

NEURO-ONCOLOGY

and safety of ONS over a 15-year period at Hôpital Enfant-Jésus, CHU de Québec, based on patient-reported outcomes and complication rates. Methods: A retrospective cohort analysis was conducted on patients with occipital neuralgia, cluster headaches, migraines, and other craniofacial pain syndromes who underwent ONS implantation. Pain intensity, quality of life, and patient-reported improvements were assessed at baseline, one year, and the latest follow-up. Trial stimulation was performed before permanent implantation. Results: Among 45 patients (mean age: 53.7 years), diagnoses included occipital neuralgia, migraines, cluster headaches, cervicogenic pain, and other pain syndromes. At follow-up (mean: 4.72 ± 1.02 years), NPRS scores decreased by 3.8 ± 1.7 points, BPI showed a $45\% \pm 18\%$ reduction, and SF-36 revealed improvements in physical ($20\% \pm 25\%$) and social functioning ($30\% \pm 22\%$). Adverse events occurred in 27% of patients, with surgical revisions required in 14%. Conclusions: ONS provides significant, long-term pain relief and quality-of-life improvements in refractory craniofacial pain, particularly for occipital neuralgia and cluster headaches. While complications remain notable, advancements in techniques and technology may improve outcomes, supporting ONS in tailored pain management protocols.

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Impact of brainstem lesion location on symptoms and treatment response in Multiple Sclerosis-Associated Trigeminal Neuralgia

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Background: Trigeminal neuralgia (TN) is more common in multiple sclerosis (MS) patients than in the general population, likely due to demyelination impacting the trigeminal pathways. While brainstem lesions are associated with MS-TN, their precise role remains unclear. Methods: This study investigates the relationship between brainstem MS plaque location, TN symptoms, and treatment response. We retrospectively analyzed brain MRIs of MS-TN patients, segmenting and coregistering brainstem plaques in MNI space. A tractographic atlas of the trigeminal system was generated using high-resolution diffusion imaging from 30 patients. Lesion involvement was determined by intersection with the trigeminal tract, and its association with pain intensity and treatment outcomes was analyzed using linear regression. Results: Our research revealed 83% of MS-TN patients had brainstem lesions near the fourth ventricle. No single lesion hot spot was identified. Lesion volume did not predict symptom recurrence or treatment response. However, 97% of lesions intersected the trigeminal tract, supporting its association with TN symptoms. Conclusions: The strong overlap between lesions and the trigeminal tract suggests a potential pain generator in MS-TN. Further research is needed to determine whether similar lesions exist in asymptomatic MS patients and to confirm this hypothesis. Future studies will explore whether tract involvement better predicts clinical response to treatment.

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Long term outcome of central neurocytoma: a multicenter study of eleven tertiary care centers

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Background: Due to the peculiar location of central neurocytoma, gross total resection is often challenging, and adjuvant radiotherapy is sometimes indicated. Factors associated with outcome are not well addressed in the literature. Methods: A multicenter retrospective cohort study among 11 centers in Saudi Arabia including histologically confirmed central neurocytoma between 2000-2022. Results: A total of 104 patients were included. Pre-operative mRS was 0-2 in 93% of the cases. Gross total resection (GTR) was achieved in 50.7%. Radiotherapy was needed in 40% and Ventriculoperitoneal shunt in 38.6%. Favorable outcome was observed in 81.7%. Factors associated with worse outcome included initial mRs of ≥ 3 , tumor size ≥ 50 mm, and atypical/anaplastic histology. Disease progression was observed in 18 (17.8%). Five-year absolute survival rate was 91.55%. The only significant predictor of disease progression was the presence of atypical features or anaplasia (P .007). Extent of surgical resection (P 0.877) wasn't associated with disease progression. Post operative radiotherapy didn't alter residual progression in patients with subtotal resection (P .170) nor the recurrence rate in those with GTR (.365). Conclusions: Central Neurocytoma cases have a high survival rate with a favourable mRs score at long-term follow up. The extent of resection didn't alter disease progression nor did the adjuvant radiotherapy.

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Survival and recurrence outcomes for primary meningeal melanocytic neoplasms of the central nervous system in British Columbia

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Background: Primary melanocytic neoplasms of the central nervous system (PMN-CNS) are rare lesions of variable aggressiveness originating from leptomeningeal melanocytes. They present as either circumscribed or diffuse lesions within the CNS. Given the limited number of reported cases, survival and recurrence outcomes are poorly understood. Methods: A retrospective chart review of all local adult (≥ 18 years) cases of PMN-CNS in British Columbia, Canada (1993-present). Results: We identified 11 cases, median age at diagnosis was 60 years (IQR: 45-64), 72% female. Tumor location included cerebrum (54.5%), spine (36.4%) and multifocal (9.1%). Four cases (36%) had confirmed GNAQ/GNA11 mutations and six cases (54.5%) were negative for BRAF V600E mutations. Operative outcomes were: gross total resection (27.3%), subtotal resection (63.6%) and biopsy-only (9.1%). Surgery was followed by adjuvant fractionated radiotherapy in 10 (91%) cases. Seven cases (63.6%)