DIABETES MELLITUS AFTER HEMATOPOIETIC STEM CELL TRANSPLANTATION

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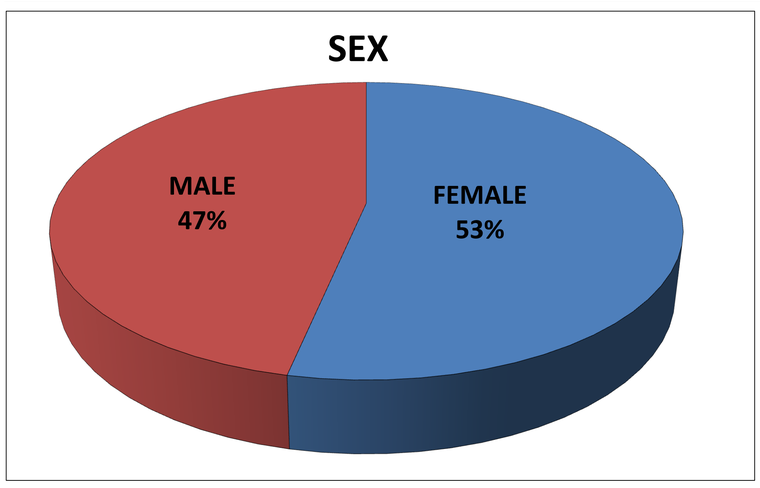
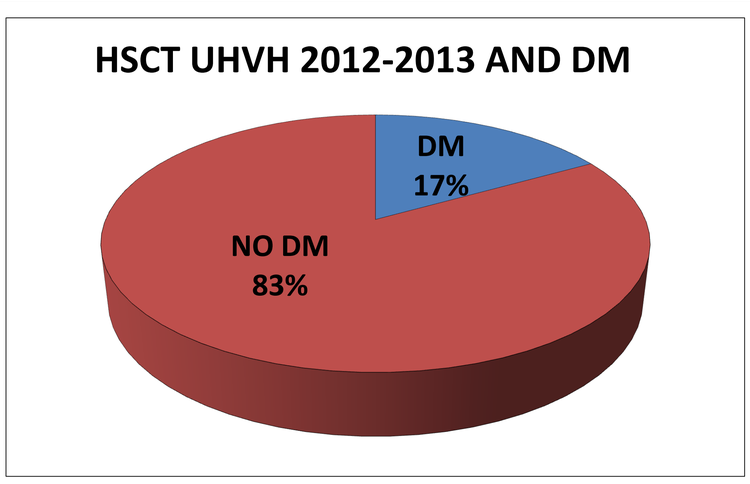
BACKGROUND: Patients who have received an hematopoietic stem cell transplantation (HSCT) have more risk of endocrine complications (hypothyroidism, hypogonadism, and growth retardation) but the incidence of diabetes after HSCT is not as well known. The pathogenesis of the diabetes is not well established, and is believed to be multifactorial: chemotherapy, pancreatic irradiation, inflammatory cascade and cytokines, steroids and predisposing genetic factors.

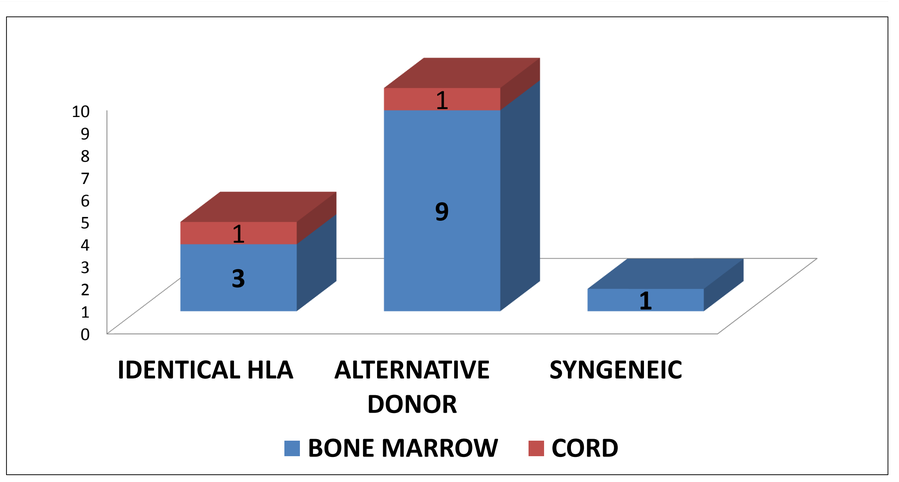
OBJECTIVE AND HYPOTHESES : Describe the incidence of DM after HSCT.

