

Hot topics in Migraine

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Patent Foramen Ovale

A Patent Foramen Ovale, or PFO, is a hole between the left and right ventricle of the heart. Everyone is born with this but in the majority of people it closes by the age of 1. For a number of people however, it remains open. A recent Spanish study examined the prevalence of PFO by looking at patients' post-mortem and found that about 25% of the population has one. In the UK researchers working with living patients have come up with a similar figure.

The size of the hole can also vary from person to person and understandably the bigger the hole, the bigger the problem that could potentially be associated with it. For example, looking at a lot of people with a family history of stroke, we can see that, in many cases, it was due to PFO rather than other risk factors.

It has also been noticed that after having surgery to have their PFO closed, a number of people who had previously suffered very badly with migraine reported not having attacks anymore following their surgery.

People who have *Migraine with Aura*, who have had a stroke or a mini stroke known as a TIA and who have no problem with their blood, arteries etc., should be investigated for PFO. 50% of people in this situation are found to have PFO. When the opening is closed not only do they stop having TIA's but their migraines stop also.

About 20,000 operations to close PFO's have been done worldwide and 70% say it has either completely cured their migraine or they've had a substantial reduction in attacks as a result. However, we cannot say to people, based on chance observations, that this is what you should do to treat your migraine - we obviously have to design research to prove the point.

To do this, we have designed a study that we're doing in conjunction with the Migraine Action Association (MAA) in the UK (www.migraine.org.uk)

Hundreds of people have expressed an interest in taking part. If they have the right criteria i.e. migraine with aura a few times in their life, at least 5 migraine days a month, they can be tested for PFO and to determine its size, if present.

In our study, half of the volunteers will have their PFO closed and half won't. We want to see if those who had it closed do better than those who haven't.

The procedure involved in closing the PFO entails going through the femoral vein (which is opposite the one where you have the angioplasty in ischaemic heart disease). You put a catheter through the actual PFO, open up the umbrellas to collapse either side of the

hole. Over about 6 weeks your own tissue grows over it. But for the first few weeks you need to take tablets to stop blood clots forming.

At the moment we don't know what the results of the study will be. But in 8 or 9 months we will know the ultimate answer to this question. Even in the next few months we'll know if there's a higher chance of having a PFO if you have migraine with aura, what portion of people have a big PFO and what the indications are for them.

There is more information on this study from <http://www.migraine-mist.org/>

Central Sensitisation (Allodynia)

When you start to have a migraine attack, you may begin by having an aura, then your headache starts and at some point during the course of the actual migraine, if you put your hand on your head, it becomes intensely irritating. This is allodynia - pain due to a stimulus that does not normally provoke pain.

It's an indication that rather than just the brain sending messages, its also "recruiting" other nerves more centrally to get involved. You end up with people being very sensitive to touch and sound etc. The whole nervous system gets upset.

People should try taking whatever treatment they take as early as possible in the attack as its much more likely to work. If you take a Triptan for a severe attack, it will probably only work in half of the attacks. If you treat a moderate attack, it will probably work in 65% of attacks. If you treat a mild attack it will usually work in about 85% of attacks.

Its also very important to remember that if you can treat an attack in the first 10 minutes, you will have up to a 90% response rate. Therefore *time* and *intensity* are both important factors when it comes to treating migraine. This sensitisation (Allodynia) is also important. If you look at people who take their Triptan before sensitisation kicks in, 90% will be pain free and back to normal activities within 2 hours.

Simple analgesics such as Aspirin, Paracetamol etc, taken very early in the attack before the headache has even started is a good strategy. You may get a useful warning e.g. yawning, cravings, tiredness etc during the 2 hours before the attack or an aura an hour before the attack – that's the best time to take your simple treatment usually. However, it turns out that if you treat an attack with a Triptan during the aura, it generally doesn't make a big difference to the headache.

Another problem when it comes to treating migraine effectively is *gastric stasis*. What can often happen in during a migraine is that the drug you take to treat it does not get into the system due to the stomach upset and vomiting that can accompany an attack. This problem is compounded by the fact that certain tablets can take a long time to dissolve. There's a new type of Sumatriptan (Imigran) designed to dissolve much more rapidly. It dissolves 6 times more quickly than standard Imigran. It's a good idea for

people racing against Allodynia and gastric stasis as it acts much faster. In clinical trials some patients were back to normal activity within 45 minutes.

Chronic Daily Headache (CDH)

7½ out of 10 patients in my clinic do not have once a month migraine. They may have done at one point but then went through a bad patch and now have CDH. You have CDH if you have more than 15 days headache per month over at least 6 months where the headache lasts for 4 hours or more each time. Sometimes overusing medications causes CDH. Getting 3 or 4 migraines a month places people on the slippery slope of using more and more drugs to treat their increasing of attacks. However, the end result is the development of daily or near-daily headache.

I would like to look at one case study from my own clinic. It concerns a patient with background headaches and superimposed migraines.

People often disregard the background symptoms of migraine e.g. neck stiffness, low-grade headache, lethargy, poor quality sleep etc. But for many this is an indication that what was once migraine has changed from an episodic condition to a more continuous neurological disturbance.

This woman uses about 300 Syndol per month and also takes doses of a triptan on a bad day. This is a clear case of *Analgesic Dependent Chronic Daily Headache* and this is by far the most common headache disorder I see in my clinic.

There are different patterns of CDH. If you have a low-grade headache present all the time, that could be a chronic tension type headache. In fact, very few people even consult a GP for this – it's only when the migrainous symptoms are very obvious or very debilitating that people are driven to seek medical help.

For people with stiffness in neck and shoulders, we use neuropathic pain drugs such as Gabapentin. Intriguingly Botox is also used in that area. Although there are no clinical trials yet for the use of Botox for the treatment of migraine, some people seem to do extraordinarily well with it.