Kent and Medway Cancer Collaborative

Network Guidance Document

Systemic Anti-Cancer Therapy Care Pathway

Anaphylaxis

Status:	Final
Expiry Date:	July 2021
Version Number:	V4
Publication Date:	July 2019

Contents

ANAPHYLAXIS PROTOCOL

Haemato-Oncology Adult Hypersensitivity Policy for patients receiving systemic anti-cancer therapy

1.0 Aims

To ensure rapid and efficient action is taken in the event of anaphylaxis to minimise the effects for the patient and to maintain their well-being.
It is the responsibility of the individual trained nurse, skilled in the administration of systemic anti-cancer drugs to recognise when anaphylaxis has occurred and what action to take.
To ensure any designated systemic anti-cancer therapy in an acute area has an anaphylaxis kit and guidelines.

1.1 Introduction

The term anaphylaxis is derived from the Greek words **ana**, meaning again, and **phulaxis**, meaning guarding. The word, therefore aptly describes the condition where the individual affected has an increased, perhaps inappropriately so, guarding of the body from a substance originating from the external environment.
(Henderson 1998), resulting in the formation of antibodies (Allwood et al 2002).
For the purposes of this document the term anaphylaxis will be used for both anaphylactoid reactions, which are similar but do not depend on hypersensitivity and anaphylaxis which is the term commonly used for hypersensitivity reactions.
The degree of risk and type of reactions are variable (from mild to life threatening). The onset is more rapid and reactions are more often severe from the intravenous (I.V) route.
Progress may be rapid, slow, or biphasic (more rare – delayed by a few hours or persisting for more than 24 hours).

1.2 Content

- Prevention
- Clinical Features
- Causes
- Management of mild and severe anaphylaxis
- Cautions

i) Prevention

- A full history of previous allergic reactions is important as well as that of any recent incidents. In the event of mild or severe anaphylaxis reaction, future planned treatments must be discussed with the patient's consultant. Prophylactic antihistamines may be required to prevent subsequent reactions.

- The nurse / doctor must be fully aware of drugs that may potentially cause an allergic reaction.

- All areas delivering systemic anti-cancer drugs must have easy access to an Anaphylaxis kit prepared and renewed by pharmacy, which should be easily accessible.

- Full consideration must be given to patients receiving high risk treatments such as antibodies and are on beta-blockers or ACE inhibitors, with regards their suitability for treatment.

- The availability and location of resuscitation equipment must be detailed in each location used for administration.

ii) Clinical Features of Anaphylaxis

Clinical manifestations can occur within minutes of exposure to the antigen. Symptoms may include:

- **Cutaneous**: swelling, urticarial, erythema and pruritus, itching, flushing or paleness
- **Respiratory**: wheezing, dyspnoea, rhinitis, sneezing and angioedema (swelling of the lips, face, neck and tongue), laryngeal obstruction causing a husky voice, stridor and hypoxia
- **Cardiovascular**: hypotension, tachycardia and arrhythmia
- **Gastrointestinal**: nausea, diarrhoea, abdominal cramps and vomiting
- **Central Nervous System**: confusion, feeling of impending doom, apprehension, metallic taste, altered levels of consciousness, anxiety and unease
- **Sudden collapse**

Any anaphylactic reaction, irrespective of its severity, should be treated as a medical emergency requiring immediate intervention. Delay in recognition of the conditions or its treatment, especially in the delay of administering adrenaline can result in death, usually as a result of cardiovascular collapse or airway obstruction.

iii) Hypersensitivity

Systemic anti-cancer drugs have the potential to cause immediate hypersensitivity reactions. Among these are antibodies, Taxanes and immunoglobulins, and platinum based drugs.
It is the responsibility of the prescribing doctor and administering nurse to ensure they are fully aware of the potential to cause an anaphylactic reaction of the drug they are giving.

iv) Management

- **Mild Anaphylaxis** – See Appendix 2 (slowly progressing peripheral oedema or changes restricted to the skin e.g. urticaria).
- **Severe Anaphylaxis** with cardiovascular collapse – See Appendix 1 (common manifestation, vasodilatation and loss of plasma from blood compartment).

It is recommended that Appendix 1 and 2 are laminated and visible in all clinical areas.

