

# CHRONIC AND EPISODIC MIGRAINE

## Pathophysiological Aspects

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# Disclosures

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Allergan	x	x					
Almirall	x						
Amgen/Novartis	x	x					
Autonomic Technologies Inc.	x		x				
Coherex		x					
Janssen-Cilag	x						
Lilly	x	x					
Lundbeck	x						
Medtronic	x						
Pfizer		x					
Sandoz	x						
Sanofi	x						
St Jude Medical	x						
TEVA	x	x					

# Chronic Migraine

Diagnostic criteria:

A. Headache (migraine-like or tension-type-like) on  $\geq 15$  days/month for  $>3$  months, and fulfilling criteria B and C

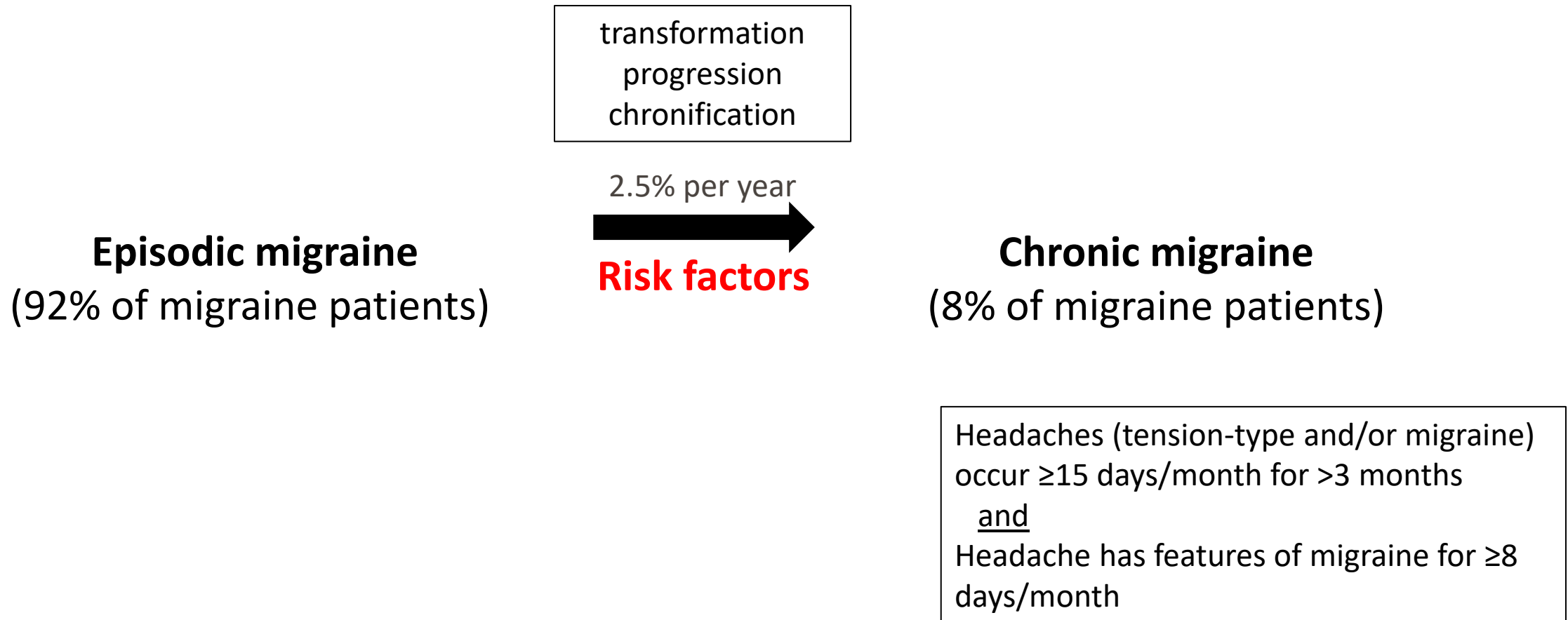
B. Occurring in a patient who has had at least five attacks fulfilling criteria B–D for 1.1 Migraine without aura and/or criteria B and C for 1.2 Migraine with aura

C. On  $\geq 8$  days/month for  $>3$  months, fulfilling any of the following:

1. criteria C and D for 1.1 Migraine without aura
2. criteria B and C for 1.2 Migraine with aura
3. believed by the patient to be migraine at onset and relieved by a triptan or ergot derivative

D. Not better accounted for by another ICHD-3 diagnosis.

# Migraine: Episodic or Chronic



# Review Articles

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## Migraine Progression: A Systematic Review

Dawn C. Buse, PhD; Jacob D. Greisman, BA; Khosrow Baigi, MD MPH; Richard B. Lipton, MD

