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Retinoids for Ichthyosis

What are retinoids?

Retinoids are drugs derived from Vitamin A which are used to treat a number of skin conditions. The most common are acetretin (Neotigason) for the treatment of ichthyosis and isotretinoin (Roaccutane) for the treatment of severe forms of acne.

How does acetretin help ichthyosis?

Natural retinoids are required for normal growth and development of many cells and tissues. The process by which new cells grow and develop is called differentiation. For cells which are not growing normally additional retinoid can push their development towards normal. So for ichthyosis the acetretin will help the skin cells grow and differentiate more normally. This process of skin maturation is known as keratinization.

What is acetretin?

Acetretin is a retinoid which is a metabolite of etretinate. It has a relatively short half-life, but etretinate, which has a much longer half-life, has been detected in the blood long after the drug has been stopped. This has important implications on avoidance of pregnancy (see adverse side effects).

Acetretin is the active ingredient of Neotigason manufactured by Roche Products Ltd. It is available as



capsules in two strengths: 10mg and 25mg. There is no liquid preparation.

Who should receive treatment with acetretin?

Individuals with the most severe forms of ichthyosis. It can only be prescribed and supervised by a hospital based specialist (usually a Consultant Dermatologist). Before starting treatment blood tests and X-rays will need to be performed as a baseline assessment.

Adverse effects

- For females of child bearing age, pregnancy must be avoided and for at least 2 years (3 years in the US) after stopping treatment. Retinoids are potentially teratogenic, that is they can affect the baby in the womb and cause serious fetal abnormalities.
- Dryness of the mucous membranes (mouth, lips, inside the nose, eyes) and peeling of the palms and soles are common. The use of a moisturising agent, especially on the lips is usually sufficient.
- Occasionally blood test abnormalities can occur, such as an increase in fats (triglycerides and cholesterol) or disturbance in function of the liver. Hence the need to do regular blood tests. If an abnormality is detected, reducing the dose or temporarily stopping the drug is all that is usually necessary.
- Photosensitivity. Beware of excessive sun exposure and use an appropriate high factor sunscreen.
- Hair loss, which is temporary and returns to normal after the dose is reduced or the drug is stopped.

- Long-term treatment with acetretin has been associated with certain abnormalities. This is exceptional and relates to length of treatment and high dose. If the dose is kept to a minimum and the patient is regularly supervised then this can be detected at an early stage. Normally the changes do not cause any pain or discomfort. If there is any cause for concern an X-ray would be indicated.

How long can treatment be continued?

The manufacturers recommend that continuous treatment should not last longer than 6 months; however, in clinical practice and reported studies there are now a significant number of patients who have been on retinoids for over 5 years, some for greater than 10 years. If there is a good response to treatment, acetretin can be continued safely long-term with appropriate monitoring. Intermittent treatment is preferable, if this can be achieved.

What is the future of retinoids?

Initially etretinate (Tigason) and more recently acetretin (Neotigason), have provided a significant contribution to the management of severe ichthyosis. Hopefully in the future there will be new retinoid drugs which are as effective, but even safer. A better understanding of the mechanism of action of these drugs and new advances in molecular genetics will eventually lead to more specific therapies for the ichthyoses.