undergoing a second BMT with complete donor engraftment. All donors had sickle cell trait and the HbS remained around 50%. One patient is still under evaluation and had planned additional DLI infusion due to chimerism of 82% in mononuclear cells. One important limitation is the lack of split chimerism availability in all patients. **Conclusion:** DLI is a feasible strategy to avoid rejection after BMT for sickle cell disease.

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DUPLO TRANSPLANTE AUTÓLOGO EM MIELOMA MÚLTIPLO IGA KAPPA EM MENORES DE 50 ANOS: 2 RELATOS DE CASO

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Introdução: Mieloma múltiplo é uma neoplasia de células plasmáticas com características biológicas ligadas à secreção de grandes quantidades de anticorpos e suas interações com o microambiente da MO. Dentre os pacientes elegíveis para transplante autólogo, consideram-se pacientes menores de 70-75 anos de idade, sem comorbidades significativas e responsivos à terapia de indução. Já para realização de duplo transplante, não há um consenso acerca da indicação, bem assegurada quando relacionada, principalmente, ao maior risco citogenético. **Relato de caso:** Paciente 1, sexo masculino, 48 anos, portador de mieloma múltiplo IgA Kappa diagnosticado em fevereiro de 2024, ISS1, sem critérios para alto risco, realizou 5 ciclos de VCD, evoluindo com resposta parcial muito boa. Foi admitido para realização de transplante autólogo de medula óssea, com condicionamento realizado com melfalano em altas doses (200 mg/m^2). Evoluiu com enxertia neutrofílica no D+9, alta hospitalar no D+10 e encontra-se em programação de realização de duplo transplante. Paciente 2, sexo feminino, 48 anos, diagnosticada com plasmocitoma solitário em região de fêmur direito, com progressão para mieloma múltiplo IgA Kappa, ISS 1, sem critério para alto risco, ocasião de tratamento com VCD por 6 ciclos, evoluiu com resposta parcial muito boa, sendo encaminhada para realização de transplante autólogo de medula óssea, com condicionamento realizado com melfalano em altas doses (200 mg/m^2). Evoluiu com enxertia neutrofílica no D +11, alta hospitalar no D+14 devido a término de antibioticoterapia por coagulase negativo em hemocultura, e encontra-se em programação de realização de duplo transplante. **Conclusão:** O transplante de células-tronco hematopoiéticas (TCTH) autólogo ainda é considerado terapia de consolidação de escolha em pacientes elegíveis. Já existem estudos comparando a diferença entre a utilização do TCTH autólogo como parte do tratamento inicial (transplante precoce) e seu uso no momento da recidiva (transplante tardio). Este relato traz a perspectiva de 2 transplantes realizados precocemente em pacientes menores de 50 anos, com o mesmo subtipo de doença, expostos a terapia tripla na indução, sem alto risco citogenético e com enxertia neutrofílica em menos de 14 dias, em programação de realização de duplo transplante e sem intercorrências pós alta precoce. Transplante de medula óssea tandem geralmente possui indicação nos casos de pacientes jovens, com doença mais agressiva, que não obtiveram resposta completa com o tratamento quimioterápico inicial e que não possuem acesso a novas drogas. Porém com o advento de novas terapias, como biespecíficos ou car-t, talvez não haja mais espaço para um duplo transplante, uma vez que a toxicidade relacionada à terapia e as taxas de resposta não são comparáveis às novas terapias.

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ID - 521

DYNAMICS OF INTESTINAL PERMEABILITY IN PATIENTS UNDERGOING ALLOGENEIC STEM CELL TRANSPLANTATION

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Introduction: The gastrointestinal barrier is frequently disrupted in patients undergoing allogeneic hematopoietic stem cell transplantation (allo-HSCT), leading to increased intestinal permeability. This alteration is primarily driven by the conditioning regimen and may be further aggravated by infections and intestinal dysbiosis. Although increased intestinal permeability has been reported in international allo-HSCT studies, its temporal behavior across different post-transplantation phases remains poorly characterized, particularly in Brazilian populations. **Aim:** In this study, using a cohort of Brazilian patients undergoing allo-HSCT, we aimed to identify the dynamics of intestinal permeability. **Material and methods:** This is a multicenter, prospective cohort study, approved by the Research Ethical Committee. Patients > 12 years old undergoing allo-HSCT were included. Blood samples were collected longitudinally at 7 time points: Prior to conditioning regimen (D-7); At the day of stem cell infusion (D0); 30 days after stem cell infusion (D+30); D+60, D+90, D+180, and at acute Graft-versus-host disease (GvHD) diagnosis. Zonulin, a

