donors available, however, the logistic of requesting, receiving, storing and manipulating the cells require an experienced team in the cell processing center and in the management of the patients.

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EXPERIENCE OF A PEDIATRIC SERVICE IN THE STATE OF SÃO PAULO REQUESTING AND RECEIVING UNRELATED HEMATOPOIETIC STEM CELLS

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A major challenge for transplant centers is the graft acquisition when a compatible unrelated donor is chosen for the procedure. In addition to the complex logistics that involve several critical steps and the need of an experienced multidisciplinary team, another important challenge is the variability of hematopoietic stem cell collection methods that may or may not compromise neutrophil engraftment. Objective: This study is to describe the experience receiving unrelated Hematopoietic Stem Cell (HSC) products in a single pediatric center. Methods: This is a retrospective study of all unrelated HSC products received from national and international collection centers. Data were collected through specific forms from the Registry of Voluntary Bone Marrow Donors (REDOME) and data from the Cell Processing Center. Results: A total of 179 stem cell products have been received to date (December 2009 to April 2024) coming from national (n = 144) and international (n = 35) institutions, to treat leukemias (n = 129) and benign hematological diseases (n = 50). Most national collections were performed within our southeast region (65%) and most international collections came from Europe (n = 24), 68%, 18 of them from Germany, 8 of USA, 2 of Asian and 1 of South Africa. Only six grafts could not be infused fresh and were cryopreserved for later use. The bone marrow was the predominant stem cell source (n = 163). The unrelated donor activity progressively increased until 2019, the year with 21 transplants, but during the COVID-19 pandemic (2020 and 2021) dramatically decreased to 12 and 3 collections. The number of unrelated transplants is increasing again but with a high rate of refusal or significant delays of marrow collections on top of the national shortage of marrow collection bags and therefore, many Peripheral Blood (PBSC) collections have been accepted, although they are not our first choice. The unrelated donor transplants are 20% of our current transplant activity and 40% of the allogeneic ones. The cell number of 33/163 (20%) marrow collections were lower than the 5×10^8 leukocytes/kg requested, median 3.9×10^8/kg (1.2–4.8). Of the 14 PBSC products, the lowest cellularity requested was 5×10^6 CD34/kg and only two collections were lower than that, 2.3 (Brazilian) and 3.7×10^6 CD34/kg (international). Today, 64% of the patients remain alive. There were no reports of complications during transportation or failures in the process of identification of the recipient and donor numbers. Conclusion: In the past 15-years, with the 179 grafts received for unrelated donor transplants, we can describe a satisfactory graft most of the time, but worrisome significant delays and a shift from marrow to PBSC collections, that are known to have a higher chance of severe chronic graft versus host disease and negatively impact of the children's quality of life.

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VALIDATION OF THE USE OF HYDROXYETHYL STARCH (VOLUVEN 6%) TO REMOVE DIMETHYL SULFOXIDE FROM HEMATOPOIETIC STEM CELLS

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During the process of cryopreservation of hematopoietic stem cells (CTH), the Dimelthyl Sulfoxide (DMSO) is responsible for ensuring a better cell viability and a satisfactory engraftment but, at the time of the graft infusion, it can cause serious adverse events, particularly in young children, in patients with renal dysfunction, cardiac insufficiency, hemodynamic instability, or when the dose of DMSO is equal to or greater than 1g/DMSO/Kg of body weight. An effective way to avoid serious reactions is to remove the DMSO using a washing solution composed by 40% dextran and 4% albumin. We have used this protocol, initially developed by the New York Blood Bank to remove DMSO and improve engraftment of unrelated umbilical cord blood units, since 2011. However, in October, 2023 we were informed with a short notice about the discontinuity of the production of Dextran40 (Laboratório de Insumos Farmacêuticos Ltda – LIFE). Objective: To describe the validation of the DMSO removal of hematopoietic stem cells in a Cellular Processing Laboratory using solution hydroxyethyl starch (HAES)-Voluven® 6% and albumin 4%, comparing the results of removal using Dextran 40 solution with 4% albumin. Methods: We used 22 bags from 7 patients: 16 from leukapheresis of deceased patients and 6 collected as Donor Leukocyte Infusions (DLI) but unused due to the development of Graft-Versus-Host Disease (GVHD). All families gave authorization for the cells to be discarded or used in research. Two similar bags were chosen from the same patient, stem cell source, volume and cellularity for parallel thawing in a 37°C water bath and then adding one of the solutions (Dextran vs. Voluven) in each bag at a 1:1 ratio. A sample was removed for nucleated cell count (CNT) and cell viability. The bags were

centrifuged at 2,000 rpm or 805g, 20 minutes, 4°C, with a brake. Using a manual extractor, the supernatant was transferred to another bag and the buffy coats were measured using a 50 mL syringe, resuspended with the same respective thawing solutions and counted again, as well as the supernatant to indicate a possible cell loss. Results: Nucleated cell recoveries using Dextran and Voluven® were similar: median total cells (TNC) 83 (77–92), lymphocyte 96 (78–100) and granulocytes 71 (51–94) using dextran and median total cells (TNC) 88 (75–100), lymphocyte 100 (83–100) and granulocytes 71 (58–100) using Voluven®.There was no cell loss in the supernatant, median TNC 0.06×10^9 (0–0.49) and 0.01×10^9 (0–0.39), respectively. Conclusion: The DMSO removal using HAES Voluven® 6% solution and albumin 4% was similar to Dextran 40 and, therefore, validated in our service. It is worth to note that the cost is significantly reduced, R$ 3204,99 vs. R$ 2358,03.

