CHEMOTHERAPY PROTOCOL
Clatterbridge in the Community Nurse Handbook

Trastuzumab (Sub-cutaneous)

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Jan 2016	1.0	Frances Lawton - Project Manager; Chemotherapy Directorate	*First version.*
June 2017	2.0	Tammy Simon, ANP Delamere	More information added relating to the drug Added section detailing Clatterbridge in the Community/ Trastuzumab Opt process.

Links to other strategies, policies, procedures

Management of Systemic Anti-Cancer Therapies in the Clinical Environment, doc ref PCLASYCTH

Authority to Prescribe Chemotherapy/Systemic Anti-Cancer Therapy, doc ref PCHASYSTC

Chemotherapy Telephone Triage Policy, doc ref PCHATTRI

Infection Control policy: Inoculation Injury- Prevention and management of occupation exposure to blood bourne viruses (including needlestick & splashes of blood and/or body fluids, doc ref: PICCINNO

Drugs and Therapeutics Committee Approved SACT at Home List

Record of competency to deliver Systemic Anti-Cancer Treatment (SACT) Therapy in the Community for Nursing Staff v1.1, doc ref TNUASACTC

Clatterbridge in the Community Sharps Management Policy doc ref **TBA**

Clatterbridge in the Community Treatment Service SOP, doc ref **TBA**

COSHH guidelines

Medicines Optimisation Policy, doc ref PCLEMPOL

Hypersensitivity: Management and Prevention, doc ref: PCLAREACT

General

Trastuzumab (Herceptin®, Roche Pharmaceuticals) is a recombinant humanised monoclonal antibody that specifically targets the HER2 (human epidermal growth factor receptor 2) protein. Some breast tumours contain an amplification of the HER2, which causes overexpression of the HER2 protein and is associated with a poorer prognosis.

Tumours that overexpress the HER2 protein (HER2+) grow and divide more quickly, so women with HER2+ tumours generally have a worse prognosis than women with HER2 negative tumours. Approximately 15%-20% of people with MBC overexpress HER2 at the 3+ level, measured by immune-histochemical techniques. The average period of survival after diagnosis of MBC is 18-24 months, but this is reduced by up to 50% for patients overexpressing HER2.

Trastuzumab in combination with an aromatase inhibitor is not recommended for first-line treatment in postmenopausal women with metastatic hormone-receptor-positive breast cancer that overexpresses HER2. Postmenopausal women currently receiving lapatinib or trastuzumab in combination with an aromatase inhibitor that is not recommended according to NICE guidelines TA 257, sections1.1 or 1.2, should have the option to continue treatment until they and their clinicians consider it appropriate to stop.

Approval in Early Stage Breast Cancer (EBC)

First line adjuvant or neo-adjuvant treatment of breast cancer in combination with chemotherapy where the tumour overexpresses HER2 (IHC 3+ and / or FISH positive) Trastuzumab, given at 3-week intervals for 1 year or until disease recurrence (whichever is the shorter period), is recommended as a treatment option for women with early-stage HER2-positive breast cancer following surgery, chemotherapy (neoadjuvant or adjuvant) and radiotherapy (if applicable).
where the following criteria must be met:

- ECOG PS 0 or 1
- Patient must have received adjuvant or neo-adjuvant chemotherapy

For early stage breast cancer patients, cardiac function should be assessed prior to the commencement of trastuzumab. Trastuzumab treatment should not be offered to women who have a left ventricular ejection fraction (LVEF) of 55% or less, or who have any of the following:

- a history of documented congestive heart failure
- high-risk uncontrolled arrhythmias
- angina pectoris requiring medication
- clinically significant valvular disease
- evidence of transmural infarction on electrocardiograph (ECG)
- poorly controlled hypertension.

- LVEF should be assessed after chemotherapy and before trastuzumab. Patients with an LVEF > 55% should start trastuzumab.
- Patients with LVEF ≤ 55% should not start trastuzumab but should be reviewed by an oncologist with a view to commencing on an ACE inhibitor and consideration of referral to a cardiologist. Specific documentation must be made by the consultant/ANP in the patient's electronic records that states that this has occurred and that trastuzumab may be given.

Approval in Metastatic Breast Cancer (MBC)

Treatment of metastatic breast cancer (MBC) where the tumour overexpresses HER2 (HER2 3+ by IHC or FISH positive) where trastuzumab can be given together with chemotherapy, endocrine therapy or as a single agent.

It is licensed for two indications for the treatment of MBC overexpressing HER2 at level 3+. Firstly, it is licensed in combination with paclitaxel for patients with MBC who have not received chemotherapy for metastatic disease and in whom an anthracycline is

unsuitable. Secondly, it is licensed as a monotherapy for patients who have received at least two chemotherapy regimens for MBC; prior chemotherapy must have included at least an anthracycline and a taxane, unless these treatments are inappropriate; patients who are oestrogen receptor-positive must also have failed to respond to appropriate hormonal therapy.

Trastuzumab monotherapy is recommended as an option for people with tumours expressing HER2 scored at levels of 3+ who have received at least two chemotherapy regimens for metastatic breast cancer. Prior chemotherapy must have included at least an anthracycline and a taxane where these treatments are appropriate. It should also have included hormonal therapy in suitable oestrogen receptor positive patients.

