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Special Populations and Considerations in Migraine Therapy

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Special Populations and Considerations in Migraine Therapy

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A PASSION FOR BETTER MEDICINE.™



Comorbidity

- Comorbid – Occurrence of two medical disorders in the same individual at a frequency greater than chance

- Most noted Migraine Comorbidities
 - Depression / Anxiety
 - Cardiovascular
 - Fibromyalgia
 - Seizures

Migraine Comorbidities

- Psychiatric
- Neurological
- GI
- Cardiovascular
- Allergy / Immunity

Migraine Comorbidities

- Psychiatric
 - Depression
 - Anxiety
 - Panic Attacks
 - Bipolar Disorder
 - Obsessive Compulsive Disorder
 - Phobia Disorder

Migraine Comorbidities

■ Psychiatric	Odds Ratio
– Depression	2.2-3.4
– Anxiety	2.7
– Panic Attacks	3-5.1
– Bipolar Disorder	2.9-7.3
– Obsessive Compulsive Disorder	
– Phobia Disorder	3.4

Migraine Comorbidities

- Depression

Major Depression increases risk of
Migraines



Migraines increase risk of Major
Depression

Migraine Comorbidities

- Cardiovascular
 - Patent Foramen Ovale
 - 30-40% Migraine with Aura
 - Atrial Septal Aneurysm
 - 28.5% Migraine with Aura
 - Mitral Valve Prolapse
 - Hypotension
 - Hypercoagulable State

Prevalence of PFO and Migraine (Literature)

	Migraine	No Migraine
Del Sette	41%	16%
Anzola	48%	20%
Schwerzmann	47%	17%
Domitrz	54%	25%

Migraines and PFO Closure

- Some small case series showed improvement with closure
 - Schwerzmann 2004
 - 54 % (M+) – 62 % (M-) decrease
 - Post et al 2004
 - 50 % (M-) – 71 % (M+) decrease

M- = Migraine without Aura

M+ = Migraine with Aura

Migraine and Vascular

■ Cardiovascular

– Women's Health Study

- Migraine with Aura

2X likely to have stroke / cardiovascular disease

– Physicians Health Study (men)

- Increased risk of MI
- Increased risk of Cardiovascular Disease

American Migraine Study

■ Risk Stroke

- Migraine 1.54
- M with Aura 2.78
- M without Aura 0.97

■ Cardiovasc

- Migraine 2.16
- M with Aura 2.86
- M without Aura 1.85

Migraine and Vascular

- Endothelial Dysfunction
 - Elevated Prothrombin levels
 - Migraine with Aura
 - Elevated Von Willebrand Factor
(Procoagulant promoting platelet adherence)
 - Hypercoagulable State

Migraine Comorbidities

■ Sleep Disorders

- More lifetime sleep problems in Migraine patients
 - Inadequate sleep
 - Difficulty initiating sleep
 - Persistent nightmares
- Case Series (3582 patients)
 - ½ patients with onset of migraine between 4am and 9am

Migraine Comorbidities

- Gastrointestinal
 - Irritable Bowel Syndrome
 - Gastritis
 - Peptic Ulcer Disease
 - GERD
 - Colitis

Migraine Comorbidities

Neurological

- Vertigo
- Motion Sickness
- Essential Tremor
- Stroke
- Epilepsy
- Autonomic Nervous System
- Fibromyalgia
- Restless Leg Syndrome

Migraine Comorbidities

- Migraine – Associated Vertigo
 - Dizziness clinic
 - 38% had migraine diagnosis
 - Migraine clinic
 - 9% suffered vertigo
(0.5% suffer vertigo in control population)

Migraine Comorbidities

- Migraine – Associated Vertigo
 - Difficult to associate as onset of Migraines precedes Vertigo by years...
 - Migraines – early 20's
 - Vertigo – 30s – 40s
 - Population Studies
 - Approx. 5% report consistent migraine and vertigo
 - Up to 70% report some combined episodes
 - Up to 30 % vertigo without migraine

