


# Refractory Headache Patients

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## Disclosures

- none





## Learning objectives

- History and development of BPC and BHI
- Review definition of headache types
  - Detailed history
  - Detailed documentation
- Medication options
  - Preventive
  - Abortive
  - Interventions
- Refractory patients
- Case study





## Where it all began

- Boston Pain Care
  - Started in 2007
  - 6 anesthesiologists who wanted to practice pain differently
  - “there’s always room for one more”
  - Focus remains on function
  - Multidisciplinary care




## Where it all began

- Boston Headache Institute
  - Started in March, 2012
  - Set up by the director, Dr. Zahid Bajwa
  - Joined Nov, 2014
  - Dr. Bajwa runs BHI with Dr. Silk, two NPs, RNs, behavioral health staff
  - Dr. Bajwa continues to share patients with outside specialists such as:
    - Dr. Noshir Mehta (Tufts)
    - Dr. Steven Scrivani (MGH)




## Multidisciplinary care at BPC

- Medication management (opioid vs. non-opioid program)
- Headache center
- Sleep center
- Surgical center – interventional procedures
- Functional activities
- Behavioral health services
  - CBT, Biofeedback, hypnosis for smoking cessation
- Research institute




### Multidisciplinary care at BHI

- **Boston Headache Institute**
  - Follow up visits
    - Medication adjustments
  - Interventions
    - Nerve blocks/trigger points
    - Onabotulinum toxin A injections
  - Behavioral health
    - CBT
    - Biofeedback




### When a new patient is evaluated...





### Upon discussion with the patient

- Patients present with a number of diagnoses
  - Google
  - Other providers
  - Friends/family
- Detailed history taking often reveals they have a spectrum of a disorder rather than multiple headache types
  - “just a regular headache”
  - “...its not the same as my mom who is nauseous/vomiting”




### The International Classification of Headache Disorders (3<sup>rd</sup> edition)


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<ul style="list-style-type: none"> <li>• <b>Primary headache</b> <ul style="list-style-type: none"> <li>◦ Not attributable to any other underlying condition</li> <li>• Migraine</li> <li>• Tension-type</li> <li>• Trigeminal autonomic cephalgias</li> <li>• Cluster</li> <li>• Hemicranias</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Secondary headache</b> <ul style="list-style-type: none"> <li>◦ The result of a underlying condition</li> <li>• Headache attributed to               <ul style="list-style-type: none"> <li>• a trauma</li> <li>• a vascular event</li> <li>• an infection</li> <li>• behavioral health concerns</li> </ul> </li> </ul> </li> </ul>
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### IHS migraine classification

<ul style="list-style-type: none"> <li>• <b>Migraine</b> <ul style="list-style-type: none"> <li>◦ At least five attacks fulfilling the characteristics listed below</li> <li>◦ Headache duration lasting 4-72hrs</li> <li>◦ At least two of the four characteristics               <ul style="list-style-type: none"> <li>• Unilateral location</li> <li>• Pulsatile quality</li> <li>• Moderate or severe pain intensity</li> <li>• Aggravation by movement</li> </ul> </li> <li>◦ During the headache at least one of the following:               <ul style="list-style-type: none"> <li>• Nausea and/or vomiting</li> <li>• Photophobia and phonophobia</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>More specifically</b> <ul style="list-style-type: none"> <li>◦ With aura               <ul style="list-style-type: none"> <li>• Visual or sensory</li> </ul> </li> <li>◦ Without aura</li> <li>◦ Probable migraine</li> </ul> </li> <li>• <b>Define even further</b> <ul style="list-style-type: none"> <li>◦ Episodic: &lt;15 days/month</li> <li>◦ Chronic: &gt;15 days/month</li> </ul> </li> </ul>
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### Migraine classification

- When taking a history from the patient push them to extremes
  - Associated symptoms
    - Photophobia – how are they at the beach at 12 noon?
    - Phonophobia – how are they at a rock concert?
    - Movement – can you do jumping jacks with the pain?