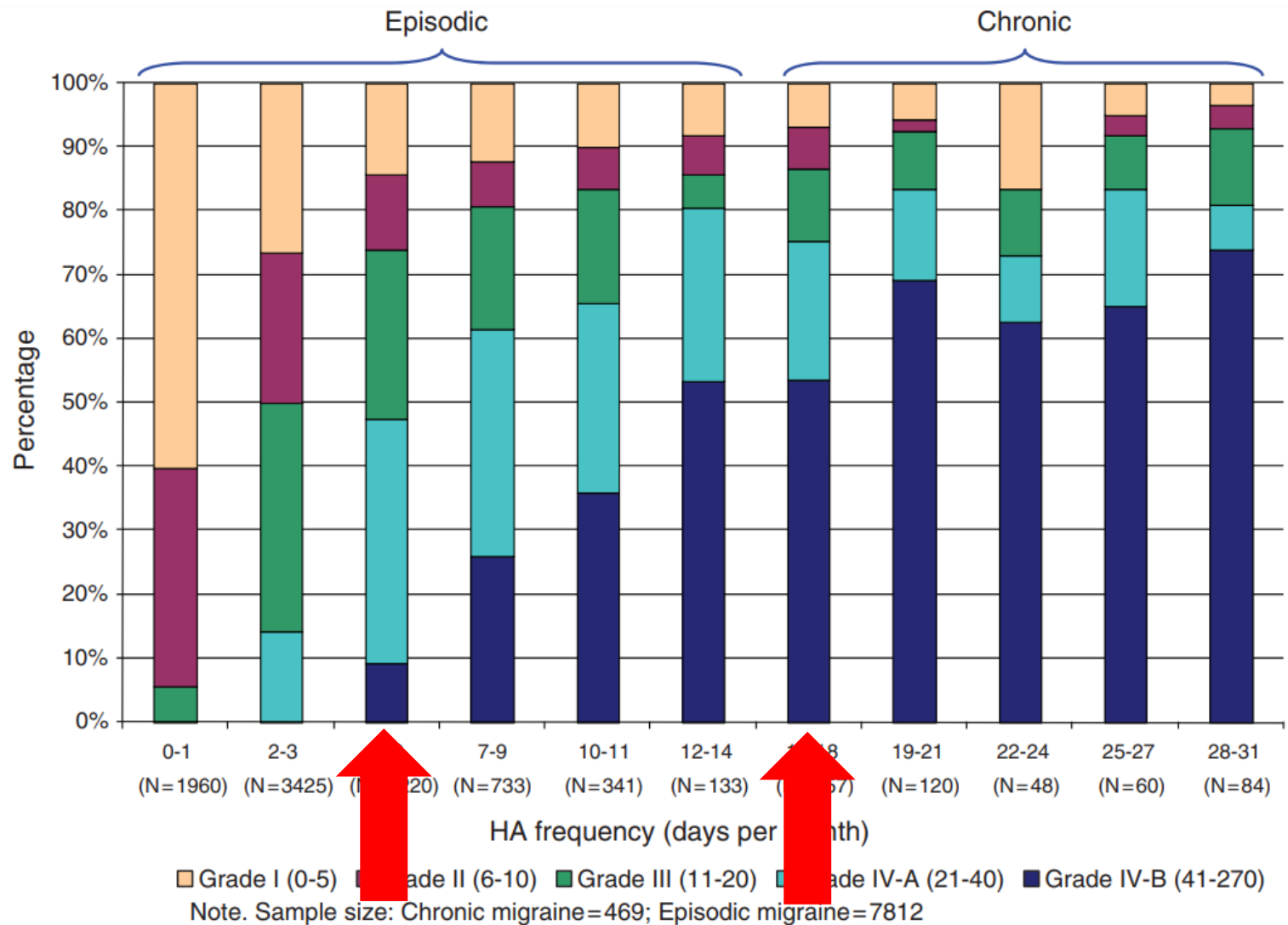
strongest data:

increased headache day frequency

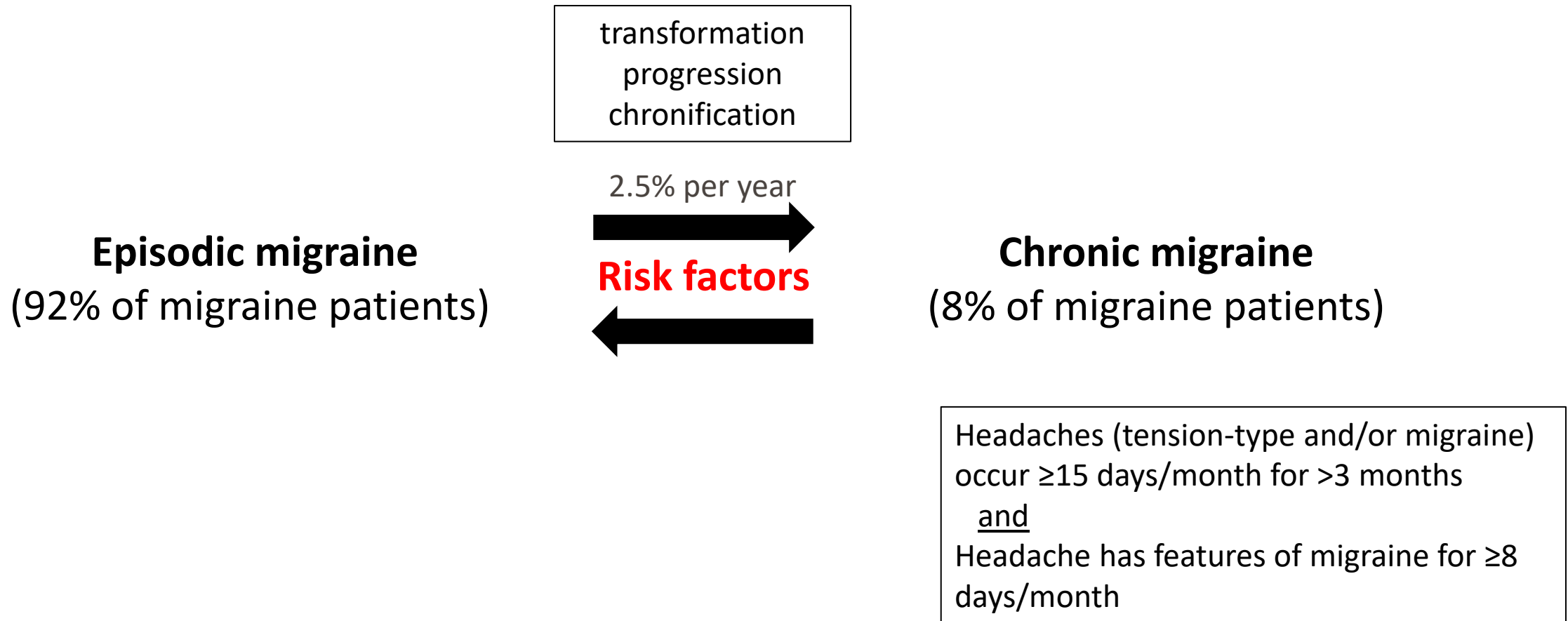
acute medication overuse/high-frequency use

