Managing Migraine in Pregnancy

Challenges and Considerations

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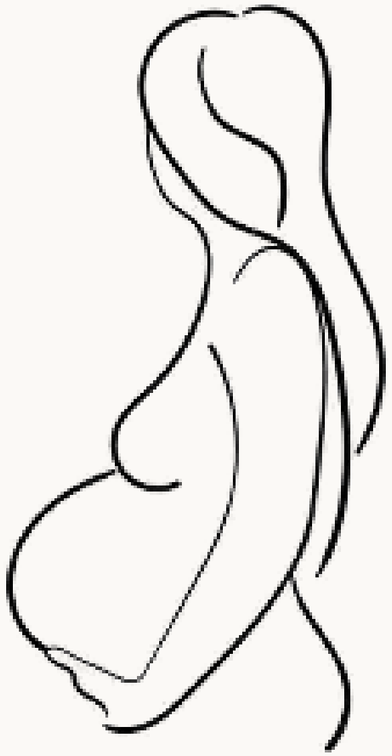
Pre-conception



Antenatal

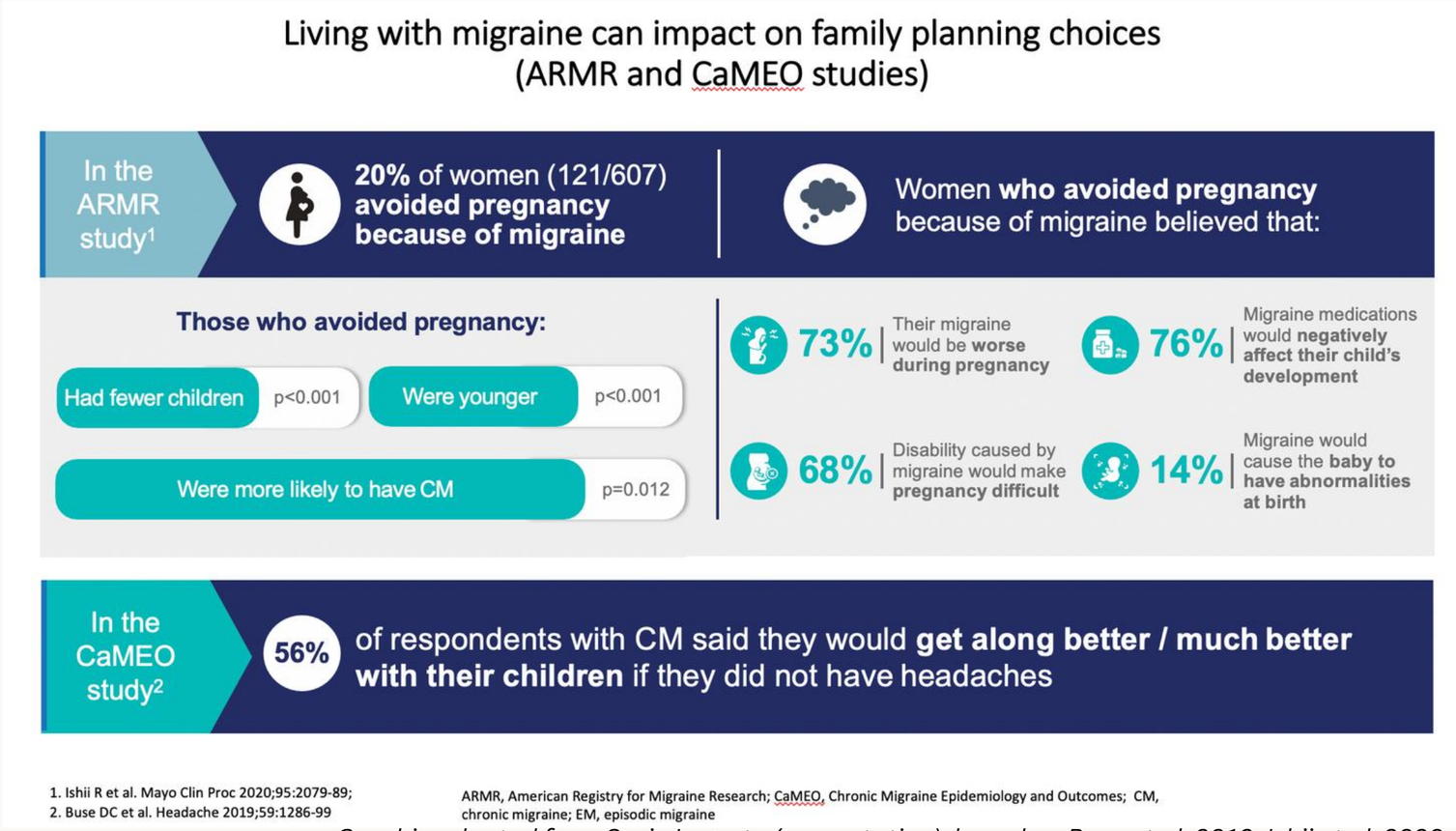
Post-natal

Image is AI-generated and does not depict a real patient

- 29 year old, female
- works as a nurse
- recently migrated from India
- 15 year history of migraine without aura
- Pmh: Asthma

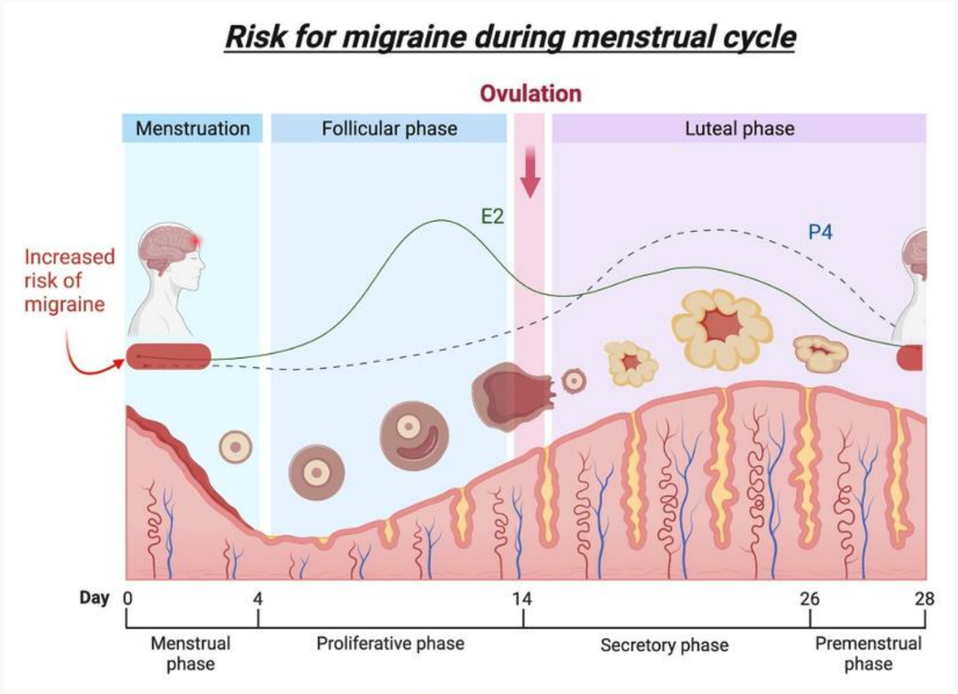
Pre- conception stage

- Not all pregnancies are planned
- Migraine can impact pregnancy decisions (20% avoid or delay due to migraine fears)[9]



Graphic adapted from Susie Lagrata (presentation), based on Buse et al. 2019; Ishii et al. 2020

Pre- conception stage



Adapted from Harpe, Bernstein and Harriott, 2022)

- Indirect effect on fertility such as endometriosis which may affect fertility [10]
- IVF risk: IVF-induced estrogen decline may trigger or worsen migraines in these women [1]


HEADACHE
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Headaches in Women Undergoing in Vitro Fertilization and Embryo-Transfer Treatment

Ben-Yehuda Amir BMSc, Bentov Yaacov MD, Bar Guy MD, Potashnik Gad MD, Wirguin Itzhak MD, Ifergane Gal MD

