Aspirin Desensitisation Protocol (for use in adult cardiac patients)

This protocol does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

INTRODUCTION

Aim

- For use in patients with a history of aspirin or NSAID- induced urticaria-angioedema
- To ensure safe and successful desensitisation to aspirin within the Cardiology department in patients who require long-term treatment with aspirin (e.g. following percutaneous coronary intervention).

THIS PROTOCOL IS FOR USE BY THE FOLLOWING STAFF GROUPS :

Lead Clinician(s)

Konstantin Schwarz	Consultant Cardiologist
Approved by Cardiology Governance Meeting on:	3rd July 2019
Approved by Medicines Safety Committee on:	7th October 2019
Review Date : This is the most current document and should be used until a revised version is in place	7th October 2022

Key amendments to this guideline

Date	Amendment	Approved by: (name of committee or accountable director)
7th October 2019	New document approved for 3 years	Medicines Safety Committee

INTRODUCTION

Background and Indications

This protocol is NOT suitable for patients with a previous history of bronchospasm or anaphylaxis to aspirin or any of its excipients.

Aspirin is indicated in the treatment of coronary artery disease and many other cardiac disorders. There are some patients who are unable to receive treatment with aspirin due to a previous history of an adverse reaction to aspirin or non-steroidal anti-inflammatory drugs. Aspirin desensitisation has been successfully used to overcome this problem and is used within many centres within the UK. This protocol is for desensitisation of cardiology patients treated within the Cardiology Directorate Worcestershire Acute Hospitals NHST. Aspirin desensitisation has been shown to be safe, however, it is possible that patients may have a reaction to aspirin. Symptoms (5%) are usually mild, such as an itch and a rash or mild chest tightness or angioedema and respond to antihistamines and steroids.

Important Notes:
Patients will be admitted to the cardiology ward, or ward environment in which appropriate nursing and doctor cover is available to allow for and undertake the monitoring required for this procedure.

The patient should be advised to **omit** the following medications **for the 24 hours before** the desensitisation procedure:

- Anticholinergics
- Antihistamines
- Cromoglycate
- Beta-blockers
- Angiotensin converting enzyme inhibitors

If any of the medications are unable to be omitted please discuss with the Immunology Department prior to booking the patient for or undertaking the desensitization procedure.

If a patient is taking anti-leukotriene medication such as montelukast, bronchospasmic responses to oral aspirin may be blocked but exacerbation of respiratory disease is still possible.

This protocol must be used alongside the 'Aspirin Desensitisation Chart' where all observations and aspirin administrations should be recorded. The protocol should be read in full before the desensitisation is started.

The procedure should be stopped if any of the following occur:

- >10% reduction in peak flow
- Significant drop in blood pressure or oxygen saturation
  (symptomatic or SBP drop >20mmHg, O_2 saturations drop below 92% or change >4%, seek doctors help)
- Any signs of adverse reaction

After successful desensitization **if a patient misses more than 2 doses (>48hours from last dose), repeat desensitisation will be required**.

DETAILS OF PROTOCOL

Cardiology ward: 12-lead ECG (pre-procedure), BP, saturations and Peak flow monitoring

Give loratidine 10mg stat p.o. in the morning before (>1h). Alternatively can have their usual antihistamine if they were taking it long term before (cetirizine, hydroxyzine…)

The patient should have intravenous access secured prior to the start of the procedure.

Ensure that hydrocortisone 25mg - 50mg IV and chlorphenamine 10mg IV are prescribed on the PRN section of the drug chart/prescription and are immediately available.

Perform baseline monitoring of blood pressure, oxygen saturations and peak flow and record this on the 'Aspirin Desensitisation Chart'

Prescribe aspirin both on the Desensitization Chart and on the trust Drug Chart with the note on day 1: 'up-titrating aspirin doses see Desensitization Chart'.

Prepare **'Solution A'** by dissolving 1 x 75mg tablet in 75ml water (1mg/ml suspension).

With a 15-minute interval in-between each dose, administer steps 1 to 4 of the desensitisation protocol (see table below).

Prior to each step repeat blood pressure, oxygen saturations and peak flow should be performed.

If there is any alteration in the patient's condition or monitoring it should be brought to the immediate attention of the doctors.

The time of administration of each dose should be recorded on the chart

Prepare **'Solution B'** by dissolving 2 x 75mg tablets in 15ml water (10mg/ml suspension)

With a 15-minute interval in-between each dose, administer steps 5 to 7 of the desensitisation protocol (see table below).

Prior to each step repeat blood pressure, oxygen saturations and peak flow should be performed.

If there is any alteration in the patient's condition or monitoring it should be brought to the immediate attention of the doctors.

The time of administration of each dose should be recorded on the chart.

