The Role of Cell Salvage in Patient Blood Management

Allogeneic Blood Cost

Cost of Blood Transfusion

Source: Verywell Health
Jennifer Whitlock, RN, MSN, FN
Medically reviewed by Scott Sundick, MD on January 05, 2020

"A transfusion of one unit (one bag) of packed red blood cells can range from $522 to $1,183. The number of units given in a transfusion can range anywhere from one unit for someone who is anemic, to forty or fifty for a critically ill patient who is hemorrhaging and will die without blood immediately."

Cell Salvage Role

Autotransfusion: Clinical Significance

Source: NCBI
Updated: 7/31/2021

"Autotransfusion is a tool that should be considered in every trauma patient while in the emergency department. It can also be used in patients undergoing surgery or any patient with anticipated blood loss without contraindications. It has the benefit of reduced risk to the patient for transfusion reactions as well as possible cost-saving benefits. Autotransfusion can be used in conjunction with cross-matched blood and can help provide a temporizing measure while waiting for cross-matched blood to arrive. The setup is relatively straightforward and does not require significant extra time or resources."

Cost Savings

Autologous Blood Transfusion

Source: Oxford Academic Journals
Ajit Walunj, MBBS, MD, Anna Babb, MBBS, MRCP,
Roger Sharpe, BSc, MBBS, FRCA, August 24, 2006

"Red blood cells which would have been lost are scavenged and reinfused. The technique provides a supply of red blood cells in proportion to the losses and theoretically an unlimited amount of blood may be collected, processed and returned to the patient. It is therefore the technique of choice when large blood losses are expected and becomes increasingly cost-effective with large volume losses. It has an excellent long-standing safety record."

"Safety, efficacy, and cost-effectiveness of intraoperative blood salvage in OPCABG with different amount of bleeding: a single-center, retrospective study"

Source: J Cardiothoracic Surg. 2018; 13: 109.
Published online 2018 Oct 17. doi: 10.1186/s13019-018-0794-6

"In conclusion, IBS has different efficacy in different bleeding situations. Particularly, when the amount of bleeding ranges from 600 to 1000 ml, IBS can significantly reduce the demand for allogeneic blood, and has no direct adverse effects on coagulation function and postoperative recovery of patients,
and is cost-effective..."

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Autologous Blood Benefits

"A Comparative Study Of Autologous Versus Homologous Blood Transfusion During General Surgery"

Source: Internet Scientific Publication
The Internet Journal of Surgery. 2008 Volume 19 Number 2.
D Udani, M Porecha, S Mehta, M Vaghela, D Doshi

"THE ADVANTAGES OF AUTOLOGOUS BLOOD TRANSFUSION ARE:

- Elimination of risk of hemolytic, febrile and allergic reactions.
- It eliminates the risk of transfusion-transmitted diseases like AIDS, hepatitis, syphilis, viral diseases, etc.
- It prevents allo-immunization of red cells, leucocytes, platelets, plasma proteins, etc.
- It provides "fully compatible" blood in immunized patients.
- It is useful in patients having rare blood groups.
- In patients having multiple allo-antibodies, autologous blood transfusion is the safest source of blood.
- It is also very helpful to the patients who deny homologous blood transfusion due to religious beliefs.
- It provides blood in the remote areas where facilities of a blood bank are not available.
- It decreases the load on blood banks.
- It improves microcirculation flow due to reduction in the viscosity of blood and also improves tissue oxygen perfusion.
- It minimizes the amount of homologous blood required during surgery.
- It stimulates erythropoiesis in the pre-operative period.
- Unused blood can be used as homologous transfusion to the other patients.
- No alteration in biochemical and haematological parameters like pH, potassium, diphosphoglycerate and other elements of blood.
- Auto-sterilization property of tapped blood is maintained because it contains opsonins and phagocytes which are unstable in stored blood.
- Non dependence on voluntary donors."

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