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Kordonouri, Olga. Diabetes Centre for Children and Adolescents, Children's Hospital auf der Bult, Hannover, Germany.**NLM Journal Name:** The Journal of pediatrics**Publishing Model:** Journal available in: Print-Electronic
Citation processed from: Internet**NLM Journal Code:** jlz, 0375410**ISO Journal****Abbreviation:** J. Pediatr.**Journal Subset:** Core Clinical Journals (AIM), Index Medicus**Country of****Publication:** United States**MeSH Subject** [Adolescent](#)

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Abstract: **OBJECTIVES:** To investigate the safety, tolerability, and pharmacokinetics of liraglutide in adolescents with obesity.

STUDY DESIGN: This was a randomized, double-blind, placebo-controlled trial. Twenty-one subjects, aged 12-17 years and Tanner stage 2-5, with obesity (body mass index [BMI] corresponding to both a BMI \geq 95th percentile for age and sex and to a BMI of \geq 30 kg/m² for adults; additionally, BMI was \leq 45 kg/m²) were randomized (2:1) to receive 5 weeks of treatment with liraglutide (0.6 mg with weekly dose increase to a maximum of 3.0 mg for the last week) ($n = 14$) or placebo ($n = 7$). The primary endpoint was number of treatment-emergent adverse events (TEAEs). Secondary endpoints included safety measures, and pharmacokinetic and pharmacodynamic endpoints.

RESULTS: All participants receiving liraglutide, and 4 receiving placebo (57.1%), had at least 1 TEAE. The most common TEAEs were gastrointestinal disorders. No severe TEAEs, TEAE-related withdrawals, or deaths occurred. Twelve hypoglycemic episodes occurred in 8 participants receiving liraglutide and 2 in 1 participant receiving placebo. No severe hypoglycemic episodes were reported. Liraglutide exposure in terms of trough concentration increased with dose, although dose proportionality was confounded by unexpectedly low trough concentration values at the 2.4 mg dose. Exposure in terms of model-derived area under the plasma concentration time curve from 0 to 24 hours after dose in steady state was similar to that in adults with obesity.

CONCLUSIONS: Liraglutide had a similar safety and tolerability profile compared with adults when administered to adolescents with obesity, with no unexpected safety/tolerability issues. Results suggest that the dosing regimen approved for weight management in adults may be appropriate for use in adolescents.

TRIAL REGISTRATION: ClinicalTrials.gov: NCT01789086.

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Registry**Number/Name of**

Substance: 839I73S42A (Liraglutide).

ISSN Electronic: 1097-6833

ISSN Linking: 0022-3476

Publisher Item

Identifier: S0022-3476(16)31210-0

Digital Object

Identifier: <https://dx-doi-org.ezproxy.surgeons.org/10.1016/j.jpe...>

Publication Type: Comparative Study. Journal Article. Randomized Controlled Trial. Research Support, Non-U.S. Gov't.

Article Identifier: S0022-3476(16)31210-0 [pii]
10.1016/j.jpeds.2016.10.076 [doi]

Publication Status: ppublish

Publication History 2016/05/09 [received]

Status: 2016/08/31 [revised]

2016/10/24 [accepted]

Secondary Source

ID: ClinicalTrials.gov

Secondary Source

AN: ClinicalTrials.gov/NCT01789086

Secondary Source

Link: <https://clinicaltrials.gov/searc...>

Language: English

Electronic Date of

Publication: 20161213

Date of Publication: 2017 02

Entrez Date: 2016/12/17 06:00

MeSH Date: 2017/06/16 06:00

Create Date: 2016/12/17 06:00

Year of Publication: 2017

Entry Date: 20170615

Revision Date: 20181013

Update Date: 20181211

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