HEMATOLOGICAL

Monitor

→ Monitoring daily CBC , Total white blood cell and platelet counts

→ Low counts of platelets and white blood cells (including low counts of lymphocytes and neutrophils) have been identified and are reversible following dose adjustments.

→ If available monitor CD3 (+) T-Cell. Keeping CD3 (+) T-Cell <0.05x109/L (<50/microliter) has been a useful index to avoid excessive doses

→ Also If available measure total lymphocyte count as it can be used. Total lymphocyte count below 0.3 x 10(9)/l has been found to be a useful index for using ATG [1]

Management

→ The THYMOGLOBULIN dose should be reduced by one-half if the white blood cell (WBC) count is between 2,000 and 3,000 cells/mm3 or if the platelet count is between 50,000 and 75,000 cells/mm3. Stopping THYMOGLOBULIN treatment should be considered if the WBC count falls below 2,000 cells/mm3 or if the platelet count falls below 50,000 cells/mm3. [1]

HEMOLYSIS

→ can usually be detected only in the laboratory. Clinically significant hemolysis has been reported rarely. Appropriate treatment of hemolysis may include transfusion of erythrocytes; if necessary, administer intravenous mannitol, furosemide, sodium bicarbonate, and fluids. Severe and unremitting hemolysis may require discontinuation of therapy with ATGAM [2]

THROMBOCYTOPENIA

→ Thrombopoietin receptor agonist, romiplostim, and eltrombopag have been successfully used for treatment of thrombocytopenia in chronic idiopathic thrombocytopenic purpura[1]

→ Thrombocytopenia is usually transient in renal transplant patients; platelet counts generally return to adequate levels without discontinuing therapy with ATGAM. [2]

NEUTROPENIA

→ If neutropenia persists despite modification of immunosuppressive medications, then one may opt for colony-stimulating factors to increase white cell counts[1]

→ Granulocyte-Monocyte Colony-Stimulating Factor (GM-CSF) is another stimulating agent which activates neutrophil, monocytes, macrophages, and dendritic cells and it has a proinflammatory profile unlike G-CSF[2]

→ Platelet transfusions may be necessary in patients with aplastic anemia. [2]

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[1] -Muhammad Abdul Mabood Khalil, Muhammad Ashhad Ullah Khalil, Taqi F. Taufeeq Khan, Jackson Tan, "Drug-Induced Hematological Cytopenia in Kidney Transplantation and the Challenges It Poses for Kidney Transplant Physicians", Journal of Transplantation, vol. 2018, Article ID 9429265, 22 pages, 2018. https://doi.org/10.1155/2018/9429265

[2] -Atgam® (lymphocyte immune globulin, anti-thymocyte globulin [equine] sterile solution). (2021). Retrieved 11 November 2021, from https://www.fda.gov/media/78206/download