

# The Alternative View



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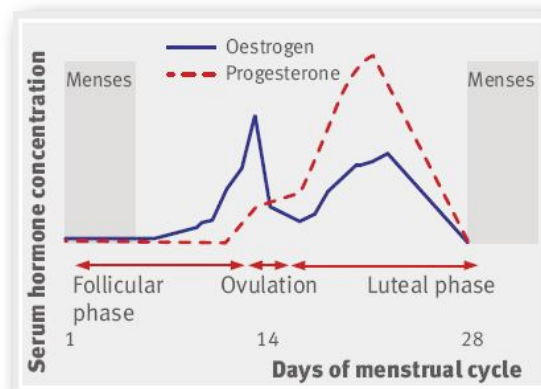
Tackling the tricky issue of migraine is never easy. This type of headache can have a complex mixture of ingredients that are needed to tip the balance and trigger an episode. Classic food triggers are often easy to pinpoint as is the effect of stress but underlying many migraine episodes are hormonal influences that, if not carefully charted, can and do confuse the entire situation. In TAV5 I have focused on hormonal migraines and reviewed some of the fundamentals that are fairly well established and well worth considering if you are a female sufferer. This issue has a definite female slant to it as I review the benefits of Krill oil on PMS & human health in general. As it's name suggests, Krill oil is extracted from... Krill! These marine crustaceans boast a high omega-3 content with EPA & DHA levels found in fish oils but with the addition of a key antioxidant and the very obvious lack of fishy smell! MW

## Hormonal migraines

It's well known that women are three times more likely to suffer migraines than men. This fact on its own suggests a hormonal connection when we consider the natural monthly fluctuations that normally take place during the menstrual cycle.

Furthermore, 60% or more of female migraine sufferers relate their headaches directly to hormonal influences. From the graph above you can see clearly the peaks and troughs that normally occur in oestrogen and progesterone levels throughout a regular 28 day cycle. What is very obvious is the sudden drop in oestrogen at ovulation and the second drop, albeit less dramatic, at the onset or close to the onset of menstruation. These ups and downs are carefully orchestrated by a set of regulating hormones released from the hypothalamus. This is a small but crucial gland found deep within the brain.

Classic migraine has long been known to be related to a change in blood vessel diameter. The complex interplay between the nervous system and the circulatory system is a major area of migraine research but in the case of hormonal migraines the fundamental influence of oestrogen on the tone of blood vessels appears to be the key factor. Interestingly, migraines look to be triggered specifically by declines in oestrogen and not that of progesterone. This fact most probably reflects the profound role oestrogen has on blood-brain function. To get to grips with this we need to take a quick detour and look at the



effect of oestrogen on the brain and its blood vessels. The brain, unlike many other organs which can use reserve fuel sources or alternative metabolic pathways, depends solely on adequate blood flow to function correctly. This fact is reflected in the massive blood supply the brain has; roughly one third of the brain is composed purely of blood vessels. This is a lot of tissue and surface area for oestrogen to act on.

Oestrogen is known to increase cerebral blood flow by binding to receptors in the endothelium (the lining of blood vessels) where it stimulates the release of nitric oxide, which in turn causes vasodilation (an opening up of vessels). Armed with this knowledge we can now see how a migraine can be triggered by the changes in oestrogen; as oestrogen levels are up and stable the blood vessels keep open but as the levels drop the vessels reflexly clamp down triggering the classic migraine head pains.

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The reduction in blood supply not only deprives the brain of its much needed oxygen and glucose it also causes the release of inflammatory chemicals that further irritate the pain sensitive blood vessels and the covering of the brain itself. Treating these headaches is now a matter of trying to stabilize the reactivity of the blood vessels in the face of the dropping levels of oestrogen and at the same time, if possible, smooth the decline that occurs at mid-cycle (ovulation) and around the time of the period. One herbal remedy in particular has shown great promise; Black cohosh (*Cimicifuga racemosa*). This herbal has been used for centuries as an effective menopausal remedy, easing hot flushes and other problems associated with the menopause. However, in the management of hormonal migraines it's well worth a try. Black cohosh effectiveness lies in its ability to stimulate the re-opening and regulation of blood vessel diameters. It achieves this by an undetermined direct action on the wall of the blood vessel and by a mild



suppressive effect on the hypothalamic hormone known as luteinizing hormone (LH). LH peaks mid-cycle to trigger ovulation. This effect may help ease the sudden decline in oestrogen, but not ovulation, that heralds the onset of the headaches. All in all, Black cohosh appears to help regulate the vascular tone and ease the hormonal decline that are associated with the triggering of hormonal migraines. Is Black cohosh safe? Well, there were some scare stories in the press a few years ago that prompted warnings to be placed on products saying that those with liver disease should avoid it. However, in human trials Black cohosh is well tolerated with side effects only being noticed at very large intakes (c. 5,000-12,000 mg). The noted side effects included gut upset, low blood pressure, vomiting and nervous agitation. In all reality, such high doses are very unlikely to ever be used or recommended! If you feel hormonal migraines fit your symptom picture I suggest you contact the clinic for some individual advice so we can get the dose of Black cohosh that's right for you rather than 'self-medicate'. TAV

## Krill oil - the benefits of fish oil with none of the fishy smell!

I think we all agree that the oils derived from fish offer some great benefits. The fatty compounds are known to deliver a ready supply of health promoting unsaturated fatty acids such as EPA and DHA that are known to protect the heart, brain and ease inflammation. If you are not a big fish eater then a daily fish oil supplement is the way to go. However, some people do suffer with an unfortunate fishy odour repeating on the breath. If this persists most people just stop using fish oils which is a shame. The good news is there may be an alternative that is just as good as the fish oil but has none of the complications of repeating; Krill oil. Growing to around 5 cm, krill play an essential role in maintaining the Earth's marine ecosystems. Because they feed on phytoplankton Krill incorporate many additional antioxidant compounds into their bodies over and above that of fish. Analysis of the oil derived from Krill shows that the potent antioxidant known as astaxanthin predominates. Astaxanthin helps protect against fatty acid oxidation, one of the processes associated with heart disease.



Studies involving krill oil in human health show that in addition to the established heart and brain functions Krill oil appears to offer superior help and protection in cases of premenstrual syndrome (PMS). In a 90 day trial involving 70 women, Krill oil (KO) was compared to fish oil (FO) for its ability to ease many of the commonly reported PMS-related symptoms. In the study, 2,000 mg of KO or FO were used for the first

30 days and thereafter (for the remaining 60 days) just to use the oils over the 8 days before and first 2 days of their period. One key finding was that none of the KO users had gut upset where as 64% of the FO users complained of an unpleasant fishy after taste or reflux. Other results indicated that KO & FO eased joint pains and stiffness, breast tenderness, bloating and eased depression and irritability. KO did result in a 50% reduction in overall pain killer use compared to that of a 33% reduction in the FO group. Although 2,000 mg is a large intake of oil it only lasted for one month, after which its use over the period would appear to be a practical use. Studies have not been performed on a maintenance daily dose of 500 mg which would appear to be a reasonable compromise. KO is a safe supplement with no known toxicity. Some people have reported flatulence and diarrhoea but this may simply reflect intake levels and can be managed with simple dose adjustments. Like all oil based supplements those on anticoagulants need to take care when using KO. TAV

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