

2022 Annual SHOT Report – Supplementary information

Chapter 19: Uncommon Complications of Transfusion (UCT) n=9

All cases below were reported in or transferred to the UCT category in 2022 (please note that all the cases that resulted in major morbidity or death of patient have been detailed in the main chapter). The remaining cases are listed here for information:

Case 19.3: Respiratory distress and desaturation following transfusion in a patient with underlying COVID, suspect sepsis and multiple health issues

A male patient in his 70s with a past history of adenocarcinoma prostate treated with radical radiotherapy post 15 years, chronic myelomonocytic leukaemia diagnosed in 2021, history of abdominal TB was admitted with sepsis and COVID and a h/o haematuria. He was partaking in study AML 1001 and was due to start treatment but developed temperature and noted to have creps on left base. He was started on IV Tazobactam/Piperacillin and received pooled platelets but desaturated after the transfusion with oxygen requirement- received chlorpheniramine and hydrocortisone and escalation of antibiotic cover to Meropenem was considered. This was initially thought to be allergic/pulmonary complication post transfusion. The patient stabilised with the above measures and was planned for steroids and antihistamines with future transfusions. No details available regarding fluid balance and additional investigations.

Multiple contributing factors could have potentially contributed to this deterioration in the patient - infection, fluid, and inflammation. There were no other overt features to suggest an allergic reaction. This case would ideally be included in the non-TACO pulmonary cases as a TAD-IC but was reported and analysed under UCT – 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 19.4: Transient hypertension, and tachycardia during and post transfusion in a sick patient with multiple co-morbidities

Female patient in her early 80s admitted with sepsis secondary to acute cholangitis, obstructive common bile duct stone, Ileus, metabolic acidosis had a slight rise in temp (0.5 deg), tachycardia and rise in BP records an hour after commencing crossmatched red cell transfusion on ITU. The patient's vital signs pre-transfusion was BP 135/60mmHg, Temp: 36.9°C, Pulse: 110 beats/min, Resp: 22/min and vital signs during transfusion reaction were: BP 180/80mmHg, Temp: 37.4°C, Pulse: 125 beats/min Resp:22. The blood pressure remained high during the night then settled down in the morning at 10am and the BP was 125/50mmHg. The patient recovered fully and was reported to have other co-morbidities including type 2 diabetes mellitus, hypertension, chronic kidney disease and cholecystitis.

Imputability 1: possible.

Case 19.5: Transient spike in BP with non-specific symptoms during/post transfusion

Female patient in her early 60s with endometrial carcinoma was admitted with symptomatic anaemia. After transfusion of 11mLs of red cells reported full body rigors, pain at cannula site (? infiltration), restlessness, nausea, and anxiety. Patient observations also indicated a spike in the

BP with no pyrexia, tachycardia, breathing difficulty or rashes reported. Decision was made to discontinue transfusion and the patient reported feeling well, was offered paracetamol for the pain but declined. Observed for 2 hours with no adverse outcome and the patient was safely discharged reporting feeling well.

Imputability 1: possible.

Case 19.6: Chest pain, backache, and other non-specific symptoms during transfusion

Female patient in her 80s with cold haemagglutinin disease and transfused regularly (every 4 weeks) was seen in the haematology day unit with a Hb 87- 2 units of red cells were prescribed. Developed chest pain and backache then onset of confusion reported shortly after commencement of the second unit. Reviewed by Consultant haematologist who concluded that this was not a typical reaction but concluded that the patient was overtransfused. Patient has had previous reactions so gets very anxious and reported epigastric pain, slight rise in BP. The patient received IV furosemide, observed, and recovered uneventfully. Retrospectively team agreed that the second unit was unnecessary.

There was a paucity of details provided in this case with non-specific symptoms reported in an anxious patient with previous reactions. It also reinforces the point that red cell transfusions are frequently overused and are associated with increased risk of patient harm without conferring additional value and the need to make transfusion decisions looking at the trend in blood results, patient symptomatology and balancing the risks and benefits.

Imputability 1: possible.

Case 19.7: Retching, loin pain, tachycardia and shortness of breath during transfusion

Female in her 70s with carcinoma ovary complained of loin pain, developed shortness of breath, became tachycardic, flushed and started retching 10 minutes into a unit of red cells. The patient received antihistamine, steroids and the transfusion was discontinued, the patient recovered fully.

This case was originally reported in the FAHR category but moved here as it did not fit the reporting criteria for FAHR. Limited details available for this case including results of any investigations done. Strong temporal correlation to transfusion with resolution of symptoms following cessation of transfusion and supportive measures.

Imputability 2: probable.

