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Migraines: what causes them, who gets them and how to treat them – medication or meditation

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Simon Cowell, Elle Macpherson, Ben Affleck and Janet Jackson are just four celebrities that suffer from one of the world's most common diseases: migraine. We look at this debilitating condition and its causes and treatments

What do actors Ben Affleck, Gwyneth Paltrow and Hugh Jackman, Olympian swimmer Ian Thorpe, reality TV judge Simon Cowell, basketball star Kareem Abdul-Jabbar, pop singer Janet Jackson, supermodel Elle Macpherson and I – and possibly you, too – reportedly have in common? We all suffer from migraines.



It's the third most common disease in the world (behind dental caries and tension-type headaches), affecting more than 14 per cent of people, according to an editorial in *The Journal of Headache and Pain*.

This chronic disorder of the brain causes recurrent severe attacks, from once or twice a year to nearly daily in some unfortunate people. Attacks present as headaches, often with nausea and dizziness, skewed vision and a disabling sensitivity to light or sound.

When I am felled by a migraine, I cannot function without medication and sleep. I can tell

instantly, by the location of my headache, whether it's a migraine or a regular headache. My migraines are always left sided, usually accompanied by nausea, and don't respond to paracetamol or ibuprofen.



As nasty as migraines are, they are not rare. Dr Terrance Li, a Hong Kong-based specialist in neurology, says about five per cent to 10 per cent of males and 15 per cent to 20 per cent of females have them. About two-thirds of migraine sufferers are women.

UK-based consultant neurologist Dr Fayyaz Ahmed says experts do not have a definitive answer as to what happens in the brain during an attack, noting there are many hypotheses, but none have been fully proved.

[1]“The current best understanding is that a certain part of the brain – the hypothalamus – has an area that works a bit like a light switch or migraine generator which causes the posterior part of the brain to start generating an electric wave that prompts a narrowing of the blood vessels. As a result, chemicals are released that will cause dilation of the blood vessels and pain and inflammation in certain parts of the brain,” Ahmed says.



Dr Terrance Li is a specialist in neurology. Photo: courtesy of Terrance Li

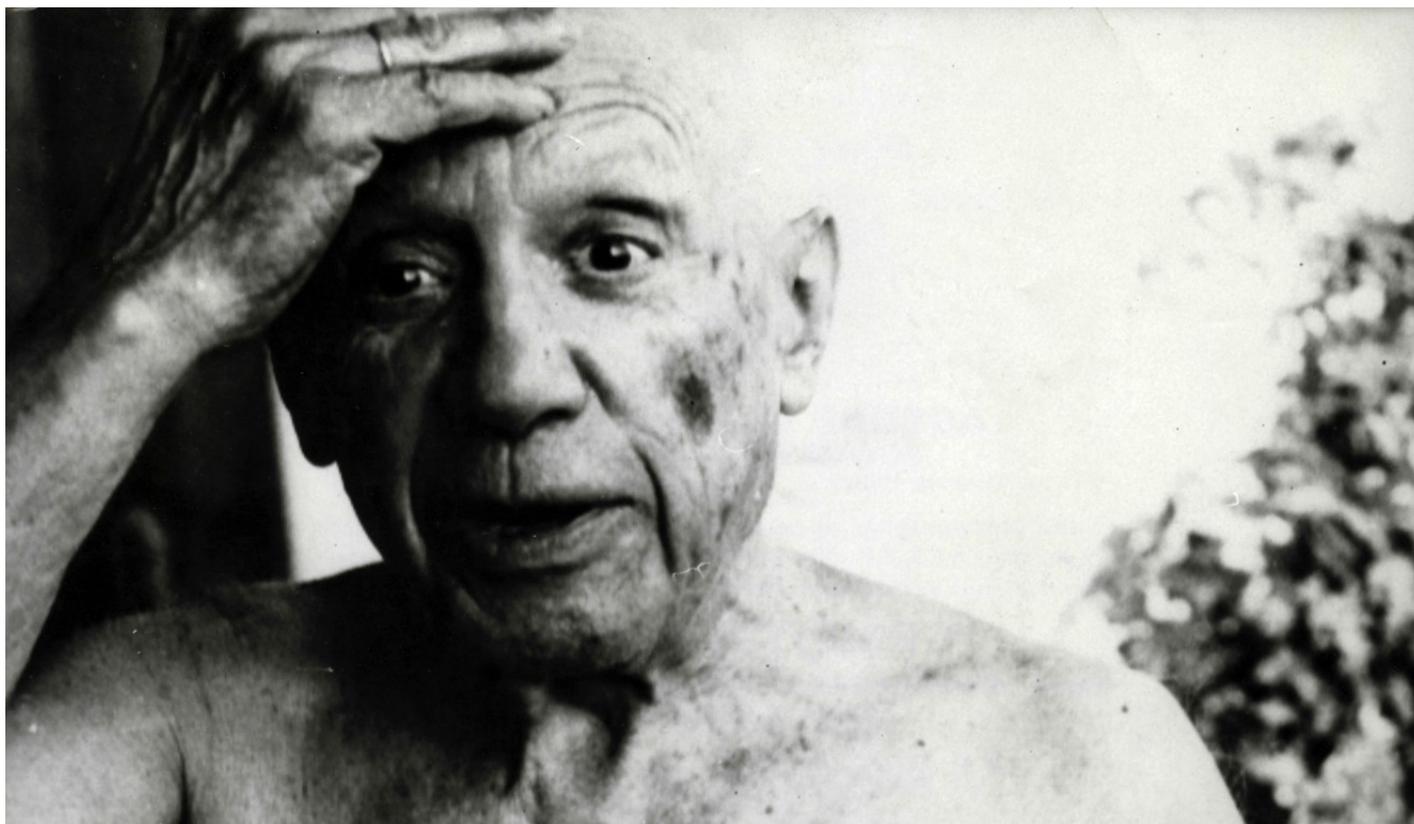
Two-thirds of migraine sufferers have headache attacks localised on one side of the head; a third has a headache on both sides. “Because of the Chinese name of migraine,” Dr Li says, “many people in Hong Kong think that a bilateral headache is not migraine which is a misconception.”