depression

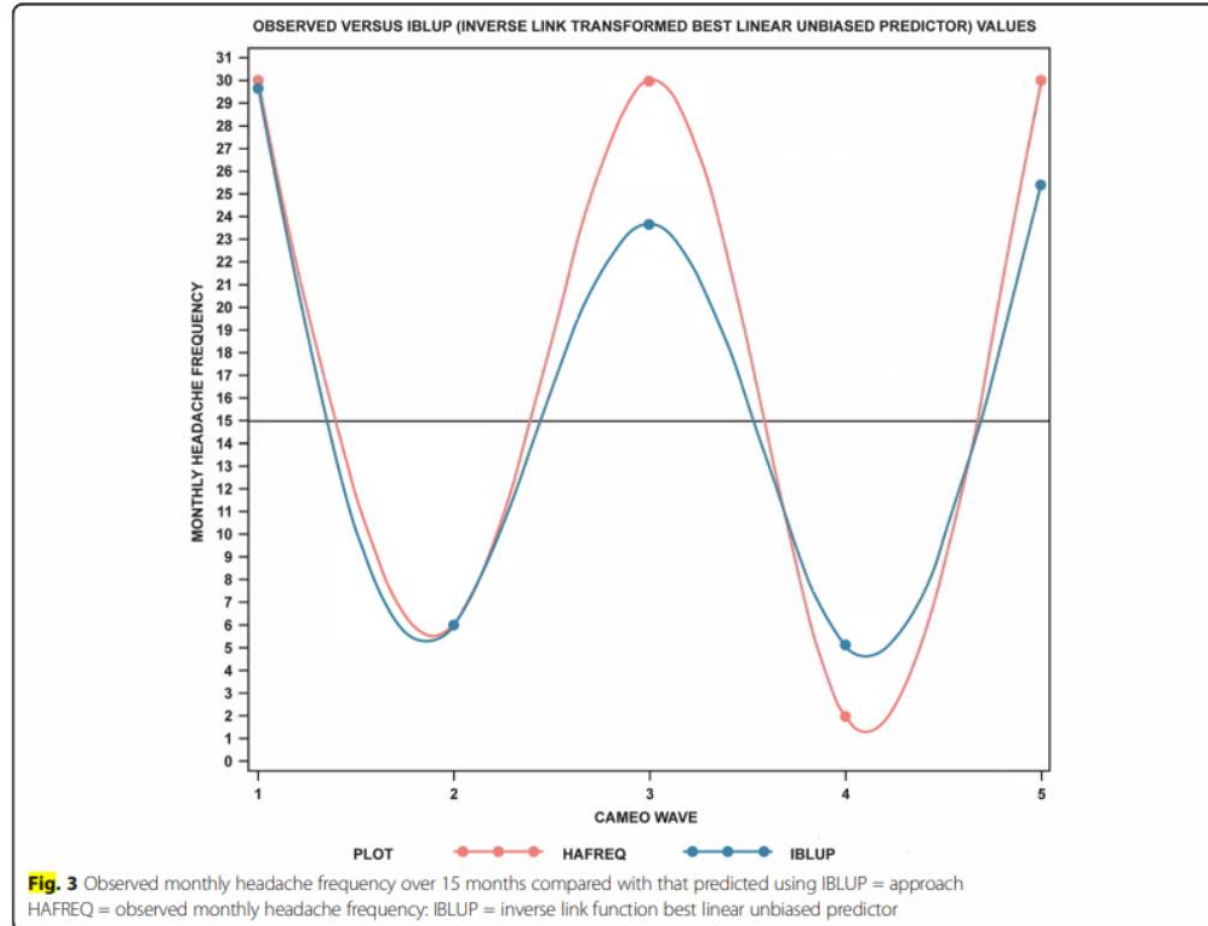
# EM/CM: dichotomous or continuous



# Migraine: