maintained between 5.0 to 6.0% without any anti-diabetic medication for more than 5 years. Repeated MMST in every 6–12 months still revealed preserved beta-cell functions and normal stimulated plasma glucose. Interestingly, repeated pancreatic auto-antibodies at 3 years after diagnosis showed negative anti-GAD and anti-IA2, but positive anti-ZnT8. The patient was advised to maintain his bodyweight and healthy behavior together with closely regular OPD follow-up.

Conclusion: Restored beta-cell function with completely insulin withdrawal in new-onset T1DM has been reported in very few cases which have some common factors as in our patient (low carbohydrate intake with regular exercise). Delaying autoimmune activity by reducing metabolic load in newly diagnosed T1DM might play a role in maintaining a honeymoon period and could lead to an innovative therapeutic option in new-onset T1DM.

Diabetes Mellitus and Glucose Metabolism

TYPE 1 DIABETES

Prospective Longitudinal Study Evaluating Comprehensive Metabolic and Life Style Characteristics of Pancreas Transplantation Recipients

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Introduction: Pancreas Transplantation (PT) improves quality of life in Type 1 Diabetes (T1D) patients but limited longitudinal data are available regarding comprehensive metabolic assessment and lifestyle. Our objective was to comprehensively assess T1D patients who underwent PT (PTA and SPK) ≥ 1 year prior on two separate visits 1 year apart. **Methodology:** We studied 12 PT recipients ≥1 year post PT. Two assessments 1 year apart included comprehensive assessment of graft function using standard mixed meal tolerance test (MMTT), Continuous Glucose Monitoring (CGM) for 1 week, body composition using DEXA scan, physical activity using ActiGraph for 1 week and dietary assessment by VIOCARE®.

Results: PT recipients (9F) were 55.5± 9.7 years old, 91.7 % Caucasian with 34.9 ± 12.3 years of diabetes, 6.7 ± 5.2 years (range-1.3–17.6 years) after PT. Ten participants underwent Pancreas Transplantation alone and two received Simultaneous Pancreas Kidney transplantation. Visit 1(V1) showed HbA1c 5.5 ± 0.7%, Fructosamine 238.4 ± 25.6 mcmol/L, BMI 31.2 ± 6.7 kg/m^2, fasting plasma glucose (FPG) 95.2 ± 19.4mg/dL and C-peptide 2.6 ± 1.0 ng/ml and visit 2 (V2) HbA1c 5.5 ± 0.6%, Fructosamine 244.4 ± 41.3 mcmol/L, BMI 29.9 ± 5.1kg/m^2, FPG 95.4 ± 27.7mg/dL, and C-peptide 2.5 ± 0.8 ng/ml (p-value not significant). One week CGM (n=9) showed excellent glucose control at both visits with mean glucose 117.8 ± 7.0 vs.112 ± 6.2 mg/dl and 96.3 ± 3.6 vs. 96.9±2.8 % time in target range (70-180mg/dl). Time >180mg/dl and >250mg/dl were 2.7 ± 3.0 vs. 1.3±1.7 % (p=0.0413) and 0.2 ± 0.6 vs. 0.1 ± 0.1 % respectively. Mild CGM hypoglycemia (<70 mg/dl) was observed during both visits (1.0 ± 1.0 vs. 1.7± 2 %). CV was 21.1 ± 5.5 and 20.1 ± 4.8 %. Eight recipients underwent MMTT and showed excellent response to Boost® with no significant difference between visits with exception of insulin concentrations at 60 mins (increased from V1) and 90 mins (decreased from V1) (p=0.0424 and 0.0235). DEXA (n=10) revealed similar total % mean fat, and fat distribution in arms, legs and trunk. ActiGraph (n=10) showed similar physical activity during both visits with 16761 ± 5176 and 14499 ± 4192 average steps/day respectively. Mean MET score was 1.6 ± 0.4 and 1.6 ± 0.2 indicating light intensity activity during both periods. Total mean sedentary bouts increased over 1 year (49.6 ± 39.1 vs. 60.8 ± 43.7, p=0.0038). Dietary assessment in 11 recipients showed no significant difference in dietary intake with calories intake 1.3± 0.4 vs. 1.2±0.5 daily Harris-Benedict and macronutrient intake with fat of 36.7 ± 4.3 % and 36.5 ± 5.7 %, CHO of 45.7 ± 5.5 % and 45.7 ± 5.5 % and Omega-3 of 0.1 ± 0.1 g and 0.05 ± 0.1 g respectively. **Conclusion:** PT recipients have excellent glucose control and pancreas graft function 1 or more years after PT when assessed over successive 2 years with suboptimal body composition and dietary intake and above average physical activity.

