Shared Care Protocol
Hydroxycarbamide

The full Shared Care Protocol can be found on the NHS Somerset Prescribing & Medicines Management intranet site

This shared care protocol (SCP) sets out details for the sharing of care for patients prescribed hydroxycarbamide. It should be read in conjunction with the Summary of Products Characteristics (SPC, available at http://www.medicines.org.uk/emc/)

As outlined in NHS Circular 1992 (Gen 11), when a consultant considers a patients' condition is stable he/she may seek the agreement of the patients' GP to "share" the patients' care. This document provides information on drug treatment for the shared commitment between the consultant and GP concerned. GPs are invited to participate. If the GP is not confident to undertake these roles, then they are under no obligation to do so. In such an event, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist. The doctor who prescribes the medication has the clinical responsibility for the drug and the consequences of its use.

Introduction

Hydroxycarbamide is used to treat patients with active myeloproliferative disease (PRV, ET, MF), rare cases of chronic myeloid leukaemia (CML) and selected cases of acute myeloid leukaemia (AML).

For further information please click on the links below or visit;

British National Formulary
Summary of Product Characteristics (SPC)

Licensed Indications

- The treatment of chronic myeloid leukaemia.
- The treatment of cancer of the cervix in conjunction with radiotherapy

Dose

Dosage regimen

Treatment regimens can be continuous or intermittent and it may be used concomitantly with radiotherapy. An adequate trial period for determining the antineoplastic effect of hydroxycarbamide is six weeks. Therapy is continued indefinitely where there is a significant clinical response, **provided the patient is adequately monitored**.

Continuous therapy

CML: hydroxycarbamide 20-30mg per Kg daily as a single dose. Dose is based on the patient's actual or ideal body weight, whichever is the less.

Polycythaemia/Essential Thrombocythaemia: starting dose 15-20mg per Kg daily as a single dose. This should be adjusted individually to maintain the haematocrit below 48% and platelet count below 400x10^9/L. in most patients this can be achieved with hydroxycarbamide given continuously at average doses of 500mg to 1000mg.

Contra-indications

Contra-indications (relative)

- Marked leucopenia/neutropenia (WBC < 3.0x10^9/L, neutrophils<1.5x10^9/l)
- Thrombocytopenia (Platelets < 100 x10^9/L)
- Severe anaemia
- Previous hypersensitivity to hydroxycarbamide (hydroxyurea) or any of its excipients.

Special warnings and precautions for use (click here for details)

Cautions

Frequent blood monitoring as well as kidney and liver function determination is essential.

Due to the possibility of increases in serum uric acid levels patients should be instructed to maintain a high fluid intake.

As hydroxycarbamide may be mutogenic:

1. **Both** men and women (where appropriate) should be advised to use reliable contraceptive measures **during**, and for at least **3 months** after therapy.
2. Unused medication should be taken to a pharmacy for appropriate disposal

- Severe anaemia
- Severe leucopenia
- Severe thrombocytopenia

Drug interactions (click here for details)

Haematological toxicity	Increased by	Clozipine – increased risk of agranulocytosis
Haematological toxicity	Increased by	Other antineoplastic agents.
Peripheral neuropathy, pancreatitis	Increased by	Didanosine, stavudine

Side-effects (click here for details)

COMMON	Bone marrow depression, leucopenia, megaloblastosis, diarrhoea, constipation.
UNCOMMON	Thrombocytopenia, anaemia, nausea, vomiting, anorexia, stomatitis, drug fever: chills, malaise, maculopapular rash, facial erythema, erythema affecting peripheral parts, elevation of liver enzymes, bilirubin and transient impairment of the renal tubular function (accompanied by elevation in serum uric acid, urea and creatinine).
VERY RARE	Painful leg ulcers, which are usually difficult to treat: **Stop drug**

Monitoring

Baseline monitoring (by Haematology Dept.):
FBC, Diff, U&Es, LFTs, uric acid (=urate) and creatinine

Regular monitoring (by Haematology Dept.):
For 3-6 months before transfer of care. In most cases this will simply involve the prescription of hydroxycarbamide in the community. The majority of patients on hydroxycarbamide will continue to be monitored and dosed in Haematology Outpatients. In exceptional cases, usually very elderly patients who find if difficult to attend hospital, GPs may be asked to monitor treatment with hydroxycarbamide. The request for monitoring in the community will be accompanied by a letter from the Haematology team outlining the frequency of blood tests and appropriate parameters to assist dosing**.**