- Administer nebulised Salbutamol 2.5mg to 5mg as an adjunctive measure if bronchospasm is severe and does not respond rapidly to other treatment.

v) Cautions

- Beta blockers may increase the severity of an anaphylactic reaction and antagonise the response to adrenaline. Half the dose may be safer.

  Adrenaline may be given **IM** only to patients in profound shock. The dilution should be 1:1000 (0.5 – 1ml administered).

- Patients taking tricyclic antidepressants or monoamine oxidase inhibitors should only receive 50% of the usual dose of adrenaline, as an interaction is potentially dangerous.

- Systemic anti-cancer therapy antibodies: Up to 80% of patients receiving systemic anti-cancer therapy antibodies may experience chills and/or fevers, rashes, hypotension and dyspnoea predominantly during the first infusion. All of the agents may produce a post infusion reaction starting 2-24 hours post dose. Severe allergic reactions are seen less commonly, in around 1-2% of patients.

- Taxanes: Taxanes are associated with acute hypersensitivity reactions. The incidence with paclitaxel is approximately 40% (2% severe) and the rate with docetaxel is 30% (7% severe). Clinical manifestations include skin changes (pruritus, erythema, rashes, urticarial), angioedema, dyspnoea (with or without bronchospasm), blood pressure changes (decrease or increase), but rarely cardiovascular collapse.

- Treating a patient with anaphylaxis in the community or on mobile chemotherapy units will not be the same as in an acute hospital. Out of hospital, an ambulance must be called immediately, whilst nurses carry out first line treatment, and the patient transported to an emergency department.

vi) Recommencement of Treatment

Following an episode of anaphylaxis all patients should be reviewed by the Medical Team prior to continuing with their therapy.

Appendix 1

The Management of Severe Anaphylaxis

Action	**Rationale**
Stop the infusion of drug immediately and take down any SACT that may be infusing	Prevent further exposure to allergen
Explain all care to the patient and their family where possible	Help reduce anxiety and keep the patient fully informed
Administer oxygen 100% (10-15L/min)	Increase Cell perfusion
Record vital signs and continue to monitor	To establish patient's overall condition and monitor any deterioration / improvement
Ensure resuscitation trolley is in situ, and call the cardiac resuscitation team and commence C.P.R if required	
Administer adrenaline 1:1000 (1mg/ml) IM Adult 500 micrograms IM (0.5 mL) (guidelines from resus council) **Repeat in 5 minutes if no clinical improvement** **Note IV Adrenaline only to be given by experienced clinicians only**	Alpha-receptor agonist, it reverses peripheral vasodilatation and reduces oedema. Its beta-receptor activity dilates the airways, increases the force of the myocardial contraction and suppresses histamine and leukotriene release.
Administer Chlorphenamine 10mgs (guidelines from resus council) via IM injection or slow IV injection	Clinical experience shows that parenteral Chlorphenamine is of value in anaphylaxis
Administer Hydrocortisone 200mg via IM or slow IV injection (guidelines from resus council)	Clinical experience shows that parenteral Hydrocortisone is of value in anaphylaxis
Administer bronchodilator if required	Reduces bronchospasm. May be used as an adjunctive measure to antihistamine
If shock persists set up IV infusion colloid (1-2L)	Improve hypotension
Obtain 10ml clotted blood 45-60 min after (no later than 6hrs) for specific IgE antibody and mast cell tryptase	Assess whether episode genuine anaphylactic reaction
Admit patient	Repeat episode can occur 1-72hrs after clinical recovery
Document fully the allergic reaction in the medical / nursing notes	Legal requirement
Complete an Incident Report Form	For a complete review and investigation of the clinical incident
Fill in yellow adverse drug reaction form if applicable	
In the absence of patient group directives all medication must be prescribed.	Legal requirement

Intravenous administration of adrenaline is hazardous. Intravenous injections of adrenaline must be reserved for patients with profound shock that is immediately life threatening and for special indications e.g. during anaesthesia. The use of adrenaline by the intravenous route should be reserved for medically qualified personnel who have experience of it, who know that it must be administered with extreme care, and who are aware of the hazards associated with its use. The dose administered should be in a dilution of 1:10000, never 1:1000.

