Congenital Intracranial Neoplasm
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08/20/2010

History
Newborn with history of rapidly increasing head circumference on prenatal imaging.

Diagnosis
Congenital Intracranial Neoplasm (probable teratoma)

Discussion
Congenital central nervous system tumors represent only 10% of all antenatal tumors. Intracranial teratoma is the most common fetal brain tumor followed by astrocytomas, lipomas, choroid plexus papillomas, craniopharyngiomas, and primitive neuroectodermal tumors. The majority of fetal CNS tumors are supratentorial (often in the pineal or sellar regions or the cerebrum) in contrast to pediatric tumors which are usually infratentorial. The prognosis for congenital brain tumors is substantially worse than brain tumors presenting later in childhood except lipomas and choroid plexus papillomas. Macrocephaly and polyhydramnios are the most common abnormalities noted on prenatal sonography. Macrocephaly is related to the tumor and/or hydrocephalus. Polyhydramnios is usually secondary to depressed swallowing from hypothalamic dysfunction. Congenital tumors may exhibit rapid growth and may be associated with cleft lip or palate.

The imaging appearances of fetal brain tumors overlap considerably and differentiation is generally not possible. Teratomas are rapidly growing, complex, mixed cystic and solid midline masses with or without foci of calcification. Astrocytomas are often solid hemispheric or thalamic masses. Craniopharyngiomas arise from the Rathke pouch and have similar imaging features to teratomas. Choroid plexus papillomas are comparatively more common in fetuses than in children and result in rapid onset of hydrocephalus.

Findings
MR-Sagittal T1, axial T2 T2-FLAIR and gradient echo, and coronal T2 images show macrocrania, hydrocephalus and large midline mass. The mass demonstrates areas of T1 hyperintensity and cystic change with extensive susceptibility artifact.

Reference

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