



# Headache and reproductive life

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Belgrade, May 2012

- **52 years old woman, English teacher in primary school, married, mother of two, with a history of migraine without aura.**
- **Over the last 6 months she noticed an increase in her headache frequency and severity and a decreased response to regular treatment with naproxen sodium.**

- **Medical History**

- Denies allergies, tobacco and alcohol use
- She is in menopause for more than one year and for last 9 months she is taking hormone replacement therapy due to osteoporosis.
- Denies other illnesses

- **Family and Social History**

- Her mother also had a history of headaches, which responded to naproxen sodium.
- She reports no history of headache on her father's side, and her brother also has no history of headaches.
- She finds her job stressful from time to time, but otherwise she feels stress levels are tolerable and manageable.

### At the age of 14 ...

- she got the first headache, just several months after the menarche
- For the next 10 years:
- her headaches occur once a month, regularly during her menstrual cycle, usually on the 1. day, lasting for several hours
- they are frequently disabling, mostly due to severe pain and nausea, throbbing, unilateral in localization (mostly on the left), and associated with sensitivity to light (photophobia)
- responsive to naproxen sodium
- **This clinical presentation is a typical example of ?**



### ICH II – A 1.1.1 Pure menstrual migraine

- Diagnostic criteria:
- **A.** Attacks, in a menstruating woman, fulfilling criteria for 1.1 migraine without aura
- **B.** Attacks occur exclusively on day  $1 \pm 2$  (ie, days  $-2$  to  $+3$ ) of menstruation in at least two out of three menstrual cycles and at no other times of the cycle.



## Study in 155 women who tracked their migraine attacks over 698 menstrual cycles

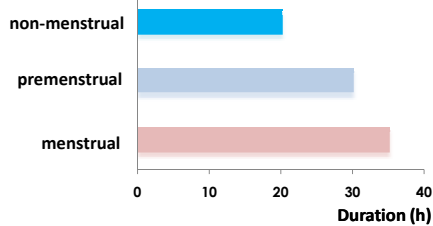
This study found that menstrual migraine may be

- **more severe**
  - **more frequent** and
  - **more often associated with vomiting**
- than women who have migraine outside the menstrual cycle

*MacGregor 2004*

## Duration and intensity of the menstrual migraine attacks 459 attacks analysis

Migraine attacks

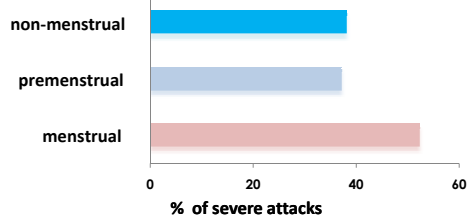


**Attack duration**

Menstrual attacks **are longer** than non-menstrual ( $p < 0.0001$ )

Premenstrual attacks are longer than non-menstrual ( $p < 0.001$ )

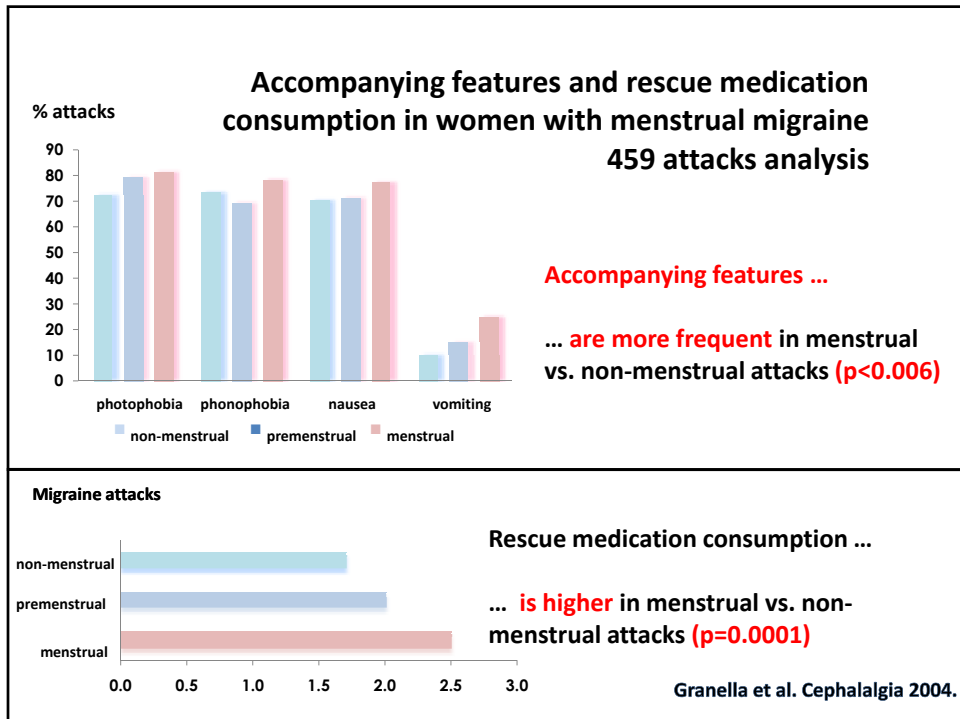
Migraine attacks



**Attack severity**

Menstrual attacks **are more severe** than non-menstrual ( $p = 0.05$ )

