SUNTEXT REVIEWS

SunText Review of Case Reports & Images
ISSN: 2766-4589

Open Access
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Volume 4:1

Begnin External Hydrocephalyus

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Keywords: External hydrocephalus; Hydrocephalus; Subarachnoid space enlargement

Received date: 08 December 2022; **Accepted date:** 14 December 2022; **Published date:** 02 January 2022

Citation: Choayb S, El Harras Y, Fikri M, Jiddane M, Touarsa F (2023) Begnin External Hydrocephalyus. SunText Rev Case Rep Image 4(1): 164.

DOI: https://doi.org/10.51737/2766-4589.2023.064

Clinical Image

Benign external hydrocephalus (BEH), also known as benign enlargement of the subarachnoid space is a condition that occurs during infancy. A rapidly growing head circumference characterizes it with enlarged subarachnoid spaces, especially overlying the frontal lobes with normal or mildly enlarged ventricles [1-2]. The cause of this condition is still unknown. The most probable cause is the delayed development of the arachnoid villi at the sagittal sinus, which is responsible for the absorption of the cerebrospinal fluid. Later, this excess CSF is reabsorbed during the maturation of the arachnoid villi [3]. Its incidence is about 0.4 per 1000 live births with a male predominance. The majority have a family history of macrocephaly. Most of these infants have an average head circumference that increases too fast before six months. The variable upper limits for the normal craniocortical width vary on imaging (Ultrasound, CT, and MRI) from 3.3 to 5mm in neonates and 4 to 10mm in infants. The excessive extra cerebral fluid gradually resolves spontaneously with age, earlier than the excessive intraventricular fluid. BEH is often asymptomatic but can be associated in some cases with a tense anterior fontanel, dilated scalp veins, irritability, motor delay, and seizures. It is a known risk factor for developing subdural hematoma that can occur spontaneously or after minor trauma. The cortical vein sign helps in differentiating BEH from subdural collections. In BEH, the cortical veins are adjacent to the inner table of the calvaria and cross the subarachnoid space. In subdural hematoma, the veins are displaced away from the inner table by the subdural collection. Increased CSF space measurements at the upper limits without clinical features should be considered to be the extreme of the normal population rather than a separate clinical entity [4].

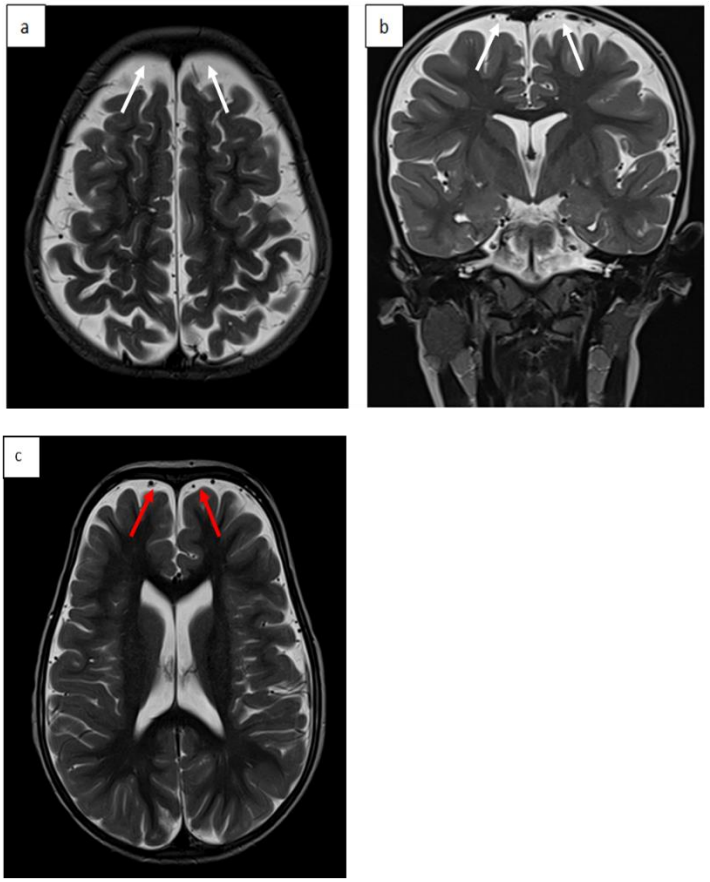

Figure: *Brain MRI of an infant of 4 years old; axial (a and c) and coronal (b) T2WI demonstrating an increased subarachnoid space especially in the frontal lobes (white arrows). Note that the cortical veins (red arrows) are adjacent to the inner table of the calvaria and cross the subarachnoid space.*

References

1. Hussain ZB, Hussain AB, Mitchell P. Extra-axial cerebrospinal fluid spaces in children with benign external hydrocephalus: A case-control study. Neuroradiol J. 2017; 30: 410-417.
2. Zahl SM, Egge A, Helseth E, Wester K. Pediatric Neurology. Clinical, radiological, and demographic details of benign external hydrocephalus : a population-based study. Pediatr. Neurol. 2019; 96: 53-57.
3. Kuruvilla LC. Benign enlargement of sub-arachnoid spaces in infancy. J Pediatric Neurosciences. 2014; 9: 129-131.
4. Chou TY, Zimmerman RA, Lee CC, Chen FH, Faro SH. Pericerebral fluid collection: differentiation of enlarged subarachnoid spaces from subdural collections with color Doppler US. Radiology. 1996; 201: 389-392.