### Migraine documentation


- Migraine patients can present on a large spectrum of disability
- Documentation is key
  - Headache frequency
    - 3x/wk
    - Daily (headache freedom during the day)
    - Continuous daily, frequency of exacerbations
  - Headache severity
    - 0-1/10
    - If continuous daily
      - baseline: 2/10, exacerbations: 8/10
  - Headache duration
    - Length of time of pain with and without medication
    - Helpful to tweaking abortive strategies



### Migraine documentation


Headache frequency:  
Headache severity:  
Headache duration:

- Allows for easier comparison for improvement or worsening of symptoms




### Chronic migraine w/ or w/o aura

- Typically the population that is at BHI/BPC
  - Failed multiple other providers/HA centers
    - Important to compile a tried/failed list of medications and procedures
      - Failed preventives
      - Failed abortives
      - Failed procedures
  - Frequently daily or continuous daily
    - Central sensitization





### Chronic migraine preventive options

- Patients who are >15x/month or more
- Preventives
  - Reduce the frequency and severity of headache pain
    - Make patients less responsive to triggers (ie. Weather, hormone fluctuation)
- Abortives
  - Take as needed for breakthrough pain
  - Fine line when headaches are frequent
  - Most are intended for 2-3x/wk use not daily use





### Preventive options

- Beta-blockers
  - Propranolol ER and timolol
  - Contraindicated: asthma
- Tricyclic antidepressants
  - Amitriptyline and other TCAs
- Anti-seizure meds
  - Topiramate
    - Contraindicated: kidney stones
  - Valproate
  - Gabapentin
  - Zonisamide
- Anti-depressants
  - SNRI (ie. duloxetine, venlafaxine)

### Preventive options

- Secondary oral options
  - Muscle relaxers
  - ACEI
  - Antipsychotics
- Goal is to always use a secondary SE of the medication to patient's advantage
  - Need help with sleep?
  - Need help with appetite suppression?
  - Need help with panic?
  - Need help with hypertension?



### Supplements and diets

- The latest and greatest OTC supplement
  - Vitamin D
  - CoQ10
  - Magnesium
  - B complex
  - Ginger
  - Turmeric
- Diets
  - Avoid super restrictive diets
  - If patient can clearly point to a dietary trigger, then avoid it





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### Calcitonin Gene-Related Peptide (CGRP) therapies

- New class of medications to help with both episodic and chronic migraines
- New to the market
- Trialed with a few of our patients who have failed onabotulinum toxin A
  - A number of patients think the CGRP is working and reducing severity of pain
  - A few reported GI side effects, some significant to discontinue use





