PROTOCOL

The Clatterbridge Cancer Centre NHS Foundation Trust

Systemic Anti Cancer Therapy Protocol

HIGH DOSE CYTARABINE ACUTE MYELOID LEUKAEMIA

PROTOCOL REF: MPHAHDCAML
(Version No. 1.1)

Approved for use in:

- Consolidation chemotherapy in AML remission

No Blueteq registration required

Dosage:

Drug	Dose	Route	Frequency
Cytarabine	**3000mg/m^2***	IV infusion	Twice daily on days 1, 3 and 5

*For patients over 60 years old or with co-morbidities dose reduce to 1500mg/m^2

Give two cycles

Counselling Points:

High dose cytarabine can cause conjunctivitis – patients should be given steroid eye drops to prevent this.

Emetogenic risk:

Severely emetogenic.

Extravasation risk:

Non-vesicant

Refer to the CCC policy for the 'Prevention and Management of Extravasation Injuries'

Supportive treatments:

- Aciclovir oral 400mg twice daily
- Co-trimoxazole oral 480mg once daily
- Posaconazole oral 300mg once daily (twice daily if re-starting)
- Chlorhexidine 0.2% mouthwash 10mLs twice daily
- Ondansetron 8mg twice daily for 8 days (IV or PO)
- Prednisolone 0.5% eye drops 1 drop both eyes four times daily for 10 days
- Norethisterone 5mg three times for menstruating women

Dosing in renal and hepatic impairment:

Renal	
CrCl (ml/min)	**Dose**
31-59	50%
<30	Not recommended

Hepatic	
Liver Function	**Dose**
Severe dysfunction	Consider 25-50% of dose and increase if tolerated.

Interactions:

Cytarabine may reduce digoxin plasma concentrations and therefore monitoring of digoxin levels is recommended.

An *in-vitro* interaction study between gentamicin and cytarabine showed a cytarabine related antagonism for the susceptibility of *K. pneumoniae* strains. In patients on cytarabine being treated with gentamicin for a *K.pneumoniae* infection, a lack of a prompt therapeutic response may indicate the need for re-evaluation of antibacterial therapy.

Intravenous cytarabine given concomitantly with intrathecal methotrexate may increase the risk of severe neurological adverse reactions such as headache, paralysis, coma and stroke like episodes.

For more detailed interactions please refer to the SPC.

Treatment schedule:

Day	Time	Drug	Dose	Route	Diluent and rate
1	1000	**Cytarabine**	**3000mg/m^2**	**IV infusion**	Over 4 hours in 500ml Sodium Chloride 0.9%
	2200	**Cytarabine**	**3000mg/m^2**	**IV infusion**	Over 4 hours in 500ml Sodium Chloride 0.9%
3	1000	**Cytarabine**	**3000mg/m^2**	**IV infusion**	Over 4 hours in 500ml Sodium Chloride 0.9%
	2200	**Cytarabine**	**3000mg/m^2**	**IV infusion**	Over 4 hours in 500ml Sodium Chloride 0.9%
5	1000	**Cytarabine**	**3000mg/m^2**	**IV infusion**	Over 4 hours in 500ml Sodium Chloride 0.9%
	2200	**Cytarabine**	**3000mg/m^2**	**IV infusion**	Over 4 hours in 500ml Sodium Chloride 0.9%

Main toxicities:

Thrombocytopenia, neutropenia, anaemia, nausea, vomiting, diarrhoea, haemorrhagic conjunctivitis

Investigations and treatment plan:

	Pre	Cycle 1	Cycle 2	Ongoing
Clinical Assessment	X	X	X	
SACT Assessment (including PS and toxicity assessment)		X	X	
FBC	X	X	X	Repeat at least three times per week while on treatment
U&E & LFTs & Magnesium	X	X	X	Repeat at least three times per week while on treatment
CrCl (Cockcroft and Gault)	X	X	X	
Informed Consent	X			
ECG +/- ECHO	X			If clinically indicated
Height	X			
Weight	X	X	X	Every cycle
Pregnancy test	X			If clinically appropriate

Dose Modifications and Toxicity Management:

Haematological toxicity:

Proceed on day 1 if-

ANC ≥ 1.0 x 10^9/L	Platelets ≥ 100 x 10^9/L

These haematological guidelines assume that patients are well with good performance status, that other acute toxicities have resolved and the patient has not had a previous episode of neutropenic sepsis.

Non - Haematological toxicity:

See section 'Dosing in renal and hepatic impairment'.

References:

1. Cytarabine (Hospira) SPC available at: https://www.medicines.org.uk/emc/product/1571/smpc#gref
2. Krens S D, Lassche, Jansman G F G A, et al. Dose recommendations for anticancer drugs in patients with renal or hepatic impairment. Lancet Oncol 2019; 20: e201–08.
3. Cytarabine (ara-c) high dose. Thames Valley Strategic Clinical Network

Circulation/Dissemination

Date added into Q-Pulse	For completion by DCM
Date document posted on the Intranet	For completion by DCM

Version History

		Author name and designation	Summary of main changes
	1.0	**Tom Sanders – Advanced Pharmacist HO**	**New protocol**
Nov 2023	1.1	**Jennifer Gibson – Principal Pharmacist HO**	**Prednisolone eye drops changed to QDS. Specific supportive medications detailed.**