

5. Anaesthesia

The anaesthetist >> Blood loss in open operations

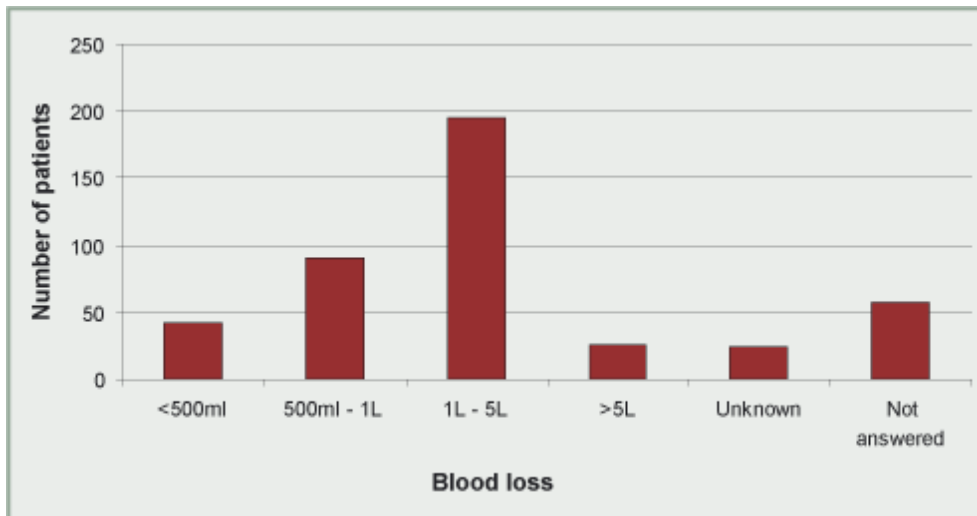


Figure 6. Blood loss in elective cases $n=434$

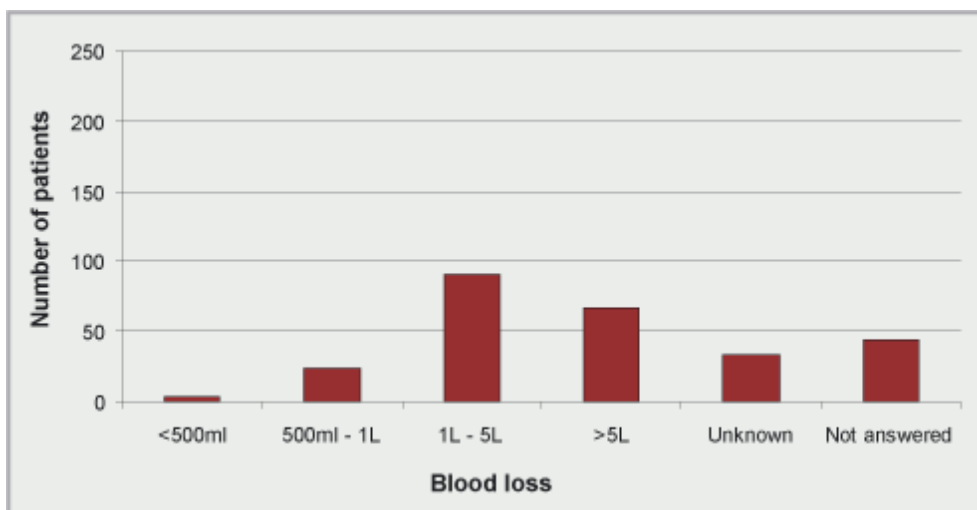


Figure 7. Blood loss in emergency cases $n=264$

The calculation of blood loss is recognised to be difficult for emergency operations (Figure 7). As expected, blood loss is less for elective operations (Figure 6) than for emergency ones, but 7% of patients (26/353) lost over five litres. The low blood loss reported for emergency aneurysm repair may be for cases when the aneurysm was unruptured.

91 patients were reported to have lost over five litres of blood at either elective or emergency open operations. 64% (58/91) of these patients received platelet transfusions, 77% (70/91) received fresh frozen plasma and 41% (40/98) received their own blood retrieved by a cell salvage system. 26% (25/98) received all three interventions. Are these figures acceptable?

The use of cell saver equipment is discussed in Organisation of vascular services. The NCEPOD advisors were of the opinion that there are sometimes problems with the release of blood products, especially platelets. There are published guidelines on the use of platelet replacement and the use of fresh frozen plasma^{7,8}. These guidelines seek to reduce the inappropriate use of these components in the context of published evidence. They suggest that treatment should be decided on the results of clotting tests and that factors are not required unless the platelet count is

below $50 \times 10^9/L$ and coagulation times are increased. This situation is regarded as unlikely to occur until 1.5 blood volumes have been lost.

The guidelines acknowledge that there is very little published work on situations such as aortic aneurysm repair where there can be rapid ongoing surgical blood loss and they do sanction the use of components when there is clinical evidence of a coagulopathy. Guidelines from the American Society of Anesthesiologists recognise that these cases can require special arrangements for transfusion on the basis of observed blood loss and coagulopathy⁹. It may be helpful for Trusts to have protocols in place for the use of blood products for aortic aneurysm patients, and agreement about the utility of coagulation tests in this situation.