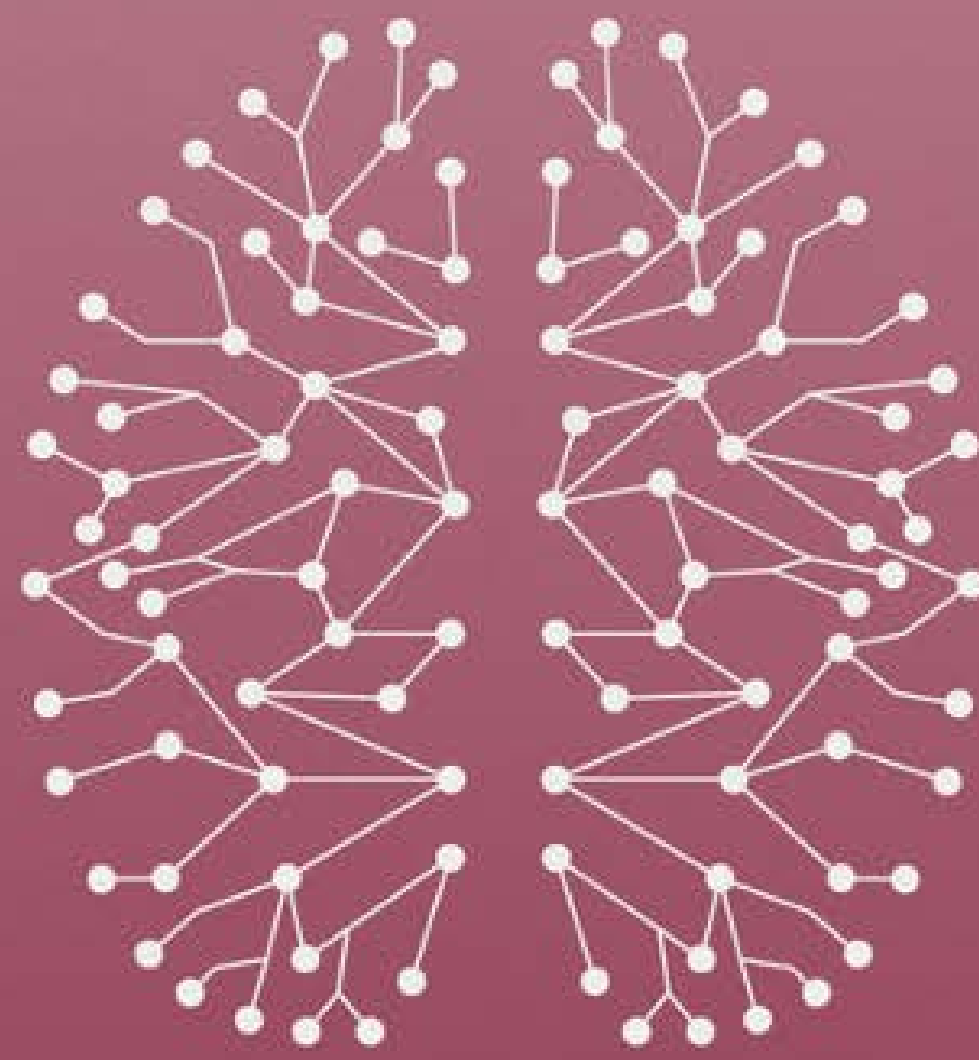


WCN 2021

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WCN 2021: Closing highlights

The 25th World Congress of Neurology has just concluded its virtual program, and the Neurologybytes team has it covered! We've been hard at work attending WCN sessions and summarizing highlights from the congress so that you can stay up to date on the latest developments in migraine. Brief summaries of those sessions covered by Neurologybytes are below.

With the completion of this year's congress, we want to sincerely thank you for your continued engagement and support. As always, stay tuned for more byte-sized coverage of migraine and MS sessions on [Neurologybytes.com](#), and follow us on [LinkedIn](#) and [Twitter](#) for congress updates!

