Royal College of Obstetricians & Gyn

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Prevention of Rhesus D alloimmunisation

Assessment of risk

Prepregnancy counselling

Women should be counselled about the risk of RhD alloimmunisation and the importance of attending for antenatal care and anti-D prophylaxis.

Red cell antibodies in pregnancy

All women should be offered testing for red cell antibodies at the booking visit in pregnancy.

All women who are RhD negative should be offered testing for fetal RhD status from cell-free fetal DNA in maternal plasma from 10 weeks of gestation.

Women who are RhD negative should be offered testing for fetal RhD status from cell-free fetal DNA in maternal plasma from 10 weeks of gestation.

Management of sensitised pregnancy

Consultant obstetric haematologist should be involved in the management of sensitised pregnancy.

Management of sensitised pregnancy prior to pregnancy

Women who have been sensitised to RhD prior to pregnancy should be counselled about the risk of RhD alloimmunisation and the importance of attending for antenatal care and anti-D prophylaxis.

[illegible]

[illegible]

Cord blood investigations

[illegible]

[illegible]

Management

How should [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Future Risks

[illegible]

[illegible]

Long-term consequences of red cell antibodies to women and their offspring

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Investigations should be performed only when the results will influence management or treatment. Routine investigations should not be performed in women with hyperemesis gravidarum.

In addition to the above, pregnant women presenting with hyperemesis gravidarum should undergo urinalysis to exclude urinary tract infection and to assess the degree of ketonuria. Blood tests should include full blood count, urea and electrolytes, liver function tests and thyroid function tests.

[illegible]

[illegible]

[illegible]

6.8 Once detected how often should antibody levels be monitored during pregnancy?

[illegible]

[illegible]

[illegible]

[illegible]

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6.14 Should RhD-negative women who have anti-D or non-anti-D antibodies receive routine antenatal or postnatal prophylaxis?

B

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y

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n o oa

7.1 What are the logistics of obtaining blood or blood components for the woman, fetus or neonate?

7.1.1 Blood or blood components for the woman

7.1.4 Blood for neonatal small volume ('top-up') transfusion

Blood of group AB plasma contains no anti-A or anti-B and AB plasma is the universal donor plasma for use in A, B and O recipients. However, group AB plasma contains anti-A and anti-B and is therefore not suitable for use in neonates.

Blood of group O contains anti-A and anti-B and is therefore not suitable for use in neonates.

Cytomegalovirus (CMV) antibody status is not relevant for plasma components.

Blood for neonatal small volume ('top-up') transfusion should be irradiated.

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In order to ensure that the baby is kept warm throughout the procedure, it is important to ensure adequate room temperature and to dry the baby thoroughly after birth. Skin-to-skin contact with the mother is the most appropriate method of keeping the baby warm and should be encouraged. Alternatively, the baby should be placed under a radiant heater.

As not all stillbirths are due to acute events, parents should be offered the opportunity to see and hold their baby. Parents should be informed that this may help them to come to terms with the loss.

Although the Human Fertilisation and Embryology Act 1990 (as amended in 2008) requires that the consent of both parents is obtained for the storage and use of gametes and embryos, there is no requirement for consent for the use of tissue for research purposes. However, parents should be informed that tissue samples may be used for research purposes and given the opportunity to withhold consent.

9 Cord blood investigations

9.1 What cord blood investigations should be performed?

✓

Cord blood samples should be sent for ABO and Rhesus D typing and for a direct antiglobulin test (DAT, direct Coombs' test). In cases of suspected fetomaternal haemorrhage, a Kleihauer test should be performed. It is important to send cord blood samples for DAT as soon as possible after birth as haemolysis may affect the result.

