TC - Docetaxel Cyclophosphamide

DRUG ADMINISTRATION SCHEDULE

<table>
<thead>
<tr>
<th>Day</th>
<th>Drug</th>
<th>Dose</th>
<th>Route</th>
<th>Diluent &amp; Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>Dexamethasone</td>
<td>8mg BD*</td>
<td>Oral</td>
<td>For three days, starting one day prior to docetaxel</td>
</tr>
<tr>
<td>1</td>
<td>Sodium Chloride 0.9%</td>
<td>250/500ml</td>
<td>Infusion</td>
<td>Fast Running</td>
</tr>
<tr>
<td>1</td>
<td>Dexamethasone</td>
<td>8mg</td>
<td>Intravenous</td>
<td>Over at least 2 minutes</td>
</tr>
<tr>
<td>1</td>
<td>Ondansetron</td>
<td>8mg</td>
<td>Oral /Slow bolus/15 min infusion</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Docetaxel</td>
<td>75mg/m²</td>
<td>Intravenous</td>
<td>250ml Sodium Chloride 0.9% over 60 minutes</td>
</tr>
<tr>
<td>1</td>
<td>Cyclophosphamide</td>
<td>600mg/m²</td>
<td>Intravenous</td>
<td>Via fast running Sodium Chloride 0.9% Drip</td>
</tr>
</tbody>
</table>

*Ondansetron IV must be infused over 15 minutes in patients over 65 years of age.

NUMBER OF DAYS PER CYCLE
Every 21 days for 4 Cycles

APPROVED INDICATIONS
Node Positive Breast Cancer, in patients who have a history of cardiac disease making them unsuitable for standard anthracycline based adjuvant chemotherapy.

ELIGIBILITY CRITERIA
The inclusion criteria for the TC regimen are
- Invasive breast cancer
- Node positive disease
- No significant co-morbidities which outweigh the potential toxicities
- Patient agrees to adjuvant chemotherapy
- History of cardiac disease making them unsuitable for standard anthracycline based adjuvant chemotherapy.

EXCLUSION CRITERIA
Patients not fitting the above criteria
Bilirubin greater than 70µmol/L, toxicity increases as Bilirubin rises above normal.

PREMEDICATION
Ondansetron and Dexamethasone IV as above
Dexamethasone 8 mg PO twice daily for three days, starting one day prior to each docetaxel administration.

RECOMMENDED TAKE HOME MEDICATION
Oral Ondansetron 8mg Twice Daily for 2 to 3 days
Oral Dexamethasone (premedication as above)
Oral Metoclopramide 10mg Three Times Daily when required
*Suggested antiemetic regimen - may vary with local practice. See CINV policy for more details*
INVESTIGATIONS / MONITORING REQUIRED
Baseline:
FBC, LFTs, U&Es
CXR, Bone Scan, Liver Ultrasound Scan (as per unit guidelines) – but recommended in ≥ 4 positive lymph nodes.
ECG and ECHO/MUGA prior to commencement of treatment

Before each treatment:
FBC, U&Es, LFTs

ASSESSMENT OF RESPONSE
There will be no visible disease to monitor as this is adjuvant treatment.

REVIEW BY CLINICIAN
To be reviewed by either a Nurse, Pharmacist or Clinician before every cycle.

NURSE / PHARMACIST LED REVIEW
On cycles where not seen by clinician.

ADMINISTRATION NOTES
Make sure the patient has taken oral dexamethasone pre-medication. Docetaxel has been known to produce hypersensitivity reactions; steroid co-medication will also reduce the risk of fluid retention and skin reactions.
Facilities to treat anaphylaxis MUST be present when the chemotherapy is administered.
Do not need to stop treatment for minor hypersensitivity e.g. reactions, flushing, localised rash.
Must be stopped for major reactions, e.g. hypotension, bronchospasm and generalised rash.
The nadir occurs earlier with docetaxel than with other chemotherapy regimens.
Raised bilirubin has been associated with increased toxicity.

EXTRAVASATION See NCA/ Local Policy

TOXICITIES
Fluid retention syndrome
Nausea and Vomiting
Bone Marrow Suppression
Alopecia
Myalgia
Joint pains

Dry Skin
Pain on administration
Peripheral Neuropathy (Dysesthesia)
Deranged LFTs
Anaphylaxis & hypersensitivity reaction

DOSE MODIFICATION
Haematological Toxicity:
• Delay 1 week if ANC <1.0, or Platelets <100
• No dose modification for CTC grade I/II ANC
• Grade III/IV ANC → delay chemotherapy until recovered. On recovery give 25% dose reduction

Note: GCSF can be considered for secondary prophylaxis in adjuvant therapy after an episode of febrile neutropenia or neutropenic sepsis.
TC - Docetaxel Cyclophosphamide

Non-Haematological Toxicity:
If patient has Grade III/IV nausea & vomiting refer to NECN anti-emetic guideline for advice.

Hepatic Dysfunction

<table>
<thead>
<tr>
<th>BILLIRUBIN</th>
<th>ALP*</th>
<th>ALT</th>
<th>DOCETAXEL DOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ ULN AND 2.5 x ULN AND ≤ 1.5 x ULN</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ ULN AND 2.5 - 5 x ULN AND 1.5 - 5 x ULN</td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ ULN AND &gt; 5 x ULN OR &gt; 5 x ULN</td>
<td>Discuss with consultant</td>
<td></td>
<td></td>
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</table>

*unless bony metastasis and no known hepatic dysfunction

Renal Dysfunction

<table>
<thead>
<tr>
<th>CrCl (or GFR)</th>
<th>Cyclophosphamide Dose</th>
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<tr>
<td>&gt; 20 ml/min</td>
<td>100%</td>
</tr>
<tr>
<td>10-20 ml/min</td>
<td>75%</td>
</tr>
<tr>
<td>&lt;10 ml/min</td>
<td>50%</td>
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TREATMENT LOCATION
Suitable for administration within Cancer Units and Cancer Centres

REFERENCES:

Document Control

<table>
<thead>
<tr>
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<th>TC Breast protocol CRP09 B002</th>
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<td>CRP09 B002</td>
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<tr>
<td>Current Version:</td>
<td>1.5</td>
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<tr>
<td>Reviewer:</td>
<td>Chris Beck Chemotherapy Pharmacist Northern Cancer Alliance</td>
</tr>
<tr>
<td>Date Approved:</td>
<td>28.02.18</td>
</tr>
<tr>
<td>Approved by:</td>
<td>Steve Williamson Consultant Pharmacist Northern Cancer Alliance</td>
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<tr>
<td>Due for Review</td>
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Summary of Changes
1.1 Reformatted from old NCN/CCA version
1.2 Typing errors corrected. Renal impairment advice amended. Protocol reviewed
1.3 Protocol reviewed and reissued. Antiemetic advice updated
1.4 Protocol file name corrected and protocol re-issued
1.5 Protocol reviewed & reissued. Parameters updated from chemocare. NCA added