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PACIENTE COM LINFOMA T ANGIOIMUNOBLÁSTICO E LINFOCITOSE CLONAL B SECUNDÁRIA À REATIVAÇÃO DO VÍRUS EPSTEIN BARR APÓS TRANSPLANTE ALOGÊNICO DE MEDULA ÓSSEA - RELATO DE CASO

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Introdução: A doença linfoproliferativa pós transplante (PTLD) associada ao virus Epstein-Barr (EBV) é uma complicação grave que se correlaciona ao grau de imunossupressão, status sorológico EBV (doador/receptor), doença enxerto contra o hospedeiro aguda (DECHa), disparidade HLA e idade. Objetivo: relatar um caso de linfoma T angiomunoblástico submetido a transplante alogênico de medula óssea com reativação do EBV e linfocitose clonal B. **Relatado de caso:** Paciente masculino, 52 anos, vivendo com HIV, em bom controle virológico e contagem TCD4, com linfoma T angioimunoblástico recidivado após o tratamento inicial e consolidação com transplante autólogo de medula óssea, em remissão completa após resgate. Submetido a transplante alogênico de medula óssea não mieloablativo, de doador aparentado, fonte sangue periférico e profilaxia para DECH com metotrexate e ciclosporina. Iniciou no D+26 quadro de DECHa gastrointestinal e cutânea grave/com risco de morte e corticorrefratária, confirmada por histopatológico de endoscopia digestiva alta e de colonoscopia. Descartadas possíveis causas infecciosas e iniciado tratamento de segunda linha com timoglobulina e ruxolitinib. Obteve melhora total, em programação de alta quando iniciou episódios subfebris no D+55 e progressão para febre após 1 semana, sem foco presumível, mantida apesar de antibioticoterapia e retirada de cateter central. Evoluiu com pancitopenia inicialmente atribuída à medicação, mantendo bicitopenia (anemia e trombocitopenia) após a retirada de possíveis desencadeantes. Houve ainda aumento de LDH, progressão para esplenomegalia dolorosa, insuficiência hepática aguda e linfocitose às custas de linfócitos polimórficos à hematoscopia. O painel viral identificou reativação do EBV (11.052,25 cópias/mL) e foi negativo para os demais vírus testados. A imunofenotipagem do sangue periférico evidenciou 84% de linfócitos B anômalos kappa+, CD20+, CD79a+, CD19+, negativos para lambda, IgM citoplasmático, CD34, CD66c, CD58, CD10, MPO, CD7, CD3 e CD5. Apesar da retirada da imunossupressão e prescrição de rituximab, o paciente evoluiu para óbito por insuficiência hepática aguda. **Discussão:** No período pós transplante a ocorrência de febre, citopenias e disfunções orgânicas têm uma ampla gama de diagnósticos diferenciais, infecciosos ou não. O caso acima descreve um paciente com HIV e linfoma T angioimunoblástico, que tende a estar associado ao EBV e que, após o transplante alogênico apresentou DECHa corticorrefratária, com uso de timoglobulina e reativação do EBV, com doença linfoproliferativa clonal B de apresentação aguda e desfecho desfavorável. Neste caso, o paciente apresentava imunossupressão T grave tendo como contribuintes, além do uso da ciclosporina, corticoide em altas doses e timoglobulina. A contribuição pelo HIV é incerta já que o paciente apresentava contagem TCD4 satisfatória pré transplante. A reativação do EBV após o transplante provoca proliferação e lise das células B em um cenário de imunossupressão em que não há atividade de células T citotóxicas para o seu controle, evoluindo para PTLD. **Conclusão:** Além da apresentação variável da PTLD, seus sinais e sintomas podem estar presentes em outros diagnósticos diferenciais no paciente pós transplante. Portanto, é preciso um alto grau de suspeição, assim como disponibilidade de ferramentas diagnósticas e terapêuticas.

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DESAFIOS PARA O DIAGNÓSTICO DE PNEUMONITE AGUDA E EXANTEMA SÚBITO POR HERPESVÍRUS HUMANO 6 (HHV-6) APÓS TRANSPLANTE AUTÓLOGO DE CÉLULAS-TRONCO PÓS-HEMATOPOIÉTICAS: RELATO DE CASO.

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Introdução: O Herpes Vírus Humano-6 (HHV-6), um membro da família Herpesviridae, é geralmente adquirido entre as idades de 6 e 15 meses, sendo responsável por 20% de todas as febres agudas em crianças entre 6 e 12 meses de idade sendo o agente causador do exantema súbito. O HHV-6 estabelece latência em células hematopoiéticas CD34 positivas, como monócitos, macrófagos, progenitores da medula óssea e células T. A reativação do HHV-6 latente pode ocorrer em condições imunossupressoras. A reativação do HHV-6 em receptores de HSCT varia de assintomático ao desenvolvimento de febre, erupção cutânea, pneumonite,