Annual SHOT Report 2018 – Supplementary information

Chapter 17c: Transfusion-Associated Dyspnoea (TAD)

Additional case studies not included in the main 2018 Annual SHOT Report.

Case 17c.4: Breathlessness developed during red cell transfusion

A frail woman in her 60s with myelodysplastic syndrome (MDS) and pancytopenia received a two-unit red cell transfusion. She felt cold during the first unit, and during the second unit developed fever with rigors (36.5 to 38.8°C) with agitation and breathlessness (respiratory rate increased from 20 to 30 breaths per minute). Blood pressure increased from 125/65 to 145/65mmHg and heart rate from 105 to 136 beats per minute. She was admitted from outpatients and treated with intravenous (IV) antibiotics. Chest X-ray showed no evidence of pulmonary oedema and other investigations were negative.

Case 17c.5: Chest pain and wheezing during transfusion

A man in his 80s with Hodgkin lymphoma complained of chest pain and laboured breathing with an audible wheeze during transfusion of a fourth unit in <48 hours. He was also being treated for an infective exacerbation of COPD and had known atrial fibrillation (AF). He had a positive fluid balance of 877mL. A pre-transfusion chest X-ray showed L basal effusion and no change in the post-transfusion chest X-ray. He received steroids and furosemide with a diuresis of 3330mL but his symptoms were unchanged. On review it was felt that transfusion of the fourth unit was avoidable.

Case 17c.6: Desaturation during red cell transfusion (transfer from TACO)

A woman in her 60s developed desaturation to 84% after 30 minutes of a red cell transfusion for cancer-related anaemia (Hb 85g/L), requiring oxygen, nebulisers and diuretics. She had a history of COPD and AF. There was no change in her respiratory rate. The post-transfusion chest X-ray showed a small pleural effusion 'in keeping with congestion'. She required oxygen support for several days. The team decided to treat with hydrocortisone and chlorphenamine prior to future transfusions.

Case 17c.7: A pulmonary reaction with insufficient information (transfer from TACO)

A man in his 80s, with MDS and a subdural haemorrhage following a fall was treated with two units of red cells and two of platelets 24 hours apart. At the end of the second platelet transfusion he became breathless with an increased respiratory rate to 40 breaths per minute, tachycardia of 103 beats per minute (from 88), pyrexia of 38.3°C and reduction in oxygen saturation to 73%. Blood cultures from the patient were negative. He was treated with oxygen, steroids, antihistamines and bronchodilators and improved. There was no record of fluid balance or post-transfusion chest X-ray.

Comment: The Blood Service consultant considered TACO to be the most likely diagnosis, but the description did not meet the criteria. It is notable that he was on regular diuretics which were stopped on admission, and diuretics were not given as part of the treatment for this episode. This case was also rejected from FAHR. As a result of this episode the local reviewers agreed to minimise future transfusion and to give furosemide before transfusion with fluid balance monitoring.

Case 17c.8: Breathlessness after red cell transfusion (transfer from TRALI)

A man in his 80s became breathless with an increase in respiratory rate and fall in oxygen saturation 12-24 hours after a unit of red cells. He was anaemic (Hb 76g/L) post coronary revascularisation. A pre-transfusion chest X-ray was clear but post transfusion he had bilateral midzone and basal infiltrates. Diuretic treatment did not have any effect.

Comment: The TRALI panel declined to investigate this case as they considered him to have a high risk of fluid intolerance and that TACO was much more likely: ‘the patient is in no way immune to fluid intolerance for all sorts of very good reasons (age, recent major surgery, development of AF and high likelihood of significant diastolic dysfunction). The panel concluded that there is no evidence to consider TRALI without careful attention to the more obvious above causes of his episode. As TACO is much more likely we will not be investigating to exclude TRALI in this case.’

The local investigation concluded this was a ‘non-transfusion event’.