Descriptive Epidemiology on Vestibular Schwannomas from 2004-2016

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Vestibular schwannomas, also known as acoustic neuromas, result from an overproduction of schwann cells on the eighth cranial nerve. This benign brain tumor affects hearing and balance. Data on 49,896 patients was acquired from the Central Brain Tumor Registry of the United States (CBTRUS) from 2004-2016 to perform this statistical analysis. Neurofibromatosis (9540/1), neurilemoma (9560/0), and neuroma (9570/0) in the Acoustic nerve (C72.4) defined vestibular schwannomas. Frequencies and age-adjusted incidence rates (AAIR) were calculated using SEER*Stat. Of the patients, 47.4% were male (n=23,636, AAIR: 1.13, 95% CI: 1.12-1.15) and 52.6% were female (n=26,233, AAIR: 1.15, 95% CI: 1.14-1.17). The highest incidence appeared in white non-Hispanic individuals (82.7%, n=40,350, AAIR: 1.30, 95% CI: 1.29-1.31) and lowest in black individuals (4.5%, n=2,210, AAIR: 0.46, 95% CI: 0.44-0.48). Vestibular schwannomas were most frequent in patients 55-64 years old (27.3%, n=13,634, AAIR: 2.88, 95% CI: 2.83-2.92) and least common in patients 0-19 years old (1.2%, n=606, AAIR: 0.055, 95% CI: 0.051-0.06). Incidence of radiographic confirmation increased from 2004-2016 (annual percent change: 1.64, 95% CI: 0.15-3.16). For treatment, 40.1% received surgery, and 23.7% received radiation. Vestibular schwannomas are slow-growing and not detected easily therefore determining at-risk populations is crucial to diagnosis and improving patient care.

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