Episodic or Chronic

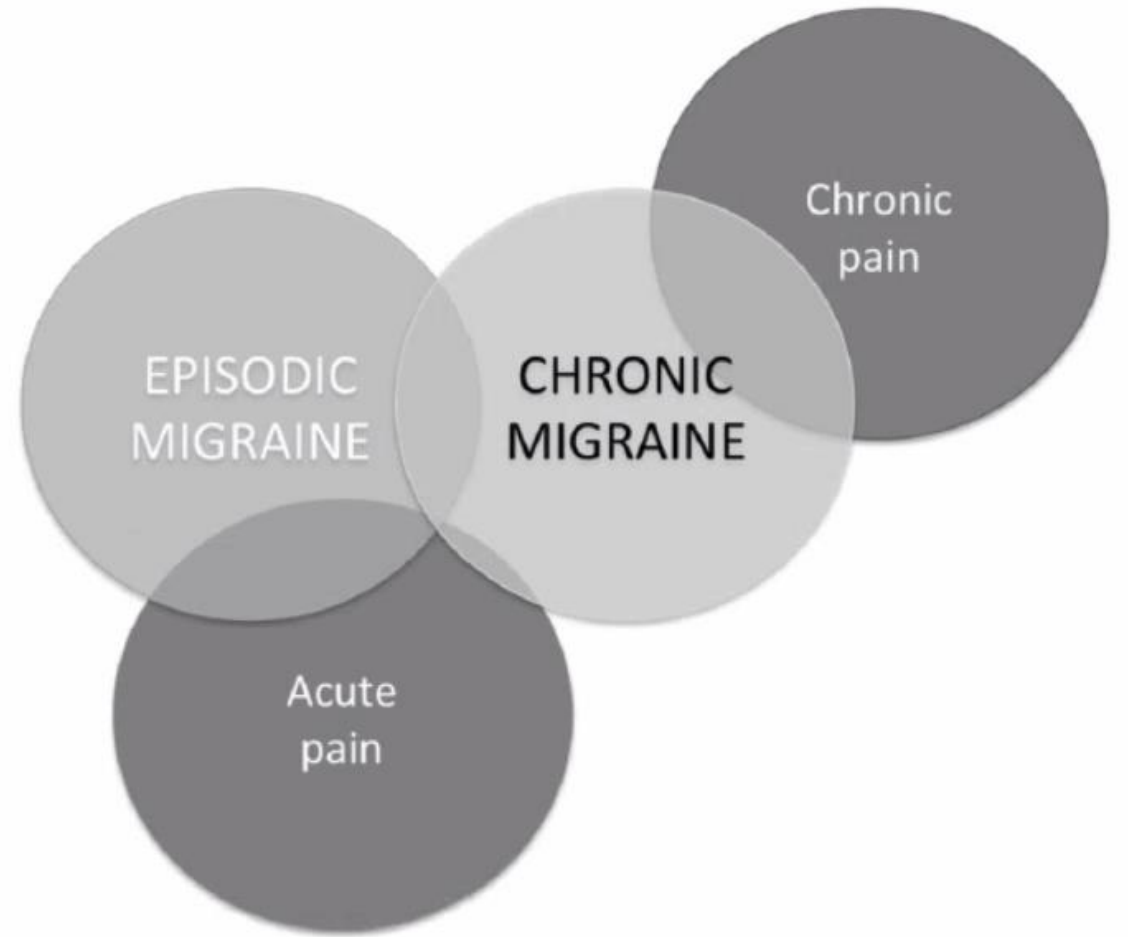
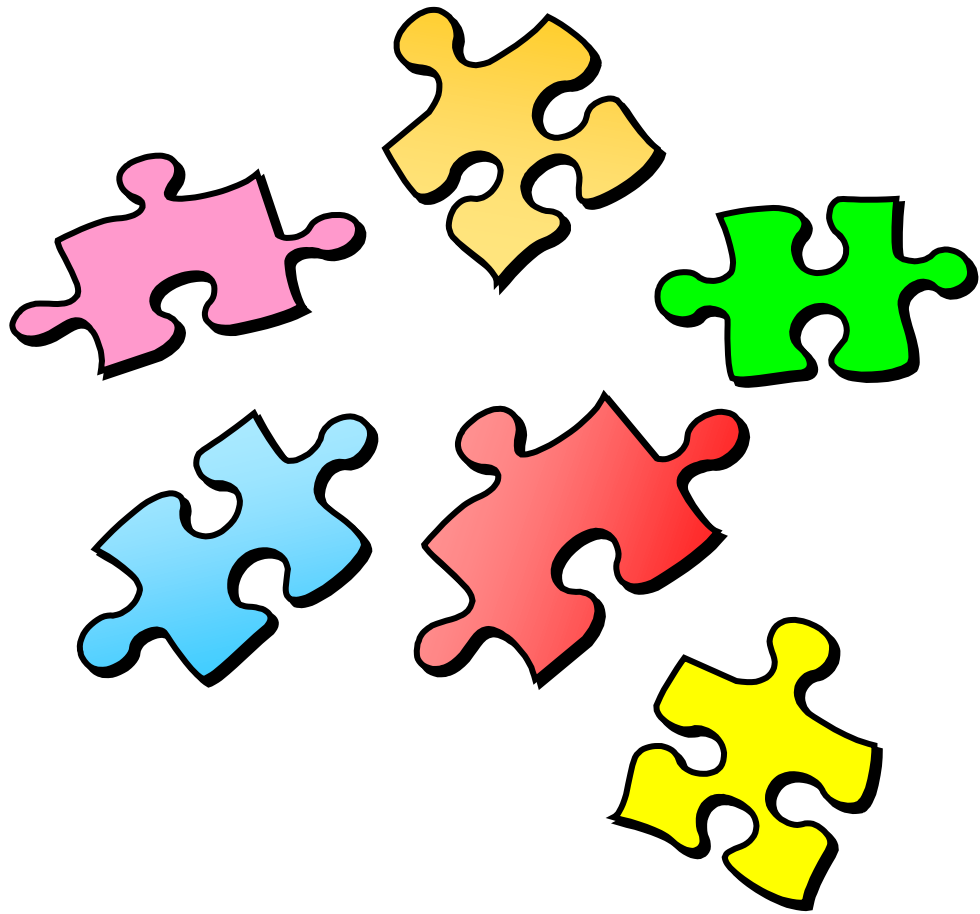