A diagnosis of migraine is based on the clinical characteristics. Most migraine attacks are associated with nausea and/or vomiting (80 per cent to 90 per cent). The headache tends to be throbbing.

Migraine attacks may add to risk of strokes [2]

Migraines are not just headaches. They are diagnosed in patients who have suffered a minimum of five attacks, each lasting four to 72 hours. Each attack must include at least two of the following symptoms: throbbing headache with pain that is moderate to severe and that worsens with activity, nausea or vomiting, sensitivity to light and or sound.

About 20 per cent of migraine patients experience an aura before the headache. These include distortions of vision – jagged lights, blind spots – but can also be sensory, verbal or motor. Oddly, auras involve a different part of the brain from the subsequent migraine. Following a migraine attack, some sufferers experience a “post-drome” which can include confusion, dizziness or weakness.



The famed artist Picasso was a so-called “migraineur”. Says Li: “Some suggest that what we see in his paintings (such as distorted women’s heads) is actually what he saw during the migraine attack.”

Migraine sufferers are hugely sensitive to triggers and, as Ahmed observes: “There are hundreds of triggers.” Migraine triggers can include hormonal changes in women (pre-menstruation may be worse, and the contraceptive pill and hormone replacement therapy can either aggravate or alleviate migraine, depending on the patient).

Some foods, especially aged cheeses and processed foods, may bring on a migraine, as can skipping meals, drinking alcohol, becoming dehydrated, stress, and too little sleep. Even barometric pressure changes and changes in the weather may be a cause.



irregular meals and lack of sleep.

My own triggers include

Claudia Ng, a registered chiropractor at Hong Kong's Spine Centre, explains the role of good sleep in migraine prevention. "Better sleep is related to higher serotonin levels, serotonin is a neurotransmitter that has a positive effect on mood and pain tolerance. Serotonin levels have been linked with migraine in that a sudden rise and fall of serotonin levels is shown to precede a migraine attack."

Another strong trigger is the female hormone oestrogen, which explains why more women than men have migraines. "If you look at the data, before puberty, both boys and girls are equally affected, but post puberty, migraine is three times more common in women," says Fayez.

