Annals of Medical Case Reports

ISSN: 2689-5927

Case Report

Subgaleal Spontaneous Hematoma as a Complication of Sinus Pericranii

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Abstract

Introduction: Sinus pericranii is a rare vascular malformation consisting of an abnormal communication between duralvenous sinuses and extracranial venous structures. The majority have a good prognosis, which rarely implies a complication. We report the case of an infant with a sinus pericranii complicated by a subgaleal hematoma.

Case description: Five-month-old male infant who consults the Emergency room due to irritability, low-grade fever, a posprandial vomit and a soft fronto-parietal bilateral swelling that appeared 24 hours before. A blood test and imaging tests are performed, being suspected the presence of a sinus pericranii after a Doppler ultrasound. It is confirmed carrying out an MRI, which also shows its association with a subgaleal hematoma. The patient presents a progressive reduction in size of the lump, without associating other complications. Consequently, it is decided to adopt an expectant management, maintaining a conservative treatment.

Discussion: So far, there are no reported cases in the medical literature that relate sinus pericranii to subgaleal hematoma. Furthermore, the presence of subgaleal hematoma itself is rare outside the neonatal period. Regardless the existence of possible complications, conservative management of Sinus pericranii seems to be a safe alternative and, moreover, subgaleal hematoma usually resolves spontaneously between one and five weeks after its appearance. For all these reasons, it seems appropriate an expectant management together with a close follow-up.

Keywords: Conservative treatment; Pediatrics; Neurology; Neurosurgery; Sinus Pericranii; Subgaleal hematoma; Vascular malformations

Introduction

Sinus Pericranii (SP) is a rare vascular malformation consisting of an abnormal communication between dural venous sinuses and extracranial venous structures, usually through an emissary vein [1]. Generally it appears during the second decade of life [2], and the majority has a good prognosis, without usually associating any complications. Although the pathogenesis of SP is unclear, it has been postulated that transitory intracranial venous hypertension on the late embryonic period could lead to its development. Secondary causes include head trauma due to injuries of the emissary veins or the dural sinuses [3]. We report the case of an infant with a SP complicated by a subgaleal hematoma.

Case Presentation

Five-month-old male infant who consult the Emergency room due to irritability, low-grade fever, a posprandial vomit and a soft fronto-parietal bilateral swelling appeared 24 hours before, with a progressive increase in size and no history of previous trauma. He does not have a medical history of interest, and he was born by an eutocic vaginal delivery without any incidents. In his family medical history a subarachnoid aneurysm was found on his paternal grandmother. During the physical examination (Figure 1), it is observed an extensive soft tissue pitting lump with a bilateral fronto-parietal location, and no other abnormalities where found. It is performed a blood test, including basic metabolic panel, blood count and blood clotting tests, with no other abnormalities but anemia (Hb 9.4 g/dl) and an anteroposterior and lateral skull radiography with no obvious bone alterations. It is decided to hospitalize the patient for further studies and clinical monitoring. By using transcranial Doppler ultrasound, a growth of soft tissue in the right frontal-parietal region of anecoic characteristics is identified, it goes from superficial layers towards the intracranial region and it contains blood flow (Figure 2). Given the suspicion of SP, the study was completed performing a magnetic resonance imaging, which confirmed the diagnosis (Figure 3). It identifies subgaleal exocranial varicosities in the frontal región that communicate with the superior sagittal sinus and associate a frontal subgaleal hematoma. During his hospitalization, the patient presented a progressive reduction in size of the cranial lump without neurological involvement or other complications, with the exception of a slight decrease in hemoglobin (8.9 g/dl); consequently it is decided to maintain an expectant management and oral iron supplementation. Following his discharge, he shows a good clinical evolution, with progressive reabsorption of the subgaleal hematoma until its total disappearance two weeks later. The case is assessed by vascular-interventional radiology and neurosurgery, agreeing to maintain a conservative management with a periodic follow-up.

Discussion

The clinical presentation of SP is usually the presence of a non-pulsatile soft tissue lump that may increase in size when Valsalva maneuvers are performed. Otherwise, patients tend to be

Citation: Jerez Plata V, Ocaña Jaramillo S, Lozano Calero C, Martín Torrecillas A. Subgaleal Spontaneous Hematoma as a Complication of Sinus Pericranii. Ann Med Case Rep. 2022;4(1):1031.

