Early Identification of Steroid Resistant Acute Graft-Versus-Host Disease Patients following Stem Cell Transplant

Alfred Gillio MD, Jennifer Krajewski MD, Michele Donato, Nancy Durning APN, Jeanette Haugh APN, Sarah Balboul and Steven Ghanny MD*
1. Pediatric Stem Cell Transplantation, Hackensack University Medical Center, Hackensack, NJ
2. Hematology and Oncology, Hackensack University Medical Center, Hackensack, NJ
3. Department of Research, Hackensack University Medical Center, Hackensack, NJ
4. Pediatric .Endocrinology, Hackensack University Medical Center, Hackensack, NJ

Abstract

Background: For many patients with high-risk cancers, allogeneic stem cell transplant (SCT) is the only curative option. A major risk of SCT is acute graft versus host disease (aGVHD). About 50% of SCT patients develop aGVHD as a part of their course. Glucocorticoids are the mainstay of therapy in aGVHD patients. Of the patients that develop aGVHD, about 50% develop a steroid refractory/resistant form. These patients tend to require higher doses of steroids and many will require additional medications to manage them appropriately. Identifying these patients early is important in order to optimize treatment and avoid transplant related morbidity and mortality. Although there have been biomarkers to help identify these patients, they have not been optimal. Therefore, there have been no validated prognostic tests to identify these patients. Also, there have not been studies to examine whether host factors play a role in influencing the steroid sensitivity of SCT patients. Therefore, there is a need for a prognostic test to identify these patients and study those factors. We have used a Fluorescein labeled dexamethasone (F-Dex) monocyte binding assay to help identify potential aGVHD patients with steroid resistance.

Objectives: To study the steroid sensitivity of recipients and their related donors prior to SCT using a Fluorescein labeled dexamethasone (F-Dex) monocyte binding assay to study glucocorticoid sensitivity in other patient populations. We propose to use this assay to identify and study the aGVHD subset.

Methods: Collection blood samples from 90 recipient/donor pairs 30 days prior to the SCT and at the time of the development of aGVHD.

Results: Currently preliminary results are being accumulated.

Conclusion: Our hope is that the use of the F-Dex binding assay will help in the early identification of steroid refractory/resistant aGVHD patients, as well as to study whether host factors influence steroid sensitivity. This study can allow identified steroid refractory/resistant aGVHD patients to be treated appropriately, avoiding transplant related morbidity and mortality and help to elucidate factors that may cause their steroid resistance.

Disclosures: The authors have no disclosures for this study

References


M Berger, E Biason, F Segui and F Pagoni: Innovative approaches to treat steroid-refractory or steroid-resistant GVHD. Bone Marrow Transplantation (2018) 43, S101–S105; doi:10.1038/bmt.2018.294

Disclosure: The authors have no disclosures for this study.