Challenging Headache Syndromes: Cluster Headaches and Refractory Migraines

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So many headaches...
So little time...

Headache Type

<table>
<thead>
<tr>
<th>Sinus</th>
<th>Tension</th>
<th>Migraine</th>
<th>Cluster</th>
</tr>
</thead>
</table>

[Diagram depicting different types of headaches: Sinus, Tension, Migraine, Cluster]
Cluster Headaches-Is This Where the Slang Term Cluster**** Originates?

It wakes me from a deep sleep. The agony is all-encompassing. It feels like having a white-hot screwdriver thrust through my eyeball and left there. The screwdriver is then wired up to an electric current and the voltage is continually increased.

My sinus feels like it has been washed out with acid, my temple is swollen and hot, the area under my cheek burns, my upper jaw feels like I have a toothache in every tooth. Even the roof of my mouth is sore.

Most of the pain is focused on my eyeball: as well as the screwdriver, it feels like there is a red-hot metal ball, the size of a golf ball, directly behind it, pushing it out of the socket.
One of the Most Painful Conditions

Cluster Headaches

Excruciatingly severe, unilateral headaches with pain that usually peaks in 10 minutes and lasts up to 3 hours.

The orbital, supraorbital, and temporal regions are the usual sites of pain.

Occur several times per day in "clusters" followed by a period of remission.

First-line prophylaxis is with verapamil.

Ipsilateral autonomic signs including rhinorrhea, lacrimation, miosis, and ptosis.

Acute treatment includes administration of 100% oxygen, serotonin agonists, and ergotamines.
Epidemiology of Cluster and Migraine

Cluster
- Quite rare-lifetime 0.12% of people (2-3 of 2000)
- In a year 0.05% of people (1 of 2000)
- 80% of cluster sufferers are men

Migraine
- Quite common-12% of the population (240 of 2000)
- In a year, of 2000 women, 340 will have a migraine.
- In a year, of 2000 men, 120 will have a migraine
Treating Cluster Headache

Acute Headache Symptoms
- 100% Oxygen
- Triptans (sumatriptan and zolmitriptan)

<table>
<thead>
<tr>
<th>CENTRAL NERVOUS SYSTEM</th>
<th>ANTI-MIGRAINE AGENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preferred</strong></td>
<td><strong>Non-Preferred</strong></td>
</tr>
<tr>
<td>rizatriptan ODT (generic for Maxalt MLT®)</td>
<td>almotriptan tablet (generic for Axert®)</td>
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<tr>
<td>rizatriptan tablet (generic for Maxalt®)</td>
<td>Alsuma® Auto-Injection</td>
</tr>
<tr>
<td>sumatriptan nasal spray/tablet/vial (generic for Imitrex®)</td>
<td>Amerge® Tablet</td>
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<tr>
<td>rizatriptan tablet (generic for Maxalt®)</td>
<td>Axert® Tablet</td>
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<tr>
<td>almotriptan tablet (generic for Axert®)</td>
<td>Cambia® Powder Packet</td>
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<td>Eletriptan tablet (generic for Relpax® Tablet)</td>
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<tr>
<td>Frovatriptan tablet (generic for Frova®)</td>
<td>Frova® Tablet</td>
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<td>Maxalt® Tablet/MLT Tablet</td>
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<tr>
<td>Migranow® Kit</td>
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<tr>
<td>Naratriptan tablet (generic for Amerge®)</td>
<td>Onzetra™ Xsail™ Nasal Powder</td>
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<td>Relpax® Tablet</td>
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<td>Sumatriptan/naproxen (generic for Treximet® Tablet)</td>
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<td>Treximet® Tablet</td>
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<tr>
<td>Zembrace® SymTouch®</td>
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<tr>
<td>Zolmitriptan ODT/tablet (generic for Zomig®)</td>
<td>Zomig® Nasal Spray/Tablet/ZMT® Tablet</td>
</tr>
</tbody>
</table>
Stopping a Cluster

- Verapamil first line
- Short burst of steroids acts more quickly
- Greater occipital nerve block may be helpful
- Topiramate and lithium may also be helpful and can be combined with verapamil
- Taper after acute flare up has ended
- Very slow taper for patients with chronic cluster after headaches are controlled

New data-Emgality (galcanezumab) has FDA indication. Modestly helpful, well tolerated.
Who Needs Migraine Prophylaxis?

- Frequent or long-lasting migraines
- Interferes with activity
- Contraindication, side effects, or inadequate response to acute therapies
- Risk of medication overuse headache
- More serious syndromes—hemiplegic migraine, migraine with brainstem aura, Hx migrainous infarction
Goals of Migraine Prophylaxis

- Reduce frequency, severity, duration
- Improve responsiveness to acute therapies
- Improve function
- Prevent transition to chronic migraine
Migraine Prophylaxis

- Beta blockers
- CCB’s
- TCA’s (amitriptyline)
- Topiramate
- Valproate
- CGRP antagonists
- Butterbur, CoQ10
- Feverfew, Riboflavin
What is a CGRP Antagonist?

Monoclonal antibody therapy blocking calcitonin gene-related peptide given by sq injection. Medicaid requires trial and failure of 2 established prophylactic therapies

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<tr>
<th>ANTI-MIGRAINE AGENTS</th>
<th>CGRP Blockers/Modulators</th>
</tr>
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<tbody>
<tr>
<td><strong>Clinical criteria apply to all drugs in this class</strong></td>
<td></td>
</tr>
<tr>
<td>Preferred</td>
<td>Non-Preferred</td>
</tr>
<tr>
<td>Aimovig™</td>
<td>Ajovy™</td>
</tr>
<tr>
<td>Emgality®</td>
<td></td>
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**Erenumab (Aimovig)** - In RCT with 900 adults

- 8.3 → 4.8 vs. 8.3 → 6.5

**Galcanezumab (Emgality)**

- In low frequency migraine: 5.8 → 4.3 vs 5.8 → 5.2
- High frequency migraine: 11 → 5.5 vs 11 → 7.5
Thank You