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Hydrocephalus caused by obstruction of the foramina of Magendie in adults: Case report

I.Chaouche,MD-N.ELBouardi,MD-K.Khaissidi,MD-M.Haloua,MD-B.Alami,MD-Y.Lamrani,MD-M.Boubbou,MD-M.Maaroufi.

Diagnostic and Interventional Radiology Service –UH Hassan II-FES-Morocco.
Faculty of medicine and pharmacy-Fez

Abstract*: Chronic adult hydrocephalus due to obstruction of the median opening of the fourth ventricle, or Magendie's Foramen, is a rare entity(1.2). Diagnosis is based on imaging, which helps guide therapeutic management, particularly surgery, which will involve ventriculo-cisternostomy(3.4). Imperforation of magendie's foramen is a rare congenital condition, which can remain silent for a long time and then decompensate in adulthood(1.5). We report the case of a 60-year-old patient with tetraventricular hydrocephalus caused by magendian foramen obstruction.*

Keywords: chronic hydrocephalus, fourth ventricle, Magendie's foramen, MRI.

Case report:

This is a 60-year-old patient, with no pathological antecedents, admitted to the emergency department for intracranial hypertension syndrome with headache and decreased visual acuity.

On admission, the patient was cosncious with a glascow score of 15 and the initial ophthalmological examination reveals a monophthalmic patient with left visual acuity of 0.5/10, no papillary edema. with lumbar puncture came back normal.

A CT scan revealed tetraventricular hydrocephalus and magnetic resonance imaging (MRI) confirmed the major tetraventicular dilatation, more marked in the fourth ventricle with obstruction of the magendie foramen without signs of transependymal resorption, in relation to chronic hydrocephalus.

the patient underwent a ventriculocisternostomy, which creates a communication between the fourth ventricle and the posteropontine cistern.

Post-operative follow-up was straightforward, with regression of signs of intracranial hypertension, notably headache, and improvement in visual acuity.

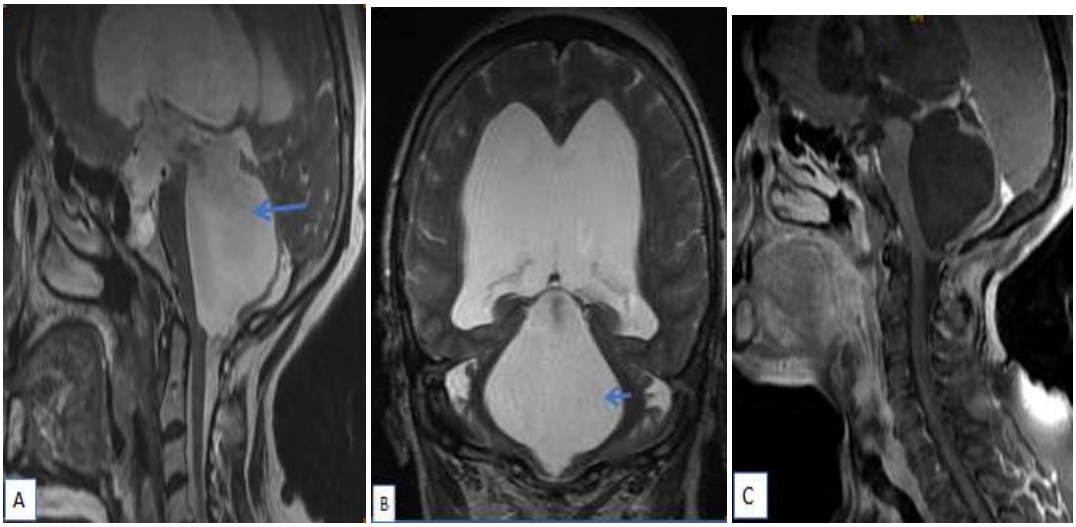

Figure A: Sagittal T2 showing tetra-ventricular dilatation more marked at V4.
Figure B: Coronal T2 showing passive tetra-ventricular hydrocephalus.
Figure C: Sagittal T1 after contrast, showing obstruction of Magendie's foramen.

Discussion:

Few cases of hydrocephalus due to congenital imperforation of the magendi foramen have been described in adults (1,5,6). Clinical signs appear late. This may be explained by the presence of a partially permeable or not totally occlusive membrane (6.7). Dilatation of the fourth ventricle progresses insidiously until decompensation is reached, at which point clinical signs appear. The most common clinical presentation is intracranial hypertension, which may be associated with gait disturbance and motor deficits such as spastic paraparesis or weakness of the lower limbs (6.7). There are no neuroradiological arguments of certainty for the diagnosis of congenital imperforation of the foramen of magendie in adults. However, disproportionate dilatation of the fourth ventricle may suggest the diagnosis(1.6).

Magnetic resonance imaging enables us to explore the posterior cerebral fossa, identifying the site of cerebrospinal fluid obstructions and predicting the etiological diagnosis(7.8=.

Treatment consists of endoscopic ventriculocisternostomy, which allows drainage of cerebrospinal fluid between the fourth vetricle and the basal cistern, resolving clinical symptoms(2.8).

CONCLUSION:

Imperforation of the magendie foramen is a rare entity, which should be evoked in the presence of tetra-ventricular hydrocephalus predominating in the fourth ventricle, hence the importance of radiological exploration of the posterior cerebral fossa using MRI in order to guide surgical management.

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