Suprasellar Pilocytic Astrocytoma: One Centre's Experience

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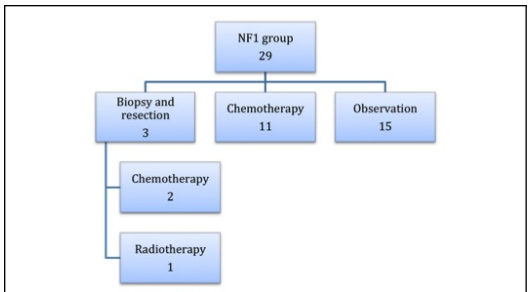


initial management in NF1 group

Introduction

Central nervous system tumours account for 15-25% of all childhood tumours and are the commonest solid tumour in childhood. About 30% of these are pilocytic astrocytomas (PA), commonly located in the posterior fossa. In children, suprasellar gliomas (involving optic pathway, hypothalamus or both) consist of 5% of CNS tumours. Tumours of the suprasellar region pose a challenge to surgical management and their behavior can be unpredictable although most literature indicates a slow course with very rare malignant transformation.

Methods

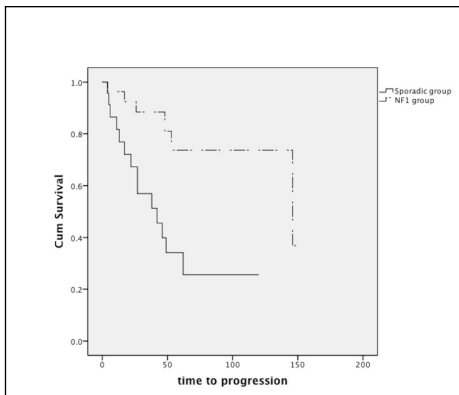
We conducted a retrospective review of children diagnosed with suprasellar lesions from 1999-October 2012.

Patients were selected from our departmental database. We included those who had radiological diagnosis of suprasellar glioma or optic pathway lesion. We excluded those with a diagnosis of craniopharyngioma and those patients who had a histological diagnosis other than glioma. Clinical information was collected including neurofibromatosis 1 (NF-1) status, initial surgical management, initial treatment, progression and time to progression.

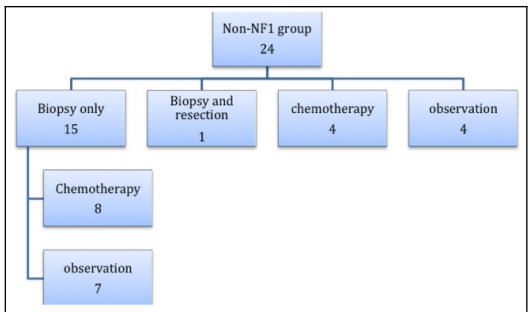
Results

53 patients, with a median follow-up of 62 months were included. 54.7% fulfilled criteria for NF-1 and 45.3% did not. In the non NF-1 group, 15/24 had biopsy with histology of pilocytic astrocytoma in all but 1 who had Grade 2 astrocytoma.

In total, 15 were treated with chemotherapy or radiotherapy and 9 were observed. Only 1 patient had partial surgical resection. Progression occurred in 4/9 patients who were under observation with no biopsy and in 10/15 that had been biopsied. In the NF-1 group, 2 patients were biopsied, 2 had surgical resection in other institutions. 13 were treated with chemotherapy and 15 were observed with 1 having radiotherapy. Progression occurred in 7/29 with a further progression in 2 patients (1 chemotherapy, 1 observation).



Progession in NF-1 vs Sporadic tumours



initial management in sporadic group

Conclusions

Biopsy has a role to play in patients with sporadic tumours. Observation with treatment guided by radiological or ophthalmological progression remains the mainstay in NF-1 patients.

Discussion

Surgical management of these lesions remains an area of debate however what is universal is the high morbidity rates associated with resection of these lesions. we generally do not favour surgical resection in our unit. Chemotherapy remains the option of choice for our patients who are under the age of 8 and have progressive symptoms. It buys time before considering radiotherapy and tumour stabilisation is achieved in some of our patients with chemotherapy. Radiotherapy is known to improve vision in some cases and we have found this ti be true with 2 of our patients. Persuant with current practice we do not recommend radiotherapy for our patients younger than 8.

Learning Objectives

Assessing the trend in management of these lesion

References

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