key regulator of intestinal permeability via tight junction modulation, was measured by ELISA. A group of 15 healthy individuals were used as a control group. Non-parametric tests with multiple comparisons were used for statistical analysis. **Results:** During the study, 494 blood samples were collected from 136 patients. The highest median zonulin level occurred before conditioning (64 ng/mL), and the lowest at D +30 (55 ng/mL). Compared with controls (21 ng/mL), zonulin was significantly increased as early as pre-conditioning (64 ng/mL, $p < 0.0001$), and remained high at D0 (59 ng/mL, $p < 0.0001$), D+30 (55 ng/mL, $p = 0.0007$), D+60 (60 ng/mL, $p = 0.0002$), and D+90 (61 ng/mL, $p = 0.0002$). Levels were also increased at D+180 (60 ng/mL, $p = 0.0004$) and at GvHD diagnosis (55 ng/mL, $p = 0.0084$). **Discussions and conclusion:** Brazilian patients undergoing allo-HSCT showed persistently elevated zonulin concentrations, when compared with controls, pointing to sustained intestinal mucosal injury throughout the allo-HSCT. This persistence suggests that factors beyond conditioning, such as infections and transplant-related complications, contribute to ongoing barrier disruption. Persistent elevated zonulin may also reflect limited mucosal regeneration during allo-HSCT. Further studies are needed to clarify the mechanisms and clinical impact of this intestinal damage.

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ID - 257

EFFECT OF ERYTHROPOIETIN (EPO) ON GRANULOCYTE-MACROPHAGE COLONY-FORMING UNITS (CFU-GM) IN HUMAN CELL CULTURES

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Introduction: Erythropoietin (EPO) is a hematopoietic cytokine primarily recognized for its role in erythropoiesis. However, recent studies suggest that EPO may also influence other hematopoietic lineages, including granulocytes and macrophages. This study aimed to evaluate the effect of EPO on CFU-GM formation in human bone marrow and peripheral blood samples by comparing two commercial culture media, with and without EPO supplementation. **Aim:** To quantitatively compare CFU-GM formation in cell cultures supplemented with or without EPO, in the context of a medium transition due to discontinuation of the EPO-free formulation. **Material and methods:** Samples were obtained from one healthy donor and four patients undergoing bone marrow transplantation (three with multiple myeloma and one with non-Hodgkin lymphoma). After four days of granulokine stimulation, peripheral blood samples were collected and analyzed by flow cytometry for $CD34^+/CD45^{\wedge}low$ cells using the ISHAGE protocol on a BD FACSCalibur cytometer. Clonogenic assays were performed using MACS^{TM} HSC-CFU methylcellulose media (Miltenyi Biotec), either with or without EPO (3 U/mL). Cultures were incubated for 14 days at 37°C. CFU-GM colonies were counted under an inverted microscope by two blinded evaluators. Statistical analysis was conducted using the paired Wilcoxon test. **Results:** In cultures supplemented with EPO, fresh samples yielded an average of 21.63 CFU-GM colonies, while thawed samples yielded 15.75 colonies ($p = 0.813$). In cultures without EPO, fresh samples yielded 19.47 colonies, and thawed samples yielded 12.67 colonies ($p = 0.813$). No statistically significant difference in CFU-GM formation was observed with the addition of EPO. **Discussion and conclusion:** These findings suggest that EPO does not significantly affect CFU-GM formation in vitro. Therefore, transitioning to a medium containing EPO does not appear to alter the performance of CFU-GM assays in the laboratory setting. The addition of EPO to hematopoietic culture media does not influence CFU-GM formation, supporting the equivalence of both media and validating the continued reliability of CFU-GM testing following the media transition.

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ID - 2053

EFFECT OF NATURAL KILLER CELLS CO-EXPRESSING AN IMMUNORECEPTOR TYROSINE-BASED ACTIVATION MOTIF AND A CHIMERIC ANTIGEN RECEPTOR TO TARGET NEOPLASTIC B CELLS

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Introduction: Lymphocytic leukemias and non-Hodgkin lymphomas (NHL) associated with B-cell neoplasms shown clinical and biological heterogeneity. Despite therapeutic advances, many cases relapse, highlighting the need for new approaches. T cells modified with Chimeric Antigen Receptors (CAR) targeting CD19, a B-cell surface antigen, have shown remarkable clinical efficacy in immunotherapy against hematologic malignancies. However, CD19-CAR-T cell therapy presents limitations, such as adverse effects including cytokine release syndrome. In this context, Natural Killer (NK) cells emerge as a promising alternative for CAR-based therapy due to reduced toxicity and the feasibility of allogeneic applications. Considering NK cell adoptive transfer, the NK-92 cell line has been evaluated in clinical settings for CAR-based therapy. NK cells express Natural Cytotoxicity Receptors (NCRs), including NKp30, which recognize tumor-associated ligands. The NKp30-dependent cytotoxicity requires association with adaptor proteins bearing ITAM motifs, such as CD3ζ. However, NK-92 cells lack endogenous CD3ζ, impairing signal transduction through NKp30. Thus, engineering NK-92 cells to express CD3ζ and CD19-CAR containing NKp30 as a co-stimulatory domain may enhance their cytotoxic function against malignant B cells. **Aim:** Modification of NK-92 cells