Association Between Trigeminal Neuralgia and Degenerative Cervical Myelopathy: A Cross-Sectional Study Using US Data

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Trigeminal neuralgia (TN) is an idiopathic pain disorder, classified by paroxysmal pain in the face. The spinal trigeminal tract extends into the spinal cord as far as the fourth cervical vertebrae, and limited research suggests that cervical spine compression may be a risk factor for TN. We hypothesized that adults with TN would have a greater likelihood of concurrent degenerative cervical myelopathy (DCM) compared to matched adults without TN. The data utilized in this study spanned the past 20 years and were obtained from TriNetX, a national online database with de-identified medical records from 113 million patients across 79 healthcare institutions. Two groups of adults (=18 years of age) were created: patients with (1) TN and (2) No-TN excluding predisposing conditions for TN (e.g multiple sclerosis, ophthalmic and oral/maxillofacial surgery), then groups were propensity matched (e.g., age, sex, body mass index, diabetes mellitus, hypertensive diseases, migraine, osteoporosis) to minimize between group differences. After matching, both groups consisted of 37,163 patients and the mean point prevalence was 0.55% in the TN group (95% CI: 0.47–0.63%) and 0.04% (95% CI: 0.03–0.06%) in the No-TN group, resulting in an odds ratio of 12.94 ??(95% CI: 7.78–21.53; $p < 0.0001$). The present data show that adults with DCM are over 12 times as likely to have concurrent TN. These findings support our hypothesis and suggest that DCM may be a risk factor for TN.

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