FBC: 3 monthly If **sore throat** or **abnormal bleeding** develops, **withhold drug** until FBC known	WBC < $3x10^9$/L Neutophils < $1.5x10^9$/L Platelets <$100x10^9$/L MCV> 105fl	**Stop drug and discuss, Counts can be checked after 3 days. Restart when levels rise significantly towards normal.** **Check B12 and folate** and if low start appropriate supplementation until FBC known.
LFTs: every 6 months	> 2x ULN alk. phos/ALT	**Discuss with Haematologist**

U&Es: every 6 months	> 2x ULN serum creatinine	**Discuss with Haematologist**
Uric acid: every 6 months	> 0.50mmol/L	**Discuss with Haematologist**
Skin changes: every 6 months	Problematic leg ulcers	**Stop drug and discuss**

Pregnancy and lactation (click here for details)

Hydroxycarbamide is strictly contraindicated in pregnancy and during breastfeeding. Adequate contraceptive measures must be taken by women of childbearing potential during hydroxycarbamide therapy, and for **3 months** after treatment discontinued; men are to avoid fathering children during therapy and for at least **3 months** after stopping.

Adverse effects (click here for details)

Drug Cost
BNF October 2012

Drug	Strength	Pack size	Cost per pack
Hydroxycarbamide	500mg caps	100	£10.47

Shared Care Responsibilities

The shared care responsibilities are described below:

Consultant:-

- To assess the need for hydroxycarbamide.
- To provide patient information indicating the risks and benefits associated with hydroxycarbamide therapy, including the requirement for continued blood monitoring and the action to be taken in the event of adverse effects – particularly any unexplained bleeding, bruising, purpura (or other skin changes), sore throat, fever or malaise.
- To confirm patient's understanding and consent to treatment.
- To undertake baseline monitoring and initiate hydroxycarbamide.
- To undertake the regular monitoring for the initial 3-6 months after initiation.
- To assess and monitor patient's response to treatment, and make any dosage adjustments and **inform the GP** of dosage schedule, monitoring measurements and progress of treatment after each appointment.
- To inform the GP if the patient fails to attend an appointment and clearly indicate that the patient is receiving hydroxycarbamide.
- To stop the treatment when considered to be no longer appropriate.

General Practitioner

- To prescribe hydroxycarbamide and monitor therapy under the guidance of the hospital consultant.
- To monitor and prescribe hydroxycarbamide after the initial 3-6 months„stabilisation‟ period in collaboration with the specialist and follow these shared care guidelines.
- To report any suspected adverse reactions to the hospital. Discuss any significant abnormalities with the Consultant. If the GP suspects myelosuppression an urgent discussion with a Haematologist is advised.
- To liaise with the hospital consultant regarding any complications of treatment.
- To monitor the general health of the patient.
- To monitor for specific side effects as detailed in "Monitoring" section.

Withhold hydroxycarbamide and contact Consultant if:

- WCC <3 $x10^9$/L
- Neutrophils <1.5 $x10^9$/L
- Platelets <100 $x10^9$/L
- ALT/Alk Phos > TWICE upper limit of normal
- Creatinine > TWICE upper limit of normal
- Uric acid (=urate) > 0.50mmol/L
- Oral ulceration/sore throat, unexplained rash, unusual bruising or skin changes.

Note: a rapidly increasing or decreasing trend in any values should prompt caution and

extra vigilance.

Patient/carer responsibilities

- To comply with therapy in the dosage agreed.
- To report any adverse events – particularly any unexplained bleeding, bruising, purpura (or other skin changes), sore throat, fever or malaise immediately to their specialist or GP.
- To agree to have blood tests undertaken.
- To attend haematology clinics and GP appointments. Failure to attend may result in the medication being stopped.
- To agree to have blood tests undertaken.
- To report any adverse events – particularly any unexplained bleeding, bruising, purpura (or other skin changes), sore throat, fever or malaise immediately to their specialist or GP.

Further support

- Medicines Information department, Musgrove Park Hospital: 01823 342253
- Medicines Information department, Yeovil District Hospital: 01935 384327
- Prescribing & Medicines Management Team, NHS Somerset: 01935 384123
- Medicines Management Team, Somerset Partnership: 01823 368265

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Drawn up by Nigel Anckorn	Taunton and Somerset NHS Trust	April 2008
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References

Summary of Product Characteristics
http://www.medicines.org.uk/EMC/medicine/19081/SPC/Hydrea+500+mg+Hard+Capsules/#tableOfContents
British National Formulary No. 63 (March 2012)
http://www.medicinescomplete.com/mc/bnf/current/128406.htm#_128406