Temporomandibular disorder misattribution preceding trigeminal neuralgia diagnosis

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BACKGROUND

Trigeminal neuralgia is famous for a diagnostic odyssey through dental care before the correct diagnosis is made.

The evidence is single-center chart reviews and surveys of patients who already reached a surgical referral center. Whether the pre-diagnostic pathway differs from other chronic head pain had never been tested in a general population.

OBJECTIVE

Compare medically-coded care preceding a first diagnosis of trigeminal neuralgia against care preceding a first diagnosis of migraine.

METHODS

Retrospective cohort, TriNetX US Collaborative Network (71 organizations), 2016–2023.

First diagnosis of trigeminal neuralgia (G50.0) vs. first diagnosis of migraine (G43). Exposure measured 365 to 1 days before index.

Both arms required an E&M visit 730–366 days before index, so a missing code reflects missing care, not missing records. Prior TMD, tooth loss, MS, and neoplasm were washed out.

Because exposure precedes index, matching cannot be used; comparability came from identical stratum restriction. Primary outcome: newly coded TMD (M26.6). Falsification: eye exam and outpatient E&M.

RESULTS

21,407 trigeminal neuralgia and 620,612 migraine patients met criteria. TMD was coded in 2.40% vs. 0.62% (RR 3.86, 95% CI 3.52–4.23).

3.9×

TMD label, TN vs. migraine

TN patients carry a TMD label at nearly four times the migraine rate the year before diagnosis

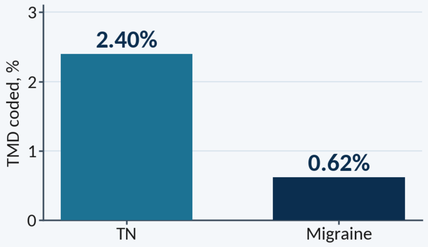


Fig 1. TMD coded in 2.40% of TN vs 0.62% of migraine patients in the exposure year (RR 3.86).

6.1×

Effect is largest in the young

Misattribution rises as age falls; strongest in patients 29–44, where TN is least expected

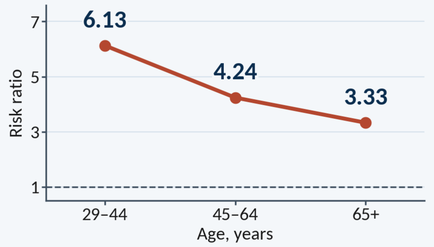


Fig 2. Age gradient 3.33 → 4.24 → 6.13 as age falls; comparator rate flat near 0.65% throughout.

1.5 pp

Ratio vs. absolute, by sex

Absolute excess is equal by sex; the higher male ratio reflects a lower male baseline

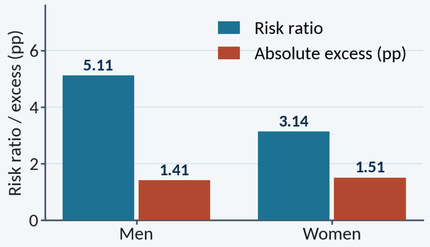


Fig 3. Ratio larger in men (5.11) than women (3.14), but absolute excess equal (1.41 vs 1.51 pp).

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Not just healthcare contact

Falsification endpoints null in every stratum; general medical contact does not explain the signal

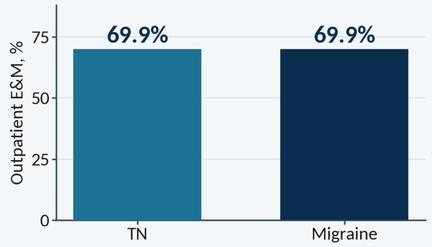


Fig 4. Outpatient E&M identical at 69.9% in both arms (men 65+); eye exam null in every stratum.

CONCLUSIONS

Patients later diagnosed with trigeminal neuralgia are labeled with temporomandibular disorder at nearly four times the migraine rate in the year before diagnosis, and the excess concentrates in younger patients where the diagnosis is least expected.

Falsification endpoints rule out general healthcare contact as the explanation. Nineteen in twenty of these patients never reach a procedure, the population the single-center surgical literature cannot observe. Incomplete dental capture on the medical side makes this estimate a floor.

KEY REFERENCES

1. Alfonzo-Horowitz et al. Dental burden and symptom duration in trigeminal neuralgia. JAMA Netw Open. 2026.

2. Sivakanthan et al. (2014); Koopman et al. (2011); Zakrzewska et al. (2018) -prior single-center series.

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Scan for the full abstract and contact details.

Non-human subjects research determination granted by the IRB; data de-identified to the HIPAA Expert Determination standard.