NHS
University Hospitals of Derby and Burton
NHS Foundation Trust

Anti D Administration in Pregnancy - Full Clinical Guideline

Reference no.: CL/OG/08

Contents

1. Introduction

Routine Anti D prophylaxis is recommended as treatment option for all pregnant women who are RhD Negative and who are known to be sensitised to the Rh D antigen. The risk of sensitisation can be reduced by administering anti D immunoglobulin.

Anti-D administration is also recommended in certain circumstances in early pregnancy for ectopic pregnancy, molar pregnancy, miscarriage and abortion.

NB: The term Rhesus is out of date and has been replaced by Rh as in the “Rh Blood Group System”

2. Purposes and Outcomes

To alert all staff caring for women in this group to the fact that sensitisation can occur at any time during pregnancy, but is most common in the third trimester and during childbirth.

3. Abbreviations

CJD - Creutzfeldt-Jakob Disease
CVS - Chorionic Villus Sampling
FMH - Fetal – Maternal Haemorrhage
GAU - Gynaecology Assessment Unit
IM - Intramuscular
iu - International Units

MHHR - Maternity Hand Held Records
PV - Per Vaginum
Rh –ve - Rh D Negative
Rh +ve - Rh D Positive
RAADP - Routine Antenatal anti-D Prophylaxis

4. Key Responsibilities and Duties

All staff caring for women have a duty to ensure women at risk of sensitisation are identified and managed accordingly.

5. Risks and Benefits

Sensitisation has no adverse health effects for the mother and usually does not affect the pregnancy during which it occurs.

The risk of sensitisation is greatest in the first pregnancy and decreases with subsequent pregnancies. Once sensitisation has occurred it is irreversible.

Immune anti-D produced by the mother can cross the placenta and bind to Rh D antigen on the surface of fetal red blood cells, these red blood cells are removed from the fetal circulation and anaemia can occur. Severe anaemia can lead to fetal heart failure, fluid retention and swelling (Hydrops), and intrauterine death.

All Anti D immunoglobulin preparations carry a small risk of localised or generalised allergic reactions.

Anti D immunoglobulin used in the UK is prepared from pooled plasma from non-UK blood donors (less risk of variant CJD) and although blood donors are screened there is a small risk of the transmission of blood borne infections.

6. Administration of Anti D

Should normally be given intra-muscularly (ideally into the deltoid).

However it is possible to give subcutaneously if the woman has a bleeding disorder/deranged clotting, this route should be clearly documented by the medical staff.

7. Early Pregnancy (up to 20 weeks gestation)

Termination of pregnancy-

- Termination of pregnancy >10^{+0} weeks gestation offer all Rh D negative women anti-D prophylaxis (500iu)

- Medical termination of pregnancy up to and including 10^{+0} weeks gestation do not offer anti-D prophylaxis

- Surgical termination of pregnancy up to and including 10^{+0} weeks gestation offer anti-D prophylaxis (500iu)

Ectopic pregnancy and miscarriage-

- Surgical management of ectopic pregnancy or miscarriage <13 weeks gestation (up to and including 12^{+6} weeks) offer all Rh D negative women anti-D prophylaxis (500iu)

- Medical management of ectopic pregnancy or miscarriage, complete miscarriage or pregnancy of unknown location <13 weeks gestation (up to and including 12^{+6} weeks) do not offer anti-D prophylaxis

Molar pregnancy-

- Offer all Rh D negative women <12 weeks gestation (up to and including 11^{+6} weeks) anti-D prophylaxis (500iu)

Uterine bleeding (repeated, heavy or with abdominal pain)-

- Offer all Rh D negative women <12 weeks gestation (up to and including 11^{+6} weeks) anti-D prophylaxis (500iu)

All Rh D Negative non-sensitised women who are 12 – 20 weeks gestation should be given anti-D (500IU) within 72 hours in the event of:

- Invasive pre-natal diagnosis or other intra-uterine procedures

- Ante-partum haemorrhage (PV bleeding)

- External cephalic version

- Abdominal trauma

- Abdominal pain with reasonable grounds for suspicion of abruption

- Intra-uterine death

A Kleihauer test is not required before 20 weeks gestational age (unless patients are undergoing pre-natal diagnostic tests) although a blood group sample is indicated if the maternal blood group is unknown.

Rh D Negative women presenting with continual uterine bleeding between 12-20 weeks gestation should be given 500IU anti-D Ig, at a minimum of 6 weekly intervals.

8. Antenatal (after 20 weeks gestation)

A Kleihauer test must be taken for each episode listed below even if the woman has recently received anti D immunoglobulin including routine antenatal anti-D prophylaxis (RAADP).

