

2023 Annual SHOT Report – Supplementary information

Chapter 20: Uncommon Complications of Transfusion (UCT) n=24

All cases below were reported in or transferred to the UCT category in 2023 (please note that all the cases that resulted in major morbidity or death of patient have been detailed in the main chapter). A selection of the remaining cases are described here for information:

Case 20.4: Respiratory distress and desaturation following transfusion in a patient with underlying pancreatitis, sepsis, and diverticulitis

A patient with underlying pancreatitis, sepsis and diverticulitis developed increasing anxiety with impending doom while receiving red blood cell transfusion. Tachycardia and respiratory distress and an impending sense of doom were reported 5 minutes into second transfusion for a haemoglobin (Hb) of 70g/L. The patient was very anxious prior to transfusion. A review of observations preceding blood transfusion indicated a respiratory rate range between 18-28mmHG, systolic blood pressure range 90-104. There were no other signs and symptoms. The initial impression was a fluid overload as the patient presented with pitting oedema, and scrotal swelling present in the days prior to transfusion. Also, the patient was receiving total parental nutrition, blood and fluids and had their diuretics omitted on previous days. The chest X-ray showed no evidence of pulmonary oedema. The patient was very anxious regarding their care and expressed concerns.

The patient stabilised without any further intervention. No details were available regarding fluid balance and additional investigations. Multiple contributing factors could have potentially contributed to this deterioration in the patient - infection, fluid, anxiety, and inflammation. This, like other cases, highlights the challenges of transfusion support in sick patients with multiple factors that could contribute to and explain the complication noted post transfusion.

Imputability 1: Possible.

Case 20.5: Transient chest tightness, chest pain and mild shortness of breath in a patient with a postpartum haemorrhage

While receiving the third unit of red cell transfusion, the patient complained of chest tightness, chest pain and mild shortness of breath. Symptoms started 10 minutes after starting the transfusion. This was a maternity patient with a Hb of 58g/L who had received two units of red cells before this with no ill effect. No further intervention was required, and no medication was administered, and the symptoms subsided after transfusion was stopped. The patient recovered.

Although the imputability was documented as 2: likely/probable, the relationship of the clinical features to the transfusion in this case is uncertain. A review noted that it was unclear whether the symptoms were transfusion related or due to the patient's underlying condition. The patient was already on the maternal delivery unit high dependency unit.



Case 20.6: Onset of supraventricular tachycardia (SVT) while receiving a red cell transfusion

A patient commencing on chemotherapy was admitted for a single unit red cell transfusion for a symptomatic anaemia with a Hb of 94g/L. The red cell unit was commenced with stable baseline observations. Fifteen minutes after commencing the transfusion, the patient complained of feeling 'unusual' and developed sudden SVT. While all other vital signs remained unchanged, a heart rate of 180 bpm was recorded. There was no known history of any cardiac conditions prior to this episode. The SVT required multiple interventions with intravenous (IV) adenosine and overnight admission to the cardiology ward before a sustained sinus rhythm was achieved. The patient was discharged the following day. All follow-up serological testing showed no transfusion reaction.

Whilst unlikely, the transfusion cannot be totally ruled out to be the cause of SVT episodes. The patient had reported that they had been having episodes of 'feeling strange' for a few weeks before the transfusion and these may have been SVT. But with no previous investigation at that point this can only be speculated.

Imputability 1: Possible

Case 20.7: Left-sided weakness and confirmed stroke 14 hours post transfusion

A patient with acute coronary syndrome and an underlying malignant neoplasm of uterus receiving chemotherapy was transfused 1 unit of red cells as an outpatient. They were admitted later that night with left-sided weakness and was treated for a suspected stroke in the emergency department (ED). This was later confirmed as a stroke and the patient was admitted for further management. The patient was reviewed by the oncology team and dealt with appropriately. The oncology team had meetings with the family who wanted to know if the transfusion caused the stroke however, it was difficult to say if it was transfusion, chemotherapy, cancer, or cardiac issues.

This case was not reported to the transfusion team until 6 months after the event so there were limited details available, including results of any investigations done.

Imputability 1: Possible

Case 20.8: Rigors, hypertension, and mild pyrexia during transfusion

A patient with metastatic bladder cancer was under palliative care having frank haematuria and a lowgrade fever being treated with IV antibiotics. Their Hb was 77g/L. A decision was made to transfuse the patient. The patient experienced rigor, hypertension, and a spike in temperature. At the time of the suspected reaction: temperature 38.3°C, BP 202/66, heart rate and Sp02 were stable. No further interventions were required, and no medication was administered. There were no results of a septic screen or a haemolysis screen, so infection or a suspected mild transfusion reaction were unable to be ruled out.

While transfusions are safe, they are not without risks, and unnecessary transfusions must be avoided. The decision to transfuse should be based on the trend in blood results and by considering the patients symptoms while simultaneously balancing the risks and benefits.

Imputability 1: Possible



Case 20.9: Suspected transfusion reaction in a patient with symptomatic iron deficiency anaemia

A female patient presented at the ED with symptomatic iron deficiency anaemia of unknown cause. The Hb was recorded as 56g/L. The patient had a history of menstrual bleeding every 7 days and presented as pale and unwell. She was admitted to a ward for gynaecological investigations and was crossmatched for two units of red cells. While receiving the transfusion she became tachycardic with nausea and vomiting. The transfusion was stopped, and the symptoms subsided. The haematology consultant was contacted for advice and suggested it was a mild reaction and to continue with oral paracetamol and antihistamine cover, plan a second transfusion and thereafter an iron infusion. The transfusion was restarted with no worsening symptoms and a further unit was administered. The patient was commenced on iron infusions the next day. The Hb improved from 56g/L to 81g/L on discharge. The patient received IV iron infusions as a day case patient. This case was reviewed by the haematology team who advised that the patient receive iron infusions rather than red cell transfusion while investigations for the chronic anaemia continue.

Iron deficiency anaemia should be treated with IV iron infusions or iron supplements. Transfusion should be administered only when there is a risk of haemodynamic instability. If transfusion is unavoidable, then a single unit should be given after which there should be a clinical review. The early detection and treatment of iron deficiency anaemia can avoid the need for transfusions.

Imputability 1: Possible

Case 20.10: Uncommon transfusion reaction to platelets

A patient complained of back pain after commencing a unit of platelets. Chlorphenamine 10mg and hydrocortisone 100mg were administered immediately. The platelets were then re-commenced and completed without any further symptoms. After review, consideration was being given to administering prophylactic treatment to this patient prior to any future platelets' transfusions.

Imputability 1: Possible

Case 20.11: Suspected transfusion reaction to platelets

While receiving a platelet transfusion, the patient buzzed to say they didn't feel right. Observations were taken during which time the patient became unresponsive. The patient presented with hypotension, dyspnoea without wheeze and tachycardia. The transfusion was stopped, and an antihistamine and hydrocortisone were administered. A crash call was put out and the patient was reviewed by a registrar who treated it as a reaction to the platelets. No further information was recorded.

Both Case 20.10 and 20.11 were originally reported in the febrile, allergic, and hypotensive reactions (FAHR) category but were transferred following review by the FAHR subject matter experts as no clear allergic features were evident. There were limited details available for these cases, including results of any investigations done, but they have been included here for information and completion. These highlight the importance of providing all relevant information at the time of submission of the report to make any useful observations and recommendations to improve transfusion safety.

Imputability 1: Possible