Neuro aktuell
Ausgabe 5-2022
Literatur

Schwerpunkt: Kopfschmerz
Titel: Ganglion sphenopalatinum – gepulste Radiofrequenztherapie bei Clusterkopfschmerzen (S. 8–12)
Autor: *B. Reichenbach-Klinke*

1. Ji Lee M et al. Increased suicidality in patients with cluster headache. Cephalalgia. 2019 Sep; 39(10): 1249–1256
2. Koo BB et al. Demoralization predicts suicidality in patients with cluster headache. The Journal of Headache and Pain 2021; 22 (1): 28
3. Rossi P et al. Cluster Headache (CH) and work life in the European Union: a survey from the European Migraine and Headache Alliance. Conf Cephalal et Neurol 2019; 29(1): 63–69
4. Sluder G. The role of the sphenopalatine (or Meckel`s) ganglion in nasal headaches. N Y State J Med 1908; 27: 8–13
5. Meyer JS et al. Sphenopalatine gangliectomy for cluster headache. Arch Otolaryngol 1970; 92(5): 475–484
6. Narouze S et al. Sphenopalatine ganglion radiofrequency ablation for the management of chronic cluster headache. Headache 2009; 49: 571–577
7. Schoenen J et al. Stimulation of the sphenopalatine ganglion (SPG) for cluster headache treatment. Pathway CH-1: A randomized, sham-controlled study. Cephalalgia 2013; 33: 816–830
8. Goadsby PJ. Pathophysiology of cluster headache: A trigeminal autonomic cephalgia. Lancet Neurol 2002; 1: 251–7
9. Schoenen J. Sphenopalatine ganglion stimulation in neurovascular headaches. Aus: Slavin V (ed): Stimulation of the Peripheral Nervous System. The Neuromodulation Frontier. Prog Neurol Surg; 2016; 29: 106–116
10. May A & Goadsby PJ. The trigeminovascular system in humans: Pathophysiologic implications for primary headache syndromes of the neuronal influences on the cerebral circulation. J. Cereb Blood Flow Metab 1999; 19: 115–127
11. Nozaki K et al. Possible origins and distribution of immunoreactive nitric oxide synthase-containing nerve fibers in cerebral arteries. J Cereb Blood Flow Metab 1993; 13: 70–79
12. Lainez M et al. Long term therapeutic response of sphenopalatine ganglion (SPG) stimulation for cluster headache – Pathway CH-1 study (I9-1.007). Neurology 2014; 82: 82
13. Ho K W D et al. Sphenopalatine ganglion: block, radiofrequency ablation and neurostimulation – a systematic review. J of Headache and Pain 2017; 18: 118
14. Wang N et al. Sphenopalatine ganglion-targeted low-temperature plasma radiofrequency ablation in the treatment of refractory cluster headache. Videosurgery Miniinv 2020; 15(2): 313–318
15. Loomba V et al. Radiofrequency ablation of the sphenopalatine ganglion using cone beam computed tomography for intractable cluster headache. Pain Physician 2016; 19: E1093–E1096
16. Tolba R et al. Sphenopalatine ganglion block and radiofrequency ablation: technical notes and efficacy. Ochsner Journal 2019; 19: 32–37
17. Lazzari ZT et al. A prospective case series of sphenopalatine ganglion pulsed radiofrequency therapy for refractory chronic cluster headache. Europ J Neurol 2020; 27(7): 1190–1196
18. Chen Z et al. Long-term Outcomes of Computerized Tomography–Guided Sphenopalatine Ganglion–Targeted Pulsed Radiofrequency for Refractory Cluster Headache. Pain Practice 2020; 20(3): 289–296

19. Ornello R et al. Sphenopalatine ganglion pulsed radiofrequency for the treatment of refractory chronic SUNCT and SUNA: a prospective case series. Headache 2020; 60(5): 938–945
20. Chua NHL et al. Pulsed radiofrequency treatment in interventional pain management: mechanisms and potential indications – a review. Acta Neurochir 2011; 153: 763–771
21. Byrd D & Mackey S. Pulsed radiofrequency für chronic pain. Curr Pain Headache Rep 2008; 12(1): 37–41
22. Podhajsky RJ et al. The histologic effects of pulsed and continuous radiofrequency lesions at 42 degrees C to rat dorsal root ganglion and sciatic nerve. Spine 2005; 30: 1008–1013
23. Erdine S et al. Ultrastructural changes in axons following exposure to pulsed radiofrequency fields. Pain Pract 2009; 9(6): 407–17
24. Tun K et al. Ultrastructural evaluation of pulsed radiofrequency and conventional radiofrequency lesions in rat sciatic nerve. Surg Neurol 2009; 72(5): 496–500, Diskussion 501
25. Cosman ER & Cosman ER. Electric and thermal field effects in tissue around radiofrequenca electrodes. Pain Med 2005; 6(6): 405–424
26. Ozsoylar O et al. Percutaneous pulsed radiofrequency reduces mechanical allodynia in a neuropathic pain model. Anesth Analg 2008; 107(4): 1406–11
27. Vanneste T et al. Pulsed radiofrequency in chronic pain. Curr Opin Anesthesiol 2017; 30(5): 577–582

Schwerpunkt: Kopfschmerz
Titel: Gepante und Lasmiditan: neue Optionen in der Migränebehandlung (S. 13–18)
Autor: *C. Gaul*