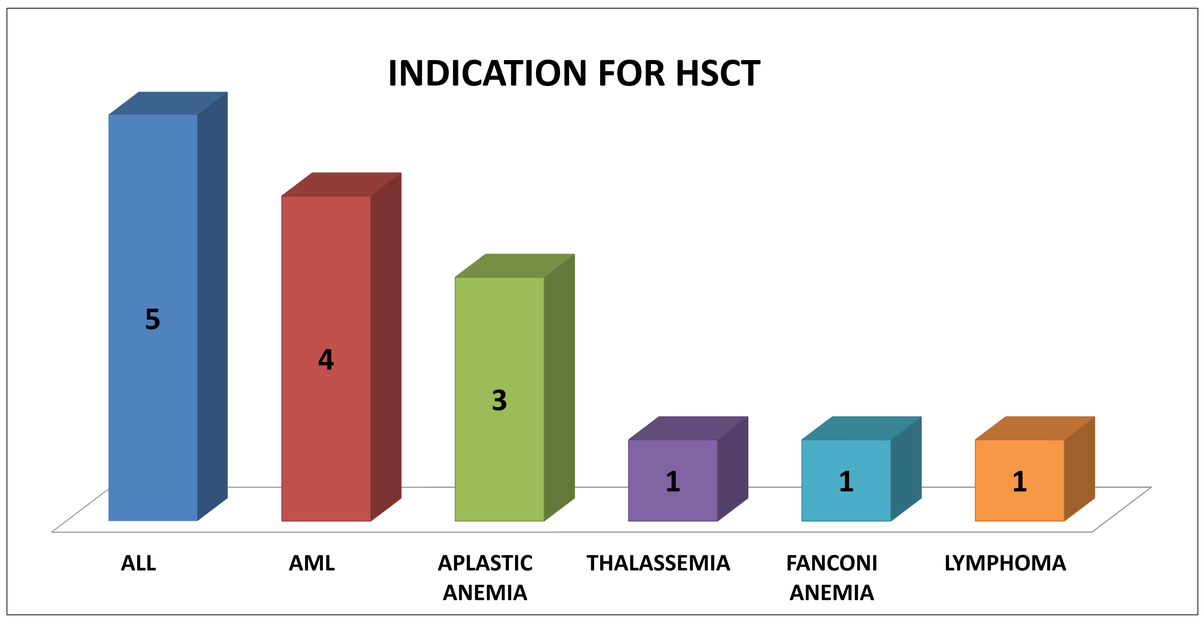
METHOD: Retrospective analysis of 14 patients who received HSCT and who have developed diabetes following ADA's criteria in the last 2 years (2011–2013).

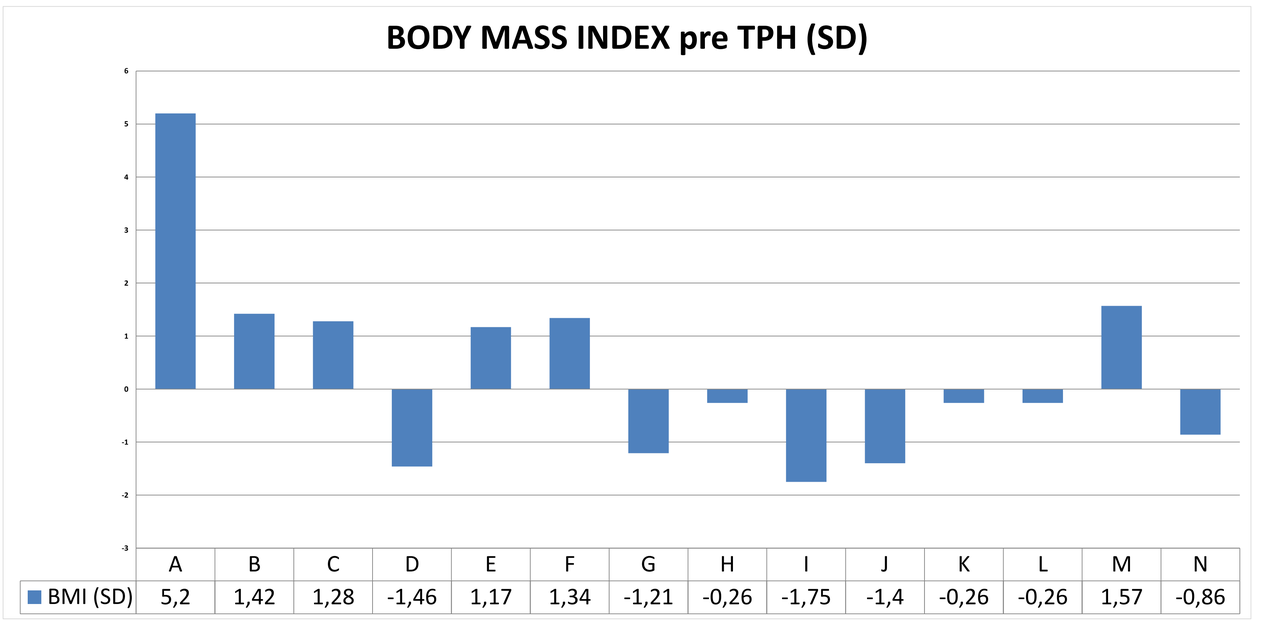
RESULTS: 16% of patients who received HSCT developed diabetes. Eight patients were women (57%). Mean age at HSCT: 13.2 years (7–18 years). Two had family history of DM2 (14.3%). Anthropometric data at HSCT: normal weight/overweight. Indication for HSCT: acute lymphoblastic leukemia (5), acute myeloblastic leukemia (3), acquired aplastic anemia (3), thalassemia major (1), Fanconi anemia (1), and lymphoma (1). 6 (45%) received an HLA identical HSCT of bone marrow and 8 (55%) unrelated donor (six bone marrow and two cord blood). Maximum dose of corticosteroids before diabetes diagnosis: 1.6 mg/kg per day. Diagnosis of hyperglycemia without ketosis after HSCT: 166.5 days (15–902 days). Average glycemia: 329 mg/dl, HbAc1: 7.2% (NV: 4.7–6.4%), C peptide: 3.2 ng/ml (NV: 0.81–3.85 ng/ml), and insulinemia 24.3 mU/l. Study of antibodies prior to insulin therapy was performed in eight patients remain positive in one case for antiGAD65. Treatment: MDI with basal-bolus, short acting insulin and basal insulin (glargine [71%] and detemir [29%]). If insulin dose was>1.5 U/kg per day, metformin (35.7%, five patients) was added. Comorbidities: 100% arterial hypertension and hypertriglyceridemia.



