19 New or Unclassifiable Complications of Transfusion (UCT) n=8

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Definition:

Occurrence of an adverse effect or reaction temporally related to transfusion, which cannot be classified according to an already defined transfusion event and with no risk factor other than the transfusion, and no other explanation.

There were 4 cases transferred to UCT from the febrile, allergic and hypotensive reactions (FAHR) category. A number of cases were initially reported as UCT, but subsequently transferred to other reporting categories. These included 3 cases involving prothrombin complex concentrate (PCC) transferred to the section on avoidable, delayed and under or overtransfusion (ADU), 1 case to cell salvage (CS) and 1 to haemolytic transfusion reactions (HTR). A further 2 cases were withdrawn; 1 seemed likely to be a vasovagal reaction, and the other was referred to transfusion-associated dyspnoea (TAD), but eventually withdrawn due to a lack of information.

The age range of the 8 cases included in UCT was 1 month to 84 years.

Deaths n=0

There were no transfusion-related deaths this year in this category.

Major morbidity n=3

There were 3 cases reported in preterm infants, all with major morbidity. Two were confirmed as due to necrotising enterocolitis (NEC) and the third was probably due to NEC, but the diagnosis was not confirmed. For further details see Chapter 23, Paediatric Cases.

Other UCT cases

Case 19.1: Reaction to platelets (transfer from FAHR)

A neutropenic man in his 20s on chemotherapy for Hodgkin lymphoma reacted to a platelet transfusion with tachycardia (from 90 to 150 beats per minute), anxiety and flushing after 10 minutes. The transfusion was stopped. He was treated with intravenous antihistamine and hydrocortisone (HC). The following day he received another unit of platelets uneventfully with HC and antihistamine cover.

Case 19.2: Pain associated with transfusion

A man in his 50s admitted with abdominal pain, jaundice and fever and many co-morbidities developed pain in his hands and leg with cramping during transfusion after the fourth and fifth units. The local review suggested the cause might be citrate toxicity as the symptoms could be reproduced by tourniquet application. It was decided to minimise transfusion and to transfuse in future with medical supervision and electrocardiogram (ECG) monitoring.

Citrate toxicity in this setting would be very unlikely as there is a very minimal amount of citrate remaining in red cells (which are suspended in optimal additive solution). Pain associated with transfusion is rare but has been noted in previous Annual SHOT Reports (Bolton-Maggs et al. 2016, Bolton-Maggs et al. 2013) and it has been described in the literature (Green et al. 2014, Haines et al. 2013).

Case 19.3: Severe adverse reaction after a platelet transfusion

A woman in her 60s reacted to platelets with vomiting and was faecally incontinent. She was on therapy for leukaemia and already had infection and diarrhoea 1 week post chemotherapy. This may have been a vasovagal response but is reported here as it was severe and incapacitating.

Case 19.4: A reaction to platelets

An elderly woman on treatment for myelodysplastic syndrome (MDS) developed a reaction to platelet transfusion with agitation, flushing and respiratory distress. She had previously had a minor reaction to platelets and so had received premedication before transfusion. She was treated with chlorpheniramine and hydrocortisone and recovered. Investigations for allergy and transfusion reaction were negative. It was decided that she should receive washed platelets in future.

Case 19.5: Reaction without symptoms but change in vital signs

A man in his 80s with haematuria due to bladder cancer received red cells. An hour into transfusion the patient developed fever, 38.4°C, tachycardia and an increased respiratory rate with a rise in blood pressure. He had no symptoms. This was thought at the time to be an anaphylactic type of reaction but this was not confirmed.

This reaction did not fulfil the criteria for FAHR. There was no swelling or rash, no wheeze and the temperature elevation was minor.

Commentary

Reporters are encouraged to continue to report cases with unusual reactions to transfusion and also of transfusion-associated necrotising enterocolitis in infants. The role of transfusion as a trigger remains unclear (Hilditch and Keir 2018; Saito-Benz et al. 2018). A randomised trial is being piloted to compare normal feeding versus withholding feeds around to transfusion to see if this affects the incidence of NEC in preterm infants (the WHEAT study). Further information about the study and NEC can be found in the trial protocol. (Hilditch and Keir 2018; Saito-Benz et al. 2018).

Pain in relation to transfusion is rare, but may be severe and is not understood.

References

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