# CAMEO

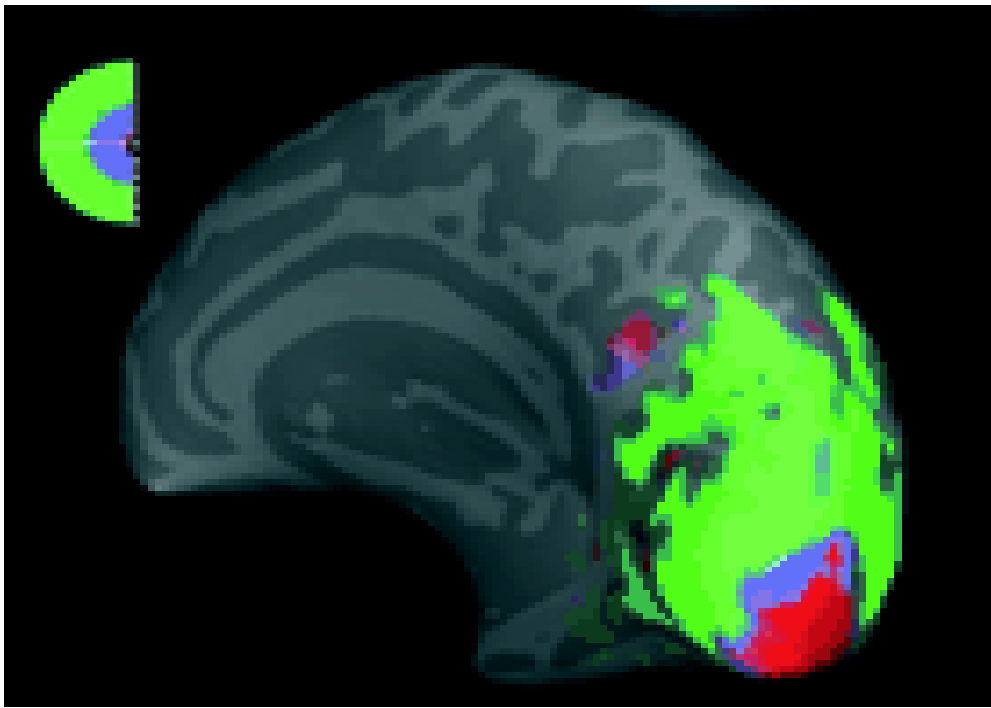


**“nearly 75% of people with CM will remit to EM at some point during a 12-month period”**





**Fig. 3** Schematic representation of the interrelationship between Chronic Migraine, chronic pain disorders, Episodic Migraine and acute pain



'Cortical Spreading Depression'

