Appendix e-1

Terminology and Definitions

Although *tic douloureux* is frequently used as a synonym of trigeminal neuralgia (TN), the term was originally introduced to describe the involuntary wincing associated with the occurrence of pain attacks. Other diagnostic labels have been proposed to indicate differences in the etiology or clinical presentation of TN. Table e-1 lists terms that have been suggested for the diagnosis of TN as published from inception to 31st December 2014, and registered with PubMed, the search resource maintained by the National Center for Biotechnology Information (NCBI). The literature survey revealed several terminological inconsistencies that have complicated the communication among and between physicians and researchers.

	Diagnostic label	First study to include the term	Number of publications	Published in the last 5 years
	Original description of TN	Horsley 1891 ¹	7147	1093
CLINICAL CLASSIFICATON	Typical	Giovanelli 1963 ²	125	29
	Atypical	Hughes 1950 ³	64	9
	With "constant", "continuous" or "ongoing" pain	Dieckmann 1978 ⁴	13	5
	With "persistent" or "persisting" pain	Möbius 1984 ⁵	5	4
	Types 1 and 2	Burchiel 2003 ⁶	20	15
	With "background" pain	Sindou 2006 ⁷	7	3
(OLOGICAL ASSIFICATION	Essential	Guidetti 1950 ⁸	94	6
	Idiopathic	Kaess 1961 ⁹	280	55
	Primary	Strandjord 1973 ¹⁰	76	36
	Classic or classical	Apfelbaum 1977 ¹¹	84	50
	Symptomatic	Elster 1951 ¹²	79	14
ETI	Secondary	Obrador 1955 ¹³	38	12

 Table e-1. Previous diagnostic designations of TN

Variable use of seemingly interchangeable labels such as "classical" and "idiopathic", or "secondary" and "symptomatic" has been a major source of confusion. To differentiate idiopathic

TN from manifestations of neuralgia that are secondary to an identified disease, Strandjord²¹ established the term "primary TN", which contradicts the notion of TN as a condition of neuropathic pain. MRI shows neurovascular contact in 70%-83% of patients with typical TN.^{14,15} In neurosurgical case series, this frequency increases to 89%.¹⁶ Hence primary TN was loosely used by many authors to describe both TN without identifiable cause and TN secondary to neurovascular contact. To solve this problem, the International Classification of Headache Disorders (ICHD) endorsed the term "classical", specifying that classical TN should be diagnosed when no cause other than neurovascular contact is apparent.¹⁷ We agree with this solution, because it avoids confusion. However, we favour additional differentiation of idiopathic TN from classical TN. Even after surgical exploration of the posterior fossa at the base of the skull for microvascular decompression, approximately 11% of patients with TN remain without diagnosis of an apparent cause.^{9,16,18} The frequency of cases without etiology justifies their designation as idiopathic. For TN caused by a neurological disease other than neurovascular compression we prefer the term "secondary" over "symptomatic", because it is less ambiguous. "Symptomatic" may also indicate the painful side of the face.

The IASP has defined TN as "sudden, usually unilateral, severe, brief, stabbing, recurrent episodes of pain in the distribution of one or more branches of the trigeminal nerve".¹⁹ The latest ICHD-3 Beta describes TN in similar terms, "as a disorder characterized by recurrent unilateral brief electric shock-like pains, abrupt in onset and termination, limited to the distribution of one or more divisions of the trigeminal nerve and triggered by innocuous stimuli".²⁰ According to the ICHD, TN "may develop without apparent cause or be a result of another diagnosed disorder. There may or may not be, additionally, persistent background facial pain of moderate intensity. Classical TN develops without apparent cause other than neurovascular compression". ²⁰ These descriptions are accurate but they do not allow evaluating the strength of the diagnostic criteria. There is only one study in which the characteristic features of TN were compared with trigeminal neuropathic pain (Benoliel et al. 2012).²¹ Comparisons with other types of unilateral episodes of orofacial pain are lacking.

