Systemic Anti Cancer Treatment Protocol

Mitoxantrone
Prostate Cancer

PROTOCOL REF: MPHAMITOX
(Version No: 1.0)

Approved for use in:

Prostate cancer, WHO performance status 0-1, hormone resistant

Dosage:

Drug	Dose	Route	Frequency
Dexamethasone	8mg	Oral	30 minutes before chemotherapy
Mitoxantrone	**12mg/m^2**	**IV**	21 day interval for up to 6 cycles

Supportive Treatments:
Domperidone 10mg three times a day

Extravasation risk:

Mitoxantrone: Vesicant

Administration:

Day	Drug	Dose	Route	Diluent and rate
1	Dexamethasone	8mg	PO	
	Mitoxantrone	**12mg/m^2**	**IV**	Over 10 minutes in 100mL Sodium chloride

Main Toxicities:

Mitoxantrone	
Haematological	Myelosuppression - neutropenia, anaemia, thrombocytopenia
Gastrointestinal	Nausea and vomiting, stomatitis, diarrhoea, abdominal pain. Constipation, mucositis, taste disturbances
Cardiac toxicity	Transient ECG changes after long-term treatment. Arrhythmias, heart failure, chest pain, congestive heart failure after long-term treatment
Dermatological	Alopecia grade I-II in approximately 50% of patients Blue colouring of skin and nails. Nail abnormalities (e.g. onycholysis, nail dystrophy), extravasation at the infusion site has been reported, which can lead to erythema, swelling, pain, burning and/or blue discolouration of the skin.
Hepatotoxicity	Hepatotoxicity, elevated liver enzymes
Renal toxicity	Discolouration of the urine within 24 hours following administration. Nephrotoxicity, elevated serum creatinine levels and urea.
Hypersensitivity	Anaphylactic reactions (including anaphylactic shock).
Ocular	Reversible blue discolouration of the sclera has been reported.
Additional side effects	Topo-isomerase II inhibitors, including mitoxantrone, in combination with other antineoplastic agents and/or radiotherapy are associated with the development of acute myeloid leukaemia (AML) or a myelodysplastic syndrome (MDS)

Investigations and Treatment Plans:

	Pre	C1	C2	C3	C4	C5	Ongoing
Medical Assessment	X	X		X		X	Every 12 weeks
Nursing Assessment		X	X	X	X	X	Every cycle
FBC	X		X	X	X	X	Every cycle
U&E & LFTs	X		X	X	X	X	Every Cycle
PSA	X	X		X		X	Every 4 weeks
CT scan	X						Every 12 weeks
Informed Consent	X						
Blood pressure measurement	X	X	X	X	X	X	
PS recorded	X	X	X	X	X	X	
Toxicities documented	X	X	X	X	X	X	
Weight recorded	X	X		X		X	Every cycle

- A baseline cardiac function tests should be performed where the patient is considered at risk of having impaired cardiac function e.g. significant cardiac history, hypertension, obese, smoker, elderly, previous exposure to anthracyclines, previous thoracic radiotherapy. Tests should be repeated if there is suspicion of cardiac toxicity at any point during treatment.

Dose Modifications and Toxicity Management:

Consider dose reduction to 8mg/m^2 for any grade 2 reaction that has required a treatment delay

Mitoxantrone	Recommended dose reduction for toxicity management
First dose reduction	8mg/m^2

Haematological Toxictiy:

Proceed on day 1 if-

ANC ≥ 1.0 x 10^9/L	Plt ≥ 100 x 10^9/L

Delay 1 week and refer to advice below-

ANC ≤ 0.9 x 10^9/L	Plt ≤ 99 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.

Hepatic impairment:

Mitoxantrone
Clinical decision depending on bilirubin level and PS. As a guide: Bilirubin <59µmol/L and good PS – 100% dose Bilirubin >60µmol/L & good PS – 40% dose reduction Bilirubin >60µmol/L & poor PS – not recommended

Renal impairment:

Mitoxantrone
Extensive metabolism in the liver. Excretion is predominantly bile and faeces. No dose reductions necessary

References:

Mitoxantrone 2 mg/ml concentrate for solution for infusion, summary of Product Characteristics, Accord Healthcare limited, Middlesex. 22/05/2012. Available from www.medicines.org.uk/emc/medicine. Last updated 22/05/2015.

Dosage Adjustment for Cytotoxics in Hepatic Impairment. January 2009 UCLH (Version 3 - updated January 2009)

Dosage Adjustment for Cytotoxics in Renal Impairment. January 2009 UCLH (Version 3 - updated January 2009)