

Special Medical Help Nos.,

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References:

1. Guidelines on the clinical use of Leucocyte depleted blood components. British Committee for standards in hematology. Transfusion Medicine, 1998, 8, 59-71 1997)3.
2. AABB technical manual; 15th edition
3. Blood Banking and Transfusion Medicine-Basic Principle And Practice Hiller-Silberstein-Ness-Anderson
4. Modern Transfusion Therapy Janice P. Dutcher, The clinical use of Blood (WHO)

Special advantages of Prathama Blood Products.

- (1) A World Class Blood Centre by the Society for the Society.
- (2) Blood taken from only Voluntary, Healthy and Safe Blood Donors.
- (3) The standard Prathama Blood unit is processed out of 450 ml. of blood collection which is 30% more than most other blood bank's products.
- (4) Stringent Quality Parameters.
- (5) Experienced Team to support.
- (6) Best services and affordable Service Charges.
- (7) Generally regarded as India's Best Blood Centre.



प्रथमा

PRATHAMA BLOOD CENTRE

ADVANCED TRANSFUSION MEDICINE RESEARCH FOUNDATION

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LEUCOCYTE-REDUCED BLOOD PRODUCTS

From Prathama Blood Centre

Prathama Blood Centre has been in the constant quest for modernizing technologies and systems to give highest quality of blood components to the society. We are pleased to bring to you 'Leuco Reduced' and 'Leuco Depleted' Blood Products.

Leucocytes consist of destructive enzymes (Cytokines). These are largely responsible for causing FNHTR (Febrile Non-Hemolytic Transfusion Reactions) and alloimmunisation. For these reasons leuco reduced / depleted products are the norm in developed countries.

In advanced blood transfusion practices, these products are recommended in cases of multiple transfused patients of leukemia, aplastic anemia, immuno-suppressed, immuno-deficient patients and patients undergoing bone marrow transplantation).



प्रथमा

Buffy Coat/Leuco reduced Poor Blood Products:

These products offer up to 90% reduction (1 log reduction) of WBC. They are made during blood component separation process, using special blood bags. They are highly recommended for all multiple transfusion cases. They are also recommended for all cases of platelet transfusion. Random Donor Platelets are generally left with majority of leucocytes in normal blood components because of inherent nature of the procedure.

Leuco depleted blood products.

There are conditions where Leucocyte depletion upto 4 log i.e. >99.99% is required, like transplantations to prevent alloimmunization and graft rejection. This extent of Leucocyte Eeduction is possible only by using special filters.

Early removal of Leucocytes immediately after blood collection is the best way to make Leuco depleted products. It is better than using "inline Leuco depleting transfusion filters" (Leucocyte) as with age some cytokines and WBC fragments get in blood component and can still precipitate Transfusion reactions.

Dosage Effect:

- There is no dosage change vis-à-vis normal blood products from 450 ml blood collection (1 RBC unit increases Hct by 3% and Hb by 1 gm/dl) & Random donor platelet (RDP) unit (1 RDP Increases 5000-10,000 platelets/unit).

Transfusion Criteria:

ABO & Rh compatible unit

Recommendations:

(1) Reduction in Febrile Non Hemolytic Transfusion Reactions(FNHTR), chiefly in multi-transfused patients. (Leuco reduced & Leuco depleted products)

- FNHTR have been reported to occur with an incidence of 6-8% after Red Cell transfusion.
- FNHTR have been reported to occur with an incidence of 37.5% after Platelet transfusion.

Major cause of FNHTRs after platelet transfusions is the presence of cytokines released from leucocytes during the platelet storage

period. Therefore the routine use of Leuco reduced platelets usually reduce 90% of post transfusion FNHTRs. Leucocyte reduction prior to storage is preferred if still the patient is having reactions despite the use of these products

(2) Reduction in Alloimmunisation and other complications (Leuco depleted Products).

White Cells distinguish 'self' from 'foreign' and carry their own identification markers. Once these markers are seen by the host's white cells, the transfused cells themselves are identified as 'foreign' that are killed and remembered; the immune system will react faster and more viciously in the next transfusion. This process is termed 'Alloimmunisation'. Following complications are prevented by 'Leucocyte Reduced'/Leucocyte depleted Blood Components.

- Alloimmunisation and transplant rejection in 'Renal Transplant' patients.
- Platelet refractoriness in multi-transfused and other hemato-oncological patients.
- HLA alloimmunisation in the patients of 'Aplastic Anemia', 'Beta Thalassemia' major and hemato-oncology related indications.

(3) Reduction in Viral infections, e.g, CMV, HTLV-1 etc. (Leuco depleted Products)

White Blood cells with their nucleus serve as a convenient 'home' for viruses such as CMV, HTLV etc. Thus, removing the white blood cells from the blood also removes a large quantity of viruses carried in these cells.

Price List of Leuco Reduced Blood Components:

1. Leucocyte Reduced RBCs : Rs.1000/-
2. Leucocyte Reduced Platelets : Rs. 600/-
3. Leucocyte Depleted RBCs (One unit) : Rs. 2000/- per procedure + RBC' unit charges.
4. Leucocyte Depleted Platelets(including SDP) : Rs. 2000/- per procedure + Platelet' unit charges.