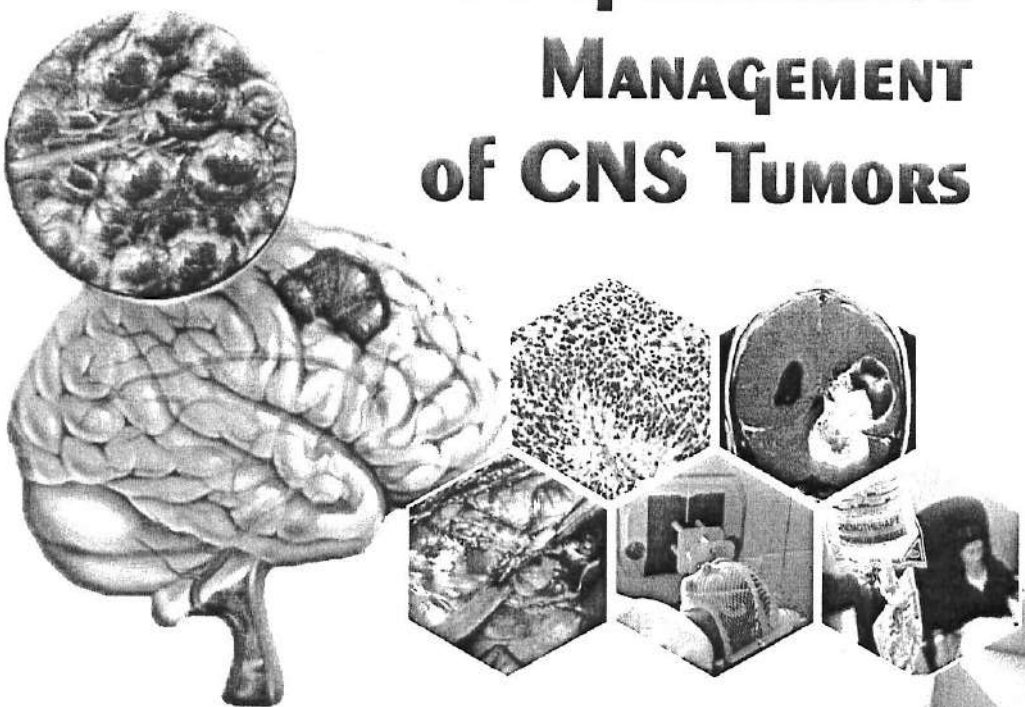
Dutch Foundation for Postgraduate Medical Courses in Indonesia

Course on

Current Comprehensive Management of CNS Tumors



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Clinical Features of Childhood Brain Tumor in Dr. Soetomo Hospital, Surabaya

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Introduction

Brain and central nervous system (CNS) tumors are the most common solid tumor and the second leading cause of cancer-related death in individuals 0 to 19 years of age in the United States and Canada.[1] There are >100 different histologic subtypes of CNS tumors with the incidence of each varying by age and histologic subtype. Childhood CNS tumor incidence varies by country from 1.12 to 5.14 cases per 100,000 persons. CBTs are more common in males, though this varies by histologic type. In the United States, whites and Asians Pacific Islanders have a higher CBT incidence than blacks and American Indians/Alaska Natives, whereas nonHispanics have higher incidence than Hispanics. Subtype incidence and survival rates are reviewe. Here we report a 3 years experience of managing Childhood Brain Tumors (CBTs) in Soetomo Hospital, Surabaya.

Methods

A retrospective study by collecting data from medical records was conducted from January 2007 to August 2009 in Dr Soetomo Hospital, Surabaya, Indonesia. Some variables including age, sex, symptoms and tumor location were identified. CT Scan and MRI were used for clinical diagnosis. Chi square was used for statistical analysis.

Result

The pattern of CNS tumours in childhood differs in terms of the histopathologic subtypes as well as the anatomical location

from those in adults. Generally, the main tumour groups in children are astrocytomas (38-50%), ependymoma (8-14%), primitive neuroectodermal tumours (PNET), including medulloblastoma(16-25%), and other gliomas (4-16%). The distinction between benign and malignant neoplasms is blurred in the brain; in that all CNS neoplasms may eventually be attended by fatal raised intracranial pressure (ICP), irrespective of the degree of histological differentiation.[2]

About 30 patients with brain tumor enrolled the study. They were 18 boys and 12 girls with the median age was 7 years old. Histopathologic findings in childhood brain tumor can be seen in table 1. Clinical symptoms related to the childhood brain tumor can be seen in table 2.

Table 1. Histophatologic findings in childhood brain tumor

Histopathologic Finding	Cases
Glioma	2
Medulloblastoma	5
Craniopharyngioma	3
PNET	2
Astrocytoma	4
Ependymoma	1
Plexus Papilloma	1

Table 2. Clinical symptoms of childhood brain tumor

	Supratentorium (n=14)	Infratentorium (n=16)	P value
Seizure	8	2	0.01
Headache	7	9	1.00
Vomiting	4	9	1.00
Nerve Cranial Palsy	1	4	0.33
Eye movement	8	4	0.10
Hydrocephalus	4	10	0.08
Gait abnormality	7	11	0.40
Vision loss	8	7	0.71
Speech problem	1	1	1.00

Conclusion

Infratentorium was the most found location in childhood brain tumor. Seizure was the most common clinical symptoms in supratentorium brain tumor; and hydrocephalus was most common clinical symptom in infratentorium brain tumor. Medullo-blastoma was commonly seen in histopathologic findings.

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