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The role of endoscopic evidence of accidental findings suspected for ventricular metastatic dissemination in children with new diagnosed medulloblastoma and triventricular obstructive hydrocephalus

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Introduction: Obstructive triventricular hydrocephalus is commonly associated to medulloblastoma at diagnosis and CSF diverting procedures are advocated before resection surgery to reduce mortality and morbidity. We report on a series of children treated on admission with endoscopic third-ventriculostomy (ETV) with the aim to describe the accidental finding of suspected ventricular metastatic disease not evident on MRI scan and their correlation with survival at follow up.

Methods: Between January 2004 and July 2013 thirty-seven patients were admitted for new diagnosed medulloblastoma and hydrocephalus. Their treatment consisted of ETV on admission and tumor resection after a mean of four days. Adjuvant therapy was administered according to the protocol used. Two patients were excluded, one was lost at follow up and one had a bleeding during the ETV which did not allowed to explore the ventricles walls.

Results:

Group 1: fifteen patients had at ETV evidence of suspected metastatic disease on the ventricles walls not evident at MRI. After a mean follow up of 28 months (min 3 months - max 68 months) six patients had died, and nine were alive with evidence of disease in two.

Group 2: twenty patients had no evidence at ETV suggestive of metastatic disease. After a mean follow up of 34 months (min three months - max nine years) two patients had died and eighteen were alive with evidence of disease in six.

Statistical analysis (Fisher's exact test) allowed us to reject the null hypothesis of independency between endoscopic findings mortality (p-value 0.046), while it was not possible to reject the null hypothesis of independency between endoscopic findings and Chang stage.

Conclusion: Follow up suggests a different survival probability in the two groups. It might be an idea worth considering continuing research on these accidental findings to understand if there might be an impact on grading and therapies.