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# ORAL ABSTRACTS

## 721.ALLOGENEIC TRANSPLANTATION: CONDITIONING REGIMENS, ENGRAFTMENT AND ACUTE TOXICITIES

### Early Initiation of Cyclosporin and Mycophenolate in Haplo Transplantation with Post Transplant Cyclophosphamide; Significantly Decreases Cytokine Release Syndrome and Abrogates Its Severity. a Study of 110 Patients with Leukemia Transplanted with Peripheral Blood Stem Cells

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Introduction
The uses of peripheral blood stem cells (PBSC) in haplo transplant with post-transplantation cyclophosphamide (haplo PT-Cy) has the advantages of a more accessible collection of the cells and faster engraftment; however, it is associated with a high incidence of cytokine release syndrome (CRS), including severe cases, deaths, and also of GVHD. Some publications show that early introduction of immunosuppression, before day + 5, is associated with a significant decrease in these complications. With the scope to add knowledge about the timing of starting immunosuppression in the haplo PT-Cy platform, we present our results with the initiation of cyclosporin (CsA) on day 0 and mycophenolate (MMF) on day + 1 using PSCS as a cellular source.
Methods and patients
From Jan 2017 to March 2023, after a signed informed consent, 110 patients with leukemia were transplanted; the median age was 42 years (range 18-70), the diagnoses were: acute myeloid leukemia/myelodysplasia:51, lymphoblastic leukemia: 43, chronic myeloid leukemia: 12, and others: 4. Sixty percent had a disease index risk (DRI) intermediate or higher.
The conditioning used was fludarabine 160 mg/m2, melphalan 100-140 mg/m2, and TBI 200-400 cGy (102 pts) or the same schema but with busulfan, 6.4 mg/kg, instead of melphalan (8 pts), the CsA began on day zero and it continuous until d+180, MMF was administered from d+ 1 to d+ 60 and PT-Cy 50 mg/kg on days +3 and +4. All patients received, as a cellular source, PBSC.
All donors shared 4 out of 8 alleles with the recipients; a median of 9.2 × 10(6)/kg (range 3.9-14) of CD34 and 3.0 × 10(8)/kg of CD3 were infused. The engraftment rate at day + 30, in 106 evaluable patients, was 98%; the median time to achieve 500 neutrophils and platelet autonomy was 14,5 and 17 days respectively (range 13-25 and 15-35). The CRS occurred in 50 out of 110 patients (45%); It was grade 1 in all cases, the median days with fever were 2,4 (range 1-5), and the temperature range was 38.3 to 39.8 ºC. The incidence of aGVHD grades 2-4 was 25%, and grades 3-4, 8%; regarding cGVHD, it was 21%, for all grades, and 14% for moderate/severe. The one-year non-relapsed mortality, excluding 4 cases who died from covid, was 15%. After a median follow-up of 15 months (range 3-76), the 36 months OS (Kaplan-Meir) for the whole group was 58% and 62,9% for patients with DRI low (fig 1)
Discussion and Conclusion
Our study shows that; in patients with leukemia that received a haplo transplant with PT-Cy, and PBCS as a cellular source, the early administration of CsA and MMF decreases the CRS to 45% and abrogates the presence of CRS grades 2 to 5 completely. The incidence of aGVHD a cGVHD, all grades, was not higher than expected, 25 and 21% respectively. The OS, 58%, in a group with 60% of patients having a DRI intermediate or higher, is encouraging. Our results are in line with those has been informed in another two small series (1,2). The CRS incidence reported in them was 20 and 26%, and the percentage of patients with aGVHD was 23 %.

We can conclude that the early administration of CsA and MMF, on days zero and + 1, allows the use of PBSC as a cellular source in the haplo-PTCy platform with not only a low incidence of CRS but without severe cases of it. This schema does not increase the GVHD rate and achieves a promising OS. This study adds helpful information regarding the timing of initiation of immunosuppression in the haplo PT-Cy protocol

References

1-Ann Hematol (2021) 100:1295-1301, 2-Blood (2022) 140 (Supplement 1): 10528-10529

**Disclosures** No relevant conflicts of interest to declare.

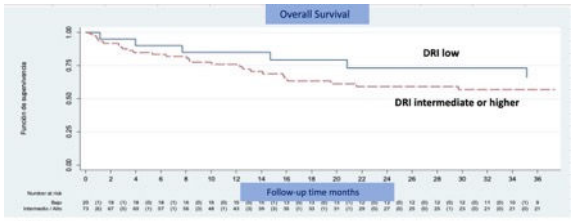


Fig # 1

**Figure 1**

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