

Introduction

There is a lack of studies that focus on medulloblastoma in Thailand. The aim of this study is to conduct a survival analysis and identify the prognostic factors of medulloblastoma in children.

Methods

Fifty-five children with medulloblastoma were eligible for analysis between 1991 and 2015. We retrospectively reviewed clinical and histological data. Overall survival rate with clinical and histological factors were calculated using the Kaplan-Meier method. The Cox proportional hazard regression model was the estimated hazard ratio for mortality.

Results

The mortality rate was 49.1% in the present study. The median time follow-up was 68.8 months (range 1-294 months). A 5-year overall survival rate and median survival time was identified as 53.8% (95%CI 38.7-66.7) and 80 months (95%CI: 23-230), respectively. Univariate analysis revealed children younger than 3 years, hemispheric location, high risk group according to risk stratification and patients who did not receive radiation therapy affected the prognosis. In multivariate analysis, 2 factors influenced death: non-midline tumors (HR 2.54; 95%CI 1.11-5.80 ; p=0.02) and the high risk group (HR 3.86; 95%CI 1.28-11.60 ; p=0.01).

Conclusions

This study demonstrates the significance of tumor location and the high risk group (Age < 3 year-old, Residual tumor more than 1.5 cm² and an evidence of metastasis) that are associated with prognostic factors. Interestingly, the survival rate of patients classified by location of medulloblastoma demonstrated contrasting results with previous clinical studies. However, these results bring into synchronization with molecular studies that WNT-subtype associated with midline medulloblastoma.

Learning Objectives

By the conclusion of this session, participants should be able to:
1) Describe the importance of prognostic factors in medulloblastoma.
2) Discuss, in small groups about the risk and benefit of the treatment base on the natural history of the disease.
3) Identify an effective treatment of the subclassification of medulloblastoma.

