Pediatric Medulloblastoma: 25 years of Experience from a Single Institution.

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Learning Objectives

By the conclusion of this session, participants should be familiar with presentation, management and prognosis of pediatric medulloblastoma.

Introduction

Medulloblastoma (MB) is one of the commonest malignant brain tumors in children. Still, its overall incidence in the general population is low. We present a single center experience of cases of medulloblastoma, seen over 25 years from 1990-2015 at the Massachusetts General Hospital.

Methods

Medical records of Massachusetts General Hospital (MGH) in Boston were searched for medulloblastoma occurring between ages of 0-19 and from 1990-2015.

Table 1. Patient Summary

Patient Summary		
Total patients	15	
Average length of follow up	88.9 m	7.4 y
Longest length of follow up	201.8 m	16.8 y
Shortest length of follow up	6.3 m	0.5 y
Number of relapses	5	
Number of deaths	3	
Average age	9.3	
Median age	8	
Number of males	9	
Number of females	6	
Male:Female Ratio	1.5	
Number of GTR	11	
Number of STR	3	
Number complicated by posterior fossa syndrome	4	

Results

Between 1990 and 2015, 39 cases of pediatric medulloblastoma tumors were evaluated at MGH. 15 patients had received surgery and follow up treatment at MGH. 24 were operated upon at outside hospitals and either the tumors were examined or the patients were followed at MGH post-operatively.

Of the 15 patients operated on at MGH, all presented with headache, nausea and vomiting. Most had diplopia and all had obstructive hydrocephalus. Of the 14 patients with operative records available, 11 had gross-total and 3 sub-total resection. Post-operatively, all showed clinical and radiological improvement. Four had posterior fossa syndrome. Patients were followed for a mean period of 7.4 years (range 0.5 to 16.8 years). Nine patients were followed for more than 5 years, and five for more than 10 years. Five patients relapsed, three of whom died. Known overall survival rates at 1, 3, and 5 years were 100%, 92%, and 90% respectively. Progression free survival rates at 1, 3, and 5 years were 86%, 67%, and 60%.

Table 2. Key Findings

Conclusions

Medulloblastoma is the commonest brain tumor in children but its overall incidence in population is low. Treatment with surgery, RT and chemotherapy is improving outcomes but morbidity and mortality remain high.

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