

## 14. Autologous Transfusion

### Definition

Autologous transfusion comprises any adverse events or reactions associated with autologous transfusion methods, including intraoperative and postoperative cell salvage (washed or unwashed), acute normovolaemic haemodilution or PAD (preoperative autologous donation).

This chapter appears for the first time this year, to coincide with the intraoperative and postoperative cell salvage adverse events reporting pilot which is being run by the UK Cell Salvage Action Group. The Action Group is working in conjunction with SHOT to begin to collect reports of these events systematically. Until now there have been occasional unsolicited reports to SHOT. It is anticipated that in future there may be more reports now that this joint project is actively collecting data.

Of the 3 events below, the first is included in the IBCT chapter and the remaining 2 appear in the ATR chapter.

### Autologous transfusion n = 3

There was 1 case involving postoperative autologous cell salvage in which a patient was over-transfused with a large volume of autologous blood. Although the volume transfused was inappropriate, and not within either the manufacturer's or the hospital's policy. There was no untoward reaction in the patient.

#### Case 1

##### **High volume of salvaged blood reinfused**

*A 58-year-old female patient was underwent bilateral knee replacement and blood was salvaged bilaterally from drains postoperatively on HDU. The policy from the manufacturer of the device and the hospital policy stated that a maximum of 1000 mL could be reinfused. The HDU nurses reinfused 2280 mL as they were unfamiliar with the process. There was no adverse reaction.*

The second case highlights the importance of users of cell salvage equipment being fully familiar with its use and able to troubleshoot if there are problems. Following the manufacturer's protocol and locally developed hospital policies is essential.

#### Case 2

##### **Hypotensive reaction may have been caused by incorrect washing**

*An 82-year-old male patient had intraoperative cell salvage performed using a Haemonetics cell saver 5 machine whilst undergoing vascular surgery. He received the first unit of salvaged blood (484 mL), with no adverse reaction. The second collection was slightly under the recommended volume, at 473 mL. After a few mL of this unit had been reinfused, the patient became hypotensive, and the transfusion was stopped, and vasoconstrictors were given. The reaction was not immediately attributed to the blood transfused. The unit was then restarted, with the same effects. Microbiological examination revealed growth of coagulase negative staph which was not considered to be a contributing factor. The cell salvage team concluded that under-collection may have led to incorrect washing, and have amended policies and retrained accordingly.*

The third case describes a minor reaction to reinfusion on blood salvaged postoperatively. It will be of interest to collect data on the relative frequency of reactions to washed and unwashed cells.

### Case 3

#### ***Febrile reaction to reinfusion of postoperatively salvaged blood***

*A 64-year-old male patient, who had previously been transfused on two occasions, had 600 mL of blood collected via a Bellovac drain after knee replacement. The report states that the blood was reinfused over 4 hours and 30 minutes. The patient then developed an isolated febrile reaction. No investigations were performed.*

### COMMENTARY

SHOT continues to collect data on adverse events arising from autologous transfusion and is now working in collaboration with the UK Cell Salvage Action Group. It is hoped that reporters will liaise with the relevant operational teams in their Trusts to ensure that adverse reactions are documented, investigated and reported. At the current time there is very little data available on this topic to inform modifications in techniques and practice.