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ORIGINAL ARTICLE

The Latin American experience of allografting patients with severe aplastic anaemia: real-world data on the impact of stem cell source and ATG administration in HLA-identical sibling transplants

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We studied 298 patients with severe aplastic anaemia (SAA) allografted in four Latin American countries. The source of cells was bone marrow (BM) in 94 patients and PBSCs in 204 patients. Engraftment failed in 8.1% of recipients with no difference between BM and PBSCs ($P = 0.08$). Incidence of acute GvHD (aGvHD) for BM and PBSCs was 30% vs 32% ($P = 0.18$), and for grades III–IV was 2.6% vs 11.6% ($P = 0.01$). Chronic GvHD (cGvHD) between BM and PBSCs was 37% vs 59% ($P = 0.002$) and extensive 5% vs 23.6% ($P = 0.01$). OS was 74% vs 76% for BM vs PBSCs ($P = 0.95$). Event-free survival was superior in patients conditioned with anti-thymocyte globulin (ATG)-based regimens compared with other regimens (79% vs 61%, $P = 0.001$) as excessive secondary graft failure was seen with other regimens (10% vs 26%, $P = 0.005$) respectively. In multivariate analysis, aGvHD II–IV (hazard ratio (HR) 2.50, confidence interval (CI) 1.1–5.6, $P = 0.02$) and aGvHD III–IV (HR 8.3 CI 3.4–20.2, $P < 0.001$) proved to be independent negative predictors of survival. In conclusion, BM as a source of cells and ATG-based regimens should be standard because of higher GvHD incidence with PBSCs, although the latter combining with ATG in the conditioning regimen could be an option in selected high-risk patients.

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INTRODUCTION

Allogeneic haematopoietic stem cell transplantation is considered the treatment of choice with curative potential for severe aplastic anaemia (SAA).[1] Bone marrow (BM) is regarded as the best source of stem cells in HLA-matched related and unrelated transplantation for SAA, as a survival advantage and less GvHD have been found in large retrospective studies that compare BM with PBSCs.[2,3] In high-income countries, BM is the main source of stem cells, whereas in countries with limited resources, where haematology teams face referral of patients in advanced stages, heavy pretreatment and HLA allo-sensitization due to multiple transfusions, the use of PBSCs is frequent.[4,5] Regarding conditioning regimens, anti-thymocyte globulin (ATG)-based regimens are the standard of care, but because of financial or bureaucratic constraints in countries with limited government-supported health-care systems, regimens without ATG are also frequently used. The objective of this study was to analyse the long-term results of a large, multicentre cohort of patients with SAA allografted in four Latin American countries (LAc), the outcomes with different conditioning regimens and the source of stem cells. Results are compared with those of large SAA studies and, as a final aim, we provide an overall perspective of the experience of allografting SAA patients in our region.

MATERIALS AND METHODS

We included 298 patients with acquired SAA and a first transplant diagnosed between 1990 and 2014 who received an allogeneic haematopoietic stem cell transplant using BM or PBSC at 19 centres in four LAc. We analysed the overall survival (OS) of the entire cohort and then split it into two groups: the first included 94 BM-allografted patients

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