Migraine Comorbidities

Migrainous Vertigo Criteria

■ Definite

- Episodic Vestibular symptoms of at least moderate severity
- IHS Migraine Diagnosis
- At least 1 of the following migrainous symptoms during at least 2 vertigo attacks
 - Headache, Photophobia, Phonophobia, Aura

■ Probable

- Episodic Vestibular symptoms of at least moderate severity
- At least 1 of the following
 - Migraines
 - Migraine like triggers for vertigo
 - Migraine symptoms during vertigo
 - Photophobia, Phonophobia, Visual aura

Migraine Comorbidities

Autonomic Symptoms

- Orthostatic Intolerance
 - Migraine – 39.1% Control – 5.6%
- Syncopy
 - Migraine – 46% Control – 31%
- Postural Orthostatic Tachycardic Syndrome (POTS)

Migraine Comorbidities

- Postural Orthostatic Tachycardia Syndrome
 - Heart rate increase ≥ 30 beats per minute with standing 5 – 10 minutes
 - Symptoms occur with standing, resolve with lying
 - Leg Mottling with standing
 - Women 4-5X more common
 - Co-morbidities
 - IBS, joint hypermobility

Migraine Comorbidities

- POTS and Migraines
 - Small Case Series
 - 1 in 5 migraines associated with POTS
 - Tilt Table induced symptoms in 16 minutes
 - Normal Work up
 - MRI, EEG

Migraine Comorbidities

- Fibromyalgia
 - Prevalence – 2% in North America
 - Women affected *3 times more* than men
 - Peak Age
 - 55 – 64 years old

Migraine Comorbidities

- Prevalence of Migraine in Fibromyalgia
 - Case Series; Clinical Rheum journal 2005
 - Headache occurred in up to 76% patients
 - Migraine was seen in 48% patients

- Prevalence of Fibromyalgia in Migraneurs
 - Cephalgia 2006
 - 17% in episodic migraine
 - 35% in chronic migraine

(FBM prevalence = 2% in normal population)

Migraine Comorbidities

■ Fibromyalgia

- Cymbalta approval for Fibromyalgia
 - Physical Exercise + Cymbalta = most effective
 - Physical Exercise = second
 - Cymbalta = significant

Migraine Comorbidities

- Complex Regional Pain Syndrome
 - 3.6 times more likely to be migraine sufferers
 - 2 times more likely to suffer Chronic Daily headaches

- If history of migraines
 - Earlier onset of CRPS
 - Involves more limbs

“Migralepsy”

- Migraine and Epilepsy
 - Multiple studies indicate comorbid disease
 - Prevalance of Seizures
 - Migraine sufferers – Up to 17%
 - Non Migraine – 0.5 - 0.8%
 - Headache very common *after* seizure during post-ictal state

“Migralepsy”

- IHS criteria
 - i) Migraine with aura
 - ii) Seizure with or within 1 hour after migraine with aura attack

- Hypothesis / Pathophysiology
 - Cortical suppression by aura
 - Occipital cortex of Migraineurs with lowered excitation threshold (resistance)

Migraine Comorbidities

- Allergies
 - Asthma, Hay Fever, Chronic Allergic Rhinitis – seen more often

- IgG food allergy testing
 - Screen for food allergy
 - Check levels of IgG with foods
 - Avoid foods which result in increased IgG

Women and Migraines

- Peak of migraine frequency during days -3 and +2 of the start of menstrual flow.
- 60% of women
 - have an increase risk of migraines during the premenstrual phase of decreasing estrogen levels.

Hypothesis

- Estrogen modulates inhibitory peptide function in the trigeminal nerve.
 - When estrogen levels fall, the downregulating effect on inflammatory genes is removed.
- Compensatory mechanisms cannot always be invoked quickly enough to avoid headache.
- Is not seen with low E2 states maintained for months or years
 - Is seen with fluctuating E2 levels and irregular bleeding

Conclusion

- Comorbidities are common and well recognized
- Treatment of the comorbidities may help prevent...
 - Vertigo attacks triggering Migraines
 - Allergies
- Basis of choosing preventative therapy is to attempt to treat Comorbidities
 - Insomnia = Nortriptyline
 - Anxiety = Depakote or Cymbalta