombosis". *Radio Graphics* 43.2 (2023): e220129.
3. Rousslang LK., *et al.* "Persistent falcine sinus in the newborn: 3 case reports of associated anomalies". *Radiology Case Reports* 18.3 (2023): 886-894.
4. Ryu CW. "Persistent falcine sinus: is it really rare?" *American Journal of Neuroradiology* 31.2 (2010): 367-369.

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