



# THE BEST OF 2019

HEADACHE COOPERATIVE OF THE PACIFIC  
OJAI, 2020

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# TOM WARD DISCLOSURES

- Stipend as editor-in-chief from AHS
- Stock in Percept
- Per diem employee at the WRJ, VT VA hospital
- President and Treasurer, Dartmouth Region Medical Legal Consulting
- We have a small dog named Dodick
- [wardt1978@gmail.com](mailto:wardt1978@gmail.com) if you want these slides





# MO LEVIN DISCLOSURES

- Consulting with Amgen, Supernus, Percept (small amount of stock), Revance, Theranica
- Research grants from Theranica and Electrocore
- Advisor for ARMR, MOTS (gratis)
- Not on any speakers' bureaus for industry
- Royalties from Oxford University Press, Anadem Press
- Articles selected are purposely ones I have not participated in



# EDITORS OF THE JOURNAL

- ROBERT E. RYAN, SR., MD Volume 1-4 1961-1965 (deceased)
- DONALD J. DALESSIO, MD Volume 5-14 1965-1975
- OTTO APPENZELLER, MD, PhD Volume 15-17 1975-1978
- LEE KUDROW, MD Volume 18-19 1978-1979
- DONALD J. DALESSIO, MD Volume 19-24 1979-1984 (deceased)
- JOHN G. EDMEDS, MD Volume 24-31 1984-1991 (deceased)
- J. KEITH CAMPBELL, MD Volume 32-41 1992-2001
- JOHN F. ROTHROCK, MD Volume 41-52 2001-2012
- THOMAS N. WARD, MD Volume 53-present 2013-2020



# STARTING VOLUME 60 OF THE JOURNAL

- Yes, 60 years
- Jason Roberts and I have been looking at early publications in the journal
- Many famous names
- Most of those articles could not be published now, do not meet current standards
- Onward and upward





# THE ONE MOST IMPORTANT ARTICLE FROM 2019 AND WHY

- Many potential sources to choose from.....Headache, Cephalalgia, others
- Dr. Levin will discuss other important articles.....
- Please remember the Abstracts and Citations feature in Headache (Drs. Kaniecki, Taylor and Cooper).
- For most, clinical relevance is key....many articles are “so what?”, does it help me help my patients?
- I have my biases, too, hence the Members' Choice Award

# MEMBERS CHOICE AWARDS

- Award given according to a popular vote of AHS members following the development of a shortlist of best (favorite) papers by the editor-in-chief.
- As in 2017 there was a tie this year
- Spontaneous Intracranial Hypotension: 10 Myths and Misperceptions. Peter Kranz, Linda Gray, Timothy Amrhein
- And.....

# MIGRAINE PROGRESSION: A SYSTEMATIC REVIEW

- Buse DC, Greisman JD, Baigi K, Lipton RB. Headache 2019; 59: 306-338.
- Because only a subset of individuals with episodic migraine (EM) progress to chronic migraine (CM) over any given time period, understanding the factors that predict the new onset of CM or “migraine progression” may provide insights into the mechanisms, pathophysiology, prevention, and treatment of CM.
- In this review, we identify and summarize studies that report risk factors associated with the new onset of CM or related chronic headache diagnoses, group these risk factors and report the strength of evidence for the identified risk factors.



# A LOOK BACK AND A LOOK FORWARD

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# MIGRAINE PROGRESSION

- Systematic review of studies that identify risk factors for new onset of CM (CDH/transformed migraine)
- Methods: literature before March 2018, Pub Med (longitudinal studies and case-control studies)
- Strength of evidence (varied from fair to moderate to strong)
- Risk factors: categorized as nonmodifiable, modifiable (sociodemographics, lifestyle, comorbid/concomitant disease(s), treatment-related)
- Review of theories of pathogenesis



# RESULTS

- Pub Med search yielded 1870 records plus 9 others (from experts) to screen
- 109 eligible with 17 finally included (13 longitudinal cohort, 4 case-control studies)
- Evidence strength varied from fair to strong (strongest for increased headache day frequency, depression and high frequency medication use/overuse)
- Risk factors for pediatric migraine progression similar to adults