Diabetes Mellitus and Glucose Metabolism

TYPE 1 DIABETES

Reconsidering the Basal Proportion of Insulin Dose: Glycemic and Microvascular Outcomes in Type 1 Diabetes Mellitus

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Optimal glycemic control is required to lower the risk of complications in type 1 diabetes mellitus (T1DM). This can be achieved with multiple daily insulin injections (MDI) or with continuous subcutaneous insulin infusion (CSII). Most diabetes guidelines recommend a proportion of basal insulin (basal proportion of total insulin dose; %B/T) around 50% of the total daily dose (TDD), although there is scarce evidence that suggests that a lower %B/T is associated with lower HbA1c levels. Our objective was to evaluate the association of the %B/T with glycemic and microvascular outcomes. We included 132 T1DM adults of the Diabetes Clinic in a tertiary care center, 117 (88.6%) using MDI and 15 (11.4%) using CSII. Data from the medical records and insulin pumps software during outpatient visits were retrospectively collected. Individuals with end-stage renal disease, solid-organ transplant, pregnancy, and glucocorticoid use were excluded. A positive correlation between %B/T and HbA1c levels was found, r=0.26 (p=0.002). Three groups were analyzed according to the %B/T: ≤40%, 41–59% and ≥60%, observing differences in HbA1c concentrations: 7.1% (6.7–8.0%), 7.8% (7.2–9.1%) and 8.7% (7.6–10.2%), respectively (p=0.003). Regarding microvascular complications, the cases of nephropathy were 0 (0%), 23 (30.7%) and 18 (40%) across those groups (p=0.029) even though there was

no difference in T1DM duration across groups. There were also no differences in body mass index, TDD, TDD/weight (units/kg/day), nor in the rates of retinopathy or neuropathy. Multiple regression analysis identified %B/T as an independent predictor of the HbA1c concentration. A difference in the rates of hypoglycemic episodes per month was found among individuals with a %B/T ≤50%: 2 (1–5) versus 6 (2.5–12) episodes per month in those having a higher %BT (p=0.002). There are limitations in our study, including the retrospective nature of the analysis, no data about meal content and a low usage of CGM (thus relying on variable self-monitoring of blood glucose). Therefore, we cannot asseverate that lowering the %B/T would improve glycemic and microvascular outcomes. Nevertheless, our findings indicate that the %B/T correlates with HbA1c levels and are consistent with those previously described. It also suggests a relationship with hypoglycemia and to the best of our knowledge, it is the first time that an association between %B/T and nephropathy has been noted.

Diabetes Mellitus and Glucose Metabolism

TYPE 1 DIABETES

Should Target Glucose Values Be Increased to Avoid Severe Hypoglycemia? Real-World Data Say "No."

