

Brainstem Gliomas in Children at Srinagarind Hospital

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Background and Objective: Incidence of brainstem gliomas in children is occurred approximately 15% of central nervous system tumor. Outcome of treatment is 20-30% of 5-years survival rates irrespectively aggressive chemotherapy or radiation. Role of surgery is not possible due to location of tumor. This study aims to review and determine prognostic factors of brainstem glioma.

Methods: We retrospectively reviewed children diagnosed with brainstem glioma confirmed by magnetic resonance imaging of brain between Jan1, 2002-Dec 31, 2011.

Results: Forty-three cases (1.5:1 male:female ratio) were reviewed with mean age of 7.33 ± 3.48 years. Mean duration of symptoms prior to diagnosis was 1.45 ± 1.62 months. The most common initial presentation is ataxia, following presentations with headache and weakness. The most common neurological findings is long tract sign, following findings with facial palsy and weakness. The most common location is pon with size more than 2 cm. (42 of 43) and diffuse pattern of tumor (38 of 43). Tissue

diagnosis was performed 14% with results as follows; pilocystic astrocytoma (1), diffuse astrocytoma (2), anaplastic astrocytoma (2), and glioblastoma multiforme (1). Treatment included 37 cases receiving cranial irradiation (complete 67%, incomplete 33%), 19 cases underwent surgery (VP shunt insertion 16, tumor biopsy 6), and five cases receiving chemotherapy. Complications of treatment included aspirated pneumonia (8), obstructive hydrocephalus (8), seizure (3), urinary tract infection (3), infected VP shunt (2) and diabetic insipidus (2). Outcome of treatment are death (88%) and alive (12%). Mean survival time is six months and 5-year survival rate is 10.5%. Progressive free survival is 2 months. None of prognostic factors including size, age, pathology, location, and treatment is associated with outcome.

Conclusions: Outcome of brainstem gliomas is still unfortunate despite adequate treatment compared to previous literature. Mean survival time and 5-year survival are similar to previous literature.

Keyword: Brainstem glioma, radiotherapy, chemotherapy, surgery