# CONCLUSIONS

- Modifiable risk factors: increased headache day frequency, high frequency medication use/overuse, depression
- Probably other risk factors not yet identified (e.g. proinflammatory states, prothrombotic states)
- Central sensitization as a driver for new-onset CM/CDH/TM
- Future research needs to account for the natural fluctuations in headache day frequency

# THE WOLFF AWARD PAPER

- The Wolff Award is for the best manuscript on headache, head or face pain, or the nature of pain itself.
- Harold George Wolff was an American doctor, neurologist and scientist. He is generally considered the father of modern headache research, and a pioneer in the study of psychosomatic illness.
- 2019 winner was confirmatory work (we don't get enough of this in our field).





# INFANT COLIC

- Background: infant colic: " excessive crying in an otherwise healthy and well-fed infant." Episodes of crying for >3 hours per day, >3 days per week, for 3 weeks between the ages of 2 weeks-4 months. Peaks at age 5-6 weeks.
- Wessel's criteria: and in the ICHD-III appendix.
- Affects 5-19% of babies
- Cause/causes unknown

# 2012 ARTICLE/NEUROLOGY

- Before the headache. Infant colic as an early life expression of migraine. Gelfand AA, Thomas KC, Goadsby PJ. Neurology 2012; 79: 1392-1396
- To determine if maternal migraine is associated with increased risk of infant colic. Might imply that colic is a childhood periodic syndrome.
- A cross-sectional study in a general pediatrics clinic.
- Mothers surveyed at a 2 month well-child visit (when colic is most prevalent).
- Used modified Wessel criteria
- Migraine history by a physician diagnosis or + ID Migraine
- Primary outcome: difference in colic prevalence in infants with vs. without a maternal history of migraine

# 2012 NEUROLOGY STUDY

- Results: 154 mother/infant pairs
- If + maternal migraine 2.6 times as likely to have infant with colic (29% v. 11%).
- Paternal history for 93 infants: if + paternal history of migraine MAY have a higher prevalence of infant colic (22% vs. 10%) BUT wide confidence intervals (0.6-9.4).
- Conclusion: maternal migraine is associated with increased risk of infant colic. Suggests colic may be an early life manifestation of migraine.

# 2019 WOLFF AWARD PAPER

- Gelfand AA, Buse DC, Cabana MD, Grimes B, Goadsby PJ, Allen IE. The Association Between Parental Migraine and Infant Colic: A Cross-Sectional, Web-Based, U.S. Survey Study. *Headache* 2019; 59: 988-1001.
- This study (also) aimed to determine if parental migraine is associated with infant colic.
- Cross-sectional online survey of parents of 4-8 week old infants in the US between Feb-March 2017 and October 2017-April 2018. Parents recruited via social media, self-reported using validated criteria (modified ICHD criteria, PHQ-2 and GAD-2, and modified Wessel's criteria). Self-report of parental seasonal allergies and asthma.

# WOLFF

- Results: 1715 surveys, 1419 formed the analysis set (827 by mothers, 592 by fathers).
- 33.5% of the mothers had migraine/probable migraine.
- OR for mothers with migraine having infant with colic was 1.7
- $\geq 15$  days per month was associated with a higher risk (OR 2.5)
- Anxiety was borderline associated (OR 1.7 (1.0-2.9)).
- 20.8% of fathers had migraine/probable migraine,
- Paternal migraine was not associated with infant colic ((OR 1.0(0.7-1.5)).
  - Fathers with depression or anxiety were more likely to have a baby with colic (OR 2.4, 1.7) but having a girl infant was protective ( OR 0.7(0.5-0.97))



# WOLFF



- Conclusion: mothers with migraine are more likely to have baby with colic, while fathers with migraine were not.
- Risk increased with headache frequency for mothers. No effect of aura.



