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### Alemtuzumab in steroid refractory acute graft versus host disease

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Steroid refractory acute GVHD after ASCT (allogeneic stem cell transplantation) is a major cause of morbidity and mortality. As salvage therapeutic agent, there are anti-thymoglobuline, mycophenolate mofetil, tacrolimus, pentostatin and several monoclonal antibodies. Of these agents, Alemtuzumab is a humanized IgG1 monoclonal antibody which targets the CD52 on T and B lymphocytes as well as dendritic cells. This drug can prevent and suppress GVHD via depleting T cells and dendritic cells from both the donor and the recipients. Here our report assessed alemtuzumab as a treatment for preexisting acute GVHD. These 6 patients received 30 mg, 40 mg and up to 60 mg after developing severe acute GVHD not responding to high dose methylprednisolone for about 2-4 weeks. In 1 patient, grade III acute GVHD on gut and liver showed complete resolution over 1 month without affecting chimerism status. In 2 patients, grade III gut acute GVHD decreased to grade I over 3 weeks, but she died of pulmonary and CNS (central nervous system) fungal infection. Other 2 patients, grade III liver GVHD was treated with alemtuzumab but soon they died of acute myeloid leukemia relapse. Although last 1 patient had grade III liver GVHD and treated with alemtuzumab, resulted in multi-organ failure and death. In these cases, Alemtuzumab resulted in complete response of grade III liver acute GVHD in 1 patient and partial response in 1 patient. Despite several cases, we suggest alemtuzumab as an alternative agent for the management of steroid refractory acute GVHD, but further studies are needed. **Keyword:** Steroid refractory acute GVHD, alemtuzumab

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### A case of post-transplant lymphoproliferative disorder with Epstein-Barr virus and Mumps virus after allogeneic bone marrow transplantation

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**Background:** Post-transplant lymphoproliferative disorder (PTLD) is a rare but serious complication of allogeneic bone marrow transplantation (BMT). PTLD has a strong and probably causal association with Epstein-Barr virus (EBV) infection, and a poor response to the cytolytic chemotherapeutic or irradiation regimens used for treatment of malignant lymphoma. Case presentation: We encountered a 19-year-old man with Non-Hodgkin's lymphoma who underwent allogeneic bone marrow transplantation due to severe aplastic anemia. Before BMT, we used cyclophosphamide/antithymocyte globulin for conditioning, methotrexate/cyclosporine A for prophylaxis of graft-versus-host (GVHD) and Antibiotics/antifungal/antiviral agent. At day 37 after BMT, we found GVHD (skin, grade II) and treated glucocorticoid. At day 66, the patient had fever, mild swelling and tenderness on right submandibular area. The patient had positive result in mumps virus IgM. We used acyclovir for treatment of Mumps viral infection, at the same time, break off immunosuppressant. At day 80, we found a filled with mass-like lesion in nasopharynx and performed incisional biopsy. The result of biopsy was Monomorphic B-cell post-transplant lymphoproliferative disorder (Diffuse large B cell lymphoma). In situ hybridization for EBV showed positive result. EBV-DNA determination by PCR performed in peripheral mononuclear cells (PMBC) yielded positive result. Then the staging evaluation was negative for distant involvement (stage IB). For treatment of PTLD in this patient, R-CHOP (Rituximab, Cyclophosphamide, Doxorubicin, Vincristine, and Prednisolone) was applied. The patient is now complete response. Discussion: Early PTLD (within 1 year of) generally involves a single organ or nodal region and often responds favorably to a decrease in immunosuppression. Late PTLD (after 1 year) tends to be disseminated, responds less frequently to a decrease in immunosuppression, and has a dismal prognosis. Here, we report a case of severe AA who was developed early PTLD after BMT, that positive result in EBV and mumps virus.