Bharati Vidyapeeth (DU) Medical College, Pune

Department of Immunohematology & Blood Transfusion

GRANULOCYTE TRANSFUSION THERAPY

Granulocyte transfusion therapy is indicated for patients with severe neutropenia characterized by an absolute neutrophil count (ANC) less than 500/µL, fever for 24–48 hours with persistent morbidity, documented bacterial or fungal infection unresponsive to antimicrobial therapy, and a reasonable hope of marrow recovery.

Granulocytes are a type of white blood cells that have specific granules in their cytoplasm. Among the four types of granulocytes, the most abundant is neutrophils which comprise approximately 60% of the nucleated cells in the bone marrow and bloodstream. Neutrophils play a central role in rapidly activating the innate immune system to clear invading bacteria and fungi.

Granulocyte products may be obtained by an apheresis procedure from a single donor, or by pooling buffy coat layers from whole blood units collected from multiple donors.Granulocytes collected using an apheresis procedure yield a greater number of neutrophils with reduced donor exposure to the patient compared to granulocytes obtained by pooling the buffy coat of whole blood donations.