Pre-conception stage

- Medication review- identify any teratogenic medications

Medication	Indication	Pregnancy Risk	Key Fetal Effects	Notes/ Guidelines
Valproic Acid	Preventative	🔴 High teratogenicity	Neural tube defects, cognitive impairment, hearing loss	MHRA (2018) Contraindicated in Pregnancy
Topiramate	Preventative	🔴 High Teratogenicity	Oral clefts , possible fetal growth restriction/low birth weight; neurodevelopmental effects	MHRA (2024) Contraindicated in Pregnancy
Candesartan	Preventative (off-label)	🔴 Fetotoxic	Oligohydramnios, skull hypoplasia, pulmonary hypoplasia, limb contractures, neonatal or fetal death	MHRA (2014) Contraindicated in Pregnancy
Lisinopril	Preventative (off-label)	🔴 Fetotoxic	renal dysgenesis, oligohydramnios, pulmonary hypoplasia, skull hypoplasia, neonatal hypotension	MHRA (2014), Contraindicated in Pregnancy
Feverfew	Preventative (herbal supplement)	🔴 emmenagogic/abortifacient	Concern for uterine contractions / miscarriage, limited human data	Avoid in pregnancy
CGRP mAbs (erenumab, galcanezumab, fremanezumab, eptinezumab)	Preventative	🟡 Uncertain (Insufficient Data)	current human pregnancy exposure studies do not indicate a specific pattern of maternal or fetal toxicity, but data limited by sample size and observational design	AVOID until more evidence
Gepants (Atogepant, Rimegepant	Preventative/ Acute	🟡 Uncertain (Insufficient Data)	No published human pregnancy exposure studies to date	AVOID until more evidence

🔴 Red = Stop immediately, known teratogen/fetotoxic
🟡 Yellow = Unknown risk, avoid unless future evidence supports safety

- Focus on non- pharmacological interventions
- Emphasise good prognosis of migraine in pregnancy

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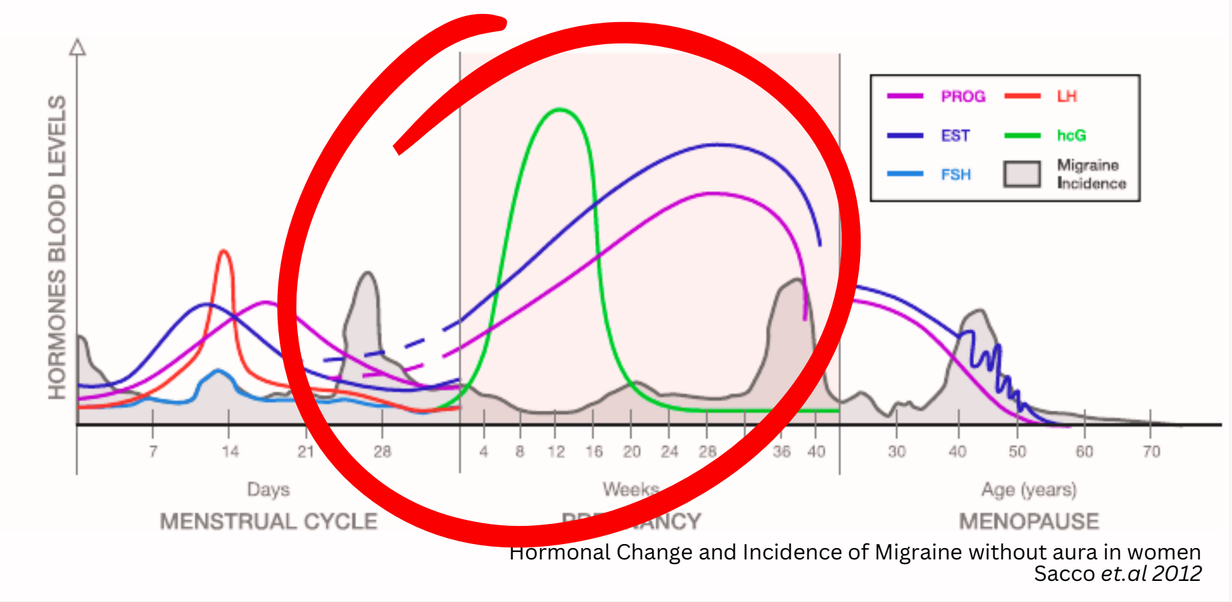
Antenatal Stage

- Early pregnancy may worsen headaches in 40% of women due to hormonal changes [6]
- Migraines often improve in 2nd–3rd trimesters [16]



Hormonal Change and Incidence of Migraine without aura in women
Sacco *et.al 2012*

- Improvement more likely in migraine without aura and menstrual migraine [20]
- New- onset migraine with aura and aura without headache can occur in the later stage of pregnancy due to hormonal and vascular changes that increases susceptibility to cortical spreading depression [20]

