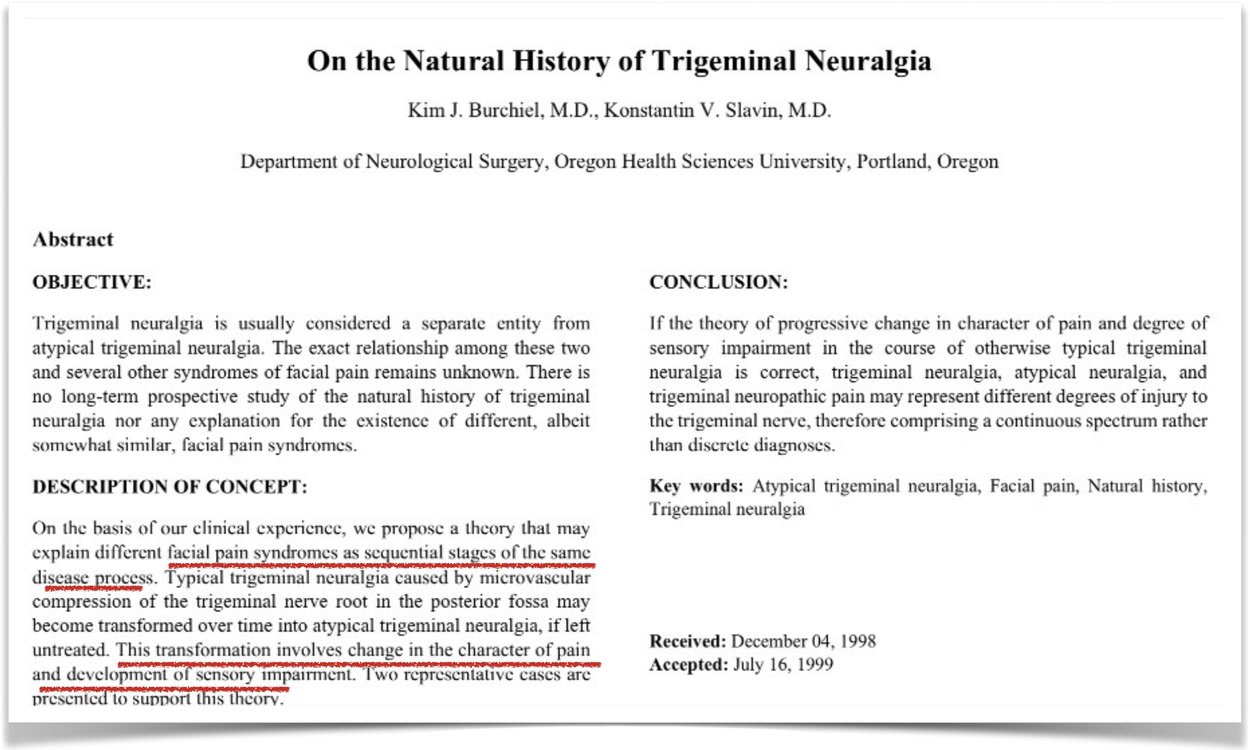
A new perspective on chronic facial pain progression

Work in progress



On the Natural History of Trigeminal Neuralgia

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Abstract

OBJECTIVE:

Trigeminal neuralgia is usually considered a separate entity from atypical trigeminal neuralgia. The exact relationship among these two and several other syndromes of facial pain remains unknown. There is no long-term prospective study of the natural history of trigeminal neuralgia nor any explanation for the existence of different, albeit somewhat similar, facial pain syndromes.

DESCRIPTION OF CONCEPT:

On the basis of our clinical experience, we propose a theory that may explain different facial pain syndromes as sequential stages of the same disease process. Typical trigeminal neuralgia caused by microvascular compression of the trigeminal nerve root in the posterior fossa may become transformed over time into atypical trigeminal neuralgia, if left untreated. This transformation involves change in the character of pain and development of sensory impairment. Two representative cases are presented to support this theory.

CONCLUSION:

If the theory of progressive change in character of pain and degree of sensory impairment in the course of otherwise typical trigeminal neuralgia is correct, trigeminal neuralgia, atypical neuralgia, and trigeminal neuropathic pain may represent different degrees of injury to the trigeminal nerve, therefore comprising a continuous spectrum rather than discrete diagnoses.

Key words: Atypical trigeminal neuralgia, Facial pain, Natural history, Trigeminal neuralgia

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- Classical TN usually associated with gradual change of pain severity.
- TN patients may experience changes in:
  I. pain character
  II. frequency
  III. development of sensory impairment over the time

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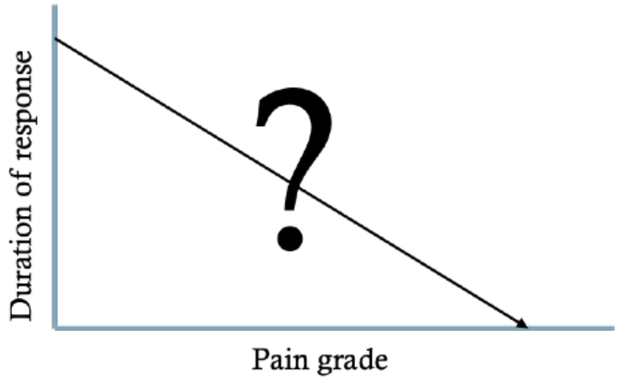
Machine-learning defines and characterizes the grades of trigeminal neuralgia

Work in progress

Project goal: to apply ML on brain imaging and clinical data to propose a novel grading system for TN pain based on patients' duration of surgical response.



Hypothesis: TN is characterized by a continuous spectrum of severity, with specific characteristics of pain, sensory functions, and surgical response.