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Early studies such as the Diabetes Control and Complications Trial showed a strong inverse relationship between A1C and the risk of severe hypoglycemia in type 1 diabetes. This risk has historically limited insulin therapy intensification efforts, and some treatment guidelines (e.g., Rosenzweig et al., J Clin Endocrinol Metab 105:969, 2020) suggest that A1C values <7% confer an increased risk of hypoglycemia. Nowadays, real-time continuous glucose monitoring (CGM) systems can flatten and attenuate the relationship between overall glucose control and hypoglycemia (Oliver et al., Diabetes Care 43:53, 2020). The glucose management indicator (GMI) is an estimate of A1C derived from the CGM system's mean estimated glucose value (EGV) (Bergenstal et al., Diabetes Care 41:2275, 2018). We analyzed real-world evidence of the relationship between the GMI and exposure to hypoglycemia. Data were from an anonymized convenience sample of US-based users of the G6 CGM system (Dexcom, Inc., San Diego, CA) who used a mobile device to upload EGVs in the third quarter of 2020. Only data from people who had uploaded ≥80% of possible values were included. Each person's GMI was calculated as GMI = 3.31 + (0.02392 × mean EGV [mg/dL]). Each person's exposure to hypoglycemia was estimated as the percentage of EGVs <70 mg/dL or <54 mg/dL (%<70 and %<54, respectively). Patients were grouped into 6 categories according to GMI values <6.5%, 6.5 to 6.9%, 7.0 to 7.4%, 7.5 to 7.9%, 8.0 to 8.4%, and ≥8.5%. Mean %<70 mg/dL and %<54 mg/dL were both inversely correlated with GMI, decreasing monotonically as the GMI category increased. GMI category, %<70, and %<54 are as follows: (<6.5%: 5.27%, 1.13%); (6.5 to 6.9%: 2.84%, 0.59%); (7.0 to 7.4%: 1.95%, 0.41%); (7.5 to 7.9%: 1.46%, 0.31%); (8.0 to 8.4%: 1.14%, 0.25%); (≥8.5%: 0.69%, 0.17%). However, in all GMI categories except for the "<6.5%" category, the extent of hypoglycemic exposure was below the consensus targets proposed by Battelino et al. (Diabetes Care 42:1593, 2019) of <4% for EGVs <70 mg/dL and <1% for EGVs <54 mg/dL. The approach of elevating A1C targets to reduce hypoglycemia risk is not supported by real-world evidence for CGM users who have GMI or A1C values ≥6.5%. CGM users can safely strive for A1C values <7.0%.

Diabetes Mellitus and Glucose Metabolism

TYPE 1 DIABETES

The CGM Experience of Minority Adults With Type 1 Diabetes in the South Bronx

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Objective: To describe the state of type 1 diabetes (T1D) in minority adults in the South Bronx, and their experience with continuous glucose monitoring (CGM). **Introduction:** In a recent analysis of data from the Type 1 Diabetes Exchange Registry, one notable finding was the difference in metabolic control and use of diabetes technology in patients of different socioeconomic status and racial/ethnic backgrounds. With limited data available on Hispanic and Black patients, we sought to examine the use of and experience with continuous glucose monitoring (CGM) in our hospital system, which primarily serves a low-income, minority population in the South Bronx. **Methods:** 68 adults with T1D who attended the Endocrinology clinic at our hospital from 2017 to 2019 were identified. Patients were contacted by telephone to complete a questionnaire regarding CGM use and satisfaction. A retrospective chart review was conducted to obtain additional demographic and clinical information. **Results:** Out of 68 patients with T1D in the hospital database who were contacted, 47 patients completed the questionnaire. The age range was 23 to 63 years. 42.6% were male. 59.6% were Hispanic, 19.1% Black/African American (AA), 4.3% Caucasian, and 17% not specified. 87.2% had public insurance. Overall, 48.9% of patients were actively using CGM, 19.1% had discontinued use of CGM, and 31.9% had never used CGM. In Hispanic patients using CGM, mean HbA1C was 8.2% compared to 10.1% in Hispanic non-users. In Black/AA patients using CGM, mean HbA1C was 9.2% compared to 9.9% in Black/AA non-users. Hospitalizations for acute diabetes complications were lower in CGM users (4.3%) compared to non-CGM users (16.7%). Among active CGM users, 74% rated their satisfaction as "extremely satisfied" or "very satisfied." Perceived benefits included the prevention of hypoglycemia and awareness of inappropriate food intake. **Discussion:** Our study population, mainly comprised of Hispanic and Black T1D adults, showed a higher CGM utilization rate than previously reported. After stratification by socioeconomic status, CGM utilization was reported to be as low as 16% in Hispanic and 10% in Black patients with household income <$50,000/year in the T1D Exchange Registry. By comparison, 49% of our studied population possessing similar demographics was