Abstract: P1323

Title: MESENCHYMAL STEM CELL TREATMENT FOR INTESTINAL ACUTE GVHD COEXISTING WITH MICROANGIOPATHY

Abstract Type: Poster Presentation

Topic: Stem cell transplantation - Clinical

Background:

Therapy for steroid-refractory intestinal acute graft-versus-host disease (SR-intestinal aGVHD) is one of the most difficult areas in allogeneic hematopoietic stem cell transplantation and the possibility that thrombotic microangiopathy is associated with its pathophysiology was reported. In Japan, mesenchymal stem cell (MSC) treatment is widely utilized and has been reported to be linked with excellent outcomes for SR-intestinal aGVHD, but the effectiveness of MSC treatment for intestinal aGVHD coexisting with microangiopathy (MA) is uncertain.

Aims:

The aim was to clarify the clinical features of intestinal aGVHD with MA and the efficacy of MSC treatment for it.

Methods:

We retrospectively examined 61 patients with intestinal aGVHD treated with steroid therapy in our center from March 2005 to January 2023. Based on the pathological evaluation at diagnosis of intestinal aGVHD, we classified it into two groups; intestinal aGVHD with or without MA. We evaluated difference in clinical features and outcomes between intestinal aGVHD with and without MA. We also compared the effectiveness of MSC therapy for SR-intestinal aGVHD in the presence and absence of MA.

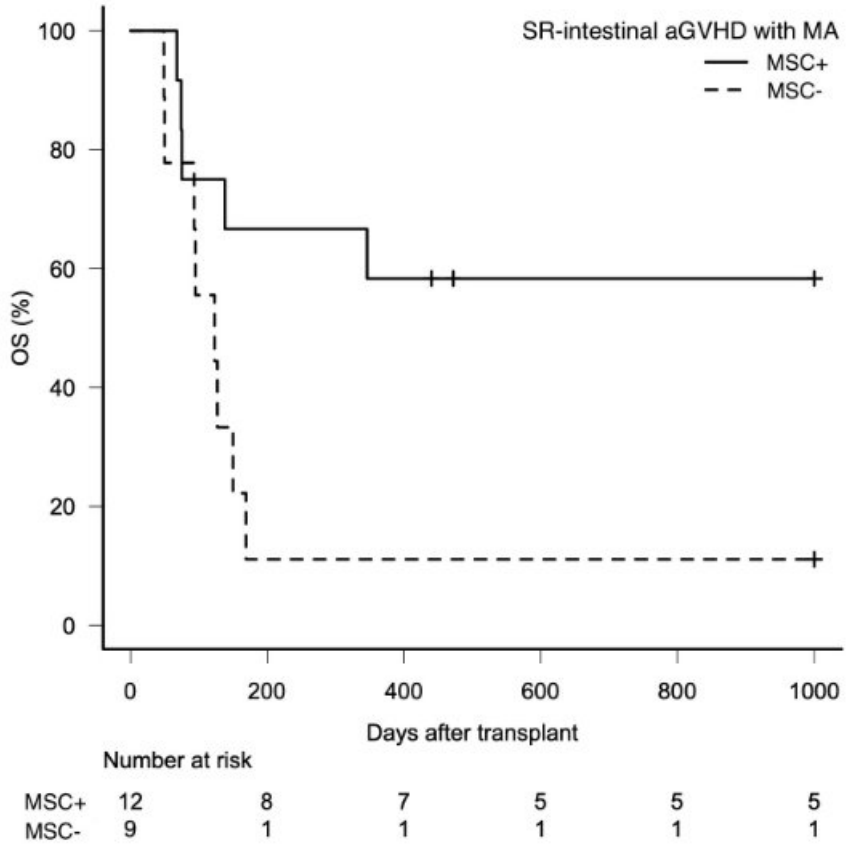
Results:

The median age at transplant was 46 years (range, 18–67 years), and 35 patients were male. Patients disease was acute leukemia (n = 37), myelodysplastic syndromes (n = 15), malignant lymphoma (n = 5), and others (n = 4). Graft sources were related bone marrow (n = 3), unrelated bone marrow (n = 27), related peripheral blood stem cells (n = 10), unrelated peripheral blood stem cells (n = 8), and umbilical cord blood (n = 13). HLA mismatch transplantation other than umbilical cord blood or HLA haploidentical transplantation was performed in 11 patients (n = 7; 1 allele mismatch, n = 4; 1 antigen mismatch). The conditioning regimen was myeloablative (n = 48) and reduced-intensity (n = 13) and GVHD prophylaxis was tacrolimus-based (n = 53), cyclosporine-based (n = 7), and other (n = 1). Thirty-one patients had intestinal aGVHD with MA and 30 had without MA, and there was no variation in the patient's characteristics between two groups. Furthermore, there was no difference in the grade of aGVHD at the initiation of steroid therapy between patients with intestinal aGVHD with MA (4 grade II, 26 grade III, and 1 grade IV) and without MA (7 grade II, 23 grade III, and no grade IV) ($p = 0.42$). There were no considerable differences in overall survival (OS) and non-relapse mortality (NRM) at 1 year after transplant between patients with and without MA; OS, 47% (95% CI, 28%–65%) vs. 56% (95% CI, 37%–72%), $p = 0.68$; NRM, 45% (95% CI, 25%–63%) vs. 20% (95% CI, 8%–36%), $p = 0.15$. On the other hand, the cumulative incidence of overall response at 30 days from initiating steroid therapy was significantly lower in patients with MA; 3% (95% CI, 0.2%–15%) vs. 37% (95% CI, 20%–54%), $p < 0.01$. Among 31 patients with MA, 21 had SR-GVHD and 12 were treated with MSC as second-line therapy. Among patients with SR-intestinal aGVHD with MA, the cumulative incidence of overall response and 1y-OS were significantly higher in patients treated with MSC; 75% (95% CI, 41%–91%) vs. 22% (95% CI, 3%–51%), $p < 0.05$, and, 58% (95% CI, 27%–80%) vs. 11% (95% CI, 0.6%–39%), $p < 0.05$.

Summary/Conclusion:

Intestinal aGVHD coexisting with MA had a poor response to steroid therapy, but MSC treatment might

improve its clinical outcome.



Keywords: Allogeneic hematopoietic stem cell transplant, Thrombotic microangiopathy, Acute graft-versus-host disease, Mesenchymal stem cell