All sensitising episodes after 28 weeks will require further anti-D immunoglobulin.

Anti-D (500iu) IM, should be given to non-sensitised, Rh D Negative women within 72 hours in the event of:

- Amniocentesis, chorionic villus biopsy and cordocentesis
- Antepartum haemorrhage/Uterine (PV) bleeding in pregnancy
- External cephalic version
- Abdominal trauma (sharp/blunt, open/closed)
- Intrauterine death and stillbirth
- In-utero therapeutic interventions (transfusion, surgery, insertion of shunts, laser)
- Miscarriage, threatened miscarriage
- Therapeutic termination of pregnancy
- Delivery – normal, instrumental or Caesarean section

8.1 Routine Antenatal Anti-D Prophylaxis of 1500iu anti-D (IM) to be given at 28 weeks gestation, to all non-sensitised Rh D Negative women. A pre-injection blood group and antibody screen is taken as part of University Hospital of Derby and Burton NHS Foundation Trust Antenatal Screening Service. This prophylaxis does not exclude the need for additional anti-D or Kleihauer testing if any of the above events should occur.

9. Post Natal Patients

Non-sensitised Rh D Negative women delivering an Rh D Positive baby should be given 500 iu anti-D within 72 hours after delivery. A Kleihauer test must be performed to determine whether a larger dose is required if significant FMH has occurred at the time of delivery.

NB – If more than 72 hours has elapsed when the need for anti-D in any of the above situations is recognised, then the appropriate dose should still be given as soon as possible, as there may be some benefit for up to 10 days after exposure. The Transfusion Practitioners must be informed of any missed or late administration of anti-D immunoglobulin as the patient may need a 6 month post-delivery follow up group and screen to check for any immune anti-D production. Missed or late administrations are also externally reportable to Serious Hazards of Transfusion (SHOT).

Rh D Negative mothers, who require cell salvage, need a higher anti-D dose of 1500iu. Blood Bank to be informed.

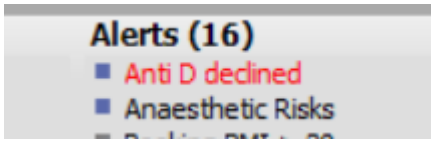
10. Follow-up for Feto Maternal Haemorrhage (FMH) >4mls

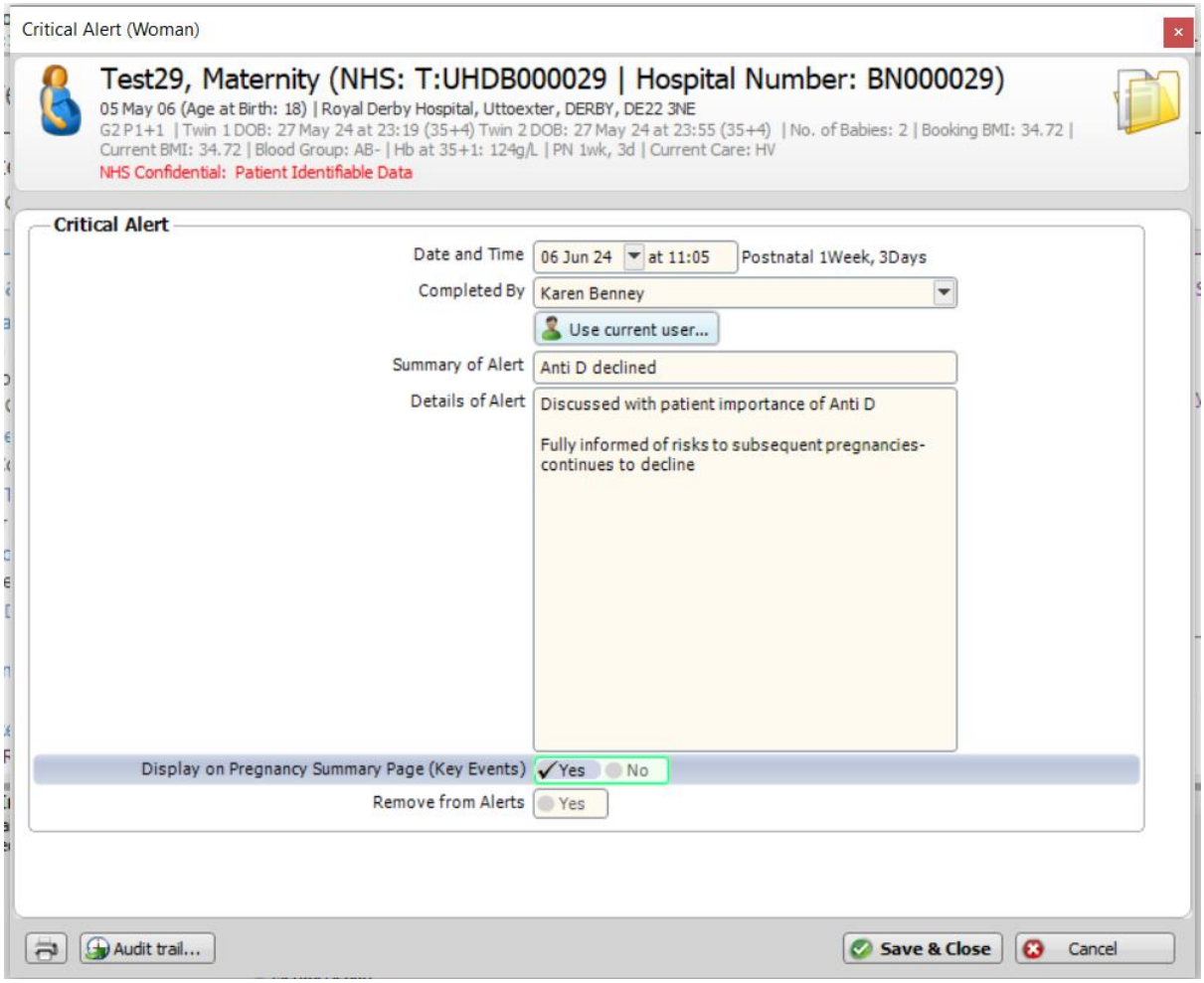
Blood Bank will require a further Kleihauer test 72hrs post administration of anti-D to confirm that the fetal cells have cleared.

