Original Article

Dandy walker malformation

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Abstract

Posterior fossa cystic malformations have been termed as Dandy Walker Malformations. Based on the results of multiplanar MRI the Dandy Walker Malformation & associated variants are now thought to represent a spectrum of developmental anomalies that have been collectively designated as the DW complex. DW complex is a genetically sporadic disorder that occurs 1: 30000 live births.

Keywords: Dandy Walker.

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INTRODUCTION

Dandy walker malformation consist of anomalies where there is posterior fossa cyst communicating with the IVth ventricle as well as abnormal development of vermis.

CASE PRESENTATION

30 year old female patient presented with history of dementia and was subjected for MRI Brain (Plain Study)

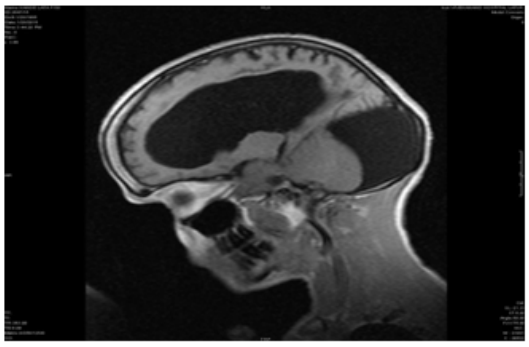

Figure 1: T1 Sag

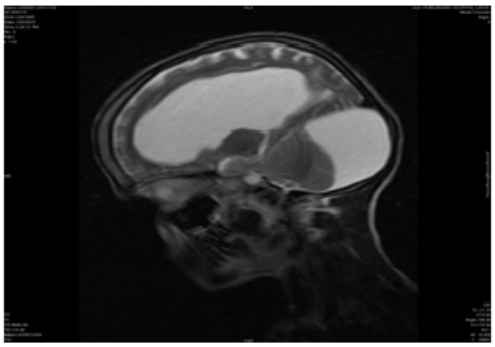

Figure 2: T2 Sag

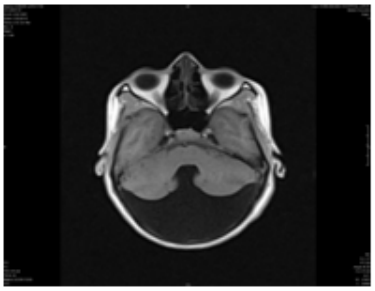

Figure 3: T1 Tra

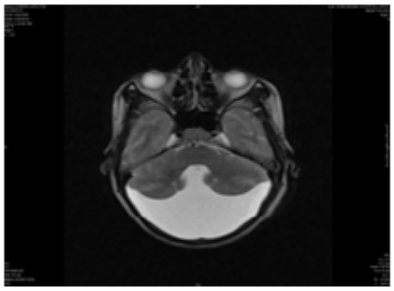

Figure 4: T2 Tra

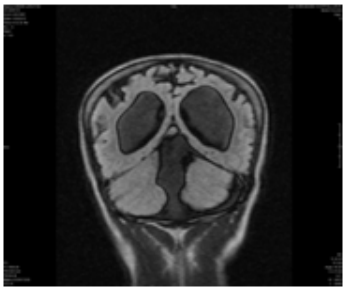

Figure 5: T2 Flair

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IMAGING FINDINGS

1) Posterior fossa grossly enlarged in size with CSF containing cyst within it in communication with IVth ventricle. 2) Hypoplasia of vermis and bilateral cerebellar hemispheres were winged anteriorly. 3) This cyst was also causing elevation of torcular herophili. Brainstem is compressed anteriorly due to cyst. 4) There was gross dialatation of bilateral lateral and IIIrd ventricles

DISCUSSION

The exact origin of Dandy Walker malformation is unknown. Theories include failure of development of anterior medullary velum (embryonic roof of IVth ventricle), atresia of IVth ventricular outlet foramina, delayed opening of foramen of Magendie. The Dandy – Walker Complex is characterized by cystic dilatation of IVth ventricle and an enlarged posterior fossa with upward displacement of lateral sinus tentorium, and torcular herophili associated with varying degrees of vermian aplasia or hypoplasia. Because the vermis is present in mega cisterna magna and posterior fossa arachnoid cyst these are considered separately from Dandy walker malformation

Imaging Features: DWM have abnormalities in the following

1 Skull and dura – posterior fossa is strikingly enlarged with high position of straight sinus, torcular herophilli and tentorium.

2 Ventricle and posterior fossa spaces – cystically dilated fluid filled ventricle balloons posteriorly behind between widely separated hypoplastic cerebellar hemispheres. Generalised obstructive hydrocephalus (Present in 80%).If callosal agenesis exists dilatation of occipital horns can be identified.

3 Cerebellum, vermis, brainstem – Cerebellar and vermian hypoplasia is present in D-W. In severe cases cerebellar hemisphers appears winged outward and displaced anterolaterally against petrous part of temporal bone.

Associated Abnormalities

1 Corpus callosum agenesis / dysgenesis
2 Grey matter heteropia.
3 Poly microgyria, agyria
4 Non CNS anomalies – polydactyly, Cardiac anomalies

REFERENCES

1 Kollias ss, Ball WS Prenger EC. Cystic malformations of post fossa. Differential diagnosis clarified through embryological analysis Radiographics, 1993; B(6) 1211-31.

2 Estroft JA, scott MR, Benacerraf B-R Dandy walker variant: prenatal sonographic features and clinical outcome. Radiology 1992; 185(3) 755-8.

3 Patel s, Barkvich AJ Analysis and classification of cerebellar malformation AJNR AMJ Neuro radiol 2002:23 (7):1074-87.

4 Pilu with visentin A, valeri B. The Dandy walker complex and fetal sonography. Ultrasound obstet aynecol 2000:16(2):155-7.

5 Entezami M, Albig M. Knoll U et al. Ultrasound diagnosis of fetal anomalies. Thieme (2003) ISBN 1588902129.

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