Diagnostic Slide Session Case #7

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Clinical History

• 7-year-old girl with a medical history of headaches for the past two years
• Magnetic resonance imaging (MRI) – “likely tectal plate glioma” with accompanying hydrocephalus
• Biopsy and 3rd ventriculostomy
• Differential diagnosis? Final diagnosis?
• Helpful stains and other studies?
• Giant cell glioblastoma, WHO grade IV
• Ependymoma, giant cell variant, WHO grade II
• Pleomorphic xanthoastrocytoma, WHO grade II
• Subependymal giant cell astrocytoma, WHO grade I
• Ganglioglioma, WHO grade I
Giant Cell Ependymoma, WHO grade II
Giant Cell Ependymoma

- Rare variant of ependymoma (22 cases reported)
- Male:Female – 1.1:1
- Most of the reported cases occurred in adults (17/22)
- Location:
  - Spinal cord (11 cases)
  - Supratentorial (7 cases)
  - Cerebellum (4 cases)
- The majority of the cases reported in the posterior fossa and supratentorial location are extraventricular
- 7/22 reported cases had anaplastic features (WHO grade III)
Case Report
Giant cell ependymoma-report of three cases and review of the literature

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Giant Cell Ependymoma

• WHO grade: the same grading criteria as for ependymoma applies

• Histological features:
  – Perivascular pseudo-rosettes
  – Neuroepithelial-type cytology
  – Degenerative changes (giant cells with bizarre nuclei)

• Immunohistochemical features:
  – S100, EMA, GFAP, CD99, D2-40 expression
Prognosis of Giant Cell Ependymoma

• Similar to ependymoma:
  – Good – WHO grade II, gross total resection, adults, spinal cord location
  – Worse – WHO grade III, residual tumor, young children, supratentorial location
Follow-Up for the Case Presented

• Six months follow-up
• Gross total resection
• No tumor recurrence
Thank you
References