

## PROSPECTIVE COMPARISON OF EFFICACY OF THERAPEUTIC APHERESIS VERSUS CONVENTIONAL PHLEBOTOMY - PRELIMINARY DATA FROM HEMOCHROMATOSIS PATIENTS

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**Objectives:** Hereditary Hemochromatosis (HH, OMIM 235200) has a prevalence of 2-5 in 1000 in the Caucasian population but variable penetrance. Treatment schedule is dependent on phenotypic and genotypic expression of the disease. As therapeutic apheresis (TE) can remove up to 5fold more iron than conventional phlebotomy (TP), it is worthwhile to compare both therapeutic approaches with respect to efficiency and safety.

**Methods:** We present preliminary data on iron metabolism and safety during therapy of 5 patients with TP (450ml whole blood) and 6 patients with TE (360ml Ec-concentrate, apheresis done on ALYX, Fenwal) that have so far reached the primary endpoint (ferritin (SF) <50ug/l for the first time).

**Results:** In both groups, the Ferritin Index (FI) was not elevated (<1.5, range TE 0.46 to 0.9 and TP 0.59 to 1.40). At study endpoint FI differed between TP and TE (3.2 (1.4 – 4.2) versus 5.3 (4.4 – 7.0), respectively). Total body iron (TBI) at study endpoint remained higher in TP versus TE. Therapeutically induced lowering of TBI was - 1.33 mg/kg (-62% of baseline) versus -2.0 mg/kg (-85%) in TP versus TE (p<0.01). sTFR increased more pronounced in the TE versus the TP group, probably reflecting more stimulated erythropoiesis in TE treated patients. Overall number and especially occurrence of major side effects do not differ significantly yet.

**Conclusion:** TP and TE so far seem to be equally safe and efficient, with no significant differences in the occurrence of adverse events. The data on iron metabolism indicates that TE is a possibly more efficient therapy with respect to iron depletion than TP and indicates that they have a different impact on erythropoiesis in a nonlinear fashion. The clinical significance of this difference is unclear. Further patients will be needed to consolidate the findings.