Medulloblastoma epidemiology

- Years of life lost due to central nervous system tumor subtypes in the United States
- Children with medulloblastoma treated with modified ACNS0821 temozolomide, irinotecan, and bevacizumab: The Seattle Children's Hospital experience
- Comprehensive investigation of DNA damage repair genes in children with cancer identifies SMARCAL1 as novel osteosarcoma predisposition gene
- Medulloblastoma's master regulators and their association with patients' risk
- Immunohistochemical detection of 5-hydroxymethylcytosine as a prognostic biomarker in non-WNT/Non-SHH medulloblastomas
- High B7-H3 protein expression in Medulloblastoma is associated with metastasis and unfavorable patient outcomes
- Advancing medulloblastoma therapy: strategies and survival insights
- Acute side effects of proton and photon radiotherapy for medulloblastoma: a retrospective national multicenter study

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Medulloblastoma is predominantly seen in children less than 15 years of age. This tumor is uncommon in adults, especially those older than 40 years, and reports of cases in patients above 60 years of age are particularly rare [1].

In children medulloblastoma comprise 15-20 % of intracranial tumors [2].

30-55 % of posterior fossa tumors.

Medulloblastoma is the most common malignant pediatric intracranial tumor [3].

Medulloblastomas comprise < 1 % of adult brain neoplasms. Peak incidence during 1st. decade. Median age at diagnosis 5-7 years (75 % are diagnosed by age 15). Male:female ratio is 2:1. Familial cancer syndromes that include medulloblastoma: Gorlin syndrome, Turcot syndrome.

Population-based data examining recent epidemiological trends in medulloblastoma, are limited. Therefore, Khanna et al. sought to examine recent population-level trends in medulloblastoma incidence and survival. Central Brain Tumor Registry of the United States (CBTRUS) data were analyzed from 2001 to 2013. Age-adjusted incidence rates (IR) and annual percent changes (APCs) with 95% confidence intervals (CI) were calculated by age, sex, and race. Relative survival rates were calculated by age, sex, and race using Surveillance, Epidemiology and End-Results (SEER) registries; subsets of CBTRUS data. Kaplan-Meier and Cox proportional hazards models were used to examine survival differences. Medulloblastoma incidence remained relatively stable from 2001 to 2013, with minor fluctuations from 2001 to 2009 (APC = 2.2, 95% CI 0.8, 3.5) and 2009-2013 (APC = -4.1, 95% CI -7.5, -0.6). Incidence was highest in patients aged 1-4 years at diagnosis, but patients aged 10-14 years showed increased incidence from 2000 to 2013 (APC = 3.2, 95% CI 0.6, 5.8). Males displayed higher IR relative to females (males: 0.16 vs. females: 0.12), except in patients <1 year-old. Compared to Whites, Blacks displayed a non-significant increase in incidence (APC = 1.7, 95% CI -0.4, 4.0) and in mortality risk (hazard ratio for survival = 0.74; p = 0.09). The current study reports no overall change in medulloblastoma incidence from 2001 to 2013. Male and female patients <1 year-

old had equal medulloblastoma incidence rates and poor 5-year relative survival compared to other ages. Non-significant trends in the data suggest disparities in medulloblastoma incidence and survival by race. Thus, analysis of tumor-specific trends by demographic variables can uncover clinically informative trends in cancer burden [4].

A report aims to provide accurate nationwide epidemiologic data on primary brain and central nervous system (CNS) tumors in the Republic of Korea. Dho et al. updated the data by analyzing primary brain and CNS tumors diagnosed in 2013 using the data from the national cancer incidence database.

Data on primary brain and CNS tumors diagnosed in 2013 were collected from the Korean Central Cancer Registry. Crude and age-standardized rates were calculated in terms of gender, age, and histological type.

A total of 11,827 patients were diagnosed with primary brain and CNS tumors in 2013. Brain and CNS tumors occurred in females more often than in males (female:male, 1.70:1). The most common tumor was meningioma (37.3%). Pituitary tumors (18.0%), gliomas (12.7%), and nerve sheath tumors (12.3%) followed in incidence. Glioblastomas accounted for 41.8% of all gliomas. In children (<19 years), sellar region tumors (pituitary and craniopharyngioma), embryonal/primitive/medulloblastoma, and germ cell tumors were the most common tumors [5].

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