

Real-world clinical experience of IDegLira in the management of adolescents with type 2 diabetes

Ashraf T¹, Majeed M¹, Siddiqui M¹, Osman A², Mohammed N², Lessan N¹

1Research Institute, Imperial College London Diabetes Centre, Abu Dhabi, United Arab Emirates

2Imperial College London Diabetes Centre, Al-Ain, United Arab Emirates

Abstract

Background

The incidence of Type 2 diabetes (T2D) in children and adolescents is rising globally and parallels the rise in childhood obesity prevalence. Until 2019, metformin and insulin were the only approved treatment options for T2D management in adolescents. Add-on therapies are recommended when treatment targets are not met. The evidence of using IDegLira fixed-ratio combination in children and adolescents is lacking.

Aim:

This study aims to assess the efficacy of off label use of IDegLira in Emirati adolescents.

Methods:

The electronic medical records of all children and adolescents with T2D who were on IDegLira once daily were reviewed retrospectively, between January 2018 and December 2020. All patients who received IDegLira for at least 16 weeks were included. Anthropometric data, metabolic parameters, diabetes treatments and the total daily dose of insulin were recorded. Post initiation values at 16 weeks were compared against the baseline values using Paired t-test and Wilcoxon signed rank test. Mean (SD) are presented for normally distributed measures, median (IQR) for non-parametric distribution.

Results:

Fifteen patients [8 females, mean (SD) age 16.5 (1.9) years, weight 92.9 (17.2) kg] with T2D [duration 3.8 (1.8) years] were identified. 13 patients were on Metformin and 14 on multiple daily injections of insulin (MDI) at baseline. At 16 weeks (n = 13), HbA1c decreased by 1.1% [10.7 (1.9) % vs 9.4 (1.7) %, p = 0.017]. The change in total daily dose of insulin per kg body weight/day [0.98 (0.1) units vs 0.86 (0.1) units, p = 0.241], and weight [92.9 (17.2) kg vs 93.0 (18.2) kg, p= 0.017] at 16 weeks were not statistically significant. The combination therapy proved to be well tolerated.

Conclusion:

In a real-world setting, IDegLira achieves improvement in glycaemic control in adolescents with T2D and promotes patient adherence by simplifying insulin regimens. Further larger studies with longer follow-ups are warranted to support the safety and efficacy of these agents in adolescents with T2D.

Metabolic Parameters	Baseline Mean (SD)	3-4 months Mean (SD)	P-value
N	13	13	
HbA1c, %	10.7 (1.9)	9.4 (1.7)	0.017
Weight, kg	92.9 (17.2)	93.0 (18.2)	0.872
Total daily dose of insulin, units	89.6 (10.3)	75.7 (7.7)	0.19
Insulin requirement, units/kg body weight/day	0.98 (0.1)	0.86 (0.1)	0.241
	Median (IQR)	Median (IQR)	
TC, mmol/L	4.6 (4.4, 5.0)	4.5 (4.1, 5.1)	0.600
TG, mmol/L	2.0 (1.0, 2.1)	1.8 (1.2, 2.0)	0.421
HDL-c, mmol/L	1.0 (0.9, 1.3)	0.9 (0.9, 1.2)	0.599
non-HDL, mmol/L	3.4 (3.3, 3.7)	3.3 (3.1, 3.9)	0.484
LDL-c, mmol/L	3.3 (3.1, 3.6)	3.3 (2.8, 3.9)	0.806

Table 1: Difference in metabolic parameters between baseline and 3-4 months in adolescents (12-19 years), with type 2 diabetes.
Insulin (n=12), High density lipoprotein (HDL-c), Low density Lipoprotein (LDL-c), Total cholesterol (TC), Triglycerides (TG).