REFERENCES

- Horsley V. Remarks on the various surgical procedures devised for the relief or cure of trigeminal neuralgia (Tic Douloureux). Br Med J 1891;2:1139-1143.
- Giovanelli M, Marini G, Marossero F. Typical trigeminal neuralgia in the presence of macroscopic organic lesions of the central nervous system. Minerva Neurochir 1963;54:124-130.
- 3. Hughes B. Atypical trigeminal neuralgia. Br Dent J 1950;89:243-249.

- Dieckmann H. Trigeminal neuralgia and its differential diagnosis. MMW Munch Med Wochenschr 1978;120:653-656.
- 5. Möbius E, Leopold HC, Paulus WM. Treatment of typical trigeminus neuralgias. Overview of the current state of drug and surgical therapy. Fortschr Med 1984;102:935-939.
- 6. Burchiel KJ. A new classification for facial pain. Neurosurgery 2003;53:1164-1166.
- Sindou M, Leston J, Howeidy T, Decullier W, Chapuls F. Micro-vascular decompression for primary trigeminal neuralgia (typical or atypical). Long-term effectiveness on pain; prospective study with survival analysis in a consecutive series of 362 patients. Acta Neurochir (Wien) 2006;148:1235-1245.
- 8. Guidetti B. Essential trigeminal neuralgia; section of the descending bulbar trigeminal tract according to Sjöqvist's method. Sist Nerv 1950;2:247-257.
- Kaess M. Etiology and treatment of idiopathic trigeminal neuralgia. Munch Med Wochenschr 1951;93:330-335.
- Strandjord R. Medicinal treatment planning in primary trigeminal neuralgia. Tidsskr Nor Laegeforen 1973;93:2251-2252.
- Apfelbaum RI. A comparision of percutaneous radiofrequency trigeminal neurolysis and microvascular decompression of the trigeminal nerve for the treatment of tic douloureux. Neurosurgery. 1977;1:16-21.
- 12. Elster P. Symptoms and diagnosis of trigeminal neuralgia and conclusions regarding essential and symptomatic trigeminal neuralgia. Psychiatr Neurol Med Psychol (Leipz) 1951;3:86-93.
- Obrador S, Boixados Jr. Secondary trigeminal neuralgia due to basilar impression and platybasia. Rev Clin Esp 1955;58:232-234.
- 14. Cruccu G, Gronseth G, Alksne J, et al. AAN-EFNS guidelines on trigeminal neuralgia management. Eur J Neurol 2008;15:1013-1028.
- 15. Gronseth G, Cruccu G, Alksne J, et al. Practice parameter: the diagnostic evaluation and treatment of trigeminal neuralgia (an evidence-based review): report of the Quality Standards Subcommittee of the American Academy of Neurology and the European Federation of Neurological Societies. Neurology 2008;71:1183-1190.
- 16. Antonini G, Di Pasquale A, Cruccu G, et al. Magnetic resonance imaging contribution for diagnosing symptomatic neurovascular contact in classical trigeminal neuralgia: a blinded casecontrol study and meta-analysis. Pain 2014;155:1464-1471.
- Headache Classification Subcommittee of the International Headache Society. The International Classification of Headache Disorders, 2nd ed. Cephalalgia 2004;24(Suppl 1):S9–160.

- 18. Lee A, McCartney S, Burbidge C, Raslan AM, Burchiel KJ. Trigeminal neuralgia occurs and recurs in the absence of neurovascular compression. J Neurosurg 2014;120:1048-1054.
- 19. Merskey H, Bogduk N. Classification of chronic pain. Descriptions of chronic pain syndromes and definitions of pain terms. Seattle: IASP Press 1994;59–71.
- Headache Classification Committee of the International Headache Society (IHS). The International Classification of Headache Disorders, 3rd ed. (beta version). Cephalalgia 2013;33:629-808.
- Benoliel R, Zadik Y, Eliav E, Sharav Y. Peripheral painful traumatic trigeminal neuropathy: Clinical features in 91 cases and proposal of novel diagnostic criteria. J Orofac Pain 2012;26:49– 58.