Challenges in Antenatal Migraine Care

Strong need for hypervigilance in pregnancy

RED flags for secondary headaches [19]

- **Rapid onset or change from baseline**
- **severe pain of thunderclap headache**
- **elevated BP**
- **fever**
- **Gestational age third trimester**
- **focal neurologidc deficit**
- **altered consciousness**
- **Laboratory abnormalities: thrombocytopenia, thrombocytosis, elevated liver enzyme, elevated creatinine**

- high index of suspicion for secondary headaches
- prothrombotic state
- higher risk for pregnancy complications
- Antenatal pain→ ↑ risk of maternal mental health conditions [21]

Migraine has been associated with **increased risk** of: [2]

- ischemic stroke
- cerebral hemorrhage
- myocardial infarct,
- venous thromboembolism
- pulmonary embolism
- thrombophilia

Migraine with aura has higher risk of preeclampsia (5.9%) than those with migraine without aura (2.9%) [5]

Acute Treatments

Second line

NSAIDs
(2nd trimester only to before 30wks)

FIRST LINE

Paracetamol
Metoclopramide

Propranolol
Magnesium

Sumatriptan

ORIGINAL ARTICLE · Articles in Press, July 28, 2025

Safety of Triptans in Treating Migraines in Pregnant Women

A Target Trial Emulation

Zhen Wang, PhD [a,b] · Juliana H. VanderPluym, MD [a,d] · Rashmi B. Halker Singh, MD [a,d] · Reem A. Alsibai, MD [a] · Daniel L. Roellinger, BS [c] · Mohammad Hassan Murad, MD, MPH [a,b]

Well-tolerated and safe; **limited data in pregnancy** but **no adverse fetal effects** reported[17]

Non-invasive neuromodulation devices

OnabotulinumtoxinA

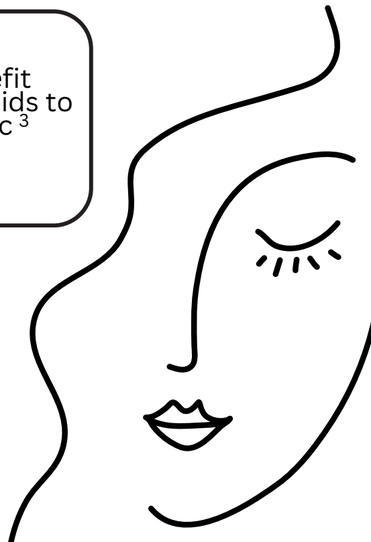
RESULTS (Wong et al., 2025)

	Pregnant subjects who continued Botox treatment N= 97 (77.0%)	Pregnant subjects who discontinued Botox treatment N= 29 (23.0%)
Headache Outcomes	Remained in Remission during pregnancy N= 97 (100.0%)	Remained in Remission during pregnancy N= 9 (31.0%) Migraine Relapsed during pregnancy N= 20 (69.0%)
Pregnancy Outcomes	Miscarriages N= 2 (3.4%) Full term deliveries N= 95 (96.6%) No Foetal Malformations	Miscarriages N = 1 (2.1%) Full term deliveries N= 28 (97.9%) No Foetal Malformations

Peripheral nerve blocks with lidocaine [18]

No added benefit from adding steroids to local anesthetic [3]

lack of known teratogenicity for **lidocaine** in human and animal studies [24]



