

## Remission of idiopathic thrombocytopenic purpura using haploidentical hematopoietic cell transplant

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**Introduction:** In chronic ITP patients who are refractory to splenectomy and multi-line treatments, treatment options are limited. Prior several studies demonstrated hematopoietic cell transplantation (HCT) has the potential advantage of achieving sustained platelet count without the need for further treatment. Partly because of the high risk of posttransplant complications, there are very few cases of allogeneic HCT reported despite its robust efficacy. We present the first case of a patient who underwent haploidentical HCT for the treatment of refractory, chronic ITP and achieved complete remission.

**Case presentation:** A female patient presented with gingival bleeding and thrombocytopenia 15 years ago, who was diagnosed with chronic ITP. With exhausted multiline treatment options, her platelet count became less than  $5,000/\text{mm}^3$ . Without weekly transfusion support, she suffered from frequent oral bleeding and multiple bruises. Transplantation was undergone using hematopoietic cells from her HLA-haploidentical son. The conditioning regimen consisted of fludarabine, melphalan, total body irradiation, and anti-thymocyte globulin. For the prevention of graft-versus-host disease (GVHD), tacrolimus and post-transplant cyclophosphamide was prescribed. The time to ANC recovery was 14 days posttransplant but platelet recovery needed a long period of time. The time to the independence of platelet transfusion to maintain platelet count above  $20,000/\text{mm}^3$  was 105 days. The patient is currently being followed for 180 days after transplantation. Her platelet count maintains above  $120,000/\text{mm}^3$  without transfusion support.

**Discussion:** Although she experienced posttransplant complications, the patient became completely transfusion-free from day 105 posttransplant. The reason for the delayed recovery of platelet is probably because antiplatelet antibody may exist for a long period of time even after transplantation. Currently, there is no experience with the use of haploidentical HCT for the treatment of ITP. This present case suggests alternative donor transplantation can be one of the therapeutic choices for the dismal refractory ITP patients.

