Aqueductal web causing obstructive hydrocephalus demonstrated on sagittal FIESTA sequence

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A 4-month-old boy presented with a rapidly increasing head circumference, a bulging anterior fontanelle and dilated scalp veins. Sagittal FIESTA sequence (Fig. 1) demonstrated a marked dilatation of the lateral and third ventricles with a normal fourth ventricle. A small web was noted within the aqueduct (*arrow*) that was obstructing the aqueduct and resulting in hydrocephalus.

An aqueductal web is a congenital translucent membrane composed of fibrillary neuroglia with clumps of ependymal cells [1]. Recognition of this entity is crucial since it is curable by surgical resection, which avoids the morbidity and risks associated with shunting.

The FIESTA (fast imaging employing steady state acquisition) is an ultrafast pulse sequence that provides high-resolution images with outstanding image contrast between the cerebrospinal fluid and brain parenchyma and high signal-to-noise ratio, thereby improving conspicuity of small intraventricular lesions like aqueductal webs. A 3D-CISS (constructive interference in steady state) sequence is a similar sequence on scanners from other manufacturers [2].

Fig. 1 Aqueductal web on sagittal FIESTA image

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References

1. Partington MD (2001) Congenital hydrocephalus. *Neurosurg Clin N Am* 12:737–742, ix
2. Algin O, Hakyemez B, Parlak M (2010) Phase-contrast MRI and 3D-CISS versus contrast-enhanced MR cisternography on the evaluation of the aqueductal stenosis. *Neuroradiology* 52:99–108