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[Fulltext](#) | [PDF \(1.15 M\)](#)**Latency between Symptom Onset and Diagnosis of Pediatric Brain Tumors: An Eastern Canadian Geographic Study.****Clinical Studies**

Neurosurgery. 51(2):365-373, August 2002.

*Mehta, Vivek M.D., M.Sc.; Chapman, Ann R.N.; McNeely, P. Daniel M.D.; Walling, Simon M.D.; Howes, William J. M.D.***Abstract:**

OBJECTIVE : Tumors of the central nervous system are now thought to be the most common form of childhood malignancies. Previous studies suggested that delays might exist between symptom onset and the diagnosis of pediatric brain tumors. In the Maritime Provinces of Canada (New Brunswick, Nova Scotia, and Prince Edward Island), there are only two pediatric neurosurgical centers; therefore, the Maritime Provinces are ideal for study of the epidemiological features of pediatric brain tumors. The aim of this study was to examine the incidence rates of pediatric brain tumors in eastern Canada, as well as factors important in their diagnosis.

METHODS : We collected data on 104 cases during a 6-year period (1995-2000), both prospectively and retrospectively, for the Maritime pediatric neuro-oncology database. All ≤ 17 -year-old patients in the Maritime Provinces with pediatric brain tumors were treated in one of two neurosurgical centers (St. John, New Brunswick, or Halifax, Nova Scotia).

RESULTS : The incidence rate for pediatric brain tumors was 4.28/100,000 child-yr. Tumors were more common among male patients and involved the infratentorial compartment in 65% of the total cases. The two most common types of tumors were astrocytomas (37%) and medulloblastomas (21%). The mean time to diagnosis was 7.3 months (95% confidence interval [CI], 4.99-9.67 mo), and only 41% of our cases were correctly diagnosed within three visits to various physicians. Tumors located in the brainstem required significantly longer times for diagnosis, compared with those located elsewhere (mean, 11.76 mo [95% CI, 3.13-20.39 mo] versus 6.57 mo [95% CI, 4.20-8.95 mo]; $P = 0.014$). Medulloblastomas as a group exhibited significantly shorter diagnostic times, compared with other pathological subtypes (mean, 3.78 mo [95% CI, 1.97-5.59 mo] versus 8.35 mo [95% CI, 5.40-11.3 mo]; $P = 0.006$).

CONCLUSION : The incidence rates for pediatric brain tumors in the Maritime Provinces are similar to those of other reported series. The correct diagnosis of pediatric brain tumors still generally requires a number of months and frequent visits to various physicians. The majority of pediatric brainstem tumors might no longer be of a diffuse malignant nature but might represent more-focal benign lesions.

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