

Clinical-Medical Image

Isolated Complete Corpus Callosum Agenesis: MRI Typical Findings

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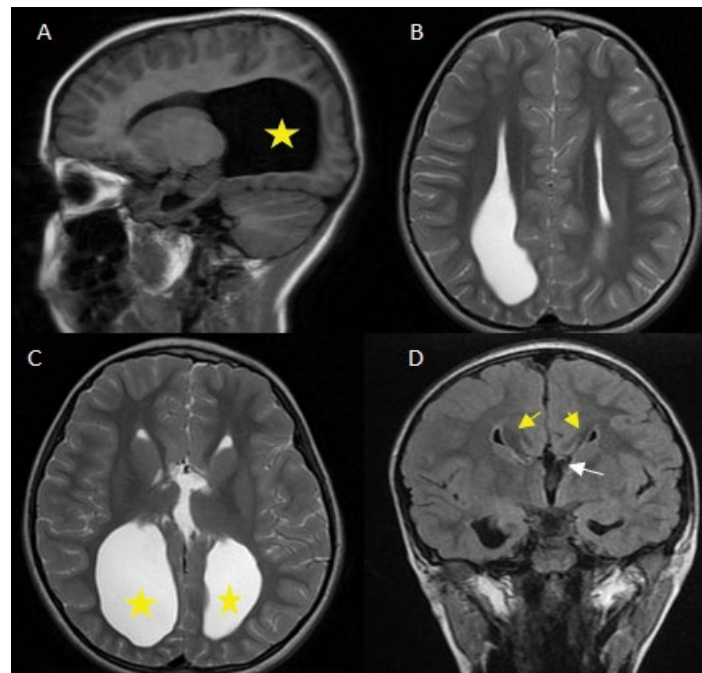


Figure 1: Brain MRI in T1 sagittal weighted sequence (A), axial T2 weighted sequences (B and C), coronal T2 FLAIR weighted sequence (D), showing the absence of corpus callosum (A), with parallel aspect of lateral ventricles (B), colpocephaly (yellow stars, A and C), upward bulging of the 3rd ventricle (white arrow, D), creating a “racing car sign” (image C), Frontal horns of the lateral ventricles present a “moose head” appearance with bundles of Probst shown on its superomedial side (Yellow arrows, D).

Clinical Image

Corpus callosum (CC) is the main interhemispheric commissure. It is composed of 4 main segments from the front to the back: the rostrum, genu, body and splenium. Agenesis of the corpus callosum is frequent and mostly associated with other brain malformations while isolated agenesis of corpus callosum is rare. It can be partial or complete. Clinical symptoms may differ depending on its type and its association with malformations. It can be asymptomatic, or cause epilepsy and abnormal neurodevelopment. Imaging is the examination of choice for diagnosis. Pre-natal ultrasound and post-natal ultrasound may lead diagnosis that's confirmed by MRI [1-3]. Complete agenesis of CC typical features is: lateral ventricles widely separated being parallel to each other, with upward bulging of the 3rd ventricle creating a “racing car” sign. Widening of the occipital horns of the lateral ventricles named colpocephaly and appearance of frontal horns of the ventricles as a “moose head” or “Viking helmet”. Callosal fibers may be heterotopic laying besides the superomedial side of the lateral ventricles representing the bundles of Probst. The images above represent the case of an 8 years old girl, consulting for learning disabilities, with a normal neurological development and clinical examination. A brain MRI performed showed complete agenesis of the corpus callosum (Figure 1).

Keywords: Corpus; Callosum; Agenesis; Imaging; MRI

Declaration of Interests

The authors declare that they have no competing interests.

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