

New or Unclassifiable Complications of Transfusion (UCT) n=9

20

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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 11 initial reports made. Two were reports of upper body skin rashes following fresh frozen plasma (FFP) which were withdrawn as they were mild allergic reactions which are no longer reportable to SHOT. Five cases were transferred in from acute transfusion reaction (ATR) and one from transfusion-related acute lung injury (TRALI). These cases describe miscellaneous reactions to various components that do not fit SHOT definitions for other reactions.

Four additional cases related to administration of prothrombin complex concentrate (PCC) are considered with other PCC issues in Chapter 11d, Incidents Related to Prothrombin Complex Concentrates.

Deaths n=1

There was one death that was possibly related to the transfusion, and this is detailed below in Case 20.1.

Major morbidity n=1

In one case a neonate suffered major morbidity with bradycardia and cardiac arrest during exchange transfusion.

Type of reaction	Number
Transfusion-associated necrotising enterocolitis (TANEC)*	1
Bradycardia and cardiac arrest during exchange transfusion	1
Serious reaction to granulocyte transfusion (see below)	1
Loss of consciousness and apparent 'fit' in relation to platelets	1
Syncope in relation to red cell transfusion in a multitransfused burns patient	1
Pain at site of transfusion or elsewhere in the body	4
Total	9

*TANEC case is unconvincing, see below

Table 20.1:
Categorisation of
UCT cases n=9

Unexplained pain during transfusion has been noted in previous Annual SHOT Reports usually in patients with thalassaemia. None of the patients above were reported to have haemoglobin disorders. All were elderly (74, 85 and two were 80 years of age), three episodes were related to red cell transfusions and one to platelets.

Case 20.1: Death associated with granulocyte transfusion

A 68-year-old man who had a previous fungal infection had received a haemopoietic stem cell transfusion (allogeneic). During the infusion he had developed atrial fibrillation (tachycardia 160-180bpm). This was controlled with digoxin. Later the same day he had a suspected transfusion reaction to granulocytes. He became very short of breath and suffered a cardiac arrest following the fourth of five proposed units, and died. This reaction was investigated for TRALI but no significant

antibodies were detected in any of the granulocyte or stem cell donors. Post mortem revealed an undiagnosed pheochromocytoma and the patient had evidence of preceding cardiovascular instability. The relationship of the reaction and death to the granulocyte transfusion was assessed as 'possible'.

The case that was reported as possible TANEC is not convincing. Expert review noted that desaturations were noted prior to the transfusion. Further details are given in Chapter 22, Paediatric Summary.

Comment: The concept of transfusion-associated NEC continues to be debated. While some authors provide evidence for this (Stritzke et al. 2013), a more comprehensive review of the literature did not find sufficient evidence to suggest any change in feeding practice (Hay et al. 2017). We encourage continued reporting of these cases to SHOT (NEC occurring within 48 hours of transfusion), but a more formal extended study is still required.

References

Hay S, Zupancic JA et al. (2017) **Should we believe in transfusion-associated enterocolitis? Applying a GRADE to the literature.** Semin Perinatol 14(1), 80-91

Stritzke A I, Smyth J et al. (2013) **Transfusion-associated necrotising enterocolitis in neonates.** Arch Dis Child Fetal Neonatal Ed 98(1), F10-14