Treating small infantile haemangiomas with topical timolol

This information sheet explains how small infantile haemangiomas can be treated with topical timolol, a medicine traditionally used to treat high eye pressure. Not all haemangiomas are suitable for this form of treatment. Information about haemangiomas in general and other treatment options are detailed in our Haemangiomas booklet available from the Birthmark Unit, Pals Office or on our website.

What is a haemangioma?
A haemangioma is a collection of small blood vessels that occur under the skin. They are sometimes called ‘strawberry marks’ because the surface of some haemangiomas look a bit like a strawberry. Haemangiomas can be superficial or deep in the skin. Some haemangiomas are a combination of the two, seen as a raised red area on the surface of the skin, or as a bluish swelling of abnormal blood vessels deeper in the skin. Haemangiomas are not usually obvious at birth but become apparent within a few days or weeks. They grow rapidly in the first three months, increasing in size and sometimes in redness. It is unusual for haemangiomas to grow after six to ten months of age, when most haemangiomas tend to have a ‘rest period’ and then begin to shrink.

How are haemangiomas usually treated?
In most cases, haemangiomas require no special treatment. However, for those that interfere with function, for example, those near the eye, on the lips or in the nappy area, beta-blocker medications are the first line treatment. They can be given orally (by mouth) or applied topically (as a gel applied to the surface of the haemangioma). Topical application is only used for very small haemangiomas.

What is timolol maleate and how does it help with haemangiomas?
Timolol maleate is a beta-blocker medication, which means it blocks beta adrenergic receptors. By blocking the beta adrenergic receptors, timolol can make blood vessels narrower, reducing the amount of blood flowing through them. This is helpful in haemangiomas, as reducing the blood flow reduces the colour and makes them softer. Beta blockers may also limit growth of haemangioma cells. More research is needed to confirm exactly how timolol works.
Timolol comes in a variety of formats, but the one currently used at GOSH is a gel-forming solution called Timoptol® -LA 0.5% originally used for treating raised eye pressure.

**Are there any side effects with topical timolol treatment?**

Topical administration of timolol is safe and side effects are extremely rare. However, you should report any of the following to your doctor, as the dose of timolol may need to be altered or, on very rare occasions, stopped. We will explain the side effects to you at the first consultation.

Very rare side effects:
- bradycardia (slow heart rate)
- hypotension (low blood pressure)
- bronchospasm (temporary narrowing of the airway, leading to wheezing and coughing)
- peripheral vasoconstriction (reduced blood flow to the extremities, such as fingers and toes, making them feel cold and turn a blue colour)
- weakness and fatigue, showing as floppiness and disinterest in surroundings
- sleep disturbance
- hypoglycemia (low blood sugar)

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

**Are there any tests needed before starting timolol treatment?**

If your child has more than 5 to 10 haemangiomas visible on the skin, we may carry out an abdominal ultrasound scan to look for haemangiomas deeper in the body. Also, before starting treatment and at each visit after starting, your child will have clinical photographs taken. If your baby was born prematurely, please let us know at your first appointment as this may affect the dose of timolol prescribed.

**What dose should my child have?**

The average dose is one drop three times a day. You should apply the drop directly to the haemangioma and carefully spread it with your finger to cover the surface of the haemangioma. Please wash your hands with soap and water before and after putting timolol on your child’s skin.

**How long does the treatment last?**

We expect treatment to continue for between six months and a year. Your child will be reviewed after starting the treatment so the doctors can decide whether the topical treatment is working. If topical treatment with beta-blockers is not sufficient to stop the haemangioma from growing, then an oral beta-blocker medication may be prescribed in selected cases.
What happens next?
Seventy per cent of haemangiomas will have disappeared completely by the age of five to seven years. Depending on the size and location of the haemangioma, there may be little sign it ever existed. For more information, please see our Haemangiomas booklet available from the Birthmark Unit, Pals Office or on our website.

Support groups
The Birthmark Support Group offers support and advice to parents of children with all types of birthmark. Telephone their helpline on 0845 045 4700 or visit their website at www.birthmarksupportgroup.org.uk
Changing Faces is another organisation that will be able to offer help and support to anyone living with a condition that affects their appearance. Visit their website at www.changingfaces.org.uk or telephone their helpline on 0845 4500 275.

Where to get further information
Great Ormond Street Hospital
Birthmark Unit
Great Ormond Street Hospital
London WC1N 3JH
Clinical Nurse Specialists – Birthmark Unit
Tel: 020 7405 9200 ext 1113
during office hours
In an emergency, please telephone 020 7405 9200 asking them to contact the on-call doctor for dermatology.

Notes