11. Documentation

Consent for administration must be obtained and documented.

If anti-D is declined, this should be documented as an alert on the Maternity EPR system:





The administration of anti-D antenatally as well as postnatally, needs to be documented in the Maternity EPR system.

All Anti-D immunoglobulin injections must be issued from the Transfusion Laboratory with accompanying documentation:

- A bag and tag label from which the blue tear off section needs to be fully completed at the time of administration and returned to Blood Bank (this is a legal requirement for traceability for BSQR 2005).
- A white issue form containing details of the patient and dose of anti-D issued (plus baby details when post-delivery) . This document needs to be uploaded into the Maternity EPR (as image or scanned document)

12. Monitoring Compliance and Effectiveness

Monitoring requirement	Review to be undertaken on an individual basis through DATIX reporting in the event of sensitisation occurring
Monitoring method	Retrospective case note review
Report prepared by	Continuous reporting process via DATIX
Report sent to	Maternity Risk Group
Report frequency	As required

13. References

BSH Guideline for the use of anti-D immunoglobulin for the prevention of haemolytic disease of the fetus and newborn; February 2014

Routine Antenatal Anti D prophylaxis for women who are rhesus D negative. National Institute for Health and Clinical Excellence (NICE) Technology Appraisal 156; August 2008

Abortion Care. National Institute for Health and Clinical Excellence (NICE) NG140; September 2019

Ectopic pregnancy and miscarriage: diagnosis and initial management. National Institute for Health and Clinical Excellence (NICE) NG126; April 2019

Documentation Control

Reference Number:	**Version: 6.1**		**Status: Final**	
Version/Amendment	Version	Date	Author	Reason
	1	May 2001	Mr I Symonds	Introduction of multidisciplinary guidance
	2	Nov 2009	J Steward	In line with NICE Anti D TA 165. And adoption of change in practice
	3	Feb 2013	Judith Beale- Senior Biomedical Scientist/Transfusion Practitioner	Update
	4	Nov 2016	Heather Rankin- Transfusion Practitioner	Review and update
	5	April 2018	Heather Rankin- Transfusion Practitioner	Update to BSH guidance
	6	Sep 2020	Heather Clarke- Blood Bank Manager	Update to include NICE and BSH guidance on all Anti D administration
	6.1	June 2024	Lauren Wilkinson - Risk Support Midwife	To remove reference to MHHR due to the implementation of BadgerNet
Intended recipients: All staff with responsibility for caring for pregnant women				
To be read in conjunction with: Information for Women : Rhesus negative v2				
Development / review of guideline			Heather Clarke- Blood Bank Manager	
Consultation with:			Maternity Guidelines Group	
Approved by:			02/09/2020: Gynaecology Guidelines Group 02/09/2020: Gynaecology Development & Governance Committee: Mr J Dasgupta – Chair 22/09/2020: Hospital Transfusion Team 22/09/2020 Divisional Governance	

	V6.1: Ratified on the 14th June 2024 by exceptional ratification meeting for all levels of ratification
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