10 Neonatal management

10.1 How should the neonate be managed?

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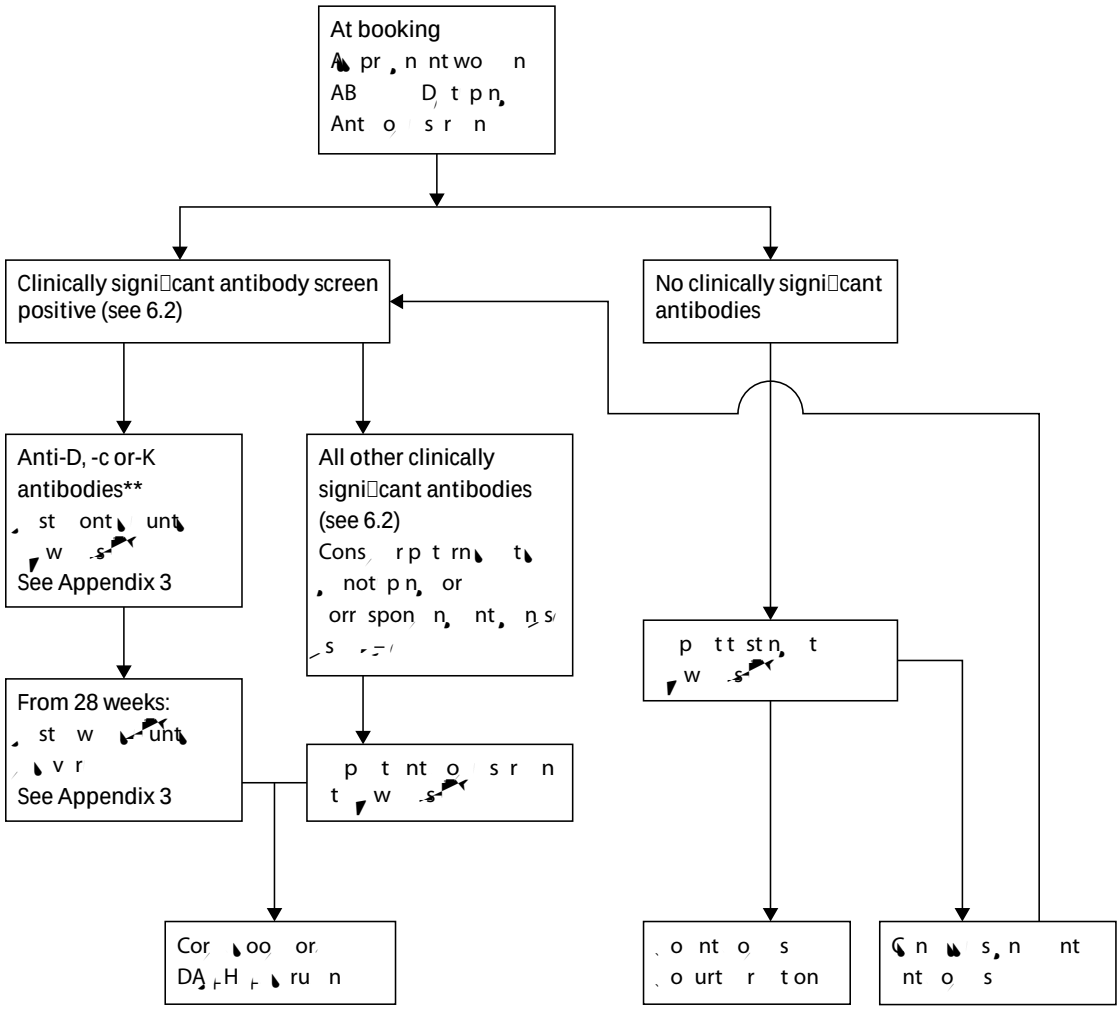
App n , Red cell antibodies showing published clinical significance

Antibody	HDFN	Haemolytic transfusion reaction
D	v r n tus n n on t	v r
	v r n tus n n on t	v r
	v r n tus n n on t	v r
E	v r n tus n n on t	v r
E	Y s n n on t	Y s
C	Y s n n on t	Y s
	Y s n n on t	Y s
C	Y s n n on t	Y s
F	Y s n n on t	Y s
F	Y s n n on t	Y s
F	F Y s	