### Preventive procedures

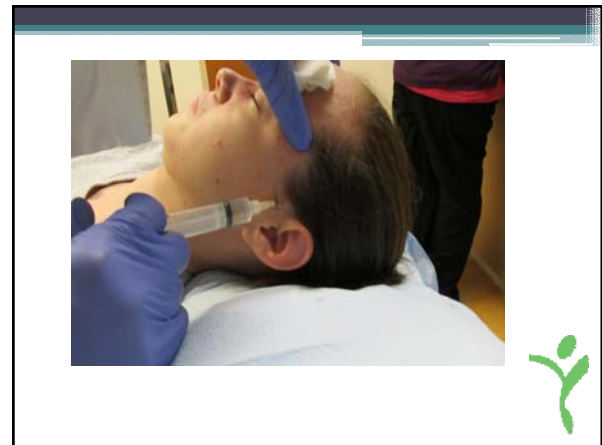
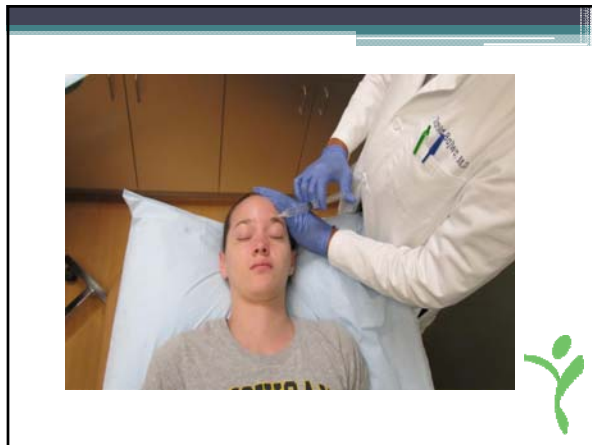
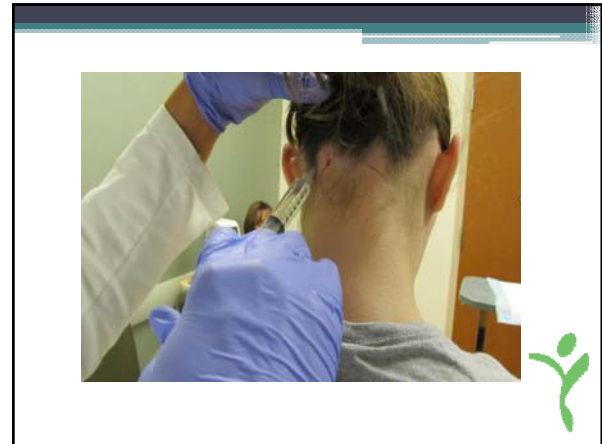
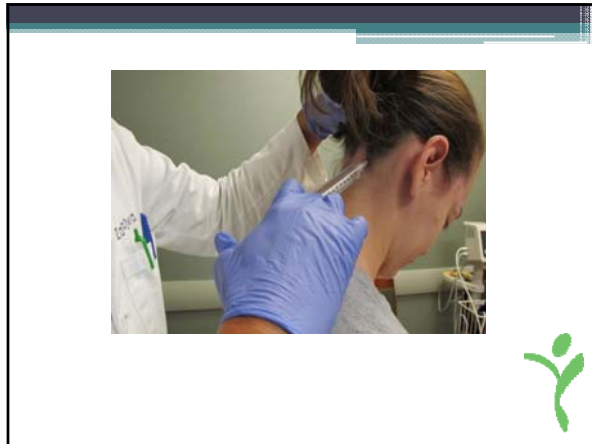
- Onabotulinum toxin A
  - FDA approved for chronic migraine q12 wks
- Nerve blocks/trigger points
  - 1% lidocaine/0.25% bupivacaine
  - Can be w/ or w/o steroids
  - Higher volume than typically used in AHS
    - Higher volume allows for preventive properties
    - Can still be used to abort a migraine cycle



### How do we treat TMJ patients?

- Specific medication considerations
  - Muscle relaxers
  - Prior trial of onabotulinum toxin A (likely lower doses)
  - NSAIDs
- Nerve blocks into the masseter, pterygoid muscles
- Onabotulinum toxin A in the masseter







### Nerve blocks/trigger points


- Great option for headache/facial pain due to low side effect profile
- No cosmetic effect like with onabotulinum toxinA
- Can point and shoot where pain occurs
  - Particularly helpful for post traumatic locations

### Abortive options


- Triptans
    - Sumatriptan, rizatriptan, zolmatriptan, etc
  - NSAIDs
    - Naprosyn, diclofenac, indomethacin
  - Neuroleptics
    - Odansteron, prochlorperazine, promethazine
  - Create abortive cocktail for the patient
    - Ideally pain relief <1 hr
- 

### Medication overuse headache (MOH)

- Defined by IHS as:
  - Inappropriate use of symptomatic medication for headaches may paradoxically lead to medication overuse headache (MOH)
  - Characterized by chronic headache patterns with the overuse of abortive medications




