conferenceseries.com

8th International Conference on PEDIATRIC NUTRITION

May 03-04, 2023 | Webinar

Prevalence of insulin injection-induced lipodystrophy and associated risk factors in children and adolescents with type 1 diabetes mellitus

Silva Hovsepian

Isfahan University of Medical Sciences, Iran

Background: Lipodystrophy is the most common complication of insulin injection that has not been studied yet in children with Type 1 Diabetes Mellitus (T1DM) in Isfahan.

Objectives: This study aimed to evaluate the prevalence of insulin injection-induced lipodystrophy based on related risk factors in children and adolescents with T1DM.

Methods: In this cross-sectional study, children and adolescents aged less than 18 years with T1DM who referred to the endocrinology clinic of Imam Hossein Hospital in Isfahan, Iran, in 2019 were enrolled. The baseline, anthropometric, and T1DM-related characteristics of the patients were recorded. Lipodystrophy was diagnosed by clinical examination. The characteristics of patients with and without lipodystrophy were compared. The association between lipodystrophy and disease-related factors was investigated.

Results: In this study, 194 patients with T1DM (88 boys and 106 girls) aged 3 to 18 years were evaluated. Lipodystrophy was diagnosed in 91 patients (46.9%), of which 64 patients (33%) had grade 1, 24 patients (12.4%) had grade 2, and 3 patients (1.5%) had grade 3 lipodystrophy. There was a significant difference in the frequency of lipodystrophy based on age, BMI, patient education, parent education, insulin injection site, duration of diabetes, injection site change, needle change, insulin dose, HbA1c, and hypoglycemia ($P<0.05$). Regression analysis indicated that there is a significant association between the presence of lipodystrophy and HbA1c ($P<0.001$, $t=7.20$), insulin dose ($P<0.001$, $t=4.47$), BMI ($P<0.001$, $t= -3.78$) and duration of T1DM ($P=0.002$, $t=3.15$).Conclusions: In this study, we reported a high prevalence of lipodystrophy among T1DM patients in Isfahan. From the studied risk factors, duration of diabetes, lower BMI, using a high dose of insulin, and uncontrolled diabetes (HbA1c>7) were the most important risk factors for lipodystrophy.

Biography

Silva Hovsepian completed phd in Emam Hossien Children's Hospital, Isfahan University of Medical Sciences and worked as an assistant professor in Metabolic Liver Disease Research Center, Isfahan University of Medical Sciences and worked as research assistant in HMERC.