Publisher Name: Medtext Publications LLC

Manuscript compiled: Jan 06th, 2022

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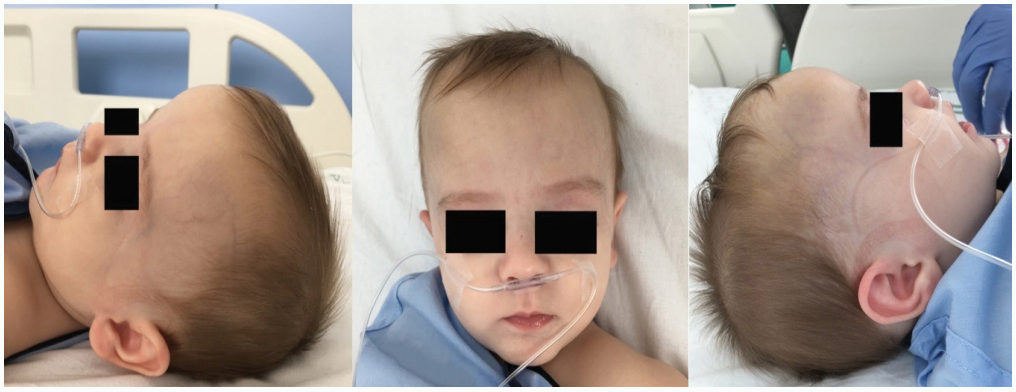

Figure 1: Bilateral fronto-parietal soft lump in relation to a sinus pericranii associated with a subgaleal hematoma.

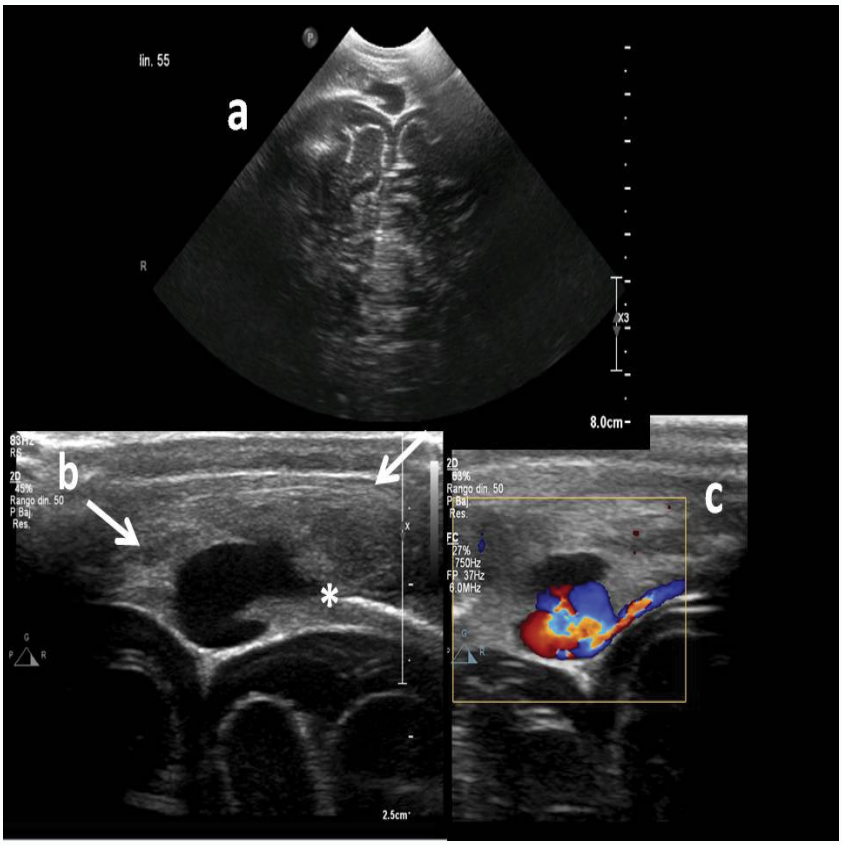

Figure 2: Head ultrasound: Brain coronal plane (a), magnified image (b) showing an enlargement in soft tissues (arrow) associated with a hypoechoiclesion that introduces through a cranial diploed efect (*). Doppler study(c) demonstrates the presence of flow in the mentioned structure.

asymptomatic, although headaches and local pain have been reported occasionally [1,3]. In our case, an early diagnosis is performed, it has an unusual debut at 5 months and it is associated with the presence of a subgaleal hematoma with secondary anemization. A subgaleal hematoma is a collection of blood in the imaginary space between periosteum and the galea aponeurotica, resulting from the rupture of the emissary veins that cross this space. It is normally manifested as a progressive and spontaneously resolved cranial swelling which in some cases may be accompanied by headache, fever, pain or vomiting [4,5]. Generally, subgaleal hematomas present during the neonatal period as a consequence of obstetric trauma. It is very unusual outside this period, having been associated with minor head injuries, hair braiding or capilar traction, and blood clotting and platelet disorders [4-6].

Till this date, there are no reported cases in the medical literature that relate SP to subgaleal hematoma. Nevertheless, as in other vascular malformations, bleeding can be a possible complication.