Preventative Treatments

Post Natal & Breastfeeding

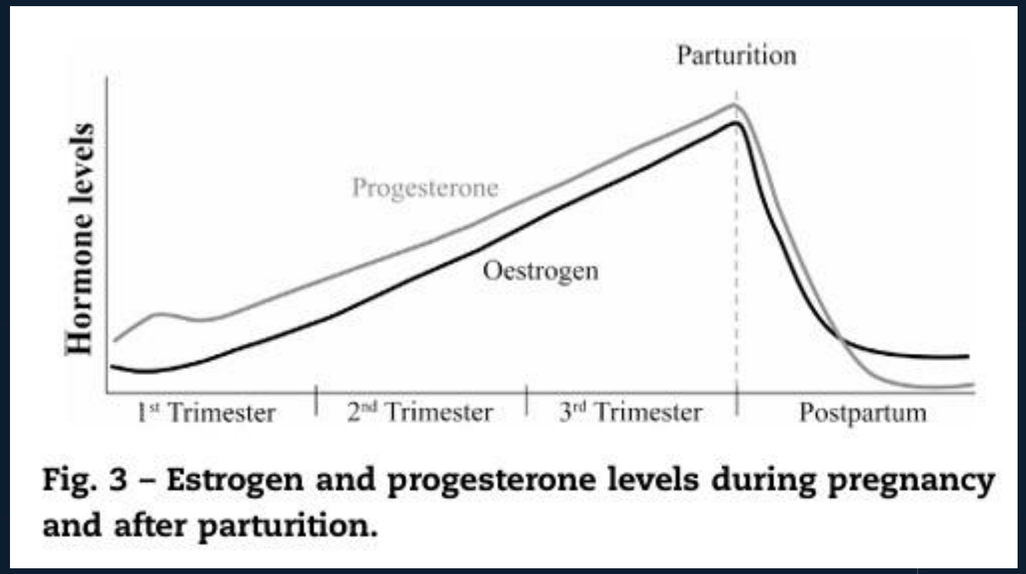


Fig. 3 – Estrogen and progesterone levels during pregnancy and after parturition.

- 1 in 3 have will have migraine recurrence within 1 week postpartum, 2 in 3 within a month [8]
- Consider other factors: Sleep deprivation, stress, childcare
- High risk for secondary headaches, e.g., PDPH

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Considerations in Post- Natal Care

Educate mothers on Breastfeeding

- **Delays migraine recurrence (lower rates at 1, 3, 6 months vs non-breastfeeding) [8]**
- **Hormonal stability, prolactin & oxytocin have antinociceptive effect.**

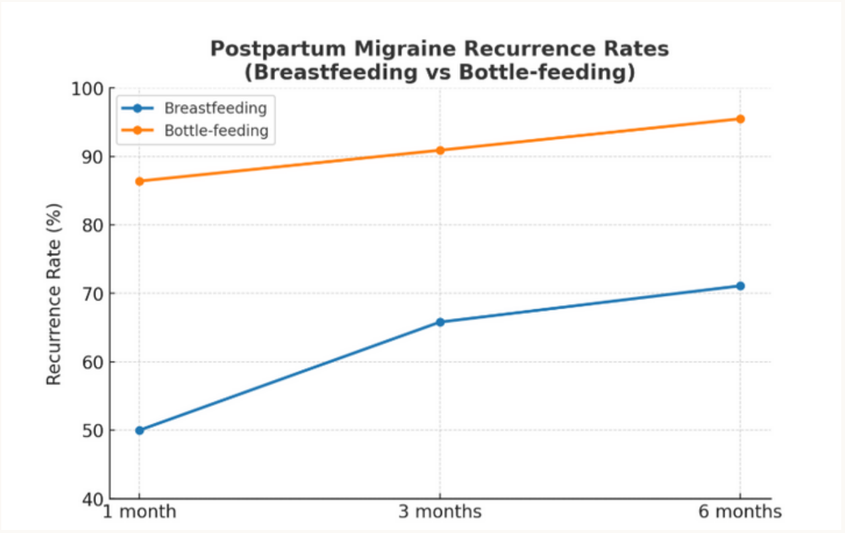

Figure created by speaker based on data from Hoshiyama et al. (2012).

Medications Used to Treat Headache and Their Relative Safety in Breast-feeding Women[a] — TABLE 7-4

Therapy Category	Considered Safe	Use With Caution	Contraindicated
Acute	Acetaminophen, ibuprofen, caffeine, aspirin (≤162 mg/d), eletriptan, sumatriptan, ondansetron, prednisone, lidocaine, bupivacaine	Naproxen, indomethacin, ketorolac, other triptans, codeine and opioids, metoclopramide, prochlorperazine, butalbital, dexamethasone	Dihydroergotamine, aspirin (higher doses)
Preventive	Propranolol, timolol, amitriptyline, nortriptyline, verapamil, onabotulinumtoxinA, magnesium, riboflavin	Topiramate, valproic acid, metoprolol, candesartan	Atenolol, nadolol

[a] Lactation safety concerns also include timing of administration as well as neurologic health of the baby, including prematurity.

Adapted from (Robbins, 2018)

MANAGING MIGRAINE IN PREGNANCY


THANK YOU!

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