The Current State of Transplantation for Aplastic Anemia in Vietnam

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Aplastic Anemia (AA) is a rare, life-threatening disorder of hematopoietic stem cells characterized by the reduction of three peripheral blood cell lines (pancytopenia) resulting from hypoplasia/aplasia of hematopoietic tissue within the bone marrow.

Common causes include exposure to chemicals (e.g., Benzene, herbicides like DDT, and explosives like TNT), various viruses (e.g., Parvovirus B19, Epstein-Barr virus, HBV, HCV), radiation, and specific medications. Critically, over 90% of AA cases have an unknown etiology and are classified as idiopathic.

Diagnosis is based on the combination of Clinical Symptoms (Anemia, Hemorrhagic syndrome, and Infection syndrome) and Laboratory Findings (pancytopenia in peripheral blood). Definitive Diagnosis and classification of severity rely on peripheral blood analysis (Hemoglobin, Platelet count, and Absolute Neutrophil Count) and a Bone Marrow Biopsy demonstrating cellularity < 25%.

Treatment involves several modalities:

- Immunosuppressive Drugs (IST): The cornerstone therapy includes Anti-Thymocyte Globulin (ATG) and Cyclosporin A (CSA).
- Hematopoietic Stimulating Drugs: Agents such as Androgen, Eltrombopag, and Granulocyte Colony-Stimulating Factor (G-CSF) are often used in combination with IST.
- Allogeneic Hematopoietic Stem Cell Transplantation (Allo-HSCT): This is currently the most effective treatment method and is indicated for patients aged < 50 with severe or very severe AA, provided a suitable stem cell source is available and careful management of transplant-related complications is maintained.

Prognosis varies significantly by severity and treatment:

- Very Severe AA responds poorly to IST and carries a very poor prognosis.
- Severe AA has a high mortality rate (25% within the first 4 months and 50% within 1 year) if Allo-HSCT is not performed. Patients who receive Allo-HSCT achieve response rates of 80%–90%, with the best outcomes observed in younger patients.
- Patients treated with ATG combined with CSA and Eltrombopag have an approximate 70% response rate, but face a 15%–25% relapse rate. Furthermore, after 10 years, approximately 40% progress to Paroxysmal Nocturnal Hemoglobinuria (PNH), Myelodysplastic Syndrome (MDS), or Acute Leukemia.
- Patients who fail specific therapies and only receive symptomatic treatment have a mortality rate of approximately 80% within 2 years.

Aplastic Anemia Treatment in Vietnam

Aplastic Anemia treatment in Vietnam has seen significant progress, with outcomes dependent on drug availability and the patient's condition. Allo-HSCT is now performed routinely, successfully treating many patients, particularly young individuals with matched donors.

For patient's ineligible for HSCT (due to age, comorbidities, or lack of a suitable donor), Immunosuppressive Therapy (IST) using ATG and CSA, often combined with Eltrombopag, remains the first-line and standard approach.

Major Centers Performing Related Allo-HSCT for AA in Vietnam:

- National Institute of Hematology and Blood Transfusion (NIHBT) (Hanoi)
- National Children's Hospital (Hanoi) (specializes in pediatric cases)
- Hospital of Hematology and Blood Transfusion (Ho Chi Minh City) (a pioneer, performing the first related allogeneic bone marrow transplant in 1995)
- Hue Central Hospital (Central Vietnam)
- Military Central Hospital 108 (Hanoi)

These centers have collectively performed over 200 cases in recent years, with the number of procedures trending upward.