2019 Annual SHOT Report – Supplementary information

Chapter 11: Avoidable, Delayed and Under/Overtransfusion (ADU)

Information technology (IT)-related ADU cases n=25

There were 12 delays, 5 cases of overtransfusion and 8 avoidable transfusions where IT systems or other equipment was at fault. Some examples are given below.

Errors related to electronic blood management systems

Case 11a.5: Delay due to laboratory information management system (LIMS) interface with remote electronic issue (REI) refrigerators

Clinical staff were unable to remove blood REI from the theatre blood refrigerator for a patient who was actively bleeding during liver transplant resulting in a 30-minute delay which was resolved by collecting the red cells for the patient from the transfusion laboratory. On this occasion the interface had to be restarted to enable REI. The problem identified was the capacity of the server which needed replacing because excessive demand on existing capacity slows down messaging between LIMS and REI refrigerators.

In a complex surgical case there was a 10-minute delay in providing REI blood because the interface with the blood-tracking system failed and had to be reset before blood could be released. There was no contingency planning or advanced communication about the planned implementation of an uninterruptable power supply and surgery in a neonate had to be suspended because the blood refrigerator was re-setting and could not release blood for urgent transfusion.

Learning point

- Hospital transfusion teams should review their contingency plans for planned and unplanned information technology (IT) downtimes, including ensuring sufficient server capacity and risk-assessing the impact on clinical services

Errors related to interoperable systems

Case 11d.2: Delay to administration of prothrombin complex concentrate (PCC) contributes to a patient's death

An elderly lady on warfarin fell and broke her arm. She was admitted and later developed a spontaneous intracerebral haemorrhage, possibly as a result of hypertension. The anticoagulation was immediately reversed with vitamin K and PCC was advised. The doctor 'prescribed' PCC using the electronic patient record system but in fact this was an order to the blood bank, not a prescription. The PCC was issued immediately but not collected or administered for another 5 hours. The patient died 5 days after admission. Changes have been made to the IT system to

make sure it is clear to clinical staff that an order and a prescription need to be completed separately.

Learning points

- Electronic prescribing systems are increasingly used in blood transfusion and have a number of advantages including the provision of a permanent electronic record which is visible to all those eligible to access the patient record. The configuration of these systems is complex as you have to identify a) the order to the laboratory b) the instruction to the clinical area as two separate but interoperable functions

- There is considerable scope for sharing expertise in the area of electronic ordering and prescribing to ensure that safe and effective systems are available to all in the future

Incorrect use of POCT equipment or bedside tracking

Case 11b.3: Incorrect use of bedside identification and labelling systems

A patient was transfused in error based on a Hb from a different patient. Using order comms, a sample was taken from the wrong patient (wrong blood in tube) because the correct procedure was not followed. The procedure for phlebotomists, using a 'computer on wheels' and wireless printer, is to bleed and label one patient's sample at a time, at the bedside. But in practice, medical staff make a request, print off the labels and give to the phlebotomist to do, so this sample probably had a label attached that got left on the trolley and was not checked prior to attaching the label to the sample.