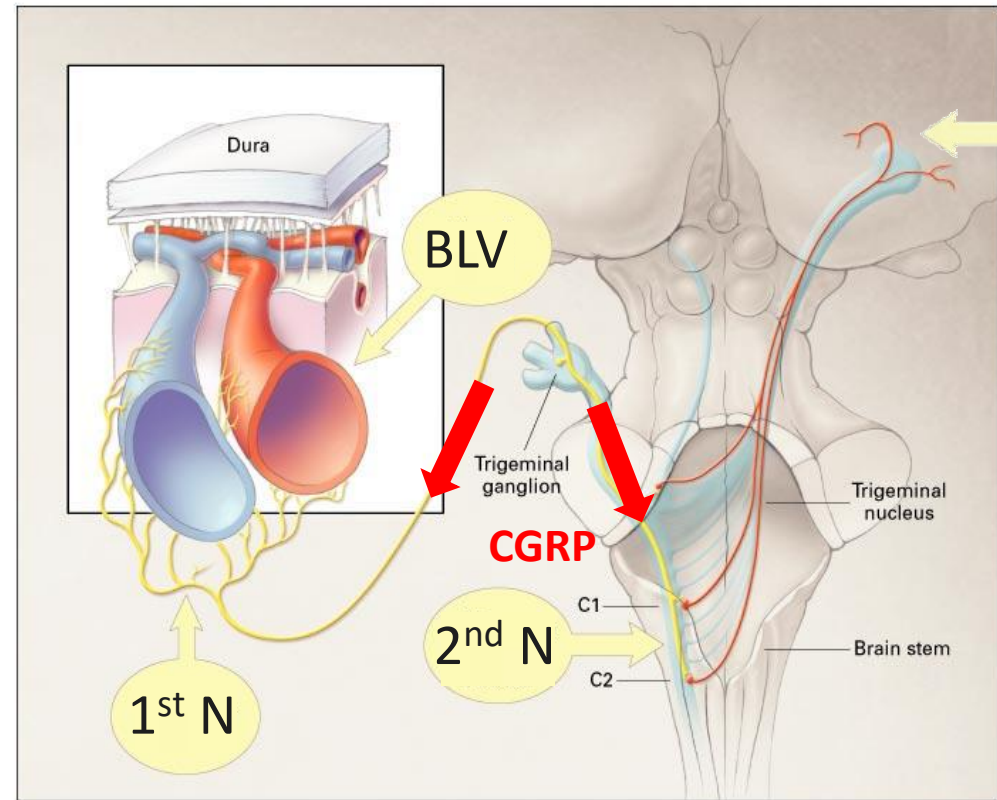


Aura

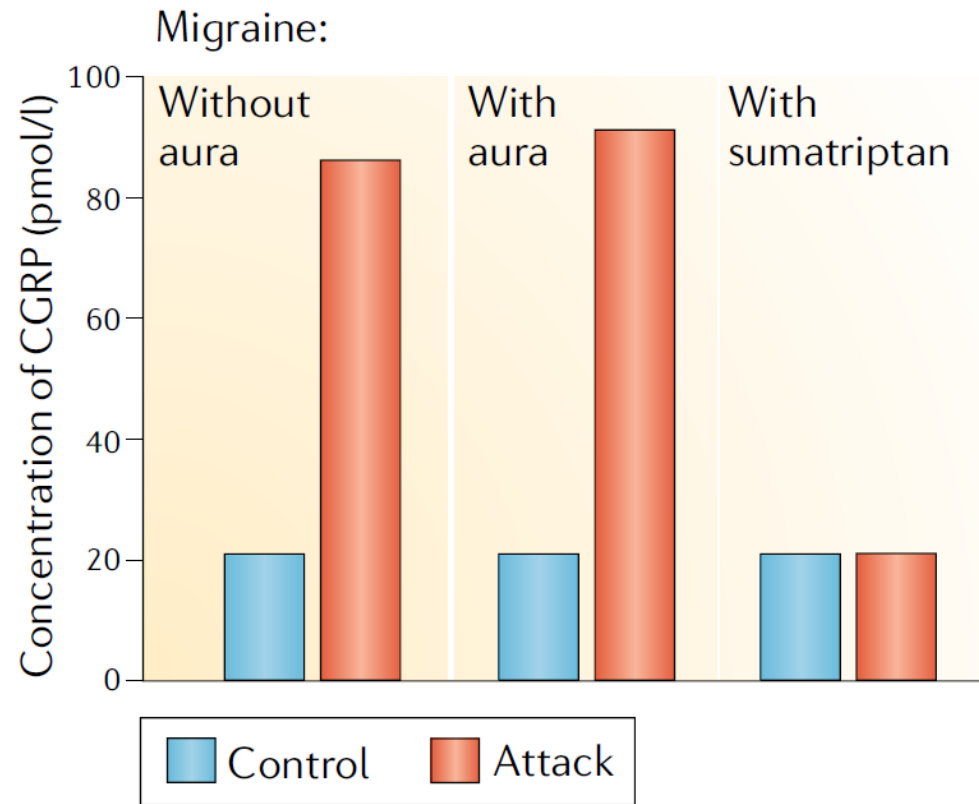
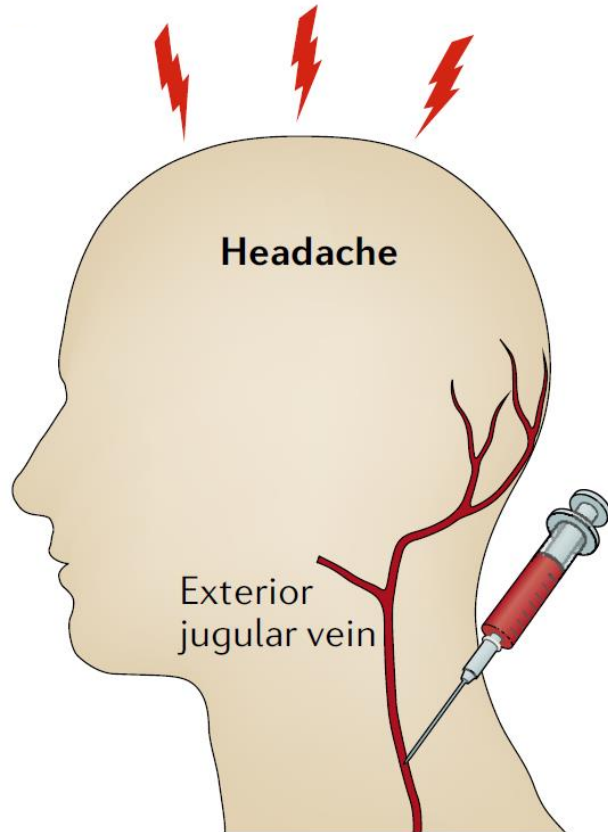
Trigeminovascular system



