Chemotherapy Protocol

BREAST CANCER

TRASTUZUMAB (21 day-Load)

Regimen

- Breast Cancer – Trastuzumab (21 day-Load)

Indication

- Adjuvant treatment of breast cancer over expressing HER2
- Treatment of metastatic breast cancer over expressing HER2
- WHO Performance status 0, 1, 2.

Toxicity

Drug	Adverse Effect
Trastuzumab	Cardio toxicity, acute respiratory distress syndrome, infusion related effects

The adverse effects listed are not exhaustive. Please refer to the relevant Summary of Product Characteristics for full details.

Monitoring

Regimen

- HER2 status before initiating therapy
- Cardiac function must be assessed prior to starting trastuzumab. Thereafter in the adjuvant setting it should be assessed every 12 weeks unless there is clinical evidence of cardiac failure. In the metastatic setting cardiac function should be assessed every 12 weeks for 24 weeks then every 24 weeks thereafter, again, unless there is clinical evidence suggestive of cardiac failure.
- Blood pressure prior to each trastuzumab administration
- FBC, U&Es and LFTs every 12 weeks

Dose Modifications

No dose modifications for haematological toxicity are necessary for trastuzumab. If treatment with trastuzumab is not tolerated it should be stopped.

Please discuss all dose reductions / delays with the relevant consultant before prescribing if appropriate. The approach may be different depending on the clinical circumstances. The following is a general guide only.

Kidney Impairment

Drug	Recommendation
Trastuzumab	No dose adjustment necessary

Liver Impairment

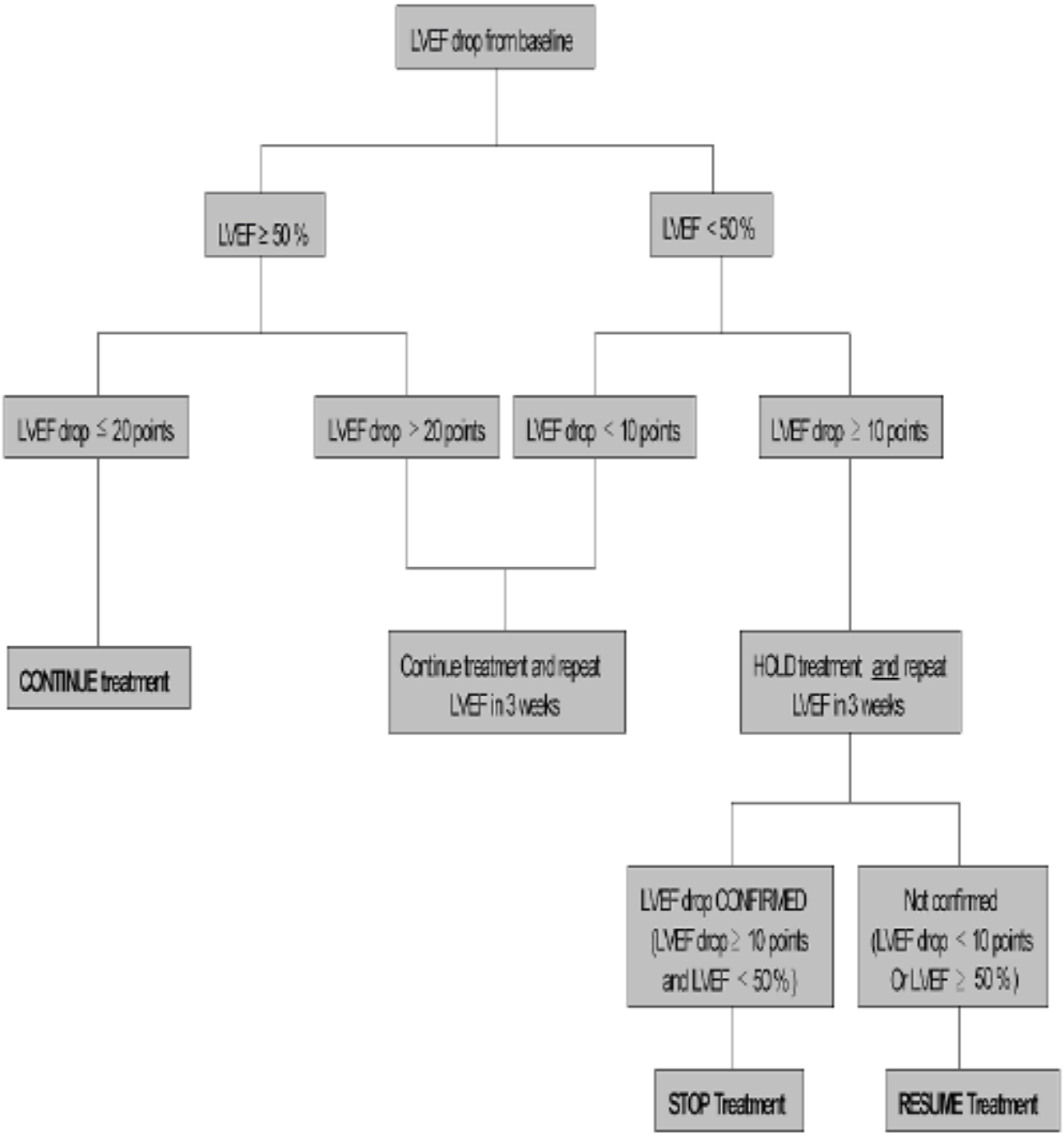
Drug	Recommendation
Trastuzumab	No dose adjustment necessary

Cardiac

The LVEF should be fifty or above before starting cycle one of trastuzumab.

