Headache and reproductive life

Ana Podgorac
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 ± 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

<table>
<thead>
<tr>
<th>Attack duration</th>
<th>Attack severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menstrual attacks are longer than non-menstrual (p&lt;0.0001)</td>
<td>Menstrual attacks are more severe than non-menstrual (p=0.05)</td>
</tr>
</tbody>
</table>

Accompanying features and rescue medication consumption in women with menstrual migraine

459 attacks analysis

Accompanying features ...

... are more frequent in menstrual vs. non-menstrual attacks (p<0.006)

Migraine attacks

Rescue medication consumption ...

... is higher in menstrual vs. non-menstrual attacks (p=0.0001)

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, irrespective 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 require therapy

• In the second and the third trimester she did not have headache at all

---

Migraine during pregnancy

1300 pregnant women with migraine

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


Improvement of migraine during pregnancy

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

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


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 ± 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

Headache and reproductive life

Ana Podgorac
Belgrade, May 2012