77%

Premonitory non-headache symptoms of migraine have been reported in studies since the 1980s. Since then, an increase in the prevalence of those symptoms has been observed, from 34% in 1980 to 77% in 2016.

Presented by Prof. Ilaria Cetta, "Tracking the evolution of non-headache symptoms through the migraine attack"

More than "just" headache: The pathophysiology behind migraine phases

Prof. Fabiola Dach described the pathophysiological features underlying the symptoms of each migraine phase. In the prodromal phase, the activation of diverse brain regions—such as the thalamus, hypothalamus, trigeminocervical complex and periaqueductal grey region—is responsible for the wide array of symptoms characterizing this stage. Cortical spreading depression (CSD) is the key mechanism leading to migraine aura, while the pathophysiology of the headache phase is still a debated matter. The typical symptoms of the postdromal phase, such as tiredness and cognitive dysfunctions, might be caused by an insufficient blood supply due to CSD and the activation of brainstem nuclei.

Vestibular migraine: When vertigo and dizziness accompany migraine symptoms

Vestibular migraine (VM) is a disease characterized by the typical manifestation of migraine accompanied by vestibular symptoms, such as vertigo and dizziness. In his presentation, Prof. Wang explained that VM is often underdiagnosed, mainly because of the lack of specific neurological tests. An accurate clinical history is crucial for a correct diagnosis, and physicians should rely on the diagnostic criteria provided by two guidelines: the International Classification of Headache Disorders, version 3 (ICHD-3) and the International Classification of Vestibular Disorders (ICVD). The pathophysiology of VM is complex and might also involve calcitonin gene-related peptide (CGRP). A specific protocol for the treatment of VM is currently lacking, and more randomized clinical trials evaluating possible treatment strategies for this disease should be conducted.

Premonitory and postdromal non-headache symptoms in migraine

Prof. Ilaria Cetta discussed non-headache symptoms in migraine, noting that these symptoms can occur both before and after headache, in the premonitory and postdromal phases



Migraine could represent the evolutionary price that humans pay for a highly-connected brain."

Marcello Silvestro, "Disconnectome of the migraine brain: A model of migraine as 'connectopathy'"

of a migraine attack. She presented unpublished data from her institution in Italy, which showed that patients associate non-headache symptoms with the headache phase of their attacks. Non-headache symptoms were found to appear during all phases of migraine attacks and sometimes even overlapped across phases. Additionally, some self-reported patient triggers are associated with premonitory non-headache symptoms, which could indicate that patients are mistakenly identifying migraine symptoms as triggers.

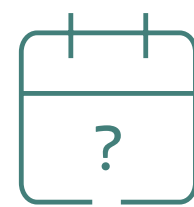
The graph theory approach: Studying the brain connectome to unveil migraine pathophysiology

Graph theory—a branch of mathematics that evaluates elements and connections within a system—has been recently applied to neurology. Indeed, the brain can be described as a complex network of connections between multiple regions deputed to different functions. Dr. Silvestro presented a study comparing the *connectome*—the whole set of structural and functional connections within the human brain—of patients with migraine without aura with that of healthy patients. The brains of patients with migraine present more connections and need more energy to manage the increased flow of information they can process. The boosted energy demand might increase vulnerability to migraine triggers. The most connected brain areas for patients with migraine are involved in pain perception, pain modulation, visual processing, and cognitive and affective attribution of the pain experience. They might thus play a role in the pathophysiology of the disease. According to this study, migraine might be considered a *connectopathy*.

The case for migraine as a disease of the brain

Prof. Todd Schwedt aimed to answer the question: should migraine be considered a pathology of the central nervous system? He affirmed that migraine is, in fact, a disease of the brain. Prof. Schwedt supported this claim by reviewing the localization of migraine symptoms in the brain, as well as evidence from neurophysiology and imaging studies.

Wait, there's more!



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