T9. **IMPAIRMENT OF LIPID METABOLISM AFTER BMT.**

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Background: Dyslipidemia is a disorder of lipoprotein metabolism, including lipoprotein overproduction or deficiency. Dyslipidemia may be manifested by elevation of the total cholesterol, the "bad" low-density lipoprotein (LDL) cholesterol and the triglyceride concentrations, and a decrease in the "good" high-density lipoprotein (HDL) cholesterol concentration in the blood. Dyslipidemia is a major vascular risk factor and cardiovascular disease is the main cause of mortality in the whole world.

Dyslipidemia comes under consideration in many situations including diabetes , a common cause of lipidemia , excessive alcohol consumption, cholestatic liver diseases, nephrotic syndrome, chronic renal failure, hypothyroidism, cigarette smoking, obesity, drugs . Most common classes of drugs that are used to treat hypertension and are known to cause dyslipidemia are diuretics , beta blockers and methyldopa, and chemotherapy for cancer. Dyslipidemia is one of late complications after BMT. Stem cell transplantation is a treatment for hematologic malignancies and some nonmalignant diseases, with significant improvement in survival. Also, a list of late complications is increasing with longer follow up times.

Aims: This study aims to analyze lipid profile in patients who followed BMT and to established their impact on long term survival.

Materials and methods: We analyzed 221 patients who underwent BMT between 2008 and 2013 in Bone Marrow Transplantation Department Timisoara . International recommendations for monitoring long-term survivors of HSCT suggested a series of tests from time to time. The patients were stratified by age, sex, race, type of BMT, source of stem cells, hematological disease, body mass index, another comorbidities like obesity, hypertension, diabetes. Laboratory parameters were : total lipid level, LDL level, cholesterol level, triglyceride level, LDL-C and HDL-C .For changes in lipid metabolism the patients were treated with hipolipidic diet and oral agents : statins and fibrates.

Results: From 221 patients we had 72 with dyslipidemia: 71 with overproduction and 1 with deficiency.

The patient with hypolipidemia is a young boy, 12 years old at the time of transplantation for Hodgkin lymphoma , with vegetarian diet and levels of lipid below the lower limit of normal (Total lipid =3.7 g/l; Cholesterol = 2.6 mmol/L;Triglyceride =0.57 mmol/L)

The rest of the patients were with high levels of lipid and their dates are: 38 female patients and 33 male patients; repartition after age : 18-26 years : 8 patients, over 26 years :63 patients.62 cases with autologous BMT and 9 with allogeneic (3 with chronic hepatic GVHD) . Diagnosis was: acute lymphoblastic leukemia 4, acute myeloid leukemia 5, Hodgkin lymphoma 17, non-Hodgkin lymphoma 14, multiple myeloma 30, others 1.Patients with comorbidities: 29 with obesity, 20 with arterial hypertension, 12 with diabetes.Type of dyslipidemia: 4 patients with hypertriglyceridemia 4 (Mean value 2,63 mmol/ L), hypercholesterolemia 20 (Mean value 5,52 mmol/l), mixed dyslipidemia 47 patients. Treatment for dyslipidemia: diet 71 patients, statins 12, fibrates 4, statins+fibrates 1.

Summary/Conclusions: In our study, dyslipidemia occurs in 32,58% of patients with BMT, over 26 years old, approximately equal between men and women. The most common disorder was multiple myeloma, followed by associated with diabetes (16,90%) and hypertension (28,17%) and almost half with obesity (40,84%). All the patients were treated by diet and lifestyle changes and 23,94 % follows medications; lipid monitoring is performed every three months .

In conclusion, common cause of dyslipidemia, such as obesity, primary genetic lipid disorders, significant alcohol intake, uncontrolled diabetes, complications of the primary disease, treatment and transplantation can worsen dyslipidemia. Also, endocrine changes such as hypogonadism, hypothyroidism, deficiency in growth hormone after BMT may predispose to insulin resistance and metabolic syndrome. Chronic GVHD of the liver with severe cholestatic liver disease has been associated with severe hypercholesterolemia in adult and pediatric allogeneic patients. Drugs used to treat GVHD (Glucocorticoids, Cyclosporine, Tacrolimus, etc.) can cause dyslipidemia by altering the mechanism of lipid synthesis. Patients who develop dyslipidemia in an early or intermediate posttransplantation period may still have increased risk of cardiovascular events over the long term and they should be consider to add medication if lipid levels remain above goal for a patient's risk category.

There are two goals for lipid-lowering therapy: to reduce risk of future cardiovascular events and to prevent risk of pancreatitis in patients with severe hypertriglyceridemia. The American Heart Association guidelines recommend therapeutic lifestyle change (diet and physical activity) . Pharmacologic agents for dyslipidemia are statins and fibrates. A proper selection for treatment and dose is important because the drug-drug interactions (Ex. Cyclosporine-Statins) and the adverse events.