

## Azathioprine for eczema

Azathioprine is a thiopurine analogue drug that suppresses the immune system by altering white blood cell function. It is changed in the liver to a related drug, mercaptopurine and then into metabolites called thioguanine nucleotides, which inhibit cell growth.

In Australia azathioprine is available as 25 or 50mg tablets or as an injection, trade name Imuran® and 50 mg tablets Azamun® or Thioprime®. The dose is generally from 1-3 mg/kg once a day and will be adjusted by your doctor depending on the results of the test for the enzyme TPMT. Give the tablets with food.

### Side effects

Side effects are generally mild but occasionally are severe enough to stop treatment .

- Loss of appetite, nausea, vomiting or diarrhoea (more common if the medication is taken on an empty stomach). Mouth ulceration may also occur.
- Liver upset (cholestatic hepatitis). Allergy to azathioprine usually affects the liver.
- Pancreatitis
- Bone marrow suppression, particularly leucopaenia (reduced number of white blood cells)
- Megablastic erythropoiesis or macrocytosis (production of large red blood cells).
- Rarely, severe prolonged drug hypersensitivity syndrome resulting in widespread rash, fever, enlarged lymph glands and organ failure (heart, lungs, kidneys, liver).
- Skin cancer is more likely after several years' treatment with azathioprine, especially on skin that has been exposed to the sun. Protect your skin from the sun at all times.

### Monitoring

Patients taking azathioprine should receive regular blood tests to monitor the safety of treatment, at first fortnightly then monthly long term.

- Complete blood count (CBC or FBC)
- Liver function tests.

Before starting the medication your doctor will measure the activity of the enzyme thiopurine methyltransferase (TPMT) in the blood . Azathioprine is metabolised more slowly by some people, who have less activity of the enzyme (TPMT). They may have one gene for reduced activity (found in 11% of the population) or two (0.3% of the population). In those with one gene for reduced activity the dose of azathioprine is reduced. Those with both genes are at increased risk of severe marrow suppression i.e. reduction of white cells (leucopaenia) or of all blood cells (pancytopenia) and are not given the medication .

## **Drug interactions**

If you take azathioprine, you must advise any medical practitioner or pharmacist. It is particularly important if you take allopurinol for gout, as the dose of azathioprine will need to be reduced.

The following drugs are best avoided:

- Neuromuscular blocking agents (such as rocuronium, mivacurium, vercuronium, atracurium, tubocurarine)
- Warfarin
- D-penicillamine
- Cotrimoxazole
- Captopril
- Cimetidine
- Indomethacin

## **Immunizations**

Do not have any immunizations with live vaccines (measles, polio, chickenpox ) without first checking with your doctor. Some vaccines may be less effective while you are taking Azathioprine .If your child contracts chicken pox you should notify your doctor.

*(Adapted from DermNet a web site of the New Zealand Dermatological Society )*