A two-year evaluation of the Hematopoietic Stem Cell transplantation (HSCT) scenario from the Brazilian Bone Marrow Donor Registry (REDOME)

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AIM

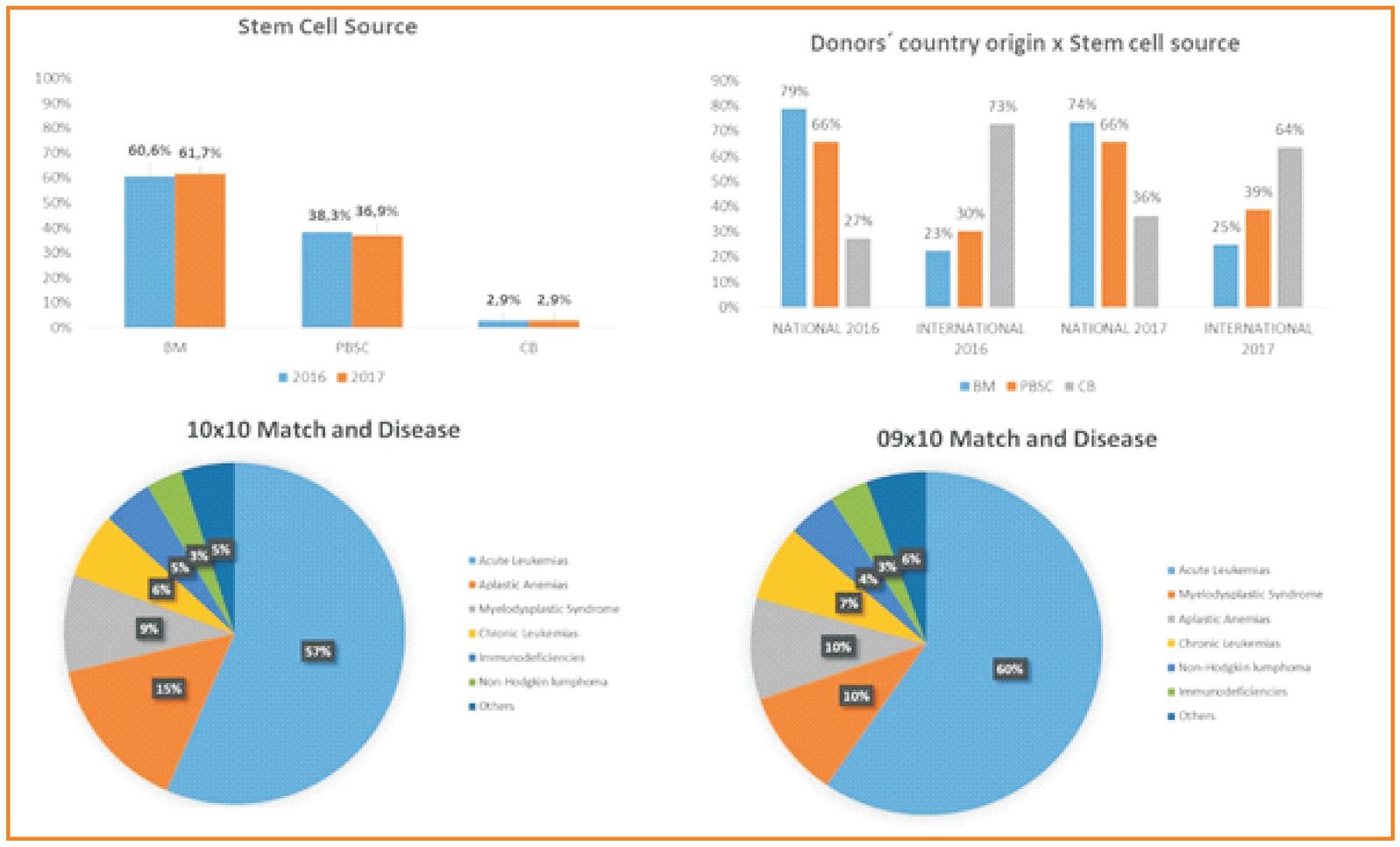
Our purpose was to show how is the Brazilian HSCT reality in terms of HLA match, mismatches setted up, clinical indications, stem cell source and donors´ country origin.

METHODS

We evaluated 773 non-related HSCTs performed between January 2016 and December 2017.

RESULTS

The main stem cell source was bone marrow (BM) (60.6% -2016, 61.7% - 2017) while peripheral blood stem cells (PBSC) was the second most selected (38.3% -2016, 36.9% - 2017) and cord blood unit (CB), the third one (2.9% - 2016 and 2017). Regards to the donor´s origin, of all BM collected the majority was from Brazilian donors registered at REDOME (79% -2016, 74% - 2017 Considering PBSC donors, REDOME was also the main provider (66%). Finally, CBU reflected a different scenario where the main origin was international (73% - 2016, 64% - 2017 x 27% - 2016 and 36% - 2017 of the REDOME origin). The HLA match analysis considered only BM and PBSC and revealed that 71.4% of BM donors, presented 10x10 HLA match, and this result was 76,6% among PBSC donors,9x10 HLA match showed us that BM was the main stem cell source (27.7%) compared to PBSC (23.4%). When we investigated the HLA loci mismatches, we found that the main locus enrolled was A locus (49.5%), followed by B (24.5%), DQB1 (13.5%), C (11%) and DRB1 loci (3%). Lastly, we aimed to look up if there was a relation between the clinical indication and the donor HLA match. According to the disease classification, there was no difference between the two HLA match groups - 10x10 and 9x10- as follows Acute Leukemias (57% x 60%), Aplastic Anemias (15% x 10%), Myelodysplastic Syndrome (9% x 10%), Chronic Leukemias (6% x 7%), Immunodeficiencies (5% x 4%) and Non-Hodgkin lymphoma (3% x 5%).



DISCUSSION AND CONCLUSION

We confirmed previous observations that, in Brazil, the main cell source chosen for HSCT is the BM and we noticed a slight decrease (4%) in PBSC usage. Following international recommendations, the HSC source is a decision made by the donor and the physician and it involves many aspects, the other factors evaluated were quite similar what has been seen worldwide. This study was the first that brought together the two-year Brazilian experience of HSC transplantation, in terms of source chosen and HLA mismacthes setted up and may guide other studies helping us to better understand this Brazilian pattern.

Projeto Gráfico: Área de Edição e Produção de Materiais Técnico-Científicos / INCA