



‘Mesenchymal Stem Cells in Treatment of Refractory GVHD – Case Report’

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Introduction: Graft versus host disease (GVHD) is a serious and potentially lethal complication of hematopoietic stem cell transplantation. Several studies revealed that mesenchymal stem cells (MSC) from human bone marrow can downregulate GVHD after allogeneic hematopoietic stem cell transplantation (allo-HSCT).

Case description: A 18-year old patient was diagnosed with paroxysmal nocturnal hemoglobinuria in 2009 and underwent three allo-HSCT, two of them in 2013 and one in 2014. After the last transplantation he developed therapy resistant grade IV acute GVHD of the gut and skin (which presented as maculopapular rash and profuse, voluminous, life threatening, diarrhea). GVHD was treated with methylprednisolone, mycophenolate mofetil, topical budesonide, monoclonal antibodies (Infliximab, Alemtuzumab) and extracorporeal photopheresis, all of which was unsuccessful. Facing the dramatic course of acute GVHD it was decided to administer MSC. Till now he received three doses of bone-marrow derived MSC obtained from HLA haploidentical donor, his father. MSC were transplanted as single infusion without complications or acute adverse effects.

Conclusion: The application of MSC in our patient has been safe and feasible. After the third application of MSC a significant clinical improvement of gastrointestinal symptoms of GVHD was observed. Significant reduction of inflammation was also demonstrated on biopsic samples of GIT mucosa. Despite significant improvement of gastrointestinal symptoms of GVHD, patient's condition remains poor because of poor control of GVHD of the skin and global immunodeficiency.