

# Acute transfusion reactions (ATR)

Telephone numbers: Transfusion laboratory

Haem. consultant

## Is my patient having an acute transfusion reaction? Features may include:

fever, chills, rigors, tachycardia, hyper- / hypo-tension, collapse, flushing, urticaria, pain (bone, muscle, chest, abdominal), respiratory distress, nausea, general malaise

**STOP THE TRANSFUSION** – **Assess** (rapid clinical assessment), **Check** (patient ID / blood compatibility label), **Inspect** (look for turbidity, clots, discoloration)

Evidence of life threatening problems? Airway / Breathing / Circulatory problems, and/or wrong blood given and/or evidence of contaminated unit?

Yes

### Severe or life threatening

- Call for urgent medical help
- Initiate resuscitation – ABC
- Maintain venous access
- Monitor patient, eg. TPR, BP, urinary output, O<sub>2</sub> saturations
- Fluid resuscitate as appropriate guided by BP, pulse, urine output (catheterise if necessary)
- Perform appropriate investigations as per guidelines

- If likely anaphylaxis / severe allergy; follow anaphylaxis pathway
- If bacterial contamination likely follow sepsis pathway
- If haemorrhage likely to be causing hypotension fluid resuscitate / continue transfusion
- Consider if Transfusion Associated Circulatory Overload likely

**Report urgently to transfusion laboratory** for review at HTC and report to SHOT/MHRA as appropriate

No

Inform medical staff

### Moderate

- Temperature  $\geq 39^{\circ}\text{C}$  or rise  $\geq 2^{\circ}\text{C}$  and/or
- Other symptoms (not pruritis / rash only)

- Review patient's underlying condition and **transfusion history**
- Monitor patient more frequently, eg. TPR, BP, O<sub>2</sub> saturations, urinary output

**Not consistent with condition or history**  
Consider bacterial contamination and undertake appropriate investigations

Discontinue transfusion

**Consistent with condition or history**  
Consider continuation of transfusion at slower rate and appropriate symptomatic treatment

If transfusion related

### Mild

- Isolated temp  $38-39^{\circ}\text{C}$  or rise  $1-2^{\circ}\text{C}$
- Pruritis / rash only

- Consider symptomatic treatment
- Monitor patient more frequently as for moderate reactions
- If symptoms worsen, manage as for moderate / severe reaction

Continue transfusion SLOWLY

Document in notes.  
Report to lab as per hospital policy

If transfusion is discontinued, **DO NOT** discard unit but return with administration set to transfusion lab. Ensure episode and details of treatment are recorded in patients notes

Safe transfusion practice – **Be careful, be vigilant**

## All patients who have a blood component transfusion are at risk of an ATR

- Patients receiving a transfusion must be in a clinical area monitored by trained staff competent to manage transfusion and ATR
- **Check** 'Right patient, right blood'. **Confirm** patient identity with patient, **check** patient ID band **check** component compatibility label
- Inspect:** **Examine** component bag for abnormal appearance (clumps, particles or discolouration). **Check** IV cannula site for infection
- Monitor:** **Measure** patient's vital signs before transfusion, during transfusion and after transfusion
- Inform:** **Ask** patient to report any new symptoms or signs during transfusion and within **24 hours** of transfusion

## Signs and symptoms of ATR

- Fever, chills, rigors
- Hypotension
- Pain
- Myalgia
- Hypoxia
- Signs of anaphylaxis
- Nausea
- Acute bleeding from mouth, rectum, bladder, wounds
- Severe anxiety or sense of impending doom
- Mouth or throat tingling or swelling (angioedema)
- Breathlessness or noisy breathing (stridor or wheeze)
- Skin rashes or itch

## Management

**Stop transfusion immediately** • ABC • Oxygen • Get medical help urgently

### If symptoms of

- Wheeze
- Swelling
- Pain
- Hypotension
- Collapse
- Fever
- Rigors
- Tachycardia
- Hypotension
- Anxiety
- Pain
- Breathlessness
- Acute breathlessness
- Hypoxia

### Suspect

Anaphylaxis

ABO incompatibility or sepsis (infection)

TACO or TRALI

### Treat

- Anaphylaxis pathway
- Give intramuscular adrenaline
- Consider**
- Chlorpheniramine • Hydrocortisone • Salbutamol
- IV saline
- Sepsis pathway (if sepsis)
- IV broad spectrum antibiotics (if sepsis)
- Furosemide (if TACO)

### Investigate

- FBC, U&E, LFT, coagulation screen
- First urine sample (haemoglobin)
- Repeat blood group screen and save
- IgA level (EDTA)
- Serial mast cell tryptase at time 0, 3h, 24h (plain tube)
- Blood cultures (if sepsis suspected)
- Consider CXR if breathlessness present
- Discuss with consultant haematologist as required

• Report reactions to laboratory according to hospital policy • Return component and giving set to laboratory if required • Complete report/incident form