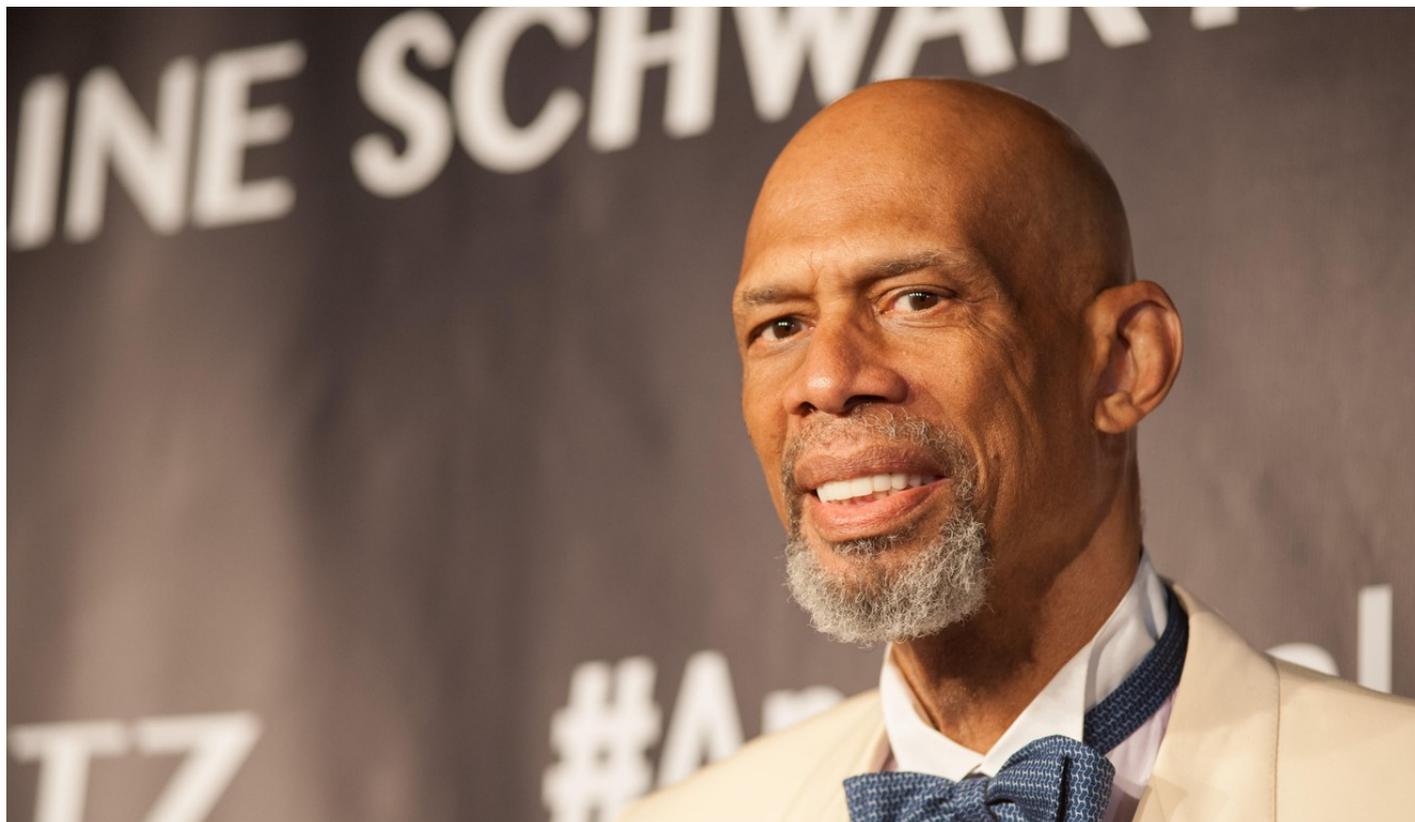
[Headband that helps fight migraines set to take on US market \[1\]](#)

Migraine attacks can sometimes be successfully treated with over-the-counter pain medication, but Dr Li has concerns about their frequent use. Many Hong Kong sufferers, he says, use these drugs for migraine as well as other types of headache. One of the most commonly used is Panadol Extra which contains codeine and caffeine.

