

Headache and hormones

Around 15 per cent of women suffer from migraine. The migraines for roughly half of these women tend to occur in the few days prior or following the menstrual period. Some women experience migraines during mid-cycle, when they are ovulating. Migraine frequency and severity can be influenced by birth control pills and in some cases may worsen during the menopause. Clearly, there is a hormonal link, but research so far has failed to find conclusive evidence. However, recent studies suggest that sex hormones can only intensify an existing migraine, rather than cause the attack to happen.

The menstrual cycle

The female reproductive system comprises the vagina, uterus (womb), fallopian tubes and ovaries. Hormones secreted by the ovaries and a small gland in the brain called the pituitary gland control the menstrual cycle. The average cycle is around 28 days. After a period, rising levels of the hormone oestrogen help to thicken the lining of the womb (the endometrium). At mid-cycle, an egg is released from one of the ovaries (ovulation). If the egg is unfertilised, falling levels of the hormone progesterone make the womb lining come away. This is called a period, or menstruation. The cycle then repeats.

Low oestrogen levels

Serotonin is an important brain chemical (neurotransmitter). One theory suggests that low levels of the sex hormone oestrogen affect the serotonin receptors, which have been implicated in causing migraine. Oestrogen plays a significant role in triggering ovulation and is at its lowest ebb in the few days prior to menstruation. If a woman prone to premenstrual migraine is given oestrogen supplements during this time, studies show that the migraine is delayed, and the anticipated attack tends not to happen until the oestrogen level drops again. However, other physiological changes are also prompted by the menstrual cycle, and may be responsible for triggering migraine in susceptible women. These changes can include:

- Changing levels of the sex hormone progesterone
- Higher levels of other chemicals, such as prostaglandins
- Lower levels of endorphins, which are the brain's natural painkilling opiates

Perception of pain

Anecdotally, premenstrual migraines are said to be more severe than migraines occurring at other times of the cycle. Some women dread the arrival of their period because they think it brings on migraine. However, many researchers consider the hormone link to be over-emphasised. If a woman is already predisposed to migraine, there is a strong possibility that her premenstrual migraine is coincidental, rather than hormonal. Other symptoms of menstruation, such as cramps, could reduce the woman's tolerance. A headache experienced when you are physically uncomfortable is more likely to be perceived as severe.

Food triggers and premenstrual cravings

Some women experience food cravings during the premenstrual phase of their cycle. One theory suggests that women who are predisposed to premenstrual migraines could be triggering an attack by the types of food they choose to eat during this time. Foods that have been linked to migraine include red wine, some types of cheese, caffeine and the flavour enhancer monosodium glutamate (MSG).

Treatment options

It is clear that many factors work together to bring on a migraine attack. Addressing one factor in isolation may not be enough to reduce the frequency and severity of the symptoms. It is important to have your migraine medically investigated, to make sure you get appropriate treatment. Treatment options include:

- **Dietary changes** - such as limiting caffeine, eating regularly to maintain blood sugar levels and avoiding known triggers such as red wine.
- **Medications** - such as painkillers, anti-emetics for nausea, and drugs which act on the blood vessels.
- **Treating underlying causes** - such as high blood pressure.
- **Stress management** - because arteries can be affected by emotional states.
- **Complementary therapies** - such as chiropractic.

Where to get help

- Your doctor
- An Accredited Practising Dietitian, contact the Dietitians Association of Australia
- Complementary medicine therapist

Things to remember

- Around half of women who experience migraine find that attacks tend to happen just before their menstrual period.
- Hormones don't cause a migraine, but tend to aggravate an existing attack.
- There is a possibility that a premenstrual migraine is coincidental, rather than hormonal.

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