seronegative patients before the third dose seroconverted with the booster shot. Neutralizing titers against the Omicron variant after the booster dose were detectable in only 54% of MM patients who responded to two doses of the vaccine (they had adequate protection against Wuhan variant) and in none of those who did not respond in the initial vaccine doses. The third vaccine shot significantly increased spike-specific CD4+ T cell-mediated cytokine responses, as well. The third study was published in Cancer Cell again (2022;40(6):587-589) by Enssle *et al* and included 71 patients with MM and 23 healthy controls. The authors observed a 4-fold increase in anti-S IgG levels from a median of 193.2 BAU/ml before to 776.0 BAU/ml after the booster dose in the MM cohort. However, a poor neutralization capacity against the Omicron variant was observed. Regarding cellular immunity, MM patients showed a significant T-cell response against the wild-type virus, the Delta variant and the Omicron variant, although the response was attenuated in the latter case. Overall, the abovementioned studies advocate for prioritizing patients with MM, especially those on anti-BCMA treatments, for additional booster shots, ideally with variant-adapted vaccines, or with the prophylactic administration of monoclonal antibodies against SARS-CoV-2. The standard vaccine seems not to prevent the infection with omicron variant(s) and thus general preventive measures including mask wearing and avoiding crowds remain important for these vulnerable patients.

https://doi.org/10.1016/j.htct.2022.09.1191

Sp07

REDUCED INTENSITY CONDITIONING FOR ALLOGENEIC STEM CELL TRANSPLANTATION (HSCT) IN ACUTE MYELOID LEUKEMIA

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Allogeneic transplantation (HSCT) is an effective curative therapy for high risk acute myeloid leukemia (AML) which account for 38% of the transplants in Europe (1). Prior to HSCT, a conditioning or preparative regimen is administered. The conditioning regimen has 2 components; one target the myeloid system aiming in eradication of the leukemic clones, while the other target the immune/lymphoid system to ensure engraftment and to prevent rejection. Some of the compounds used in the conditioning are more myeloablative in nature for example busulfan or melphalan) 2-4) while others are more lymphodepliting like fludarabine or Cytoxan (5). Traditionally, the pre HSCT conditioning was myeloablative (MAC) and includes total body irradiation (TBI) in combination with cyclophosphamide (CY) (2-3). High-dose busulfan (Bu) is the most commonly used TBI-free-based myeloablative conditioning (2-3). In HSCT from unrelated or mismatched donors the pre transplantation conditioning typically includes serotherapy with anti-thymocyte globulin (ATG) or the CAMPATH monoclonal antibody in order to avoid rejection and ensure engraftment while preventing graft versus host disease (GVHD) (5). However, the MAC is typically associated with significant morbidity and mortality due to the toxicity of the preparative regimen, GVHD, and the immune-deficient state that accompanies the procedure (2,5-6). This is especially true in patients above the age 55-60 years old and in patients with comorbidities which are the majority of AML patients. Extensive research, including pharmacokinetic and pharmacodynamics studies has been directed therefore towards the development of safer and less toxic conditioning regimens for HSCT, optimizing the conditioning allowing its applications to elderly patients and patients with comorbidities (2,5-6). These modern conditioning regimens which are based in part on the immune-mediated graft versus leukemia (GVL) effect are in principle low-dose, less toxic and tolerable conditioning regimens termed reduced intensity (RIC) with different immunosuppressive and myelosuppressive properties (5-7). These regimens combine immunosuppressive agents (such as fludarabine with or without serotherapy or targeted therapy with agents with moderate myelosuppressive effects or novel agents. However, they typically result in higher relapse rate especially in patients undergoing HSCT while not in remission and in patients with high risk leukemia including patients with adverse cytogenetics, high risk mutations and patients with positive measurable residual disease (MRD) at time of transplants. The optimal regimen is thus the one with intensive anti-leukemic activity, but with limited toxicity-the so called reduced toxicity regiments (RTC). These novel regimens are mostly fludarabine based and incorporate drugs like melphalan; thiotepa; treosulfan and clofarabine (8-11). Other protocols are the so called TBF protocol that include two alkylating agents like busulfan and thiotepa(9,11) and the FLAMSA protocol that includes fludarabine, cytarabine, and amsacrine (11).The RIC and RTC regimens enable HSCT in elderly patients and those with comorbidities reducing drastically transplant related mortality and organ toxicities in combination with improved anti leukemic effect. Efficient safe pre transplant conditioning protocols are continuing to be developed. Future protocols will most probably incorporate specific anti leukemic targeted novel compounds as well as monoclonal and radiolabeled antibodies.

https://doi.org/10.1016/j.htct.2022.09.1192

Sp08

LESSONS FROM THE EUROPEAN AND ISRAEL NATIONAL MDS REGISTRY

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On behalf of the Israeli MDS working group and EUMDS Registry/ XIII Eurasian Hematology Oncology Congress (EHOC) 2022. The myelodysplastic syndromes (MDS) are a group of clonal stem cell diseases with cytopenias and a tendency to transform to leukemia. Despite the progress, there is still lack of real world data about the disease. In 2008, top European experts