Graft Versus Host Disease

PLAY PICMONIC

Pathophysiology

Graft T Cell Sensitization Against Host MHC Antigens
Giraffe-graft Tennis Ball against Host MHC Ant-gem
Graft versus host disease occurs due to grafted immunocompetent T cells proliferating in the immunocompromised host. These will cause rejection to the host cells and graft T cell sensitization against host MHC antigens. In the end, it can cause severe organ dysfunction.

Graft Recognizes Host as "Foreign"
Giraffe-graft Recognizing Host as Foreign
Graft recognizes the host as "foreign." HLA mismatches will increase graft versus host disease occurrence. The most common HLA mismatches are HLA-A, HLA-B, and HLA-DR antigens.

Type IV Hypersensitivity
(4) Fork Hiker-sensitive-crying
Graft versus host disease is a type IV hypersensitivity.

Signs and Symptoms

Diffuse Maculopapular Rash
D-fuse Mac-glow-papule-people
The most common skin lesion is a maculopapular rash, which can spread diffusely and confluent. Patients can experience itchiness and pain, and the rash may be seen in the palms, soles, shoulders, and nape of the neck. Bullous lesions with toxic epidermal necrolysis can be seen in severe conditions.

Jaundice
Jaundice-janitor
Jaundice can occur as a manifest from graft versus host disease liver injury. It is typically found as cholestatic jaundice, increased serum alkaline phosphatase (ALP), and hyperbilirubinemia.

Diarrhea
Toilet
The most common GI manifestation of graft versus host disease is diarrhea and abdominal pain, and it is typically found as diarrhea secretory. It can manifest as watery and may progress to bloody.

Hepatosplenomegaly
Liver-and-spleen-balloons
Patients with graft versus host disease can be seen with hepatosplenomegaly. Liver involvement is rarely seen. It usually occurs together with GI or cutaneous manifestation.

Associations

Severe Immunocompromised Patients

Moon-compromised by bacteria and viruses

Severe immunocompromised patients are at risk of having graft versus host disease.

Bone Marrow and Liver Transplantation

Bone Liver Train-plant

Graft versus host disease usually occurs in bone marrow and liver transplants, organs that are rich in lymphocytes. Bone marrow transplantation is the most common cause of graft versus host disease.

Transfusion of Non-irradiated Blood

Transfusion-IV Nun-radiation-radio

Transfusion of non-irradiated blood can cause a patient to have graft versus host disease. This can be prevented by using blood product irradiation which causes lymphocyte inactivatons.