EARLY POST-BMT LIVER FUNCTION IN CHILDREN CONDITIONED FOR BONE MARROW TRANSPLANTATION WITH BUSULFAN-CONTAINING AND WITH HYPERFRACTIONATED TBI-CONTAINING PREPARATIVE REGIMENS.

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Liver toxicity following preparatory regimen (prep-reg) for bone marrow transplantation (BMT) creates one of the major problems in the early post-BMT period, especially in patients (pts.) with pretransplant HCV and/or HBV infections, and liver dysfunction. This gave rise to the search for prep-reg, that would be less hepatotoxic, but would still have sufficient antileukemic effect. Therefore, we compared liver function in children prepared for allo-BMT with busulfan-containing and with hyperfractionated TBI-containing regimens.

Patients and methods: Seventeen pts. have been conditioned with busulfan-containing prep-reg (10 with BuVpCy, 7 with BuCy) (**Bu-group**). Diagnosis consisted of ALL (6) and AML (11). All pts. from Bu-group have been transplanted with bone marrow from HLA-identical, MLC non-reactive siblings. Pretransplant screening showed positive HBsAg in one patient, and HCV antibody in 6 pts. For GvHD prevention CsA+MTX have been given in 12 pts., CsA+MTX+PRED in 3 pts., and CsA alone in 2 pts. Acute GvHD II-IV^{o} occured in 4 pts. Hyperfractionated TBI (hFTBI) (2 x 1,5 Gy on 4 consecutive days) was employed in 10 pts. (hFTBI+Cy in 6 pts., hFTBI+Vp in 4 pts.) (**hFTBI-group**). Nine pts. were transplanted for ALL, and one child for AML. Nine pts. from hFTBI-group have been transplanted with bone marrow from HLA-identical, MLC non-reactive siblings, and one child from a syngeneic twin. For GvHD prevention 5 pts. have been treated with CsA+MTX, 2 with CsA+PRED, and 2 with CsA alone (recipient of syngeneic bone marrow received no GvHD prophylaxis). Acute GvHD II^{o} was observed in one child. For HVOD prevention in all children from both groups continuous infusion of alprostadil and/or low-dose heparin (100 units/kg/day) has been administered. Total bilirubine concentration, alanine aminotransferase (AlAt) and aspartate aminotransferase (AspAt) activity were measured in serum on day -10, -1, +7, +14, +21, +28 and +35 by automated chemical analysis using standard reagents.

Results: One child (AML, pos. HCV antibody, BuCy, CsA alone for GvHD prevention) from Bu-group developed on day +18 day recurrent form of severe HVOD leading to the death on day +102. **Conclusions:** According to liver function parameters observed till day +35 post-BMT, i.e. during the period, when the risk of HVOD is highest, hFTBI seems to be less hepatotoxic than busulfan-containing prep-reg. Therefore BM-recipients with liver dysfunction observed prior to BMT should rather be prepared for transplantation with hFTBI.