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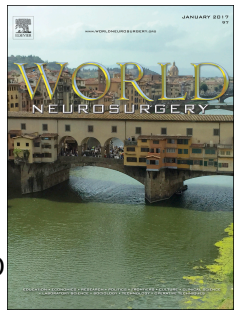


Dysembryoplastic Neuroectodermal Tumor – An Analysis from the Surveillance, Epidemiology, and End Results Program 2004-2013

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# Dysembryoplastic Neuroectodermal Tumor – An Analysis from the Surveillance, Epidemiology, and End Results Program 2004-2013


## Abstract

Introduction: Dysembryoplastic neuroectodermal tumor (DNT) is a rare neoplasm. Though the pathology is commonly considered benign, there have been various reports documenting rapid growth, recurrence/ progression, sudden death, and malignant transformation. Most studies have addressed outcomes regarding seizure control, but limited data exist regarding incidence and survival. Consequently, we explore the Surveillance, Epidemiology, and End Results (SEER) database to explore the epidemiology of DNT.

Methods: With the SEER-18 registry database, information from all patients diagnosed with intracranial DNT from 2004 to 2013 were extracted, including age, gender, race, marital status, tumor location, tumor size, receipt of surgery, extent of primary surgery, receipt of radiation, and follow-up data. Age-adjusted incidence rates and overall survival (OS) were calculated. Cox proportional hazards model was utilized to assess relationships between various demographic / treatment variables and OS.

Results: A total of 381 cases were identified in the SEER-18 database. The incidence of DNT within the large subset of the US population represented by SEER is 0.033 per 100,000 person-years [95 % confidence interval (CI) = 0.030–0.037]. The median follow-up was 50 months. The median OS was not attained. The 3-, 5-, and 9-year OS were 99.363 % (CI = 97.428−99.844 %), 97.993 % (CI = 95.168−99.174 %), and 96.296 % (CI = 91.834−98.341 %) respectively. Seven patients (7 of 381) passed at their last follow up. Of all demographic / treatment factors, only receipt of radiation demonstrated a significant relationship with OS, where Cox hazards ratio was 0.051 [95% CI 0.01-0.267], $p < 0.01$.

Conclusion: Though prognosis is generally favorable for DNT, the pathology can lead to poor outcomes in rare instances. Common demographic factors did not show a significant relationship with OS. Neither did treatment with surgery or extent of surgical resection. On the other hand, treatment with radiation was associated with poorer overall survival.


Key words: dysembryoplastic neuroectodermal tumor, DNT, DNET, SEER