Glibenclamide/insulin/insulin suspension isophane/repaglinide

Hypoglycaemia in paediatric patients: 2 case reports

Hypoglycaemia developed in a 15-year-old boy who received glibenclamide [glyburide] and an 11-year-old girl who received insulin followed by repaglinide and insulin suspension isophane [neutral protamine Hagedorn insulin].

The 15-year-old boy was incidentally diagnosed with glycosuria at 14 years of age, and treated with insulin. Twelve months later, he was genetically diagnosed with hepatocyte nuclear factor 1A maturity-onset diabetes of the young. His treatment was switched to glibenclamide, titrated to 2.5mg daily [*route not stated*]. However, he experienced >20 episodes of hypoglycaemia per month, mainly at night, which were uncomfortable but did not lead to convulsions or unconsciousness [*duration of treatment to reaction onset not stated*]. He was switched to nateglinide, with no further hypoglycaemia episodes.

The 11-year-old girl was diagnosed with diabetes, and treated with insulin at a total dose of 64U in a basal-bolus regimen [*route not stated*]. She experienced an average of 2 episodes of hypoglycaemia per month, which were symptomatic but not severe [*duration of treatment to reaction onset not stated*]. At 14 years of age, she was genetically diagnosed with hepatocyte nuclear factor 1A maturity-onset diabetes of the young. She was switched to repaglinide, starting with a daily dose of 3mg and increasing up to a daily dose of 6mg [*route not stated*]. As her glucose levels remained elevated, insulin suspension isophane was added, at a total daily dose of 22U [*route not stated*]. She experienced an average of 1 episode of hypoglycaemia per month [*duration of treatments to reaction onset and outcome not stated*].

Author comment: "*[T]he use of any drug that can stimulate insulin secretion in diabetes is still an off-label therapy in children and adolescents . . . elevated insulin levels may cause postprandial hypoglycemic episodes*".

Becker M, et al. Meglitinide analogues in adolescent patients with HNF1A-MODY (MODY 3). Pediatrics 133: e775-e779, No. 3, 1 Mar 2014. Available from: URL: http://doi.org/10.1542/peds.2012-2537 - Germany 803102373

» **Editorial comment:** The authors also report a 14-year-old girl who received repaglinide; however, no hypoglycaemia episodes occurred.