Diagnoses of both lesions are confirmed by radiologic tests, such as Doppler ultrasound, magnetic resonance imaging or cranial computed tomography. Digital subtraction angiography is gaining relevance in the management of SP, since it allows the differential diagnosis between its two subtypes, dominant and accessory, which is essential to decide its surgical approach [1]. Despite the

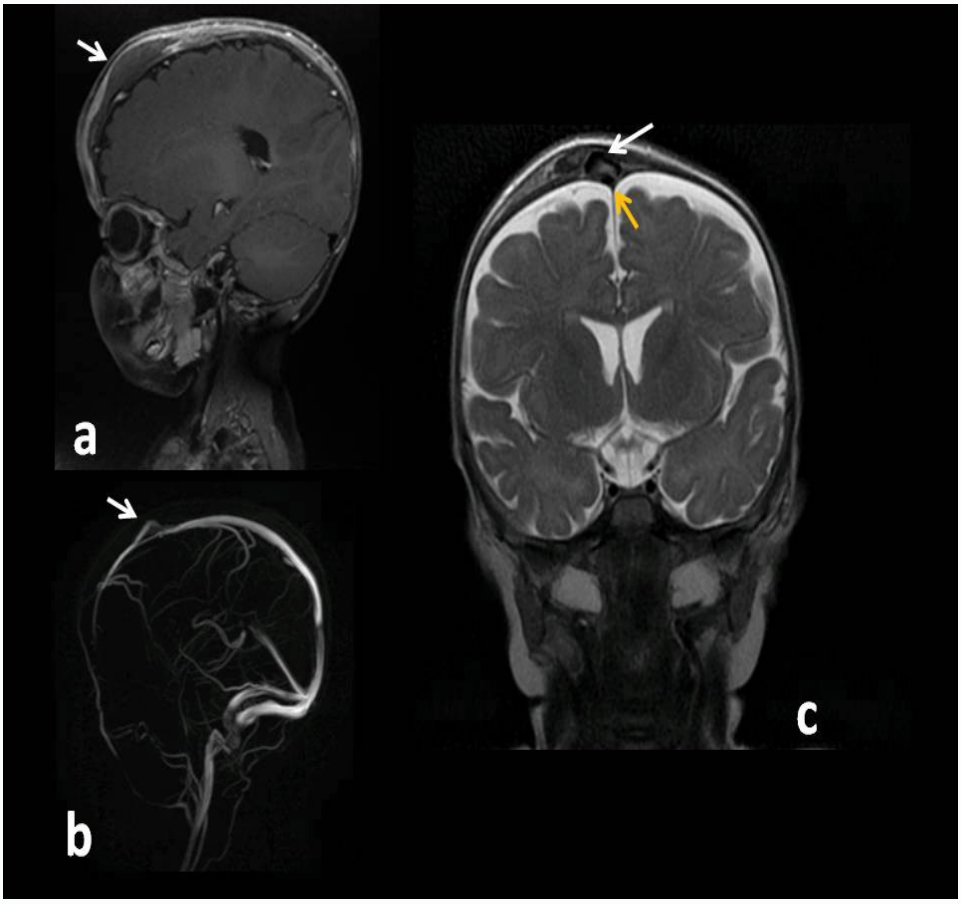

Figure 3: Magnetic resonance imaging: a) T1 sagittal picture with soft tissue enlargement (arrow) b) coronal T2 with hypointense signal lesion (signal void) (White arrow) indicating the presence of flow closely related to the superior sagittal venous sinus (yellow arrow). c) Venous angio-resonance study demonstrating the presence of flow inside the lesion and in connection with the superior sagittal sinus.

existence of possible complications such as bleeding or thrombosis, conservative management of SP seems to be a safe alternative, having been described even cases of spontaneous resolution [7]. Subgaleal hematoma usually resolves spontaneously between one and five weeks after its appearance, so an expectant management with close follow-up is appropriate, to intervene in case of poor evolution [6].

References

1. Goffin J, MacKenzie SA, Tallur KK, Kaliaperumal C. Sinus pericranii: long-term outcome in a 10-year-old boy with a review of literatura. BMJ Case rep. 2018;2018:bcr2017223631.

2. Lubián-Gutiérrez M, Sánchez-Códez MI, Peromingo-Matute E, Zuazo-Ojeda A. Sinus pericranii: earlyinfant diagnosis. Neurology (Engl Ed). 2020;35(1):70-2.

3. Pavanello M, Melloni I, Antichi E, Severino M, Ravegnani M, Piatelli G, et al. Sinus pericranii: diagnosis and management in 21 paediatric patients. J Neurosurg Pediatr. 2015;15(1):60-70.

4. Patchana T, Ghanchi H, Taka T, Calayag M. Subgaleal hematoma evacuation in a pediatric patient: A case report and review of the literature. Surg Neurol Int. 2020;11:243.

5. Esteller M, López N, Chiandetti A, Martínez-Roig A. [Subgaleal haematoma presenting as an alteration in platelet function]. An Pediatr (Barc). 2014;80(1):3-4.

6. Hutspardol S, Chuansamrit A, Soisamrong A. Spontaneous subgaleal hemorrhage in a girl with impaired adrenaline-induced platelet aggregation. Med Assoc Thai. 2010;93(5):625-8.

7. Bouali S, Maatar N, Ghedira K, BoubakerA, JemelH. Spontaneous involution of a sinus pericranii. Childs Nerv Syst. 2017;33(9):1435-7.