Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

CUH
Ospidéal Ollscoile Chorcaí
Cork University Hospital

Department of Rheumatology

Cyclophosphamide
GP Information Sheet

Cyclophosphamide
Cyclophosphamide is an alkylating agent. It works by interfering with DNA in cells and impairing immune cell function.

Administration
Oral cyclophosphamide should be taken with a glass of water first thing in the morning to minimise the risk of haemorrhagic cystitis. If the patient cannot tolerate this regime cyclophosphamide should be taken with or after food. Tablets should be swallowed whole and not crushed or chewed.
Intravenous cyclophosphamide can also be given and is administered according to infusion protocol.

A typical dose regimen may be
The usual dose of oral cyclophosphamide is 1 to 1.5mg/kg/day.
The dose of intravenous cyclophosphamide is age dependant.

Time to response
Cyclophosphamide does not work immediately. It may take 6 weeks or more to produce an effect, depending on the illness for which it is prescribed.

Precautions and Contraindications
A urinary metabolite of cyclophosphamide, acrolein, can cause haemorrhagic cystitis. This is a rare but serious complication. Patients should be informed to increase fluid intake to 2 Litres a day especially after intravenous injection for 24-48 hours.

Malignancies have been reported in patients treated with cyclophosphamide used alone or in association with other antineoplastic drugs. Most frequently, they have been urinary bladder, myeloproliferative, or lymphoproliferative malignancies.

In rare circumstances cyclophosphamide can be given in pregnancy under specialised supervision.

Amenorrhea associated with decreased estrogen and increased gonadotropin secretion develops in a significant proportion of women treated with cyclophosphamide. Affected patients resume regular menses within a few months after discontinuing treatment. Cyclophosphamide may cause premature ovarian failure. For this reason patients may require fertility counselling.

Cyclophosphamide has been reported to potentiate doxorubicin induced cardiotoxicity.

Drug Interactions
Adjustment of doses of both replacement steroid and cyclophosphamide may be necessary for the adrenalectomised patient.

Avoid combination with topical Tacrolimus, Pimecrolimus and clozapine. Cyclophosphamide may interfere with Etanercept, Nevirapine, Pentostatin, Tamoxifen, Ondansetron, St John's Wort, Phenobarbital, Allopurinol, Digoxin, Warfarin, and some thiazide diuretics.

The rate of metabolism and leukopenic activity of cyclophosphamide reportedly are increased by chronic administration of high doses of Phenobarbital.

Cyclophosphamide treatment, which causes a marked and persistent inhibition of cholinesterase activity, potentiates the effect of suxamethonium.

Blood monitoring

Oral therapy- Weekly FBC, LFT's and renal profile. Results to be faxed to the Rheumatology department for review by the team. Fax: 021 4920131.

Intravenous therapy- After the patients 1st cycle FBC should be taken on days 7 and 10 post infusion.
For every other cycle an FBC should be taken on day 10 and FBC, U&E and LFT 1-2 days before the next infusion date. All blood results to be faxed to the Rheumatology department to determine subsequent cyclophosphamide doses.

If patient presents with haematuria an urgent rheumatology review is required at OPD. Contact Rheumatology department immediately to arrange same.

Rare Side Effects

Digestive System: Anorexia, abdominal pain and discomfort, diarrhoea, jaundice, nausea and mucositis.
Skin: Alopecia, skin rash, pigmentation changes, rarely Stevens Johnson's Syndrome or Toxic epidermal necrolysis.
Haematopoietic: Leucopenia, neutropenia, thrombocytopenia, anaemia.
Urinary: Hemorrhagic ureteritis, bladder cancer and renal tubular necrosis.
Respiratory: Interstitial pneumonitis has been reported. Interstitial Pulmonary fibrosis can occur in patients when administered in high doses over a prolonged period.
Other: Anaphylactic reactions have been reported.

Please consult up to date relevant literature (data sheets) or (BNF) when prescribing this agent. Please contact Rheumatology team if you have any other queries regarding the prescribed medication.

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