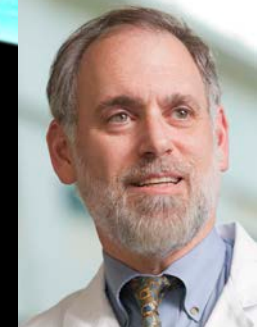
# WHY IS THIS IMPORTANT?

- Infants with increased sensitivity to environmental (and internal) stimuli?
- An opportunity to educate/reassure parents
- So there is clinical relevance and perhaps an opportunity for further research and better understanding
- How many of you have migraine?
- For those with children with migraine, how many of you think your child had colic?

### **Does Mindfulness-Based Cognitive Therapy for Migraine Reduce Migraine-Related Disability in People with Episodic and Chronic Migraine? A Phase 2b Pilot Randomized Clinical Trial**

Elizabeth K. Seng, PhD ; Alexandra B. Singer, PhD; Christopher Metts, MD; Amy S. Grinberg, PhD ; Zarine S. Patel, PhD; Maya Marzouk, MA; Lauren Rosenberg, MA; Melissa Day, PhD; Mia T. Minen, MD; Richard B. Lipton, MD; Dawn C. Buse, PhD

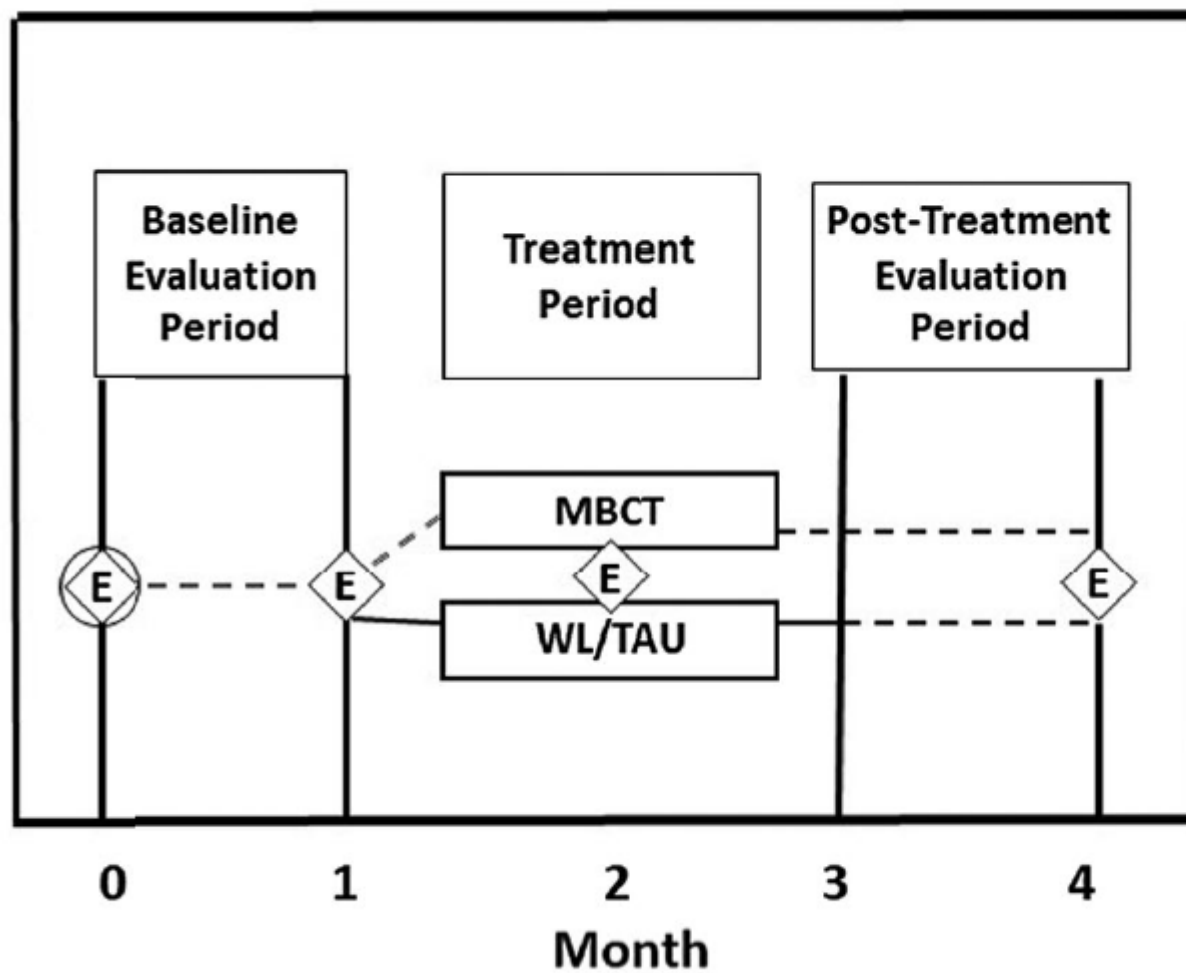
# BEST OF 2019



- (MBCT-M) Objective - evaluate the efficacy of mindfulness-based cognitive therapy for migraine to reduce migraine-related disability in people with migraine.
- Background.—Mindfulness-based interventions have been considered a fertile resource for patients with headache. Many versions of this approach exist, and are more or less amenable to research assessment.
- Acquiring data in a typical RCT is challenging because of numerous confounding factors, inter-subject variability in a number of domains, and the complexity of devising a control or comparator group.

# BEST OF 2019

- **Methods.**—Participants with migraine (6-30 headache days/month) were recruited from neurology office referrals and advertisements in the NYC area
- During the 30-day baseline period, all participants completed a daily headache diary. Participants who met inclusion and exclusion criteria were randomized in a parallel design, stratified by chronic migraine status, to receive either 8 weekly individual MBCT-M sessions or 8 weeks of waitlist/treatment as usual
- All participants completed surveys including primary outcome evaluations at Months 0, 1, 2, and 4. All participants completed a headache diary during the 30-day posttreatment evaluation period.
- Primary outcomes were the change from Month 0 to Month 4 in the headache disability inventory (HDI) and the Migraine Disability Assessment (MIDAS); secondary outcomes (headache days/30 days, average headache attack pain intensity, and attack-level migraine-related disability [Migraine Disability Index (MIDI)]) were derived from the daily headache diary.



