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Review

PTCy: The “new” standard for GVHD prophylaxis

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ABSTRACT

High dose Post transplant cyclophosphamide (PTCy) is now regarded as a very effective way of preventing acute and chronic GvHD, and its use has rapidly expanded world-wide.

High-dose post-transplant cyclophosphamide (PTCy) is now regarded as a very effective way of preventing acute and chronic GvHD, and its use has rapidly expanded world-wide. Despite the recent proliferation in its use, PTCy was first introduced into the clinic more than two decades ago based on biology that has been ongoing for more than half a century.

We both agreed it was time to look into different aspects of this transformative technology, including the biology and history that led to its translation to the clinic. We believe this special issue of *Blood Reviews* is especially timely in view of the recent data from the Blood & Marrow Transplant Clinical Trials Network randomized trial showing that PTCy is superior to tacrolimus plus methotrexate in matched donor transplants. Accordingly, many in the field believe PTCy should now be considered the new standard of care for GvHD prophylaxis. We have invited experts in different fields and from different countries to cover

the biology, the pre-clinical development, and the current clinical use of PTCy, including side effects such as infections. You will also discover that PTCy is a flexible approach allowing it to be combined with different other agents such as calcineurin inhibitors, mycophenolate, and antithymocyte globulin, in malignancy as well as in non-malignant diseases. PTCy is a simple, effective, reproducible, inexpensive way to prevent, in a very selective way, both acute and especially chronic GvHD in a variety of diverse donor transplants. Thus, its use has been extended from haploidentical, to HLA matched related and unrelated, and even mismatched unrelated, transplants. This has allowed the numbers of related haploidentical transplants to rise to be the second favored source of allografts after unrelated, and has made it possible for even emerging economies to develop flourishing allogeneic transplant programs.

We hope you will enjoy this issue, and you will find it interesting, and perhaps most importantly, thought provoking.

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