**OPTIONS! OPTIONS! OPTIONS!**  
Sometimes there are too many options available

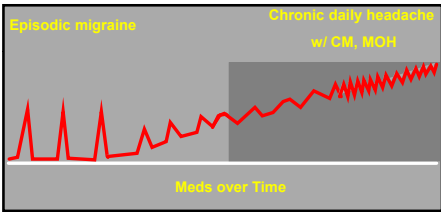



### Medication overuse headache (MOH)

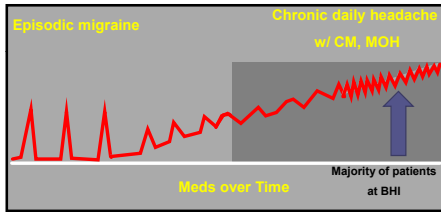

- Insurance makes it difficult to get the appropriate number of triptans
  - Often multiple rx for triptans
- Patients think they're avoiding MOH by limiting their triptans, NSAIDs, neuroleptics to different days of the week
  - They are aborting everyday
- Most likely MOH meds
  - Too many triptans
  - Addition of fioricet – other provider, internet, etc
  - Daily excedrin use



### Refractory patients

### Refractory patients


### Refractory patients

- Typically continuous daily
- Central sensitization
  - Allodynia
- Typically admit for inpatient infusions
  - Not covered by insurance in Mass
  - No hospitals do inpatient infusions
  - Option is to offer out of state centers
    - Philadelphia, Michigan, Chicago






### Refractory patients

- BHI can offer:
  - Infusions
    - Without sedation – works well with patients who got thrown into a severe flare and cannot break with oral medications
  - With sedation
    - Can get nerve blocks/trigger points
    - Most aggressive option we offer outside of the ER
      - Far more migraine friendly as well


### Refractory patients

- **Infusions**
  - IV fluids
  - Diphenhydramine
  - Neuroleptic
  - Dihydroergotamine (DHE)
  - Ketoralac
  - Magnesium
  - Sedation
    - Propofol
    - lidocaine



### Refractory patients

- **Necessitates close follow up for these patients**
  - Repeat nerve blocks/trigger points
    - In series or on a schedule
  - Continued medication adjustments
    - Preventives and abortives
  - ER protocols
- **If still nonresponsive to treatment consider...**
  - Sleep eval – OSA
  - Behavioral health




### Still nonresponsive?

- **Is the pain coming from a deeper source?**
  - Cervical spondylosis w/o radiculopathy
    - Facet injections
    - Radiofrequency ablation


### Case study: A.M.

- A.M. is a 46 y/o female with continuous daily migraines
  - VSS, wt 237lbs
- PMH significant for RA, cataracts, GERD, depression, PTSD
- Migraines started at age 12
- **Failed preventives:**
  - Valproic acid, topiramate, lamotrigine, propranolol, tizanidine, gabapentin, acetazolamide, baclofen, carisoprodol, amitriptyline, venlafaxine, duloxetine, bupropion, butrans patch, methocarbamol
- **Failed abortives:**
  - Prednisone, naratriptan, almotriptan, sumatriptan (tab, NS, inj), rizatriptan, eletriptan, butalbital, dihydroergotamine, prochlorperazine, odansteron, promethazine, hydroxyzine, hydromorphone, hydrocodone, ketoralac, olanzapine, oxycodone-acetaminophen
- **Tried procedures:**
  - Onabotulinum toxinA, nerve blocks/trigger points
- Negative sleep workup




### Case study: A.M.

- **The patient started treatment to break her headache cycle:**
  - Botox under sedation
  - Weekly nerve blocks/trigger points
- **Her prior neurologist retired and she wanted Dr. Bajwa to take over prescribing her opioids**
  - At that time she was on Butrans 20mcg patch, dilaudid and vicodin PRN
  - She was evaluated by the medication management program at BPC and enrolled




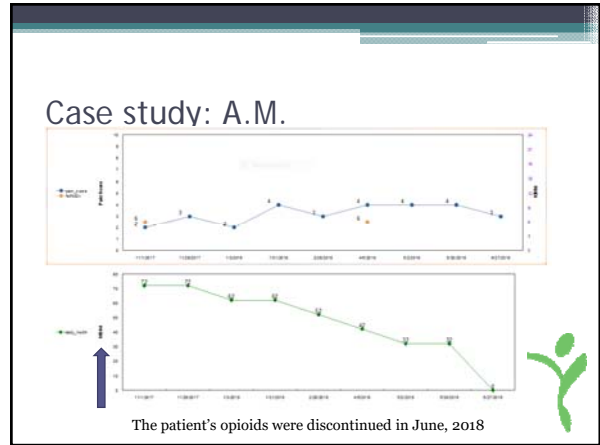
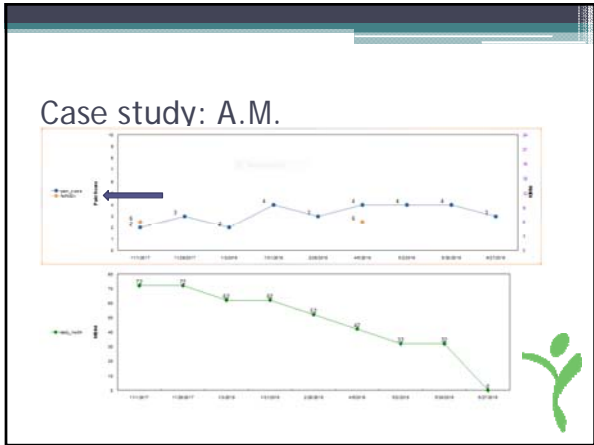
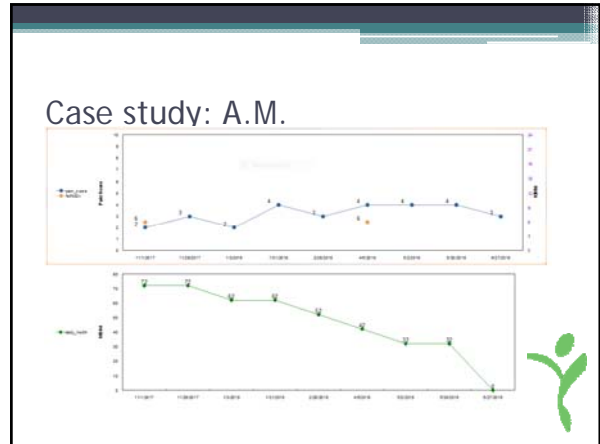
### Case study: A.M.

- **The patient continued in the medication management program on a monthly basis reporting her pain was a 2-3/10**
  - Despite continued Onabotulinum toxin A, weekly nerve blocks
  - She regularly followed up with cervicogenic components of her pain including cervical facets and RFAs
- **With all the treatments no real improvement in functional pain score**
- **Frequent ER visits as pain escalates and she starts vomiting and cannot stop**
  - ER is closer than BHI
  - ER has zero copay




### Case study: A.M.

- The patient was referred to behavioral health
- Discussion with our medication management team meeting
  - Including Dr. Bajwa
  - Including Dr. DiBenedetto
- Decided to get a second opinion with Dr. Spierings and Dr. Kulich
  - Felt strongly that there was a ritual around to see Dr. Bajwa weekly
  - Recommended weaning opioids and behavioral health follow up


### Case study: A.M.

- Given doses of CGRP medication
  - Receptor specific
  - Given on 8/13/18 and 9/19/18
  - Reported improvement in the severity of her pain after first dose
  - Less ER visits = no escalating with vomiting
  - Patient saw 15lb weight gain in 8 wks



### Case study: A.M.

- Given different CGRP on 10/18/18
  - Ligand specific
  - Given on 10/18/18
  - Will monitor weight on different medication
- Continues with Botox q12 wks
- Resumed nerve blocks/trigger points on a much less frequent basis (qmonth)
- Still not interested in behavioral





### Case study: A.M.

- We consider this a drastic improvement with reduced ER visits and the elimination of opioids
- Hopefully she may reconsider behavioral in the future
- Hopeful that she responds better to the other CGRP options



### Conclusion

- Boston Pain Care is a multidisciplinary pain clinic that focuses on improving function
- Boston Headache Institute offers a variety of different treatment options for patients suffering with headaches and facial pain
- “...always have room for one more...”
- Continue to work with outside specialists to help better care for patients



Questions?