15 minutes after step 7 the patient should receive 1 x 75mg tablet. Prior to this repeat blood pressure, oxygen saturations and peak flow should be performed. The time of administration of each dose should be recorded on the chart.

Step	Dose of Aspirin (mg)	No of 75mg Tablets	Volume of Water for Suspension	Suspension Concentration	Volume of Suspension to Administer
1	0.1	1	75ml	1mg/ml	0.1ml
2	0.3	1	75ml	1mg/ml	0.3ml
3	1	1	75ml	1mg/ml	1ml
4	3	1	75ml	1mg/ml	3ml
5	10	2	15ml	10mg/ml	1ml
6	30	2	15ml	10mg/ml	3ml
7	40	2	15ml	10mg/ml	4ml
8	75	1	N/A	N/A	N/A

Solution A: Dissolve 1 x 75mg tablet in 75ml water (1mg/ml suspension)

Solution B: Dissolve 2 x 75mg tablets in 15ml water (10mg/ml suspension)

Following desensitisation
The patient should remain on the ward overnight with regular monitoring. If there has been no adverse reaction the patient should receive an additional 75mg dose the following morning and be observed for 1 hour before being discharged.

Prior to and on discharge
Prior to discharge: the 'Aspirin Desensitisation Patient Information Leaflet' should be given to the patient and the importance of not missing doses explained to the patient.

The patient should also be discharged with one month's supply of aspirin 75mg tablets.

Any potential continuation of anti-histamine will be left at the discretion of the discharging doctor.

It should be clearly document on the discharge summary that the patient has been desensitised to aspirin and for their GP allergy record to be updated accordingly.

Monitoring Tool

This should include realistic goals, timeframes and measurable outcomes.

How will monitoring be carried out? Continuous audit

Who will monitor compliance with the guideline? Nursing staff and medical staff on cardiology ward

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
	WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
	Case numbers will be monitored	Audit of the service provided will be carried out, devising datasets to capture outcomes. Informal clinical supervision with all members of the team.	Initially once a year, later can be extended to every two years (expected case number is fairly low)	Konstantin Schwarz	The results of the monitoring will be provided at cardiology audit meetings.	Audit results will be shared at the audit meeting. Initially after one year, later can be extended to every two years.

REFERENCES

- Chapman A, Rushworth GF & Leslie SJ (2013). Aspirin desensitization in patients undergoing percutaneous coronary intervention: A survey of current practice. *Cardiology Journal*; 20(2): 134-138.

- Wong *et al* (2000). Rapid oral challenge-desensitisation for patients with aspirin-related urticarial-angioedema. *Journal of Allergy and Clinical Immunology*; 105(5): 997-1001.

- The Leeds Teaching Hospital NHS Trust, Aspirin Desensitisation SOP and Prescription and Administration Chart.

Contribution List

This key document has been circulated to the following individuals for consultation;

Designation
Konstantin Schwarz, consultant cardiologist
Steven O'Hickey, consultant respiratory physician
Jasper Trevelyan, consultant cardiologist
Helen Routledge, consultant cardiologist
Sarah Austin, advanced respiratory nurse specialist
William Foster, consultant cardiologist
William Roberts, consultant cardiologist
David Smith, consultant cardiologist
Deepak Goyal, consultant cardiologist
Franceso Formisano, consultant cardiologist
Betina Ancsin, consultant cardiologist
David Wilson, consultant cardiologist
Bashar Aldahoon, consultant cardiologist

This key document has been circulated to the chair(s) of the following committee's / groups for comments;

Committee
Cardiology Governance Meeting
Medicines Safety Committee

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	**Does the policy / guidance affect one group less or more favourably than another on the basis of:**		
	Age	no	
	Disability	no	
	Gender reassignment	no	
	Marriage and civil partnership	no	
	Pregnancy and maternity	no	
	Race	no	
	Religion or belief	no	
	Sex	no	
	Sexual orientation	no	
2.	**Is there any evidence that some groups are affected differently?**	no	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and / or justifiable?**	no	
4.	**Is the impact of the policy / guidance likely to be negative?**	no	
5.	**If so can the impact be avoided?**	NA	
6.	**What alternatives are there to achieving the policy / guidance without the impact?**	NA	
7.	**Can we reduce the impact by taking different action?**	NA	

NB:
Where an inappropriate, negative or discriminatory impact has been identified please proceed to conduct a Full Equality Impact Assessment and refer to Equality and Diversity Committee, together with any suggestions as to the action required to avoid / reduce this impact.

Advice can be obtained from the Equality and Diversity Leads in HR and Nursing Directorates (details available on the Trust intranet).

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	no
2.	Does the implementation of this document require additional revenue	no
3.	Does the implementation of this document require additional manpower	no
4.	Does the implementation of this document release any manpower costs through a change in practice	no
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	no
	Other comments:	none

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval