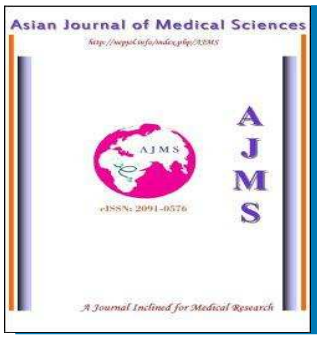

CAVUM VERGAE WITH TRANSIENT LOSS OF CONSCIOUSNESS IN A CHILD: A CASE REPORT AND BRIEF LITERATURE REVIEW

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"Is cavum vergae really the 6th ventricle?"

ABSTRACT

Cavum vergae is a triangular fluid filled cavity posterior to foramen of Monro. They are seen in premature and term infants up to 2 months of age. It is of little clinical significance.

Our patient is a 14year old girl with cavum vergae diagnosed with brain computed tomography and magnetic resonance imaging. These investigations were sequel to episodes of headache and one hour loss of consciousness with no antecedent complaints. Since no complicating evidence of hydrocephalus was seen, she was managed symptomatically.

Key words: Cavum vergae, MRI, Septum pellucidium.

INTRODUCTION

Cavum vergae is a midline developmental cavity in the brain.[1] It is among the anterior midline intracranial cysts which are found primarily in 3 forms : Cavum septum pellucidum(CSP), cavum vergae(CV) and cavum veli interpositum(CVI).[2] Synonyms for cavum vergae are vergae ventricle, 6th ventricle, ventricle of Strambio, ventriculus fornicis, ventriculus triangularis and canal acqueduct. [3] The name of 5th ventricle for CSP and 6th ventricle for CV are misnomers as these cysts are not lined by ependyma and do not produced cerebrospinal fluid(CSF). [2] Cavum vergae is benign and disappear with time with no consequence. [2]

CASE REPORT

NC, a 14 year old Cameroonian girl was referred to Polyclinic Bonanjo, Douala on account of one hour loss of consciousness and severe headache. No past history of seizure disorders or febrile convulsion. Physical examination revealed good orientation with no visible neurological signs. Laboratory investigations including electrolytes were free of any derangements. Cranio-cerebral CT revealed a central, non-enhancing uniformly hypodense lesion arising from the posterior part of septum pellucidium (FIG. 1 axial CT). It extended posteriorly splaying the bodies of both lateral ventricles with no ventriculomegaly. The CT attenuation value was 19 HU consistent with fluid The cerebral hemispheres showed good grey-white mater differentiations ruling out cerebral oedema. A diagnosis of cavum vergae of septum pellucidum with differential diagnosis of Arachnoid cyst were made. Subsequently, brain MRI showed a 28.9 X 15.5mm conical lesion with the apex at the posterior part of septum pellucidum. This lesion was isointense to CSF in all sequences, for example axial T2W (Fig. 2), axial T1W (Fig 3), Sagital T2W (Fig 4) and FLAIR. No heterotopic grey- mater was seen to suggest neuronal migrational abnormalities. A diagnosis of cavum vergae was confirmed. Patient was managed symptomatically and discharged home. Follow-up showed no fresh complaints.

DISCUSSION

Cavum vergae was first described by an Italian anatomist, Andrea Verga in 1852. [2,3] CV is a fluid filled cavity within the septum pellucidum and located poste-riorly to an arbitrary vertical plane formed by the columns of the fornix. [4] CV is bounded anteriorly by the anterior limb of the fornix, superiorly by the body of corpus callosum (CC), posteriorly by the splenium of CC ,inferiorly the psalterium and hippocampal commissure, the fibres of which bridge the space between the diverging posterior pillars of fornix.[3] CV flares out laterally on both sides with the curves of the crus of the fornix and pushes under the lateral ventricles at its extreme lateral extensions as seen in our index patient.[3] CV is triangular in shape when viewed from the side (seen in our patient).[3]

