PROPRANOLOL FOR HAEMANGIOMAS OF INFANCY

What are the aims of this leaflet?

To explain how propranolol is used to treat haemangiomas (commonly known as strawberry birth marks) in infants.

What is propranolol and how does it work?

Propranolol belongs to a group of drugs known as beta-blockers, which are used to treat high blood pressure and fast heart rates. They work by slowing the heart and narrowing blood vessels. This is helpful in haemangiomas, as it reduces the blood flow through them, fading the colour and making them softer. Also, the cells that cause the growth of the haemangioma are affected by propranolol so that the haemangioma starts to reduce in size. More research is happening to find out exactly how propranolol works to reduce the growth and size of haemangiomas.

What skin conditions are treated with Propranolol?

Haemangiomas of infancy is a skin condition which can be treated with propranolol. They consist of small, immature blood vessels, and usually appear in the first few days or weeks of life as one or several raised red areas on the surface of the skin, or as bluish swellings arising deeper in the skin.

Haemangiomas grow rapidly in the first 3 months and usually stop growing between 6 and 12 months of age. They shrink slowly over 5 or more years.

Most haemangiomas cause no problems and do not require treatment; however if they develop in a site that interferes with a vital function such as breathing, feeding or vision they will need treatment. Occasionally haemangiomas, especially those in the nappy area, can ulcerate, which may be very painful and will require treatment.
Steroid treatment by mouth was used as a first line treatment in the past, however over the last three years propranolol has been found to be a safer and more effective treatment for haemangiomas. However, steroids do occasionally still need to be used.

**Will Propranolol cure my child's skin condition?**

Propranolol helps to reduce the growth, size and redness of haemangiomas faster than would occur without treatment. Untreated haemangiomas also shrink and fade on their own over several years. Usually only a small patch of extra skin remains at the site by the age of 5 to 7 years. Propranolol does not always alter this outcome as its main role is to shrink the haemangioma more rapidly in its early stages.

**How often and when should my child take propranolol?**

Propranolol is usually started as soon as a haemangioma is causing a problem. It is given 2 or 3 times a day by mouth until the haemangioma is no longer interfering with a vital function and will not show further growth when treatment is stopped. This is usually sometime around the first year of age.

**What dose should my child take?**

Your child’s dose is worked out depending on their weight and may be increased depending on the response to treatment. This means that the dose will change over time as your child grows. Propranolol for babies is normally supplied as a 1mg/ml liquid (that is 1ml of liquid contains 1mg of propranolol).

Propranolol is also available in other strengths, so you should always check the dose with your pharmacist before giving it to your child. Ideally any other strength should be avoided to minimise any risk of the wrong dose being given to your child.

If you have any queries about your child’s propranolol dose, please talk to your nurse, doctor or pharmacist.

**How long will my child need to take propranolol before I see an effect?**

Treatment until around 12 to 14 months of age with propranolol is usually sufficient to ensure that the haemangioma will not re-grow. Propranolol should not be stopped suddenly, so your child will gradually be weaned off the medicine, usually over a period of 2 weeks.
What are the side effects of propranolol?

Most infants do not appear to have any side effects from propranolol in the low doses used for treating haemangiomas. However propranolol may rarely be associated with the following side effects:

- slow heart rate (bradycardia).
- low blood pressure (hypotension).
- temporary narrowing of the airways, leading to wheezing and coughing (bronchospasm).
- reduced blood flow to the fingers and toes, making them feel cold and turn a blue colour (peripheral vasoconstriction).
- weakness and fatigue, showing as floppiness and disinterest in surroundings.
- sleep disturbance.
- low blood sugar (hypoglycaemia).

If you have any concerns about these side effects, please discuss them with your doctor, nurse or pharmacist.

How will my child be monitored for the side effects of propranolol treatment?

Although propranolol has been used for many years to treat heart conditions, there is less experience with its use for treating haemangiomas. As a result, there is still some uncertainty about exactly how much monitoring is necessary. At present it is usual for infants to have a heart assessment (blood pressure, echocardiogram, ECG) and blood testing before starting propranolol treatment, and to have measurement of heart rate and blood pressure for 2 hours in hospital after the first dose, and if the dose is doubled or trebled. It is likely that assessment and monitoring requirements will change as experience with this use of propranolol increases.

Can my child have immunisations (vaccinations) whilst on propranolol?

Yes, all immunisations may proceed as normal.

Does propranolol affect future fertility, or future pregnancy in female infants?

No.
Can my child take other medicines at the same time as propranolol?

Some medicines may interact with propranolol so it is important to check with your doctor before giving other medicines.

Where can I get more information about propranolol?

http://www.dermnetnz.org/vascular/haemangioma.html
http://kidshealth.org/parent/medications/propranolol.html
http://www.gosh.nhs.uk/gosh_families/information_sheets/haemangioma_propanolol/haemangioma_propanolol_families.html

For details of source materials used please contact the Clinical Standards Unit (clinicalstandards@bad.org.uk).

This leaflet aims to provide accurate information about the subject and is a consensus of the views held by representatives of the British Association of Dermatologists: its contents, however, may occasionally differ from the advice given to you by your doctor.

This leaflet has been assessed for readability by the British Association of Dermatologists’ Patient Information Lay Review Panel

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