1. Headache Classification Committee of the International Headache Society (IHS): The International Classification of Headache Disorders, 3rd edition. Cephalalgia 2018; 38: 1–211
2. Diener HC et al. Therapie der Migräneattacke und Prophylaxe der Migräne. Leitlinien für Diagnostik und Therapie in der Neurologie. Herausgegeben von der Kommission Leitlinien der Deutschen Gesellschaft für Neurologie (DGN) in Zusammenarbeit mit der Deutschen Migräne- und Kopfschmerzgesellschaft (DMKG). 2018; AWMF-Registernummer: 030/057
3. Gaul C & Förderreuther S. Sumatriptan 3 mg subkutan. Klinische Relevanz in der Akuttherapie der Migräne trotz Dosisreduktion. Nervenarzt 2021
4. Diener HC et al. Chronic Headache Due to Overuse of Analgesics and Anti-Migraine Agents. Dtsch Arztebl Int. 2018; 115: 365–70
5. Diener HC et al. International Headache Society Clinical Trials Standing Committee. Guidelines of the International Headache Society for controlled trials of acute treatment of migraine attacks in adults: Fourth edition. Cephalalgia 2019; 39: 687–710
6. Olesen J et al. BIBN 4096 BS Clinical Proof of Concept Study Group. Calcitonin gene-related peptide receptor antagonist BIBN 4096 BS for the acute treatment of migraine. N Engl J Med 2004; 350: 1104–10
7. Ho TW et al. MK-0974 Protocol 004 study group. Randomized controlled trial of an oral CGRP receptor antagonist, MK-0974, in acute treatment of migraine. Neurology 2008; 70: 1304–12
8. Ho TW et al. Randomized controlled trial of the CGRP receptor antagonist telcagepant for migraine prevention Neurology 2014; 83: 958–66

9. Dodick DW et al. Ubrogepant for the Treatment of Migraine. N Engl J Med 2019; 381: 2230–41
10. Lipton RB et al. Effect of ubrogepant versus placebo on pain and the most bothersome associated symptom in the acute treatment of migraine: The ACHIEVE II randomized clinical trial. JAMA 2019; 322: 1887–98
11. Ailani J et al. Long-Term Safety Evaluation of Ubrogepant for the Acute Treatment of Migraine: Phase 3, Randomized, 52-Week Extension Trial. Headache 2020; 60: 141–52
12. Marcus R et al. BMS-927711 for the acute treatment of migraine: a double-blind, randomized, placebo controlled, dose-ranging trial. Cephalalgia 2014; 34: 114–25
13. Lipton RB et al. Rimegepant, an Oral Calcitonin Gene-Related Peptide Receptor Antagonist, for Migraine. N Engl J Med 2019; 381: 142–9
14. Croop R et al. Oral rimegepant for preventive treatment of migraine: a phase 2/3, randomised, double-blind, placebo-controlled trial. Lancet 2021; 397: 51–60
15. Goadsby PJ et al. Safety, tolerability, and efficacy of orally administered atogepant for the prevention of episodic migraine in adults: a double-blind, randomised phase 2b/3 trial. Lancet Neurol 2020; 19: 727–37
16. https://www.biohavenpharma.com/science-pipeline/cgrp/bhv-3500. Zugegriffen am 29.05.22
17. Mulder AI et al. Anti-migraine Calcitonin Gene-Related Peptide Receptor Antagonists Worsen Cerebral Ischemic Outcome in Mice. Ann Neurol 2020; 88: 771–84
18. Moreno-Ajona D et al. Targeting CGRP and 5-HT(1F) Receptors for the Acute Therapy of Migraine: A Literature Review. Headache 2019; 59 (Suppl 2): 3–19
19. Kuca B et al. Lasmiditan is an effective acute treatment for migraine: A phase 3 randomized study. Neurology 2018; 91: e2222–e2232
20. Goadsby PJ et al. Phase 3 randomized, placebo-controlled, double-blind study of lasmiditan for acute treatment of migraine. Brain 2019; 142: 1894–1904
21. Brandes JL et al. Long-term safety and efficacy of lasmiditan for acute treatment of migraine: Final results of the GLADIATOR study. Cephalalgia Reports 2020; 3: 1–5
22. Rau JC et al. Evaluation of LY573144 (lasmiditan) in a preclinical model of medication overuse headache. Cephalalgia 2020; 40: 903–12

Schwerpunkt: Spastik

Titel: Spastik und Muskelrelaxation bei Behinderung – Unterstützende Maßnahmen mit Vitalstoffen

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1. Reichel G. Therapieleitfaden Spastik – Dystonien. Bremen: UNI-MED, 2004.
2. Vierling W. Bemerkungen zur Kinetik und zu extrazellulären Wirkungen von Kalium und Magnesium. Herz 1997; 22(1): 3–10.
3. Bischoff-Ferrari HA et al. Fall prevention with supplemental and active forms of vitamin D: a meta-analysis of randomised controlled trials. BMJ 2009; 339: b3692.

4. Gröber U et al. Magnesium in prevention and therapy. Nutrients 2015; 7: 8199–226.
5. McGlory C et al. Omega-3 fatty acid supplementation attenuates skeletal muscle disuse atrophy during two weeks of unilateral leg immobilization in healthy young women. FASEB J 2019; 33(3): 4586–4597.
6. Schwarz S. Unkonventionelle Therapien der multiplen Sklerose: Nutzen unklar. Dtsch Arztebl 2005; 102(30): A-2102 / B-1774 / C-1678.