Trends in the diagnosis and treatment of pediatric primary spinal cord tumors.

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Abstract

Objective Pediatric primary spinal cord tumors (PSCTs) are rare, with limited comprehensive data regarding incidence and patterns of diagnosis and treatment. The authors evaluated trends in the diagnosis and treatment of PSCTs using a nationwide database. Methods The Surveillance, Epidemiology, and End Results (SEER) registry was queried for the years 1975-2007, evaluating clinical patterns in 330 patients 19 years of age or younger in whom a pediatric PSCT had been diagnosed. Histological diagnoses were grouped into pilocytic astrocytoma, other low-grade astrocytoma, ependymoma, and high-grade glioma. Patient demographics, tumor pathology, use of external beam radiation (EBR), and overall survival were analyzed. Results The incidence of pediatric PSCT was 0.09 case per 100,000 person-years and did not change over time. Males were more commonly affected than females (58% vs 42%, respectively; p < 0.006). Over the last 3 decades, the specific diagnoses of pilocytic astrocytoma and ependymoma increased, whereas the use of EBR decreased (60.6% from 1975 to 1989 vs 31.3% from 1990 to 2007; p < 0.0001). The 5- and 10-year survival rates did not differ between these time periods. Conclusions While the incidence of pediatric PSCT has not changed over time, the pattern of pathological diagnoses has shifted, and pilocytic astrocytoma and ependymoma have been increasingly diagnosed. The use of EBR over time has declined. Relative survival of patients with low-grade PSCT has remained high regardless of the pathological diagnosis.

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