App n , Timing and frequency of antibody screening in pregnancy



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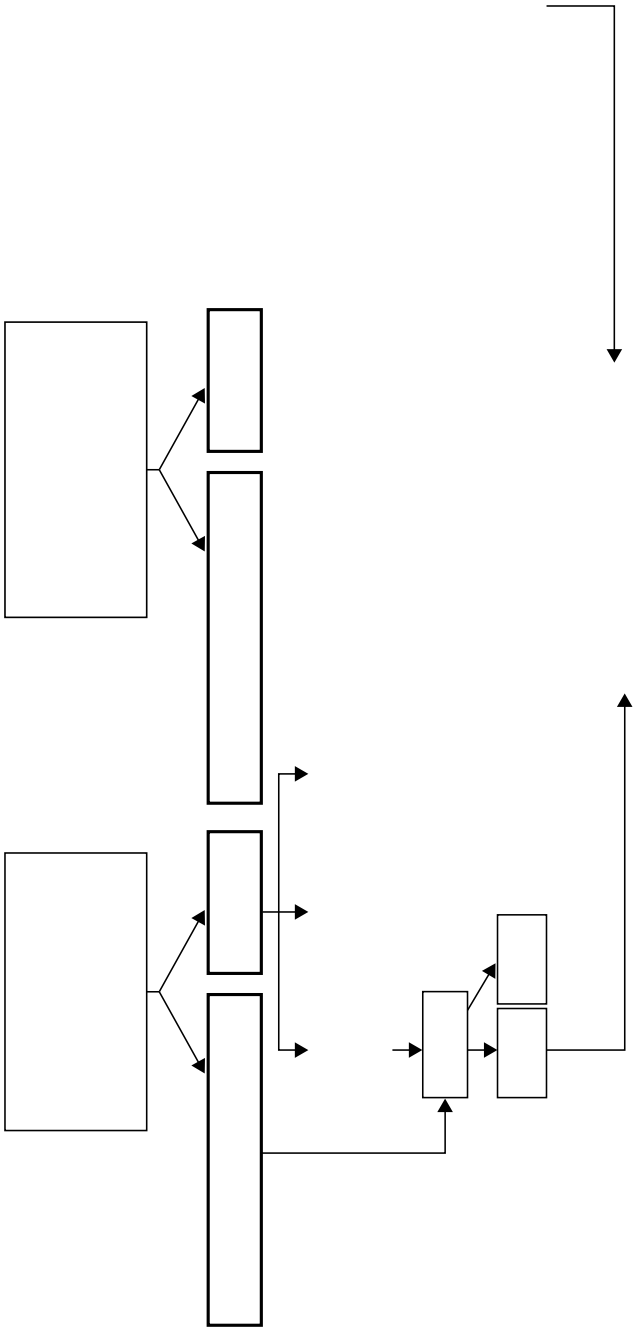
r , n n s w t un nt D or r t p rt rrs o s v r t HDF so urt r ss ss nt n r rr to t n sp st s n t s – / –

Legend
DA - r t nt, o nt st H - o, o n AAD - rout n nt n t nt D prop s



Appendix 1 List of abbreviations

AIDS	acquired immunodeficiency syndrome
BCSH	British Committee for Standards in Haematology
CJD	Creutzfeldt–Jakob disease
DAT	direct antiglobulin test
FBC	full blood count
FFP	fresh frozen plasma
HDFN	haemolytic disease of the fetus and newborn
HTR	haemolytic transfusion reaction
IAT	indirect antiglobulin test
IVIG	intravenous immunoglobulin
IVT	intrauterine transfusion
MCA PSV	middle cerebral artery peak systolic velocity
NAIT	neonatal alloimmune thrombocytopenia
NICE	National Institute for Health and Clinical Excellence

Appendix 1 Explanation of guidelines and evidence levels

Consensus statements, opinions, assessments of patients and interventions should be based on evidence of the highest quality. Evidence should be graded according to the Royal College of Obstetricians and Gynaecologists' 'Development of RCOG Green-top Guidelines' available at http://www.rcog.org.uk/files/rcog-corp/GTG_Consensus.pdf. Recommendations should be explicit and unambiguous. Practitioners should be aware of the different grades of recommendations when considering treatment options. Healthcare professionals are expected to take clinical guidelines fully into account when exercising their clinical judgement. However, guidelines do not override the individual responsibility of healthcare professionals to make appropriate decisions in the circumstances of the individual patient, in consultation with the patient and/or her companion. It is good practice to document the reasons for clinical decisions. Attention is drawn to the fact that breaches of hospital protocols may be used in litigation.

Table 1 Explanation of evidence levels

At least one meta-analysis, systematic review or randomised controlled trial rated as high quality, directly applicable to the target population or	
A systematic review of randomised controlled trials or evidence base applicable to the target population that as a whole is consistent and of good quality	
A well-conducted clinical study, but not randomised controlled trial, on the topic of recommendation with a low likelihood of confounding or bias and a high probability that the relationship is causal	
Expert consensus or clinical experience of good clinical practice and clinical studies	