The following criteria must also be met:

- ECOG PS 0 to 2

Dosage

Adjuvant / Neo-Adjuvant/Early Breast Cancer

Drug	Dose	Route	Frequency
Trastuzumab	600mg	SC	Every 3 weeks for 18 cycles

Palliative/Metastatic Breast Cancer

Drug	Dose	Route	Frequency
Trastuzumab	600mg	SC	Every 3 weeks until progression

Supportive Treatments

None (mildly emetogenic)

Extravasation risk

None as given subcutaneously

Administration

Preparation

Withdrawn the contents of the vial into a 10mL syringe using 16 gauge needle and then change the needle to a subcutaneous 24 gauge needle prior to administering the dose

Day	Drug	Dose	Route	Diluent and rate
1	Trastuzumab	600mg	SC	No diluent necessary Given slowly over 2-5 minutes

Considerations

- The injection site should be alternated between the left and right thigh.
- New injections should be given at least 2.5 cm from the old site and never into areas where the skin is red, bruised, tender, or hard.
- Following administration of first dose, monitor for 2 hours after the dose for hypersensitivity reactions.
- Medication should be warmed/come to room temperature before injection. This is easily done by asking patient to hold vial of trastuzumab while nurse performs assessment/documentation. Never injection cold medication into the patient.

Main Toxicities

Trastuzumab
Cardiac toxicity Hypersensitivity/Allergic reactions (including anaphylactic potential)

Investigations

- Adjuvant trastuzumab patients- echocardiogram every 4 months during treatment.
- Palliative trastuzumab- clinician to specify/document attendance frequency of echocardiograms.

Dose Modifications and Toxicity Management

Dose reduction schedule
Dose reductions are not used to manage toxicity

Hepatic impairment

Trastuzumab
Hepatic metabolism and biliary clearance is the principal mechanism for elimination.

Hypersensitivity

Trastuzumab
Injection-related symptoms (mild to moderate in severity): watery eyes, runny nose, fatigue, fever, chills, headache, pain at injection site, nausea, rash, arthralgia/myalgia (occurs mainly with 1st dose) and hypersensitive/anaphylaxis reaction. These symptoms should be managed per CCC Hypersensitivity: Management and Prevention policy using paracetamol, with addition of chlorphenamine and hydrocortisone if anaphylaxis suspected.

Cardiac Toxicity

Patients with, or who develop, untreated serious cardiac illness must not receive trastuzumab.

Cardiac toxicity should be managed using The Clatterbridge Cancer Centre Management of Cardiac Toxicity in patients receiving trastuzumab protocol found on CCC intranet. Cardiac monitoring should occur for the adjuvant patient every 4 months (as per NCRI updated guidelines 2009) i.e. baseline, 4 and 8 months, and at treatment end if cardiac problems during treatment have occurred, or at consultant discretion, for patients with palliative/metastatic breast cancer.

NCRIherceptincardiacguidelines.pdf

The nurse will follow the CCC policies and protocols for checking and administering all treatments. This includes asking each patient their name, date of birth, address and checking allergy status. Also, patient's last [cardiac] ejection fraction/Echocardiogram/MUGA scan will be compared to previous [cardiac] ejection fraction/Echocardiogram/MUGA scans. Any drop of the ejection fraction =/>10% points from baseline and/or ejection fraction of <55% will be reported to the Lead/Senior nurse on duty as well as the consultant/ANP. Patients will be assessed for changes/decreases in cardiac function.

If an echocardiogram/MUGA/laboratory value is required by the nurse on the day of the visit but the result is not available before the nurse leaves for their visits, the administrative team will obtain report/result and it will be given to the senior nurse on duty who will telephone the treating nurse to report the result nurse to nurse. No reporting of results to the treating nurse on day of duty will be done by text or email.

Medical review

- May be performed by consultant, designated registrar or ANP
- Every 6 cycles of trastuzumab or at request of consultant

Nurse led review

Nurse review will occur before administration of trastuzumab. Documentation will be in the electronic medical records and including completion of the Systemic Anti-Cancer Treatment (SACT) Treatment Assessment. If an unacceptable toxicity is noted, an unexpected decline in performance status during treatment or intercurrent illness occurs, do not give the trastuzumab. Inform/obtain advice from Senior Nurse on duty and refer patient for medical review.

In particular, if any of the following symptoms occur, the patient must not be treated and must be referred back for medical review as soon as possible (informing the Senior Nurse on duty and emailing consultant/ANP):

- breathlessness
- oedema of the arms and/or leg/ankles
- chest pain, palpitations or flutters
- cough

Clatterbridge in the Community/ Trastuzumab Opt Out

CCC will provide an opt-out approach to treatment in the community and patients will be fully informed of the processes. Patients will be fully assessed for their suitability for SACT in the community. The Clatterbridge in the Community treatment service is not suitable for all patients and the decision to opt out must be part of a multidisciplinary approach involving the patient, the clinician, and the Clatterbridge in the Community nurse. This must be carefully managed to maintain our duty of care to patients (clinical governance) and

ensure that financial governance requirements are fulfilled.

For those patients receiving trastuzumab: patients will be enrolled into the Clatterbridge in the Community treatment services after receiving two doses of trastuzumab in clinic, in which no untoward reaction has occurred. Patients may decline/"opt-out" of the service if they wish. Consultants may "opt-out" their patient if they feel patients are clinically unsuitable to home treatments. Consultants must document why patients are clinically unsuitable for home treatments (refer to Clatterbridge in the Community Standard Operating Procedure, guidelines in 7.5 Specific Eligibility Criteria for the Clatterbridge in the Community treatment service).

Other

The half-life of trastuzumab is approx. 28.5 days, and it may persist in the circulation for up to 24 weeks after stopping treatment. Therefore, if possible, anthracyclines should be avoided for up to 24 weeks after stopping trastuzumab.

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