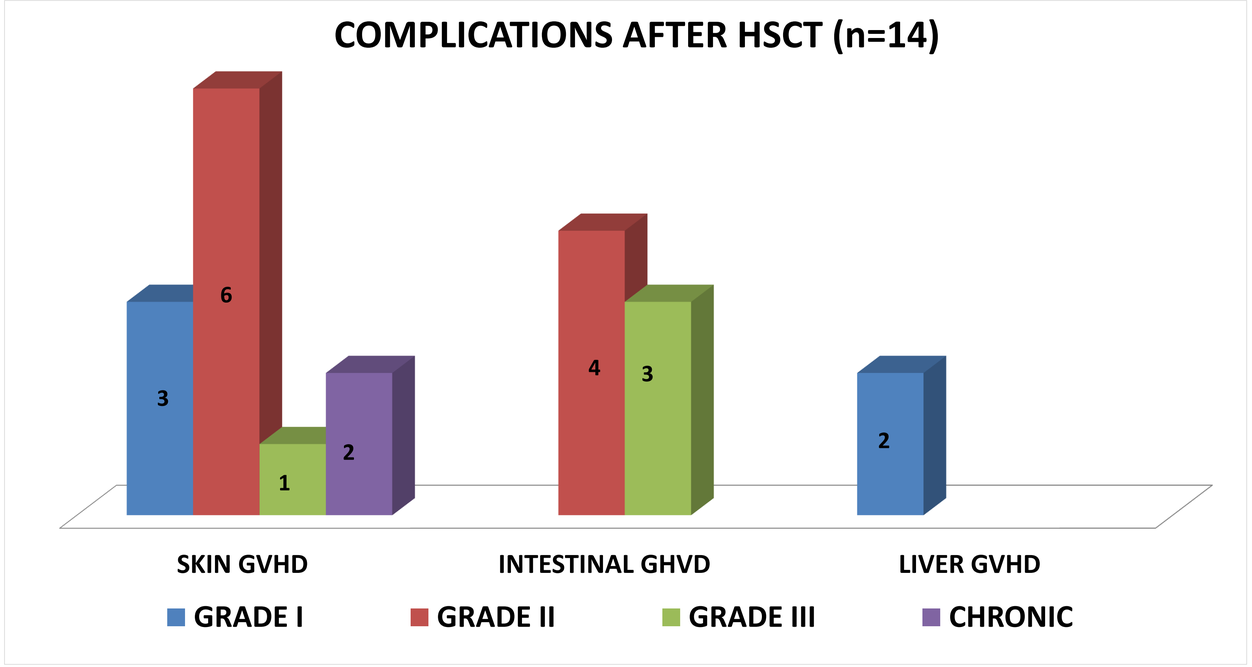








PARAMETERS	AVERAGE	LIMITS
Glicemia (mg/dL)	329	163-537
Insulinemia (mU/L)	24.26	3-102
Hb glycated (%Hb)	7.25	6.2-8.6
C peptide (ng/dL)	3.22	0.82-10.82
Triglycerides (mg/dL)	393	153-838



CONCLUSIONS: Diabetes after HSCT is associated with metabolic syndrome with insulin resistance, dyslipidemia, and hypertension associated relative insulinopenia. Some patients benefit from coadyuvance with metformin. Diabetes must be considered in patients who have undergone HSCT. Periodic screening with basal glucose is recommended.