*Granella et al. Cephalalgia 2004.*



## Menstrual migraine

- Longer duration
- Higher rate of recurrence
- Higher associated disability
- More resistance to treatment than other migraine attacks
- Association with non-pain symptoms including photo/phonophobia, nausea, or vomiting
- Dysmenorrhea
- Premenstrual syndrome symptoms

**At the age of 24 ...**

- **She got married**
- During the next year, she was taking the combined oral contraceptive pill
- The headache got worsened, still occurring once a month, during the “pill-free days”, but now lasting for 3 days, more often associated with vomiting, irresponsive to previously effective naproxen-sodium



**When they start taking the combined oral contraceptive pill:**

- **18-50%** of women with migraine notice that their headaches **get worse**
- **39-65%** of women with migraine **do not experience any change** in the pattern of their headache
- **3-35%** of women with migraine find that their headaches **improve**

*Evans RW, Becker WJ. Headache 2006  
Brandes JL. JAMA 2006*

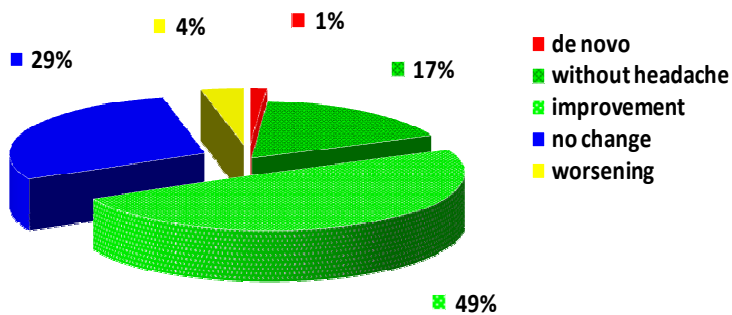
### At the age of 25 ...

- **She got pregnant**
- Migraine improved dramatically
- In the first trimester of pregnancy she had one severe migraine attack with good response on paracetamol, 1g taken orally , and two mild attacks who did not required therapy
- In the second and the third trimester she did not have headache at all



### Migraine during pregnancy

1300 pregnant women with migraine



Granella F. Headache 1993.

## Migraine during pregnancy

- **Headache free:**
- **11%** women with migraine in the **first** trimester
- **53%** women with migraine in the **second** trimester
- **79%** women with migraine in the **third** trimester

*Melhado EM et al. Can J Neurol Sci 2007*

## Improvement of migraine during pregnancy

- **Migraine without aura**
- **Menstrual migraine**
- **Close temporal relation between onset of migraine and menarche**

*Melhado EM et al. Can J Neurol Sci 2007*



### After birth ...



- **Migraine is the same as it was in the beginning:**
- **strictly menstrually related**
- **frequently disabling**
- **responsive to naproxen-sodium (safe during lactation)**

### At the age of 29 ...

- **She got pregnant for the second time**
- **Migraine improved, but not as in the first pregnancy**
- **Still, attacks become less severe and disabling, passing mostly without any kind of therapy**



- **Improvement of migraine decreases with the number of pregnancies**

*Marcus, Curr Pain Headache Rep 2003.*

### **After the second delivery and for the next 20 years ...**

- **Migraine pattern remains stabile with:**
- **one severe attack on the 1. day of the menstrual bleeding and**
- **up to one, additional moderate attack in other time of the menstrual cycle**

## ICH II – A 1.1.2 Menstrually-related migraine

- Diagnostic criteria:
- **A. Attacks, in a menstruating woman, fulfilling criteria for 1.1 Migraine without aura**
- **B. Attacks occur on day  $1 \pm 2$  (ie, days -2 to +3) of menstruation in at least two out of three menstrual cycles and additionally at other times of the cycle**



## At the present moment ...

- she noticed an increase in her headache frequency and severity:
- she has three severe attacks per month
- lasting for more than 12 hours
- always accompanied by vomiting
- very disabling
- with decreased response to regular treatment with naproxen sodium
- with high recurrence rate

- **The hormone replacement therapy provokes the migraine attack in women with the history of migraine**

*Brandes JL. JAMA 2006*

### **Problem?**

- **She cannot stop the HRT due to osteoporosis**
- **Migraine attack therapy?**
- **Because of the high rate of headache recurrence and long duration of the attacks we choose ...**
- **Frovatriptan, tbl a 2,5mg p.o.**

## Control in 2 months...

- Still has three attacks per month, **but**
- she is taking frovatriptan with good efficacy and tolerability



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