"Those components are two of the agents that cause a condition called 'medication overuse headache'," Li says. "If a patient takes this combination painkiller for more than 10 to 12 days a month, the intensity of headache attacks may be relieved a little, but the frequency of migraine attacks will rise."

A class of drugs called triptans can be effective. Triptans, the first drugs developed specifically for migraines in the 1980s, remained the best option for treatment of individual migraine attacks. Triptans are not painkillers, but act on serotonin, a chemical linked with migraine.

Though mostly safe, effective and fast-acting (within 30 minutes in my case), triptans must be considered with caution, especially in older patients or patients who suffer any circulatory or heart conditions. They can also cause medication-overuse headache.



“We suggest patients take no more than six to eight tablets per month. There are many different types of triptans in the US and Europe, but because of the small market in Hong Kong and not many experts specialised in the field, only two triptans, sumatriptan (Imigran) and zolmitriptan (Zomig) are available in Hong Kong,” Li says.

A prophylaxis is often prescribed for those who suffer migraines regularly. Li notes there are many different types, including beta-blockers, calcium channel blockers (verapamil), tricyclic antidepressants (including nortriptyline, and amitriptyline – which is what I take), and anti-seizure drugs such as sodium valproate and in resistant cases, topiramate.

Positive thinking a big factor in effectiveness of migraine pills [3]

Beta-blockers are often a first line of treatment, but didn't work for me as they gave me horrific nightmares.

In mid-May, the FDA approved a brand new migraine-specific treatment that works to reduce the frequency and severity of attacks by blocking the action of a protein – CGRP (calcitonin gene-related peptide) – which is found in higher levels in people having a migraine and which results in the dilation of blood vessels.

Ahmed says the data is encouraging, as this is the first migraine-specific drug that has no side effects and can be self-administered by patients every month like an insulin injection. The drug, Aimovig, isn't cheap: it costs US\$6,900 a year.

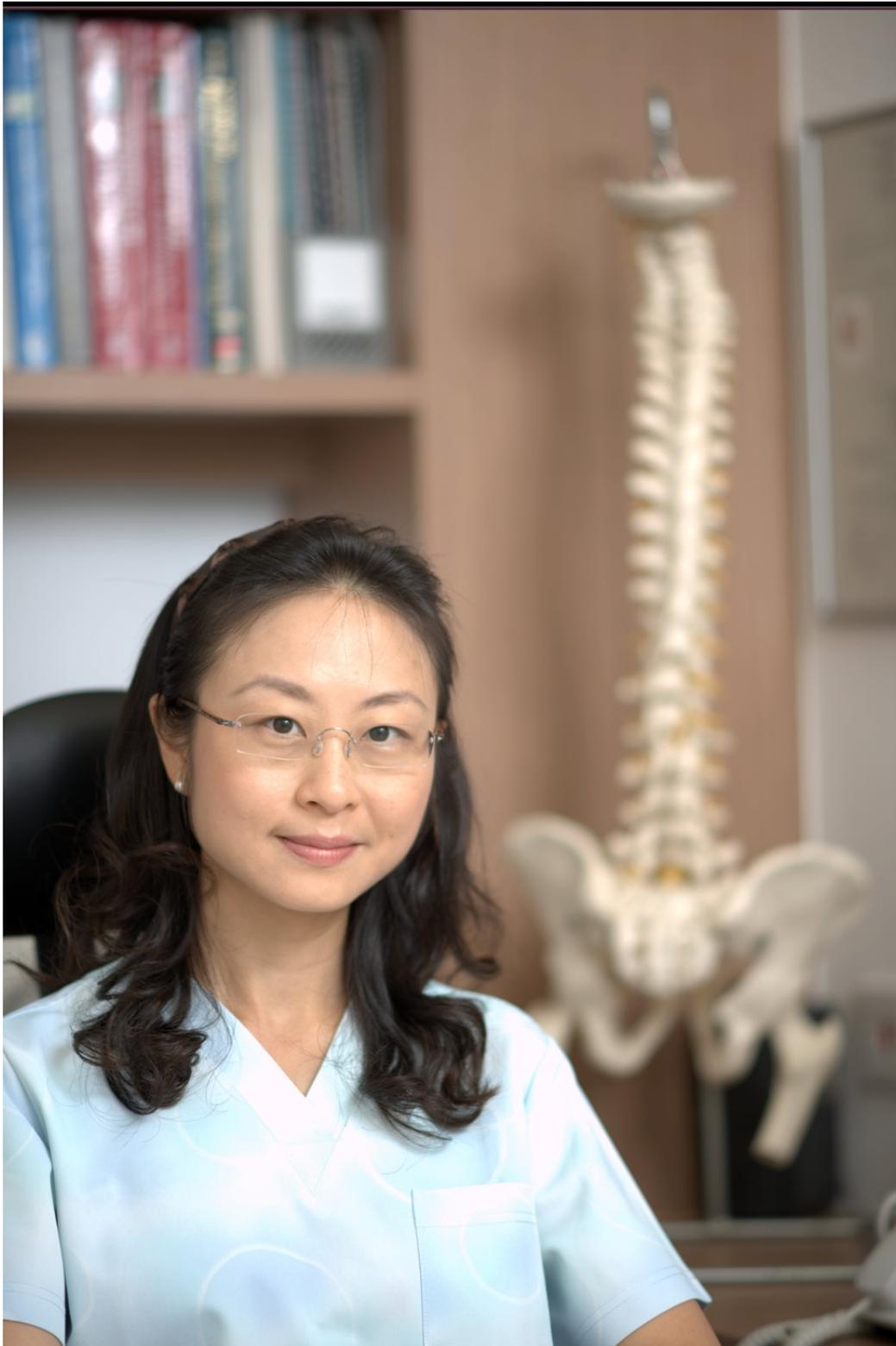
Researchers hope the new drug has a sound safety profile because of its structure: the molecules are large, they don't act on the brain but rather block the effects of CGRP on the brain. The drug isn't metabolised in the liver so there's less interaction with other medications,