CV begins to develop by the 20th week of gestation and disappears by 2 months of age.[2] The embryogenesis of CV is just like CSP in which because of enormous growth of CC in the anterior posterior direction, the commissural plate between the anterior commissure, hippocampal commissure and CC is progressively stretched to become CSP and CV.[2] Therefore it is not clear whether CV is an extension of CSP or a separate entity.[2] Kaufferman stated that CV may exist in one side of midline and can be absent on the other.[3] However, what is important is that while CSP is above foramen of Monro, CV is below foramen of Monro and CVI is a cavity that develop between the fornices above the 3rd ventricle.[2] CSP and CV are frequently seen in premature and term infants.[5] Nakajima et al in their study of CSP and CV using ultrasonic evaluation, found 60% of CV in premature infants , 7% in full term neonates with none seen in the one month old infants.[6] They also found 97% of CSP in premature infants and 56% in full term neonates and 29% in the 1 month old infant . Mansour stated incidence of CV of 2.3% in 1032 brains.[3] CSP is frequently present when CV is absent and CV may be present when the CSP is absent [3] CV has few associations like Down syndrome.[2,7] CV usually communicate and obliterate from posterior to anterior, the posterior CV obliterating first and then usually the anterior CSP. A cavum vergae without a CSP would thus be unexpected but was reported by Auer and Gilbert.[1] CSP and CV have little or unclear clinical importance.[7] These cavities rarely enlarged and become symptomatic .[3]However, observations of some pathologies associated with CSP and CV have been reported. Loss of

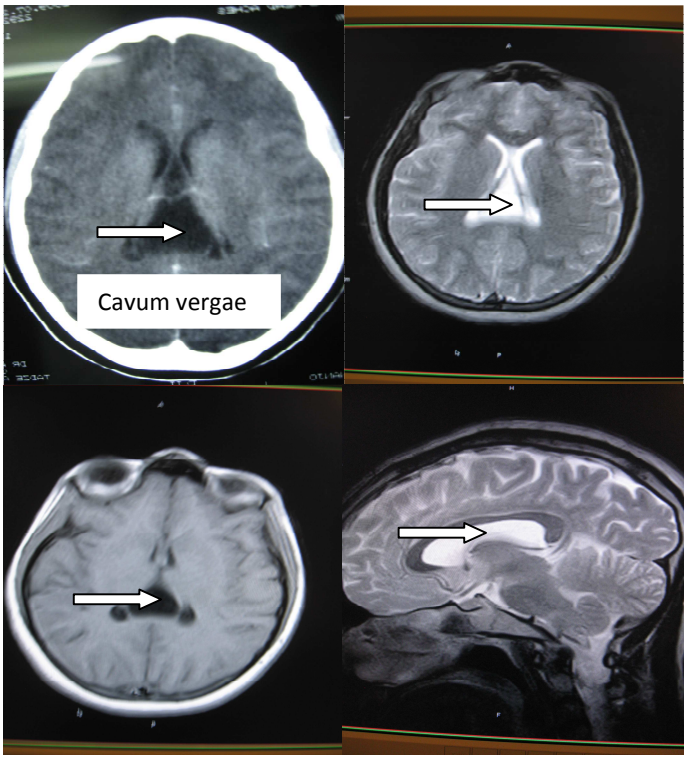

Figure 1,2,3,4.

consciousness seen in our patient was reported by Lancon et al in a young boy with an expanding CSP cyst who presented with sudden severe headaches and loss of consciousness.[9] Other complications are Macrocephaly, Seizures, Mental retardations, Cavum septum pellucidum-cavum vergae-macrocephaly-seizures-mental retardation syndrome, Enlarging cyst extending to posterior cranial fossa, Hydrocephalus, Giant CV cyst, Delayed development, Electroencephalographic abnormalities and haemorrhages.[2,3]

Symptomatic cases are treated by Neuro-endoscopic fenestration or using high definition flexible neuro-endoscopic system.[10]

CONCLUSION

Cavum vergae is a fluid filled triangular intracranial midline cavity seen in peri-natal life. Occasional cases have been reported in children and are usually asymptomatic. However, it can be complicated by loss of consciousness as seen in our index patient.

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UFU: concept of the study, Management of the patient, Literature review and writing manuscript.
AF: Management of the patient, Literature review and writing manuscript.

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