TCH

DOCETAXEL & CARBOPLATIN with TRASTUZUMAB (HERCEPTIN)

For use in HER2+ve breast cancer patients who are eligible for (neo-)adjuvant taxane and trastuzumab under NICE criteria but who cannot have anthracyclines

Drugs/Dosage:	Docetaxel	75mg/m^2	IV	Day 1 x 6 cycles
	Carboplatin	AUC 6	IV	Day 1 x 6 cycles
	Trastuzumab (Herceptin)	600mg	s/c	Day 1 x 18 cycles

Carboplatin dose should be calculated using the Calvert Formula:
Dose = Target AUC x (25 + GFR)

Other Drugs: Primary **G-CSF** prophylaxis s/c once daily for 5 days, starting on Day 3

Dexamethasone 8 mg po bd for 3 days, commencing the morning of the day prior to docetaxel (to prevent hypersensitivity reactions and fluid retention)
If the patient has not taken the oral dexamethasone pre-med for any reason, intravenous dexamethasone is not recommended and can only be substituted if prescribed by a Consultant.

Administration: For Cycle 1 only, administer the s/c trastuzumab first, wait one hour, then initiate the docetaxel infusion.
For all subsequent cycles, ideally administer the s/c trastuzumab first, followed by the chemotherapy.
Docetaxel in 250ml 0.9% sodium chloride over 60 minutes
Carboplatin in 250ml 5% glucose over 60 minutes
Trastuzumab (Herceptin) s/c to be administered according to the S/C trastuzumab (Herceptin) protocol for early stage breast cancer

Frequency: TCH given as a 3 weekly cycle for 6 cycles;
then continue with adjuvant trastuzumab alone to a total of 18 doses - refer to the S/C trastuzumab protocol for early stage breast cancer for all information regarding prescribing, administration and monitoring of trastuzumab.

Main Toxicities: myelosuppression; mucositis; alopecia; diarrhoea; fluid retention; myalgia/arthralgia; peripheral neuropathy; docetaxel infusion-related reactions (↑ risk with 1st/2nd treatment); skin reactions & nail changes; ovarian failure/infertility

Anti- emetics: highly emetogenic – no extra dex required pre-chemotherapy, due to oral dexamethasone pre-med for docetaxel. But need "anti-emetic" dex 4mg bd on Days 3 and 4 (after 8mg bd completed)

Extravasation: non-vesicants

Regular Investigations:	FBC	Day 1
	LFTs & U&Es	Day 1
	EDTA	Prior to 1st cycle
	Echo/MUGA scan	baseline; then after Dose 6 and Dose 12 herceptin, ready for clinical review pre Dose 7 and Dose 13; then after Dose 18 herceptin only if requested by Consultant
	Blood pressure	baseline, then at clinic review pre Dose 7 and Dose 13 herceptin

Reason for Update: C&G may be used to calculate Cycle 1 carbo dose	Approved by Consultant: Dr R Laing
Version: 5	Approved by Lead Chemotherapy Nurse: P Deery
Supersedes: Version 4	Date: 22.2.16
Prepared by: S Taylor	Checked by: C Tucker

Comments: Offer scalp cooling

Cycle 1 may be given using the Cockcroft and Gault (C&G) formula to predict creatinine clearance, if the EDTA is not yet available. When using C&G, a "cap" of 125 ml/min should be used for carboplatin dose calculations.

Carboplatin dose should be re-calculated using the EDTA result for subsequent cycles (do not "cap"). EDTA should only be repeated if there is a 30% change in serum creatinine.

Dose Modifications

Haematological Toxicity: In (neo-)adjuvant treatment, dose reduction and/or delays can compromise outcome. If any delay due to neutropenia *or* any incidence of neutropenic sepsis, consider a longer course of G-CSF or a dose reduction, according to individual case. **If in doubt, contact the relevant Consultant.**

Neutrophils ≥ 1.0 x 10^9/l and Platelets ≥ 100 x 10^9/l	Proceed with chemotherapy, with G-CSF prophylaxis
Neutrophils < 1.0 x 10^9/l or Platelets < 100 x 10^9/l	Delay until neutrophils ≥ 1.0 x 10^9/l and platelets ≥ 100 x 10^9/l, then proceed with chemotherapy, with consideration to the statement above. If in doubt, discuss with Consultant.

If platelets < 25 x 10^9/l, consider dose reduction of docetaxel to 60mg/m^2 and carboplatin to AUC 5 after recovery - discuss with Consultant.

Renal Impairment: Carboplatin is contra-indicated if CrCl < 20ml/min

Hepatic Impairment: Bilirubin > 22 μmol/l and/or ALT/AST > 3.5 x ULN **with** ALP > 6 x ULN	Docetaxel not recommended - may only be administered with consultant approval

Other Toxicities: If Grade 3 or 4 cutaneous reactions, once patient recovered, reduce docetaxel dose to 60mg/m^2. If symptoms return, stop docetaxel.

If Grade 2 neuropathy, reduce docetaxel dose to 60mg/m^2. If symptoms return, stop docetaxel. If Grade 3 or 4 neuropathy, discontinue docetaxel.

Myalgia/arthralgia due to docetaxel: often co-exist, usually Grade 1 or Grade 2. Management consists of reassuring patients that it is self-limiting. Consider use of NSAIDs, although not always effective.

References:
Slamon, D et al (BCIRG 006); NEJM 2011; 365 (14): 1273 - 1283
Coudert et al; JCO 2007; 25 (19): 2678 - 2684