



Intraventricular Pneumocephalus: Ruptured Occipital Encephalocele

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A 7-mo-old female presented in the emergency with spontaneous leaking of fluid from the swelling in the head present since birth. Clinical examination revealed partially compressible swelling in the occipital region, with CSF leak. No developmental delay or motor deficits were found on examination. MRI revealed gliotic and encephalomalacic right cerebellar hemisphere and vermis herniating outside through

the defect in the occipital bone in the infratorcular region with multiple air foci in the ventricles and cisterns and air-fluid level s/o ruptured occipital encephalocele. Brain stem and transverse sinus were stretched (Fig. 1). Emergent surgical repair was done with the resection of herniated gliotic cerebellum to repair the dural defect.

Encephalocele is defined as the herniation of brain tissue through the defect in the cranial bone. The incidence rate is 1 in every 4000 births [1]. Occipital encephalocele occurs between lambda and foramen magnum, and is divided into supra- and infratorcular types [2]. The prognosis of the lesion depends on the size of the calvarial defect and the herniated sac, presence of hydrocephalus (more common in posterior cephalocele due to torsion of aqueduct of Sylvius), the status of the venous sinuses, and other associated congenital brain malformations [1]. Encephaloceles are usually managed electively; however, in case of rupture, immediate surgical repair is done as exposure of meninges and brain carries the risk of central nervous system infection [3].

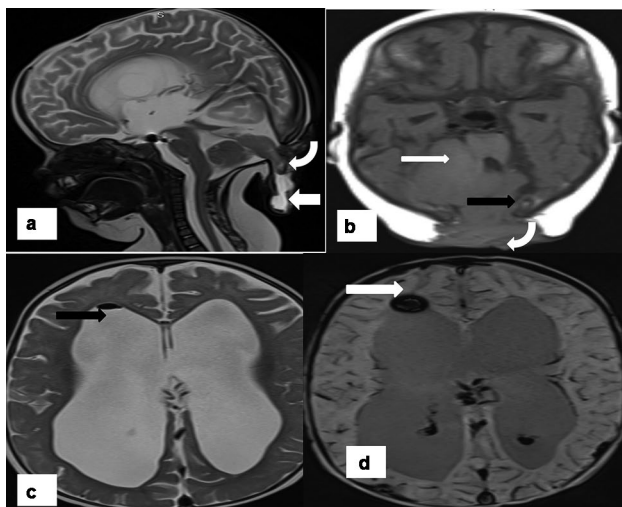


Fig. 1 (a) Sagittal T2W images showing occipital bone defect (arrow) below the torcula (curved arrow) with herniated vermis and cerebellar hemisphere. (b) Axial T1W images showing herniated left cerebellar hemisphere and vermis (curved arrow) through occipital bone defect with stretched brain stem (white arrow) and transverse sinus (black arrow). (c–d) Axial T2W and SWI images showing air-fluid level (arrow) in frontal horn of right lateral ventricle showing blooming (arrow in c and d) on SWI sequence with dilated lateral ventricles

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Declarations

Conflict of Interest None.

References

1. Pal NL, Juwarkar AS, Viswamitra S. Encephalocele: know it to deal with it. *Egypt J Radiol Nucl Med*. 2021. <https://doi.org/10.1186/s43055-021-00489-y>.
2. Kumar V, Kulwant SB, Saurabh S, Richa SC. Giant occipital meningoencephalocele in a neonate: a therapeutic challenge. *J Pediatr Neurosci*. 2017;12:46–8.
3. Jandial R. *Core Techniques in Operative Neurosurgery*. California: Elsevier; 2020. p. 281–4.

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