Headache

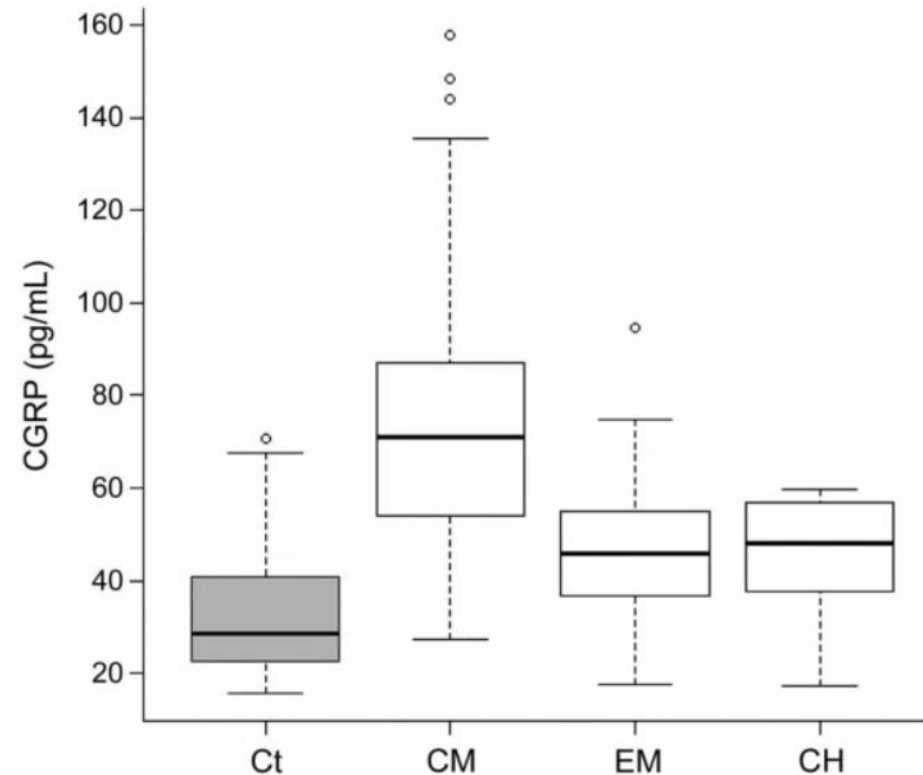


# CGRP in Episodic Migraine



# Interictal increase of CGRP levels in peripheral blood as a biomarker for chronic migraine

Figure 1 CGRP levels are increased in chronic migraine



Box plot for the calcitonin gene-related peptide (CGRP) levels in controls (Ct, gray), chronic migraine (CM), episodic migraine (EM), and cluster headache (CH).

**MIGRAINE: A DISORDER OF  
SENSORY PROCESSING**

'Cortical Spreading  
Depression'



Aura

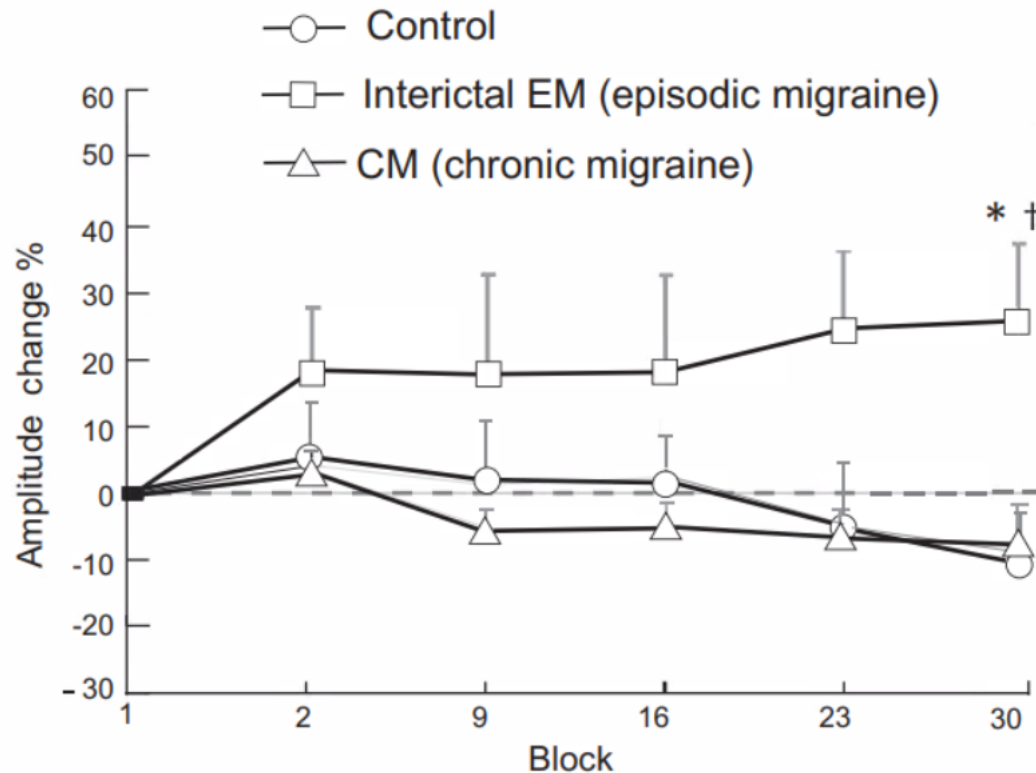
Trigeminovascular  
system



Headache

# Is chronic migraine a never-ending migraine attack?

Habituation: “a response decrement as a result of repeated stimulations”



