



Cardiac Salvage with Autologous Blood Transfusion Therapy. Is It Necessary to Allogeneic Globular Concentrates from Blood Banks in our Hospitals? Is Blood More Than A Week Justified?

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Introduction

Allogeneic transfusion is associated with adverse events. There are currently more than 5000 works where allogeneic transfusion is questioned with a review of more than 350, its use must be reasoned and individualized by a multidisciplinary team specialized in the management of bleeding patients.

Reports in the United Kingdom such as Shot Study, pointed out the adverse reactions of blood products, due to various reasons: bad processing in cooling of blood products, poor indication, infections, cardiovascular, pulmonary and renal complications, nosocomial infections, death; so it is necessary a restrictive and educational strategy for cardiovascular surgeons, anesthesiologists, therapists, emergency physiologists, clinical cardiologists, interventional cardiologists (such as in endovascular repairs when there is a loss of blood in complex and long procedures), pulmonologists, thoracic surgeons, infusionists, cardiopulmonary technicians, intensive care nurses, hematologists and internists.

How to salvage the auto transfusion and not the allogeneic transfusion? Salvage and washing are very important to avoid reactions from transfusion, aspiration should be done with double light and with anti-coagulation and suction pressure. It should be less than 80 to less than 150. Storage should be performed with a filter of 200 to 400 microns, the separation of platelets and plasma should be done with the use of the centrifuge, and simultaneously washing is done to remove fat, fibrin, and cytokines. This procedure will make that the red blood cell behaves in a more qualified and physiological way, so that oxygenation will reach the different organs more effectively. There are important indications for auto transfusion specially in patients where blood volume needs to be monitored, such as patients with complicated blood groups, Jehovah's Witnesses for religious reasons, but what is more important is that there is a worldwide indication to perform a transfusion in patients with Hemoglobin in less than 6 hb and Hematocrit from 11 to 24. In aortic surgery and in cardiac surgery (as well as Tetralogy of Fallot, Troncoconal defects, single ventricle), which are the operations where there is more blood loss, the management of auto transfusion is vital and convenient to avoid syndromes such as TRALI and TACO. New systems such as X-Trac ATC will make autologous red blood cells washing and cooling, vital by decreasing unnecessary transfusions and re-infections and therefore morbidity & mortality. This device is compact, easy to carry, easy to maneuver.

In conclusion, we believe that there are sufficient evidences in the literature to support auto transfusion with new technology

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avoiding the risk of adverse effects in allogeneic transfusion, avoiding contamination since a blood transfusion from a blood bank represents a transplant which is not convenient. The only suitable blood is that from our self.

The use of fresh frozen plasma and blood products must be controlled and individualized. In blood banks it is convenient to have the necessary clotting factors for replacement, as well as for Antithrombin 3 and Dysfibrinogenemia.

Ethical Responsibilities: The authors declare that they have no conflicts of interest when writing the manuscript.

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