Appendix 2

The Management of Mild Anaphylaxis

Action	**Rationale**
Stop infusion of drug immediately	Prevent further exposure to allergen
Explain all care to the patient and their family	Help reduce anxiety and to ascertain whether patient experiencing panic attack / anaphylaxis
Evaluate patients' airway and breathing circulation and level of consciousness	Ensure patient not developing severe reaction
Initiate frequent vital signs including oxygen saturation	Monitoring hypotension, tachycardia and respiratory status
Lay patient flat unless they are experiencing respiratory difficulties	Assist with hypotension
Ensure HCP remains with patient at all times	Risk of shock / severe reaction
Contact SHO	
Administer slow IV Chlorphenamine 10mgs diluted with 10ml N/Saline	Counter histamine mediated vasodilatation
Administer hydrocortisone IV 200mgs	Clinical experience shows that parenteral hydrocortisone is of value in anaphylaxis
Administer bronchodilator if required	
Document allergic reaction in the medical / nursing notes	Legal requirement
Complete an Incident Report Form	For complete review and investigation of the clinical incident
Fill in yellow adverse drug reaction form if applicable	
Monitor for 8-24hrs	Risk of early recurrence

Anaphylaxis Kit

Refer to local anaphylaxis kit as there may be variation by site.

Contents

Anaphylaxis Policy
Chloraprep
10ml syringe x 1
2ml syringe x 1
5ml syringe x 1
Blue needle x 3 (check gauge)
Chlorphenamine 10mgs/1ml x 2 vials
Hydrocortisone 100mgs/2ml water for injection x 2 vials
Minijet (adrenaline with epinephrine 1:1000)
Salbutamol nebules 2.5mgs x 2 (nebuliser attachment)

To prevent the drugs being removed the anaphylaxis kit should be in a sealed container. After use it should be immediately returned to pharmacy and replaced. The kit should also be checked for expiry.

References

Allwood et al (2002) The Cytotoxics Handbook 4th Edition Radcliffe Medical Press Ltd.

Collins T (2000) Understanding Shock, Nursing Standard 14, 49, 35-39

Henderson N (1998) Anaphylaxis, Nursing Standard 12, 47

Fisher M (1995) Treatment of acute anaphylaxis, British Medical Journal 311,16. 731-733

Myers J.S. & Kearney K (2002) Emergency: Chemotherapy Induced Hypersensitivity Reaction, American Journal of Nursing 100,4.

Resuscitation Council (UK) The Emergency Medical Treatment of Anaphylactic Reactions for First Medical Responders and for Community Nurses. January 2008

Document Administration

Approval Record

Approval		
Date	**Name / Title**	**Signature**
26/02/2009	Discussed at Nursing and Pharmacy Sub Group	
26/03/2009	Discussed at Network Chemotherapy Group	
30/03/2009	Circulated to Heads of Trust Chemotherapy Groups	
18/06/2009	Ratified at Network Chemotherapy Group	
15/09/2011	Ratified at Network Chemotherapy Group	

Enquiries

All enquiries relating to this document should be addressed to:

Addressee: Name Caroline Waters
Address Collaborative Pharmacist and Clinical Lead
Kent and Medway Cancer Collaborative,
William Harvey Hospital
Kennington Road
Willesborough
Ashford
Kent, TN24 0LZ
caroline.waters2@nhs.net

Email:

Document Location

The document is located in the Kent and Medway Cancer Collaborative office, in hardcopy and in electronic format on the Kent & Medway Cancer Collaborative website at www.kmcc.nhs.uk

Date of Next Review

This item is next to be reviewed **May 2019**

Revision History

Date	Version	Status	Author	Summary of Changes
15/03/2009	V0.2	Draft	Bryony Neame	Words 'chemotherapy, cytotoxic and monoclonal' replaced by 'systemic anti-cancer therapy' to reflect NCEPOD report
2011-09	V2	Published	Network Chemotherapy Nursing Group	Document reviewed and updated.
2017	V3		Ruth O'Brien	Change in the management of anaphylaxis
2019	V3		Ruth O'Brien	Document reviewed: no change required.
July 2019	V4	Published	Approved virtually by Chemotherapy group	