

CHRONIC MIGRAINE & CHRONIC TENSION-TYPE HEADACHE: mechanisms and management.

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The chronic forms of migraine (CM - ICHD-II A1.5.1) and tension-type headache (CTTH - ICHD-II 2.3) are most disabling and difficult to treat. CM clearly is the most frequent among the so-called “chronic daily headaches”. Clinically, the major difference between the two is the occurrence of typical migraine attacks upon a background of “tension-type-like” interval headaches in the former, but not in the latter. The differential diagnosis may, however, be problematic in some patients and it may change with long-term follow-up. As far as mechanisms are concerned, CTTH is associated with CNS changes also found in other chronic pain disorders: central sensitisation, structural and functional in the pain/saliency matrix, depressive mood. In this regard, it is comparable to fibromyalgia. CM also has in common with chronic pain a number of CNS changes. However, CM seems to be associated in addition with more specific changes of the brain that can be demonstrated with functional imaging and clinical neurophysiology methods. Some of these features are also found during the migraine attack so that, with some reservations, CM could be considered “ a never-ending attack”. The brain changes found in CM and CTTH are reversible, as already suggested by their natural history showing that they may spontaneously reverse to the episodic forms over time. One has to keep this in mind when considering invasive therapies. Multiple factors can favour chronification including comorbid disorders that are highly prevalent in both primary headache disorders. The most frequent one, however, is undoubtedly overuse of acute medications via CNS mechanisms that are only partly understood.

The 1st step in the management of CM or CTTH is thus acute medication withdrawal. Preventive drugs usually have poor or no efficacy anymore in those patients who remain chronic. Some “forgotten” drugs like methysergide or verapamil should nonetheless be considered. Managing comorbid disorders is necessary and both the headache and the comorbid disorder treatments should be adapted to avoid deleterious effects on one or the other disorder, or ideally to be beneficial for both. Combining preventive drugs may be useful in a minority of patients. Behavioural therapies can increase the efficacy of preventive pharmacotherapy and are a major tool in CTTH. Botulinum toxin at multiple pericranial and nuchal injection sites was slightly superior to placebo in one trial and may be useful in a minority of patients for whom there is at present no predictive feature of response. Minimally invasive neurostimulation methods have shown some efficacy for CM in some studies. Non-invasive peripheral nerve or transcranial neuromodulation therapies are promising but need to undergo randomized sham-controlled trials. Taken together, one has to admit that management of CM and CTTH is difficult and overall poorly effective. Nevertheless, several different treatment modalities have shown modest efficacy and one may wonder if their

combination might lead to a cumulative enhanced efficacy. This is basically the principle of the integrated multimodal treatment centers of chronic headaches where patients receive in combination psycho-educational information and counselling, behavioural therapy, physical therapy and possibly anaerobic exercise and/or neurostimulation treatment. The first results of such programs come from German Headache Centres and are very encouraging.

Brief Biography

Jean Schoenen

Jean Schoenen, MD, PhD, after graduating from high school “Collège Patronné” in Eupen, has gained his medical degree in 1972 from Liège University. He was for 2 years an International Fogarty Fellow in the departments of Neurology and Neuropathology of the Massachusetts General Hospital-Harvard Medical School where he obtained certificates in Clinical Neurophysiology and Neuropathology. He is board-certified neurologist since 1979 and holds doctoral and post-doctoral degrees from Liège University. He was Research Director of the National Fund for Scientific Research-Belgium and Clinical Professor in Neurology before taking over Full Professorship at Liège University in 1998. He is acting chairman of the Department of Biomedical and Preclinical Sciences at the Faculty of Medicine – Ulg. His Research has focused on headache and spinal cord anatomy and pathology. He is leading the Headache & Neuronal Regeneration Research Unit and Headache Clinic at Liège University. He has 908 publications among which 398 peer-reviewed articles (H index: 56 after 1996), 92 book chapters and 4 books. He is Associate Editor of Cephalalgia and Editor-in-chief of Acta Neurologica Belgica. He is a former President of the International Headache Society and of the Belgian Neurological Society. He is founding past president of the Belgian Brain Council.