### Legend

-- Diary

— No Diary

(E) Baseline Evaluation

◇E◇ Primary Outcomes

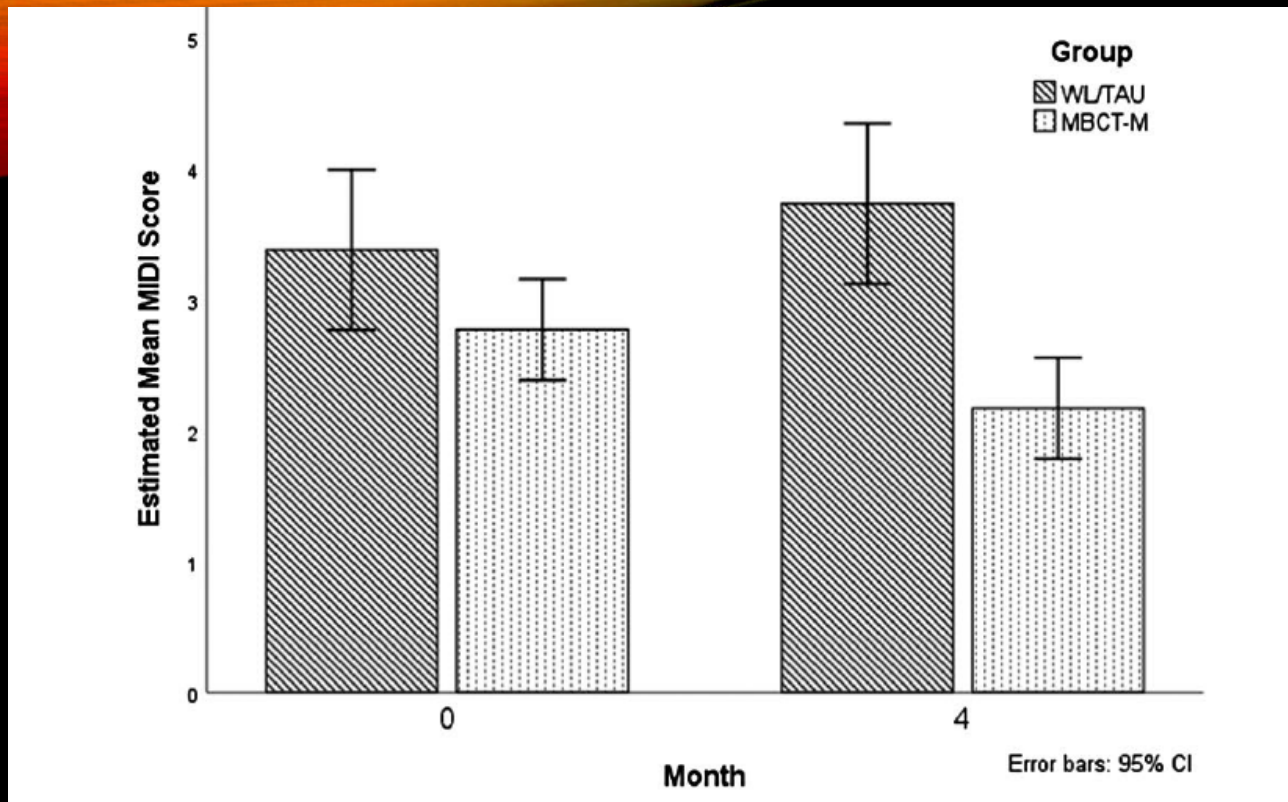
**MBCT:** Mindfulness-Based Cognitive Therapy

**WL/TAU:** Wait-List/Treatment-as-Usual



# BEST OF 2019

- **Results.**—Sixty participants were randomized to receive MBCT-M ( $n = 31$ ) or WL/TAU ( $n = 29$ ). Participants ( $M$  age = 40.1,  $SD = 11.7$ ) were predominantly White ( $n = 49/60$ ; 81.7%) and Non-Hispanic ( $N = 50/60$ ; 83.3%) women ( $n = 55/60$ ; 91.7%) with a graduate degree ( $n = 35/60$ ; 55.0%) who were working full-time ( $n = 38/60$ ; 63.3%). At baseline, the average HDI score (51.4,  $SD = 19.0$ ) indicated a moderate level of disability and the majority of participants (50/60, 83.3%) fell in the “Severe Disability” range in the MIDAS. Participants recorded an average of 16.0 ( $SD = 5.9$ ) headache days/30 days, with an average headache attack pain intensity of 1.7 on a 4-point scale ( $SD = 0.3$ ), indicating moderate intensity. Average levels of daily disability reported on the MIDAS were 3.1/10 ( $SD = 1.8$ ). For the HDI, mean scores decreased more from Month 0 to Month 4 in the MBCT-M group (−14.3) than the waitlist/treatment as an usual group (−0.2;  $P < .001$ ).
- Across all participants in both groups, the estimated proportion of participants falling in the “Severe Disability” category fell significantly from 88.3% at Month 0 to 66.7% at Month 4,  $P < .001$ . For diary-reported headache days/30 days: Mean MIDAS scores decreased in the MBCT-M group (−0.6/10), whereas they increased in the waitlist/treatment as an usual group (+0.3/10),  $P = .007$ .



- **Conclusions.**—MBCT-M demonstrated efficacy to reduce headache-related disability and attack-level migraine-related disability.
- MBCT-M is a promising emerging treatment for addressing migraine-related disability



# WHY IS THIS IMPORTANT?

- Medications for the prevention of migraine are inadequate. Including CGRP mAbs for many patients. And the cost is sometimes staggering.
- Meditation is not only beneficial for migraine but also for depression, FMS, insomnia, cardiovascular disease and possibly Alzheimer d.
- It is inexpensive
- It is patient centered



THANK YOU VERY MUCH