Case 19.8: Lumbar pain, sweating and flushing immediately after start of transfusion

A male patient in his mid-60s with acute myeloid leukaemia and sepsis received a unit of platelets developed lumbar pain, sweating, and flushing almost immediately after start of transfusion. Vitals were stable and DCT remained negative post transfusion. Transfusion was discontinued and the patient was treated with hydrocortisone and had been on chlorpheniramine. The patient recovered completely.

This case was originally reported in the FAHR category but moved here following review by the FAHR subject matter experts as deemed to have non-specific features not classical of an allergic reaction.

Imputability 2: probable

Case 19.9: Abdominal pain during transfusion

A young child developed abdominal pain part way through a transfusion and was subdued and quiet. No other symptoms reported, and no abnormal neurology noted on examination. The pain had resolved by itself following defaecation and 30 minutes after the end of the transfusion the child was back to normal. The team decided to give both chlorpheniramine and hydrocortisone prior to subsequent transfusions.

The relationship of the clinical features to the transfusion in this case is uncertain. The use of antihistamine and hydrocortisone prior to transfusions is discussed in the FAHR section of the paediatric chapter in the main report.

Imputability 1: possible has been recorded purely based on temporal correlation of the clinical symptoms to transfusion.

Case 19.10: Generalised agonising pains and hypotension during transfusion

A male patient in his 60s with type2 diabetes, liver fibrosis, renal impairment, kidney stones, previous renal cancer and radical nephrectomy was admitted with melaena, and red cell transfusion was commenced. Within 2 mins of start of transfusion, patient reported intense pain at venflon site and transfusion was stopped and recommenced through other venflon in his left antecubital fossa. Approximately 1 minute later patient became very distressed with agonising pain all over. Blood was immediately stopped; patient was noted to have a drop in BP (93/73 from 119/57) with tachycardia and patient reported feeling like he could die. The patient was given paracetamol, repeat antibody screen was negative and the patient recovered fully following these measures.

This case was originally reported in the FAHR category but moved here following review by FAHR subject matter experts as symptoms and signs not suggestive of FAHR.

Imputability 2: probable.

Case 19.11: Chest tightness and dyspnoea following pooled platelets

Chest tightness and dyspnoea reported on two separate occasions in a male patient in his late 50s with acute myeloid leukaemia immediately following the commencement of a pooled platelets transfusion. ECG repeatedly was normal. Transfusion was stopped transiently but was recommenced following medical review and completely uneventfully. No risk factors noted on TACO risk assessment. While the patient had some dyspnoea, tachycardia with a slight rise in BP, no desaturation was noted, not investigated further. Unclear as to whether pre-medications were given prior to transfusion but patient did receive IV hydrocortisone following a repeat reaction and has been planned for washed platelets in the future following discussions with the transfusion team.

Both cases were originally reported in the FAHR category but moved here following review by the FAHR subject matter experts as no clear allergic features were evident.

Imputability 1: possible

Case 19.12: A preterm neonate with Enterobacter sepsis

This case involved a preterm neonate born prematurely at 26⁺⁵ weeks gestation, who was a twin, and had an acute deterioration on day 16/17 of life. This was noted to be following a red cell transfusion over 3.5 hours prior to the deterioration. Despite escalation of intensive care: high frequency oscillatory ventilation, inotropes, transfusion support and antibiotics, the neonate continued to deteriorate and died. Enterobacter was identified on blood cultures sample and the transfused blood was also checked and showed no growth of any pathogens. Enterobacter sepsis and prematurity were identified as a cause of death on the death certificate. Transfusion pre-deterioration was deemed to be coincidental rather than causative. This was originally reported as a possible case of transfusion-associated necrotising enterocolitis, but there was no clinical or radiological evidence for this.

Imputability 1: possible

Of note, one of the cases reported but not included as a transfusion complication was involving a female patient in her late 80s with iron deficiency anaemia (cause not identified in the report submitted to SHOT, Hb 71g/L) with anginal symptoms and hypertension who deteriorated following transfusion of red cells: the patient complained of shortness of breath and desaturated to 88%, was given supplemental oxygen but deteriorated quite rapidly and had a cardiac arrest with no response to resuscitation measures. Blood cultures were negative, and no antibodies were found post-transfusion. The case had been referred to coroner and the cause of death was recorded as acute myocardial infarction, ischaemic heart disease, and iron deficient anaemia. This case has been included here to highlight the need to recognise and effectively manage iron deficiency anaemia in a timely manner especially in the elderly patients with cardiovascular disease. Management should include investigation of and addressing the causes for the iron deficiency to prevent recurrence in the future.

Learning points

- Prompt evaluation and treatment of patients experiencing symptoms or signs consistent with an acute transfusion reaction, minimises the impact of the reaction
- Input from Blood Services can help with future transfusion support