



Editorial

Temporal trends in Hematopoietic Stem Cell Transplantation in Argentina: regional differences that mirror the global reality

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The list of approved indications for hematopoietic stem cell transplantation (HSCT) increased significantly in the past two decades as a result of the developments in its technology as well in supportive care. In the present issue, Basquiera and colleagues¹ report the temporal trends in HSCT in Argentina between 2009 and 2018. The authors show a steadily increasing HSCT rate, going from 153.3 HSCT/10,000,000 inhabitants in 2009 to 260.1 HSCT/10,000,000 inhabitants in 2018. Out of the 8,474 performed by 28 centers, 67.5% were autologous, being multiple myeloma as the most frequent indication. Among the 2750 allogeneic transplants performed 537 (19.5%) used family haploidentical donors, a remarkable frequency considering that all of them were done from 2014 to 2018. Indeed, the use of mismatched/haploidentical family donors has surpassed that of unrelated donors from 2016 onwards. Accordingly, worldwide the use of haploidentical donors has increased substantially. In Europe, Passweg and colleagues² reported a 291% increase in its frequency between 2005 and 2015 according to a European Society for Blood and Marrow Transplant survey. A critical achievement for the broader use of the haploidentical HSCT was the incorporation of posttransplant cyclophosphamide (PTCy) as graft-versus-host-disease (GVHD) prophylaxis which yields a similar overall survival (OS) compared to HLA-matched unrelated donor (MUD) HSCT with conventional prophylaxis³. Of note, Basquiera and colleagues¹ showed an important disparity among Argentinean regions regarding HSCT rates, which ranged from 99 (Formosa) to 680

(Tierra del Fuego) transplants for the year 2018. Overall, when the age-sex adjusted HSCT rates according to region are analyzed, it is evident that fewer transplants were performed in the northwest and northeast regions compared to the central and south ones. The authors concluded that the difference reflects differences in the access to transplantation among Argentine regions. Inequities in access to HSCT were reported elsewhere⁴. Gratwohl et al⁵ analyzed data from the Worldwide Network for Blood and Marrow Transplantation regarding the rates and characteristics of HSCT for 2006, globally. Similarly, to the reported in Argentina, there were more autologous (57%) than allogeneic (43%) HSCTs. Most of the autologous HSCTs occurred in the Americas and Europe. Allogeneic HSCTs were more common in Asia where the frequency of unrelated donors HSCT was 52%. In contrast, this frequency was of approximately 1% of the HSCTs in the Eastern Mediterranean and Africa.⁴ Among the factors accounting for the geographic differences, economic and sociodemographic factors play a major role and the following economic indicators have been associated with HSCT rates: human development index; health care expenditure per capita and gross national income per capita⁶. As stated by Basquiera and colleagues¹ their study represents a “situation diagnosis” of the HSCT in Argentina, but the diagnosis would be the same for other middle-income countries and, therefore serves as the base upon which processes ensuring timely access to a standard of care treatment of malignant and benign hematological disorders.

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REFERENCES

1. Basquiera AL, Odstrcil Bobillo MS, Peroni ML, Sanchez Thomas D, Vitriu A, Berro M, Rosales Ostriz B, Milovic V, Martinez Rolón

- J, Jaimovich G, Hansen Krogh D, Tagliafichi V, Bisigniano L, Arbelbide JA, Giunta DH. Temporal trends in hematopoietic stem cell transplantation in Argentina between 2009 and 2018: A collaborative study by GATMO-TC and INCUCAI. *Hematol Transfus Cell Ther*; . <https://doi.org/10.1016/j.htct.2022.02.008> S2531-1379(22)00045-1Epub ahead of print.
2. Passweg JR, Baldomero H, Bader P, Bonini C, Duarte RF, Dufour C, Gennery A, Kröger N, Kuball J, Lanza F, Montoto S, Nagler A, Snowden JA, Styczynski J, Mohty M. Use of haploidentical stem cell transplantation continues to increase: the 2015 European Society for Blood and Marrow Transplant activity survey report. *Bone Marrow Transplant*. 2017 Jun;52(6):811–7. <https://doi.org/10.1038/bmt.2017.34>.
 3. Nagler A. Post-Transplant Cyclophosphamide for Graft Versus Host Disease Prophylaxis in Alternative Donor Stem Cell Transplantation: Immune Reconstitution and Infection Risk. *Transplant Cell Ther*. 2021 Nov;27(11):883–4. <https://doi.org/10.1016/j.jtct.2021.09.023>.
 4. Rocha V, Fatobene G, Niederwieser D. Brazilian Society of Bone Marrow Transplantation and the Worldwide Network for Blood and Marrow Transplantation. Increasing access to allogeneic hematopoietic cell transplant: an international perspective. *Hematology Am Soc Hematol Educ Program*. 2021 Dec 10;2021(1):264–74. <https://doi.org/10.1182/hematology.2021000258>.
 5. Gratwohl A, Baldomero H, Gratwohl M, Aljurf M, Bouzas LF, Horowitz M, Kadera Y, Lipton J, Iida M, Pasquini MC, Passweg J, Szer J, Madrigal A, Frauendorfer K, Niederwieser D. Worldwide Network of Blood and Marrow Transplantation (WBMT). Quantitative and qualitative differences in use and trends of hematopoietic stem cell transplantation: a Global Observational Study. *Haematologica*. 2013 Aug;98(8):1282–90. <https://doi.org/10.3324/haematol.2012.076349>.
 6. Giebel S, Labopin M, Ibatibi A, Browne P, Czerw T, Socie G, Unal A, Kyrz-Krzemien S, Bacigalupo A, Goker H, Potter M, Furness CL, McQuaker G, Beelen D, Milpied N, Campos A, Craddock C, Nagler A, Mohty M. Association of Macroeconomic Factors With Nonrelapse Mortality After Allogeneic Hematopoietic Cell Transplantation for Adults With Acute Lymphoblastic Leukemia: An Analysis From the Acute Leukemia Working Party of the EBMT. *Oncologist*. 2016 Mar;21(3):377–83. <https://doi.org/10.1634/theoncologist.2015-0314>.