and because it's injected, it does not irritate the stomach.

Despite the good news, as one expert observed, it's "progress not a panacea." Migraineurs should keep a close eye on triggers – take notes of attacks in a diary – as well as treatment.

Always consult your doctor if you have lingering headaches, particularly if they differ from your usual headache.

Three ways to prevent migraines without medication



Claudia Ng is a registered chiropractor.

Spinal manipulation

Claudia Ng of The Spine Centre has used this method, which she describes as “a safe, non-invasive and effective method to reduce the frequency, duration and intensity of migraine attacks.” The reason?

“When a spinal misalignment occurs due to poor posture, stress, it is often associated with

dysfunction of the joints and the nerves that supply those joints. This interference further stresses the nervous system in the case of a migraine.”

Spinal manipulation, she says, “often results in a tremendous release of tension in an overloaded nervous system and settles a neurological storm in a pending migraine attack.”



Meditation and mindfulness

“The American Migraine Foundation defines migraine as a disorder of a hyperexcitable brain,” says Cristina Rodenbeck, a wellness coach and practitioner at the Integrated Medicine Institute in Hong Kong. “This suggests migraine sufferers benefit from a stress reducing lifestyle.”

Meditation, she says, changes the neural connections between important parts of the brain. Brain imaging shows that meditation addresses migraines from the root – how we react to the pain. If this response is not controlled, we are flooded with negative emotions that amplify the experience. Mindfulness soothes the circuits to reduce intensity, she says.



Iyengar Yoga Centre director George Dovas says supporting the head and relaxing the eyes is key to treating headaches. Photo: courtesy of Iyengar Yoga Centre

Yoga

George Dovas, director at Hong Kong's Iyengar Yoga Centre, says when muscle tension in the neck and shoulders causes headache, he suggests yoga postures in which the head is supported, to help release that muscle tension. "In all the poses, when we are working to eradicate a headache, it's important to relax the eyes and we may cover the eyes with a wrap to accommodate this.

"Yoga creates a virtuous cycle, a chain of events such as less muscular tension, better breathing, learning how to relax, less stress, better sleep, and, as a consequence, fewer headaches."

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[1] <http://www.scmp.com/news/world/article/1463242/headband-helps-fight-migraines-set-take-us-market>

- [2] <http://www.scmp.com/news/world/article/1300411/migraine-attacks-may-add-risk-strokes>
- [3] <http://www.scmp.com/news/world/article/1401616/positive-thinking-big-factor-effectiveness-migraine-pills>
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