

Abstract

Autologous Blood Transfusion – A Short Review

*Prof. Magnus Jacobsson, Astra Tech AB
and Dept. of Biomaterials/Handicap Research, Gothenburg University*

As the risks of allogeneic blood transfusion have come to the fore alternatives to this procedure have been sought. Allogeneic blood transfusion may pose risks to certain patients groups with, for example, alloantibodies or rare blood subgroups. Other risks include transmission of infectious conditions, such as HIV, BSE and different forms of hepatitis. Options to allogeneic blood transfusions have been sought, such as solutions to support oxygen transportation, recombinant erythropoietin and autologous blood transfusion (pre-donated or salvaged intra-operatively/post-operatively, washed or unwashed).

Some researchers discourage the use of autologous shed unwashed blood, based either on analysis of shed blood alone or of the clinical situation after transfusion. The vast majority of the body of literature in this field, however, views this procedure as safe, both in thoracic surgery and in orthopaedic surgery.

In summary, it may be said that washed autologous blood will contain lower levels of breakdown products and complement factors than shed, unwashed autologous blood. It seems to be a consistent finding that patients receiving unwashed blood cells will exhibit elevated levels of FSP and D-dimers but that these levels are normalised within the course of 24 hours and are not a sign of DIC nor lead to clinically significant coagulopathies. An activation of the complement cascade and interleukins in the shed unwashed blood is also a common finding.

However, the clinical risks in transfusion of unwashed shed blood seem to be very limited when the amount of reinfused blood is not excessive and the procedure is performed within reasonable time. The potential drawbacks of a system using unwashed blood should be compared to the costs and relatively complex handling of systems for washing shed blood.