



CLUSTER HEADACHE TREATMENT

The treatment of CH includes offering advice on general measures to sufferers; actually stopping individual attacks; helping to stop the attacks happening in the first place; and very rarely, brain surgery.

Sufferers should avoid drinking any alcohol during cluster bouts. Otherwise, most other foods and drink don't seem to affect CH. Although yet to be clinically proven, it is also suggested that sufferers should avoid being exposed to volatile substances such as solvents and oil based paints. Sufferers should also avoid afternoon naps, as sleeping can be a trigger amongst some sufferers.

There are currently three main types of prescriptive medication available for CH sufferers:

1. **Abortive Medication:**

Medications used to help stop individual attacks are called abortive agents or acute treatments. The pain of CH builds up so quickly and to such an excruciating peak that most drugs that are designed to be 'swallowed' do not work quickly enough.

The most effective abortive agents are those that are either administered through the lungs or nose, or by means of injection: either beneath the skin, through the muscle, or into a vein.

- **Triptans**

The most successful abortive treatment of a cluster attack is a self-administered injection, just beneath the skin, of a drug called sumatriptan (Imitrex). It tends to work very quickly amongst a high proportion of sufferers. In CH, unlike in migraine, injecting sumatriptan beneath the skin can be done twice a day, amongst most sufferers, without the risk of the pain reoccurring after the drug has worn off (a rebound headache).

However, sumatriptan is relatively expensive, and accordingly, many GPs and neurologists are sometimes reluctant to prescribe sufferers with this drug. It is generally felt that given the extreme nature of CH, and the excruciating pain involved, that it is unethical for this drug not to be used because of its high cost.

Sumatriptan can also be inhaled through the nose using a nasal spray, but it is much less effective than injecting beneath the skin. There is no definitive evidence that sumatriptan works for CH in tablet form. 100mg tablets taken three times daily do not prevent an attack and should not therefore be used as a preventative measure. Zolmitriptan taken in 5mg tablet form does help the pain in some sufferers of ECH but not in CCH. However, the effectiveness is modest and isn't as effective or as fast acting as oxygen therapy (see below) or sumatriptan injected beneath the skin.

- **Oxygen**

Breathing in pure oxygen at a rate of between 7 to 15 liters per minute is relatively fast acting in providing pain relief amongst most sufferers. It should be inhaled continuously for 15-20 minutes using a non-breathing mask i.e. one without holes. The masks are provided by your oxygen supplier. As soon as you know an attack is starting turn the oxygen on to 15 liters per minute and then after a few minutes turn it down to around 6 to 8 liters per minute, sufficient to keep the little reservoir bag inflated. Stay on the oxygen for a good five to ten minutes after the attack has gone.

- **Analgesics**

Analgesics are drugs that are used to relieve pain in normal circumstances. These include opiates - derived from the opium poppy, such as morphine etc. - and other non-steroidal anti-inflammatory drugs such as aspirin, ibuprofen, and indomethacin. None of these are effective as an abortive drug in CH attacks.

2. **Preventatives:**

Drugs used to help prevent CH occurring in the first place are called prophylactics or preventative treatments. The aim of preventative treatment is to attempt to reduce the number of attacks with minimal side effects until the cluster bout is over in ECH, or for a longer period in CCH. There are two types of preventative treatments:

A. Short term preventatives - designed for quickly controlling the attack frequency but not suitable for long term use.

B. Long term preventatives - designed for long term management of CH.

SHORT TERM PREVENTION

Short term prevention tends to be better amongst sufferers who have either short bouts (perhaps in weeks rather than months) or for sufferers where it is necessary to quickly control the frequency of attacks. These drugs cannot be used in the long term because of the potential side effects.

- **Steroids**

The most effective and fast acting steroids are called corticosteroids. However, careful monitoring of the sufferer is necessary because of the potential for serious side effects. Treatments are normally limited to between 2-3 weeks whereby the amount of drug taken over this period is reduced over time. The tablets, called prednisone (1mg per kg), are prescribed starting at a maximum dosage of 60mg once a day for five days, and from then on, a decreased dosage (by 10mg) every three days. Unfortunately, this necessary 'tapering' effect (reducing the dosage) means that in most sufferers the CH returns, and for this reason, steroids are only used as a first-step treatment alongside other preventatives until these become effective.

- **Greater Occipital Nerve Injections (GON)**

GONs are very useful in the short-term prevention of those attacks. A small amount of a steroid is mixed with a numbing medication like lidocaine and injected into a nerve at the back of the head. In 2/3 rds of patients this can be very meaningful at stopping or limiting a bout for weeks to months. These can only be performed two to three times a year. These are generally well tolerated but rarely can cause hair loss and skin thinning at the site of injection.

LONG TERM PREVENTION

Some ECH sufferers (those with particularly long bouts) and CCH sufferers require preventative treatment over many months or even years. The two most favored long-term drugs are verapamil and lithium.

- **Verapamil**

Verapamil is currently the most preferred drug amongst sufferers of both ECH and CCH. Medical research has shown that higher doses are needed than for other uses of the drug. Dosages of the drug vary from between 240mg to 960mg per day, normally taken in tablet form three times a day. The strength of the tablet is increased every two weeks until it is effective in stopping cluster attacks or until the maximum dose of 960mg per day is reached.

However, verapamil can have side effects including 'heart block' (a block in the conduction of the normal impulses of the heart). It is therefore mandatory that individuals are given an ECG before taking the drug, and then again each time the dose is increased to check for any potential abnormalities.

- **Lithium**

Lithium is effective as a preventative amongst many sufferers, more so amongst CCH. Kidney and thyroid tests are required prior to prescribing the drug. Sufferers are then started on 300mg tablets twice a day and the amount of the drug in the body is then monitored until it reaches the desired medical concentration in the body as outlined in the BNF (British National Formulary). Many sufferers benefit at levels between 600-1200mg per day. It is not recommended that lithium is taken at the same time as non-steroidal anti-inflammatory drugs, diuretics or carbamazepine.

- **Other Drugs**

Other frequently used drugs used for preventative treatment include sodium valproate, topiramate, gabapentin, and melatonin. The effectiveness for these, however, is as yet medically unproven.

3. **Surgery**

Current surgical methods are only used amongst sufferers who have tried all of the available preventative and abortive treatments and hence are a last resort measure amongst carefully selected sufferers.

Only sufferers whose headaches are exclusively one sided should be considered for surgery because there is a risk that the CH will re-occur on the opposite side following the surgery. There are a number of surgical procedures available though few offer long-term results and the side effects can be devastating.

There have, however, been recent reports of less evasive surgical techniques involving electronic surgical implants (ONSI), which are currently being investigated further.

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