AWARD FOR BEST RESEARCH PRESENTATION AT THE WCMSR ORIGINAL RESEARCH BASED ON JUDGE SCORES, 3RD PLACE

34. PSYCHIATRIC OUTCOMES IN PATIENTS WITH TRIGEMINAL NEURALGIA TREATED WITH ANTICONVULSANTS WITH OR WITHOUT ANTIDEPRESSANTS: A RETROSPECTIVE COHORT STUDY USING TRINETX

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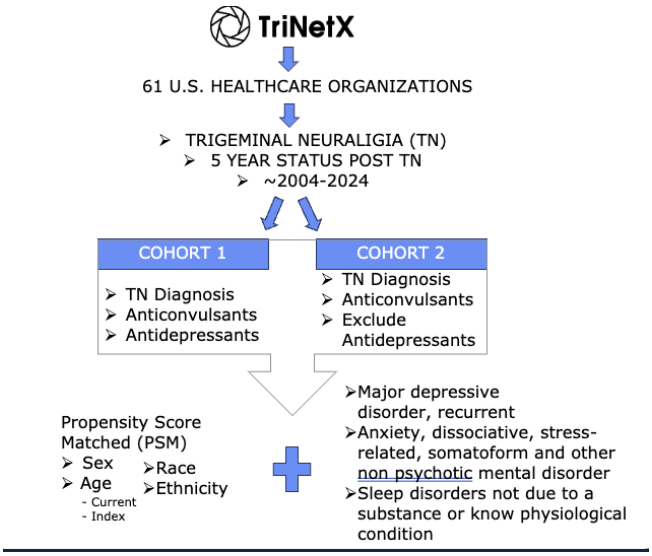
https://www.youtube.com/live/fSpXH-3Xy5w?t=1835s

BACKGROUND: Trigeminal Neuralgia (TN) presents as intense, spastic craniofacial pain that arises from a variety of causes including trigeminal nerve root compression, disruption in channel conductance, or idiopathic reasons. The chronicity and intensity of the pain leads to psychological co-morbidities including depression and anxiety. Because there is no cure for TN, treatment includes interventions that manage symptoms. **METHODS**: The data for this study was obtained from TriNetX, a multi-national collaborative health network spanning over 116 million patient records in the U.S. The data is de-identified, continuously updated, and provides a variety of data points including labs, diagnoses, medications, procedures, and demographics. IRB approval was not required. Data was queried using ICD-10 codes and NLM classification. All patients included in the study were diagnosed with Trigeminal Neuralgia (ICD-10 CM: G50). The study population was sorted into two cohorts. Cohort 1 was defined as patients diagnosed with TN (ICD-10 CM: G50) and prescribed anticonvulsants medication (VA: CN400) and antidepressant medication (ATC: N06A). Cohort 2 was defined as patients diagnosed with TN and prescribed anticonvulsants medication without antidepressant medication. The two cohorts were propensity scores matched on characteristics including sex, current age, age at index, race, and ethnicity. The psychiatric outcomes that were assessed were a diagnosis of 'major depressive disorder, recurrent (ICD-10 CM:F33)', 'Anxiety, dissociative, stress-related, somatoform and other non-psychotic mental disorders (ICD-10 CM:F40-F48)', and 'sleep disorders not due to a substance or known physiological condition (ICD-10 CM:F51).' **RESULTS**: After a 1:1 Propensity Score Match, each cohort comprised 21,252 patients. Post-matching, both cohorts showed a balanced profile: mean age of 60 years, 70% female representation, 71% non-Hispanic or Latino, and 70% white. Results indicate that patients with TN taking anticonvulsants and antidepressants had a higher risk and odds for development of depression (8.218 RR, 8.601 OR), anxiety (2.788 RR, 3.152 OR), and sleep disorder (4.45 RR, 4.568 OR) than their counterparts taking only anticonvulsants. Similarly, patients with TN taking both anticonvulsants and antidepressants demonstrated a markedly higher hazard ratio in depression (8.038 HR), anxiety (2.943 HR), and sleep disorder (4.231 HR) development compared to their counterparts only taking anticonvulsant. However, log-rank analysis did not show a statistical significance of time to development of depression (p=0.546), anxiety (p=0.259), and sleep disorder(p=0.101) between the two cohorts. **CONCLUSION**: Our findings align with current literature on the reciprocal relationship between pain and psychiatric symptoms. In TN, anticonvulsants are often prescribed to address pain, while antidepressants are prescribed to address psychiatric side effects of the chronic craniofacial pain. However, interaction between antidepressants and anticonvulsants are complicated and may influence the pharmacokinetics and pharmacodynamics of each other.

Figure: Selection Criteria for Retrospective Cohort Study.



Key Words: Trigeminal neuralgia, chronic pain, antidepressant drugs, anticonvulsant drugs.