

## Ciclosporin

### Indications for treatment with Ciclosporin

Ciclosporin (previous spelling, 'cyclosporin') is a strong immune suppressant drug and is the main agent used to prevent the rejection of transplanted organs (eg. liver, kidneys, heart). It is also registered in New Zealand to treat the following skin conditions:

- Severe psoriasis
- Severe atopic dermatitis

Ciclosporin has also be found effective for some cases of other inflammatory skin disorders:

- Pyoderma gangrenosum
- Dyshidrotic eczema
- Chronic urticaria
- Behcet disease
- Pityriasis rubra pilaris
- Dermatomyositis
- Pemphigus vulgaris
- Epidermolysis bullosa acquisita
- Lichen planus
- Hidradenitis suppurativa
- Prurigo nodularis
- Systemic sclerosis

### Mechanism of action of Ciclosporin

In skin diseases, ciclosporin acts by damping down inflammation in the skin, by its effect on certain immune cells (lymphocytes).

Ciclosporin is normally taken by patients with severe skin disease for a minimum of several months and up to several years.

The dose is usually 2 to 5 mg/kg body weight per day. The capsules should be swallowed whole with a glass of water at the same times each day after breakfast and dinner. It should not be taken with grapefruit juice as this may unpredictably increase the amount of ciclosporin absorbed into the blood stream.

### **Monitoring while on Ciclosporin**

As a powerful medication, ciclosporin may have some serious side effects. It is essential to follow your doctor's advice regarding monitoring of your health. This is especially important when you have first been prescribed the medication, but some side effects become more likely after several months' treatment.

- Blood pressure should be measured one- to two-weekly for the first month, then - monthly thereafter.
- Kidney function should be tested by blood and urine tests, especially creatinine levels.
- Other regular tests should include: complete blood count, liver function, fasting lipid levels, uric acid.

### **Drug interactions with Ciclosporin**

Certain medications should be avoided by patients on ciclosporin. If it is essential to receive treatment with one of these medications, you should ensure your health is monitored carefully by your doctor.

Please refer to the manufacturer's data sheet (see Medsafe) for up-to-date information on drug interactions. Ciclosporin is a P-glycoprotein inhibitor (a CYP3A4 inhibitor).

- The blood levels of the HMG Co-A reductase inhibitors simvastatin and atorvastatin may increase, and require a reduction in dose. Toxicity results in muscle pain and weakness, which may be serious. If long-term treatment with a statin and ciclosporin is required, suitable alternatives are fluvastatin, pravastatin and rosuvastatin.
- Non-steroidal anti-inflammatory drugs (NSAIDs) eg. indomethacin, naproxen.
- Antibiotics eg. Cotrimoxazole, trimethoprim, rifampicin, erythromycin, ciprofloxacin, tobramycin, gentamicin.
- Anti-epileptics eg. Phenytoin, carbamazepine.
- Antifungals eg. Amphotericin B, ketoconazole, itraconazole, fluconazole.
- St John's wort (*hypericum perforatum*).

Ciclosporin may increase the risk of bleeding from anticoagulants such as warfarin or dabigatran.

## **Prevention of infection while on Ciclosporin**

Tests to exclude latent tuberculosis and hepatitis B/C are wise before starting ciclosporin, and to determine measles and varicella immunity. It is also important to consider need to update immunisation in immunosuppressed dermatology patients.

## **Side effects from Ciclosporin**

Side effects from ciclosporin may include:

- Hypertension (high blood pressure) which may require additional medication for control.
- A reduction in renal function, which may necessitate reducing the dose of ciclosporin or occasionally stopping it.
- Increased hair growth (hypertrichosis): bleaching, shaving, and hair removal creams may be used.
- Loss of appetite and nausea.
- Paraesthesia (pins and needles sensation) in fingers, toes or lips.
- Tremor.
- Increased risk of gout.
- Swollen or bleeding gums. Brush your teeth regularly and massage your gums with a soft toothbrush. Use dental floss daily, and attend for regular dental check-ups.
- Increased risk of bacterial, fungal or viral infections. See your doctor promptly if you feel unwell.
- Possible increased risk of cancer, particularly skin cancer. Protect yourself from sun exposure – wear covering clothing outdoors, and apply broad spectrum sunscreen to all exposed skin daily. Phototherapy (ultraviolet treatment including UVB and PUVA) should be avoided during ciclosporin treatment.

## **Adverse effects of Ciclosporin**

If you are prescribed ciclosporin for your skin condition, discuss the side effects with your dermatologist. Make sure you understand what to expect, and how to deal with any problems.

Once the skin condition has stabilised on ciclosporin, your dermatologist will advise you to slowly reduce the daily dose of the medication to the minimum which controls the skin condition. Often it is necessary to stop it altogether for a few months to allow

side effects to resolve. When ciclosporin is discontinued, the skin condition usually slowly reappears. It can usually be retreated with further ciclosporin or another medication.

Related information

On DermNet NZ:

Immunisation in immunosuppressed dermatology patients

On other web sites:

Cyclosporine – Medline Plus

Consumer medicine information and data sheets – Medsafe

Ciclosporin – British Association of Dermatologists

Books about skin diseases:

See the DermNet NZ bookstore

Note:

The New Zealand approved datasheet is the official source of information for this prescription medicine, including approved uses and risk information. Check the New Zealand datasheet on the Medsafe website.

DermNet NZ does not provide an online consultation service.

If you have any concerns with your skin or its treatment, see a dermatologist for advice.

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