MRI FINDINGS IN A PEDIATRIC PATIENT AFFECTED BY WERNICKE’S ENCEPHALOPATHY

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PURPOSE
Wernicke’s encephalopathy caused by thiamine (vitamin B1) deficiency can be fatal if untreated. Post-mortem studies indicate that Wernicke’s encephalopathy is underdiagnosed in the pediatric population. The aim of our study is to describe pertinent MRI findings, through an unusual case of Wernicke’s encephalopathy, which should raise the clinical concern for this diagnosis in the pediatric age group.

METHODS
Multiplanar and multiecho MRI imaging of the brain was performed emphasizing the relative T1, T2* and diffusion weighted signal characteristics using a 1.5T MRI scanner. Clinical evaluation of the patient and relevant history from the family was obtained.

RESULTS
A ten year old male with a history of acute lymphoblastic leukemia presented with nonspecific mental status changes and cognitive decline. Symmetric high signal intensity alterations in the mamillary bodies, medial thalami, tectum of the midbrain, periaqueuductal gray matter, medial vestibular nuclei, prepositus hypoglossal nuclei, substantia nigra, dentate nuclei, frontal cortex and cingulum cortex were noted on MR imaging. These findings raised the suspicion of Wernicke’s encephalopathy which was confirmed on further clinical evaluation.

CONCLUSION
MR imaging is crucial in the diagnosis of Wernicke’s encephalopathy, as the diagnosis in this case was not suspected prior to imaging. As demonstrated by our case report, atypical imaging features of Wernicke’s encephalopathy seen in the adult nonalcoholic population can also be present in the pediatric age group; these findings include symmetric high signal intensity in the periaqueductal gray matter, mamillary bodies and medial thalamus.