KIR by PCR. Mathematical model was developed for evaluation the balance of activating and inhibitory rp as an index of cytotoxic activity (**ICA**) of mature NK. To select donor (dn) for KIR-AI we investigate med 3 samples (range 3-8) BM/UCB. The indication - salvage therapy, ECOG>3. BM-dn with low ICA were excluded. Lymphodepletion included CyFlu (up to 3 d), both BM (12 pts) and UCB (11 pts). **Results:** NK UCB ranged 5-56% (med 16) of lymphocytes. No any differences between NK -UCB and BM (similar to PB). For dn and pts no ICA differences by sex and age, ICA depend on depression and virus. For pts no ICA difference by type of cancer, germinal mutations, but strong correlation with nearest outcome of cancer. FU med 9 mo (2-52). OS (11 pts, 14 UCB-transfusions) med 6 mo (2+ -10), comparable to BM med 8 mo (2-48). AI outcomes depend on the intensity of lymphodepletion and ICA UCB/BM. **Conclusion:** Considering acceptable toxicity of lymphodepletion and good AI tolerability, including poor pts, the indications for cellular anticancer treatment could be expanded. We start pilot using UCB for KIR-AI for overcome chemoresistance and to achieve complete remission of disease after finishing anticancer treatment of solid tumors and for MRD-eradication in hematology. Additional undeniable advantage of UCB KIR-AI is quick availability of UCB from a KIR-typed UCB register.

https://doi.org/10.1016/j.htct.2022.09.1214

OP 08

HUMORAL IMMUNITY RESPONSES AFTER VACCINATION FOR HEPATITIS B VIRUS IN AUTOGRAFTED PATIENTS: A SINGLE CENTER EXPERIENCE

Panayotis Kaloyannidis [1],
Naeema Al Musailemelime [1],
Abdulelah Al Shami [1], Manal Al Enazi [2],
Norah Al Mulhem [3], Ahmed Bahrani [3],
Rabab Attas [3], Solaf Kanfar [1]

[1] *Adult Hematology & Stem Cell Transplantation Department. King Fahad Specialist Hospital*
[2] *Family Medicine Department. King Fahad Specialist Hospital*
[3] *Department of Pathology and Laboratory Medicine. King Fahad Specialist Hospital*

Objective: The effectiveness of vaccinations post hematopoietic stem cell transplantation (HSCT), is a reliable marker for immune system's functionality assessment. In autologous HSCT (AHSCT) setting, the general aspect is that the immune system recovers quite soon and patients (pts) are considered to be immunocompetent in a period of approximately 3-6 months post AHSCT. We evaluated the hepatitis B virus (HBV) vaccination responses in autografted pts who were in remission and off chemotherapy post AHSCT. **Methodology:** 27 autografted pts aged 51,6 (22-67) ys, who had antiHbs titers <10 IU/ml before AHSCT and at the time of vaccination, were studied. After a successful engraftment the median absolute lymphocytes count at +3 months was 1740(450-4090)/mm^3. In 4,3(0,6–8,5) ys post AHSCT, 3 doses of recombinant HBV vaccine were given monthly. The response rates for pts who completed 3 vaccine doses, compared with an internal group of healthy individuals, vaccinated in the same period with the same product. **Results:** After the 1st, 2nd and 3rd dose the response rates in the study group were 11%, 81% and 88% respectively. No factor statistically significantly influenced the achievement of protective antiHbs titers. The responses were lower as compared to product's efficacy profile (19%, 86% and 100% after the 1st, 2nd and 3rd dose respectively), while in the comparative analysis with the internal control group, a trend for inferior responses in autografted pts was also noticed (88% vs 100%, p=0,07). **Conclusion:** This study, in a relatively homogenous group of pts, to our knowledge, is the only one that directly compares the HBV vaccine responses in autografted pts with healthy individuals. Although vaccination was offered late post AHSCT, the responses were lower compared to healthy individuals, indicating a possible long lasting immune impairment post AHSCT highlighting the necessity of prolonged surveillance and intensified vaccination programs for autografted pts.

https://doi.org/10.1016/j.htct.2022.09.1215

OP 09

ANTIBODY RESPONSES AND SAFETY OF THE COMMERCIALLY AVAILABLE VACCINES AGAINST SARS-COV-2 VIRUS IN ALLOGRAFTED PATIENTS: REAL WORLD DATA FROM A SINGLE CENTER

Panayotis Kaloyannidis [1], Belal Blowi [1],
Rana Yahya [2], Hamdah Al Khaldi [2],
Rabab Attas [3], Afra Dayel [3], Solaf Kanfar [1]

[1] *Adult Hematology & Stem Cell Transplantation Department. King Fahad Specialist Hospital*
[2] *Laboratory Technologists Department*
[3] *Pathology and Laboratory Medicine Department*

Objective: Patients (pts) who have undergone allogeneic stem cell transplantation (alloSCT) are at high-risk for life-threating complications post SARS-CoV-2 infection, and the mortality rates has been reported of approximately 30-35%. The currently available vaccines proved their effectiveness in the general population by reducing the severity of the COVID-19 infection however, scant data exist regarding the safety and efficacy of the commercially available vaccines in allografted pts. **Methodology:** After a median of 2,7 (0,3-6,7) ys post alloSCT, 20 pts received within a median of 42 days, 2 vaccines of either Pfizer (n=17) or combinations of Pfizer with Moderna (n=2) or AstraZeneca (n=1). Off immunosuppression without evidence of active GvHD were 14 pts, 1 was only on Cyclosporine (CSP) while 5 were on steroids plus CSP or MMF or Ibrutinib for GvHD treatment. Automated commercial chemiluminescence immunoassay (CLIA) against spike (S1/