Subsequent Echocardiograms

The flow chart below describes the process to be followed if there is an **asymptomatic** decline in LVEF during trastuzumab treatment.



In general patients who develop **symptomatic** cardiac dysfunction should have trastuzumab discontinued, be commenced on ACE inhibitor therapy and be referred to a cardiologist. Further treatment should be discussed with the relevant oncology consultant.

Regimen

21 day cycle for 18 cycles in the adjuvant setting or until disease progression or intolerance in the metastatic setting (18 cycles will be set in Aria)

Cycle 1

Drug	Dose	Days	Administration
Trastuzumab	8mg/kg	1	Intravenous infusion in 250ml sodium chloride 0.9% over 90 minutes

Cycle 2 onwards

Drug	Dose	Days	Administration
Trastuzumab	6mg/kg	1	Intravenous infusion in 250ml sodium chloride 0.9% over minimum 30 minutes

Dose Information

- Trastuzumab will be dose rounded to the nearest 50mg (up if halfway)
- If the patient misses a dose of trastuzumab by fourteen days or less, then the usual maintenance dose of 6mg/kg should be given as soon as possible. Do not wait until the next planned cycle. Subsequent maintenance doses should be given according to the previous schedule
- If the patient misses a dose of trastuzumab by more than fourteen days, a re-loading dose of 8mg/kg should be given over 90 minutes. Subsequent maintenance doses should then be given every 21 days from that point

Administration Information

- Trastuzumab is associated with hypersensitivity reactions. Patients should be observed for six hours following the start of the first infusion of trastuzumab and for two hours following the start of subsequent infusions. If the patient has tolerated the first two infusions with no infusion related effects consideration can be given to reducing this observation period further

Extravasation

- Trastuzumab - neutral

Additional Therapy

- For treatment of trastuzumab infusion reactions ‘once only when required’ doses of the following should be prescribed;

    - chlorphenamine 10mg intravenous
    - hydrocortisone 100mg intravenous
    - paracetamol 1000mg once oral

Coding

Loading dose

- Procurement – X71.5
- Delivery – X 72.2

Maintenance doses

- Procurement – X71.3
- Delivery – X 72.3

References
1.NICE Clinical Guideline 81
2.Piccart-Gebhart MJ, Procter M, Leyland-Jones B et al. for the HERA trial study team. Trastuzumab after Adjuvant Chemotherapy in HER2-Positive Breast Cancer. N Engl J Med 2005;353:1659-72
3.Romond HE, Perez EA, Bryant J, et al. (2005) Trastuzumab plus Adjuvant Chemotherapy for Operable HER2 – Positive Breast Cancer. N Engl J Med 2005;353:1673-84
4.AL Jones, M Barlow, PJ Barrett-Lee et al. Management of cardiac health in trastuzumab-treated patients with breast cancer: updated United Kingdom National Cancer Research Institute recommendations for monitoring. British Journal of Cancer 2009; 100:684-692
5.Vogel CL, Cobleigh MA, Tripathy D et al. Efficacy and safety of Trastuzumab as a single agent in first line treatment of HER2-overexpressing metastatic breast cancer. J Clin Oncol 2002; 2 (3): 719-26
6. Hoffmann La Roche. Clinical Trial Protocol Protocol Number BIG4-11/BO251261/TOC49396.

REGIMEN SUMMARY

Trastuzumab (21 day-Load)

Cycle 1 Day One

1. Trastuzumab 8mg/kg intravenous infusion in 250ml sodium chloride 0.9% over 90 minutes.

2. Chlorphenamine 10mg intravenous when required for infusion related reactions

3. Hydrocortisone 100mg intravenous when required for infusion related reactions

4. Paracetamol 1000mg oral when required for infusion related reactions

Cycle 2 Day One Onwards

1. Trastuzumab 6mg/kg intravenous infusion in 250ml sodium chloride 0.9% over 30 minutes

2. Chlorphenamine 10mg intravenous when required for infusion related reactions

3. Hydrocortisone 100mg intravenous when required for infusion related reactions

4. Paracetamol 1000mg once only oral when required for infusion related reactions

DOCUMENT CONTROL

Version	Date	Amendment	Written By	Approved By
1.1	August 2014	Header changed Toxicities removed Adverse effects tabulated Dose modification tabulated Regimen tabulated Bolus removed from intravenous bolus throughout text OPCS code updated Disclaimer added	Donna Kimber Pharmacy Technician	Dr Debbie Wright Pharmacist
1	Nov 2011	None	Anna Bunch Pharmacist Dr Debbie Wright Pharmacist	Dr Ellen Copson Consultant Medical Oncologist Dr Caroline Archer Consultant Medical Oncologist

This chemotherapy protocol has been developed as part of the chemotherapy electronic prescribing project. This was and remains a collaborative project that originated from the former CSCCN. These documents have been approved on behalf of the following Trusts;

Hampshire Hospitals NHS Foundation Trust
NHS Isle of Wight
Portsmouth Hospitals NHS Trust
Salisbury Hospital NHS Foundation Trust
University Hospital Southampton NHS Foundation Trust
Western Sussex Hospitals NHS Foundation Trust

All actions have been taken to ensure these protocols are correct. However, no responsibility can be taken for errors which occur as a result of following these guidelines