\*P=0.009 for Interictal EM vs. Control

†P=0.023 for Interictal EM vs. CM

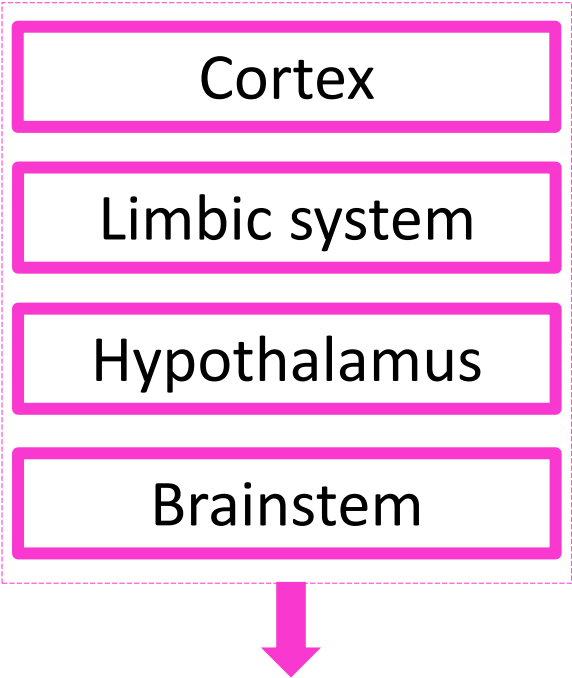
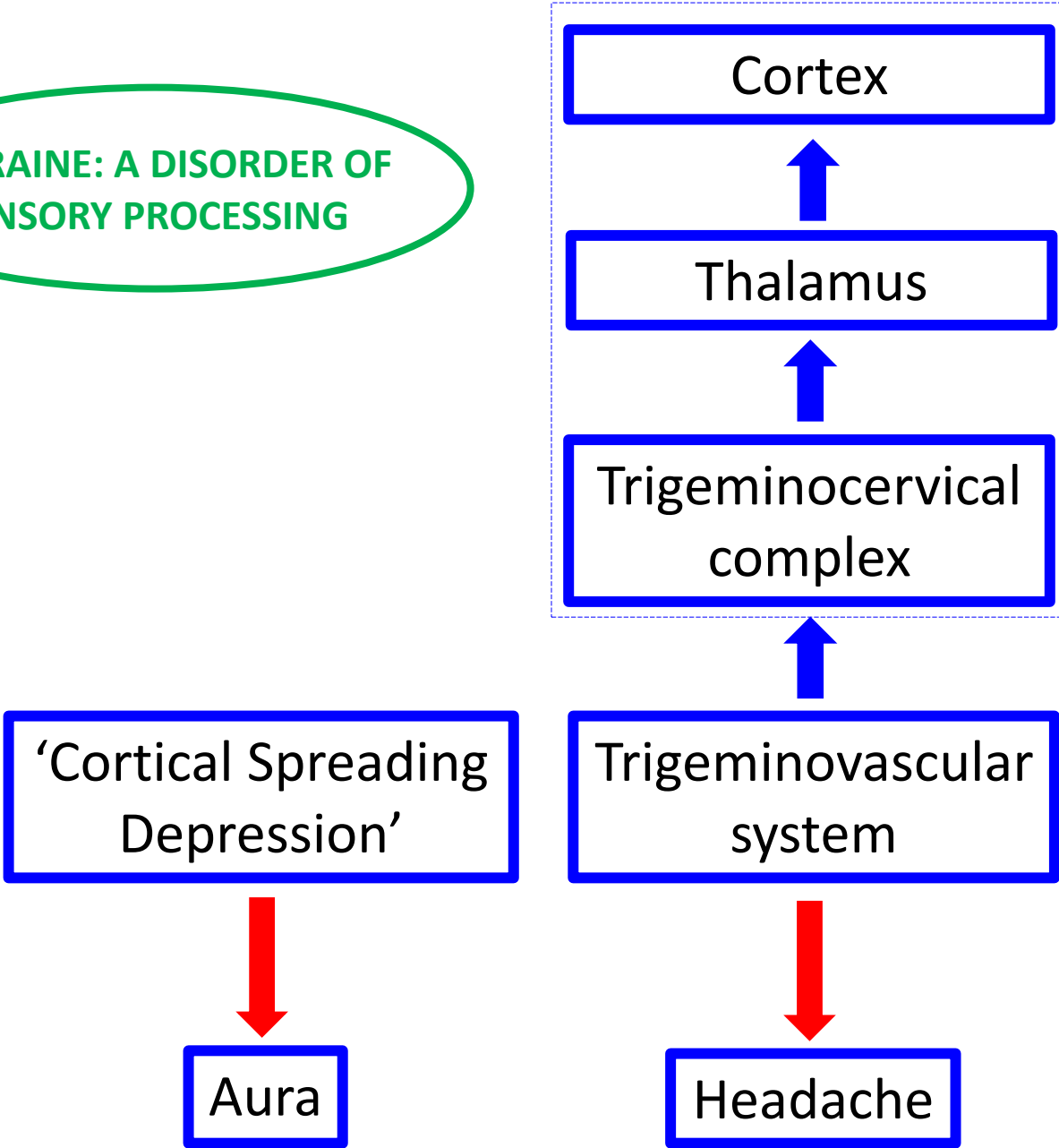
Eur J Neurol 1995;2:115-22

Cephalgia 2000;20:714-9

Pain 2011;152:254-258

Pain 2011;152:239-40

MIGRAINE: A DISORDER OF SENSORY PROCESSING



Mol Pain 2018;14:1744806918767697  
Pain 2014;155:1196-1205  
Brain 2004; 127: 220–230  
J Headache Pain 2001;2: s33–s41  
J Headache Pain 2012;13:645-51  
Cephalalgia 2016;36:301-8  
Headache 2007;47:996-1003  
J Neurol 2020;267:185-191  
Neurology 2017;88:2011-2016  
Front Neurol 2019;10:606

MIGRAINE: A DISORDER OF SENSORY PROCESSING

