Medulloblastoma
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History
8 month old with ocular motility dysfunction and poor hand-eye coordination.

Diagnosis
Medulloblastoma

Discussion
Medulloblastoma is clinically and histologically similar to primitive neuroectodermal tumor. Typically medulloblastoma arises from the vermis (in adolescents and adults the desmoplastic form of medulloblastoma occurs in the hemispheres), accounts for 10-20% of primary intracranial neoplasms, and occurs more often in males. It is highly cellular and demonstrates varying degrees of glial and neuroblastic differentiation.

Widespread seeding of the subarachnoid space is common. Medulloblastoma is the neural tumor most likely to have extracranial spread; commonly involved are the bone, bone marrow, lymph nodes, liver, and lungs. Metastatic disease, young age at diagnosis, incomplete resection, and DNA diploidy are poor prognostic indicators. Medulloblastoma is one of the most radiosensitive and chemosensitive neoplasms.

The classic CT appearance of a medulloblastoma is a hyperattenuated, well-defined vermian cerebellar mass with surrounding vasogenic edema, evidence of hydrocephalus, and homogeneous enhancement on contrast material–enhanced images. At MR imaging, the typical appearance of a medulloblastoma is iso- to hypointense relative to white matter with short repetition time/short echo time pulse sequences and variable signal intensity relative to white matter with long repetition time pulse sequences. Even greater degrees of heterogeneity among these lesions are described for those seen on MR images than on CT scans. Nearly all lesions enhance following the intravenous administration gadolinium, but the enhancement is usually heterogeneous. MR spectroscopy in cases of medulloblastoma typically shows elevated choline peaks, reduced N-acetyl aspartate and creatine peaks, and occasionally elevated lipid and lactic acid peaks.

Findings
MR-Vermian and left hemispheric mass which is hypointense on T1 and variably hyperintense on T2, T2-FLAIR and post-gadolinium sequences.
MR Spectroscopy-Markedly elevated choline and diminished NAA peaks.

Reference
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