

Multiple Sclerosis after Primary Central Nervous System Cancer in Mexican Population.

Main Author: Marlene Arbeu – Reyes¹.

Co-authors: Brenda Bertado – Cortés¹, Ricardo García – Bermúdez¹, Enrique Gómez – Figueroa².

¹Department of Neurology, National Medical Center Siglo XXI, Mexico City; High Specialty Medical Unit, “Dr. Bernardo Sepúlveda Gutiérrez”, Mexico City.

²Department of Neurology, National Institute of Neurology and Neurosurgery, Mexico City.

The pathogenesis of multiple sclerosis (MS) is multifactorial, being controversial whether there is a relationship between this disease and primary central nervous system (CNS) cancer, bidirectionally. However, there is also the tendency (even rarer) to develop MS after the diagnosis of brain cancer, so the study of patients with this characteristic in a third level Mexican medical center for the first time was considered.

Methods | 17 patients with concomitant diagnosis of MS and cancer were included. 11 (64.7%) developed MS after cancer diagnosis, while 6 (35.2%) developed cancer after MS diagnosis. From the first group, 2 (18.1%) got PCNSC, and from the second group 5 (83.3%). The Odds Ratio (OR) for getting MS diagnosis after PCNSC was 22.5 with 95% confident interval 1.60-314.57 (p value 0.034). The mean of age of diagnosis of MS was 35 years (SD 15). The median age was 35 (IQR 13-25). We found that the incidence in men was higher than in women (4 [66.6%] versus 2 [33.3%]; $P < .05$; $\chi^2 = 3.9$). In addition, evidence of significant smoking, manifested by a smoking rate greater than 400, was most

commonly presented in those patients ($P < .05$; $\chi^2 = 3.9$). Familiar members with MS was an antecedent present in 66.6% of the patients ($P < .05$; $\chi^2 = 5.6$).

Discussion |. As a fundamental result of the study, we found that PCNSC by itself is a risk factor for the development of MS. Although we require more exhaustive research, this study is the basis for considering that in patients with brain cancer and the risk factors discussed, the possibility of presenting demyelination in relation to MS exists, therefore being a fact to consider in the follow-up of these patients in the medium and long term.