

SCENARIO

Transfusion Reaction

LEARNING OBJECTIVES

Recognise Transfusion Associated Fluid Overload (TACO)
Initiate immediate management
Differentiate from (transfusion related Lung Injury TRALI)
Request Appropriate investigations

EQUIPMENT LIST

Vital Signs Monitor	Drugs(antihistamine/frusemide)	Phone
Giving set/blood	Mannequin/Actor	Obs Chart
Blood bottles/BC bottles	O2/facemask	

PERSONNEL

MINIMUM: 3
ROLES:
Trainee
Midwife
Anaesthetist

FACULTY

MINIMUM: 1
Facilitator
Observer
Debrief Lead

TIME REQUIRMENTS

TOTAL 45 minutes

Set up: 10 mins	Simulation: 15mins
Pre Brief: 5 mins	Debrief: 15mins

INFORMATION TO CANDIDATE

PATIENT DETAILS

Name: Mrs Ford
Age: 41
Weight/BMI: 19

Phx: Pre Eclampsia
Allergies: Nil

SCENARIO BACKGROUND

Location: Recovery

Situation:

Mrs Ford is 41 years old and has had an emergency caesarean section for severe PET at 37 weeks. Cell salvage was in use and she had an intra operative blood loss of 2.5 L and a further 2L post op. She received the following components:

2L Crystalloid, 2units O neg blood, 500mls of salvaged blood, 10units group specific blood, 2 units grouped plasma, 1 unit platelets.

In recovery during her platelet transfusion she becomes very short of breath.

Task:

Can you please review Mrs Ford?

RCOG CURRICULUM MAPPING

Module 12 Management of Post Partum Problems
Acute Maternal Collapse

INFORMATION FOR ROLEPLAYERS

BACKGROUND

Your name is Mrs Ford. You have just had an emergency caesarean section after being diagnosed with Pre Eclampsia at 37 weeks. You had a large amount of bleeding and have required a blood transfusion. Whilst in recovery you begin to feel unwell and find it difficult to breath. You are unable to talk in sentences and are very frightened and anxious.

RESPONSES TO QUESTIONS

You can only answer in single words as very short of breath.

You are not itchy and your throat doesn't feel swollen.

You have never had a blood transfusion before

You don't have any allergies or Asthma

You have no medical problems other than the Pre Eclampsia

INFORMATION TO FACILITATOR

SCENARIO DIRECTION

Mrs Ford is only able to talk in short sentences and is visibly tachypnoeic. She has no angioedema or urticarial rash. She is not cyanosed. She is not actively bleeding and her abdomen is not distended.

ABCD assessment including high flow O2 through facemask

Examine chest, JVP

Request Bloods FBC, U&E, LFTS, and Urine for haemoglobinuria

Request CXR

Initiate management for fluid overload, IV Frusemide 20-40mg IV

15 mins obs HDU

Hourly urine output fluid

SCENARIO OBSERVATIONS/ RESULTS

	BASELINE	STAGE 1 After Rx
RR	29	22
chest sound	Creps ↓AE	Creps
SpO2	89%	96%
HR	112	103
Heart sound	tachy	normal
BP	155/103	140/90
Temp	37.5C	37.3C
Central CRT	2 secs	2secs
GCS/AVPU	Alert	Alert

JVP elevated

CXR- Pulmonary Oedema

Urine – heamoglobinuria negative

LFTs normal

Na	132	133-146 mmol/L
K	4.2	3.5-5.3 mmol/L
Urea	2.5	2.5-7.8 mmol/L
Creat	90	62-106 umol/L
Hb	76	131-166 g/L
White cells	7.6	3.5-9.5 x10 ⁹ /L
Platelets	55	150-400 x10 ⁹ /L
Haematocrit	0.35	0.38-0.48L/L
RBC	4.1	4.4-5.65 x10 ¹² /L



Health Education England

SCENARIO DEBRIEF

TOPICS TO DISCUSS

Discuss types of transfusion reactions:

ABO Incompatibility, Haemolytic, Bacterial, Mild/Severe Allergic, TRALI (transfusion associated lung injury), TACO (transfusion associated circulatory overload)

TRALI>TACO if hypotension and associated with PLTs /plasma

Follow trust policy

Inform blood bank and return units, complete required paperwork

Datix/Incident report

Involve haematology/HDU if severe

Discuss what alternative investigations trainee would request if clinical signs included:

Fever (>2C from baseline) rigors chills vomiting and pain

Check patient identification and details on transfusion label

FBC, U&E, LFTS, Urine haemoglobinuria, Blood cultures, Coagulation,

Direct Coombs

Haptoglobin, Haemopexin

LDH

Retain blood for culture at blood bank

Compatibility test repeat Group and Antibodies

Angioedema/signs of allergy

Above plus Mast cell tryptase

Serial IgA- Immediately, 4 hours and 24 hours

REFERENCES

Handbook of Transfusion Medicine, DBL McClelland 2007