

Use of the eGlycemic Management Solution by Glytec Achieves Glucose Targets for Pediatric DKA Patients Safely

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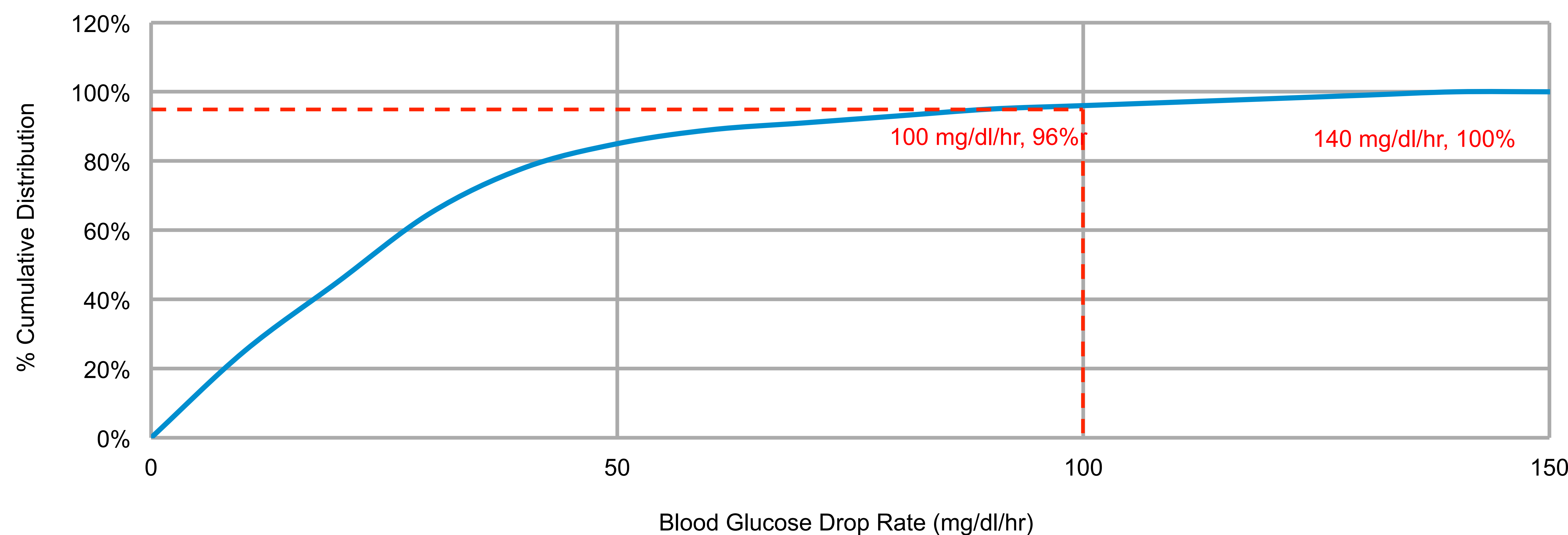
OBJECTIVE

Diabetic ketoacidosis (DKA) occurs in up to 40% of children with new-onset diabetes mellitus and in children with existing diabetes who develop infection or those who have missed insulin doses. DKA is a true medical emergency, carrying significant risk of mortality. The pediatric patient has many unique treatment requirements. This study evaluates the safety and efficacy of glucose control for pediatric patients with DKA using Glucommander (GM).

METHODS

The study evaluated 172 pediatric patients with DKA (by ICD-9) treated with IV insulin therapy using Glucommander (GM). Qualifying pediatric patients with DKA were treated by GM for IV insulin management and hospital protocol for fluid management. Glucose target was set at 90-140 mg/dL. The safety and efficacy was evaluated by the following: (1) Blood Glucose (BG) average (2) Hypoglycemic events < 40 mg/dL & <70 mg/dL (3) time to target (4) average glucose change velocity and (5) Percent of glucose drop < 100 mg/dL/hr.

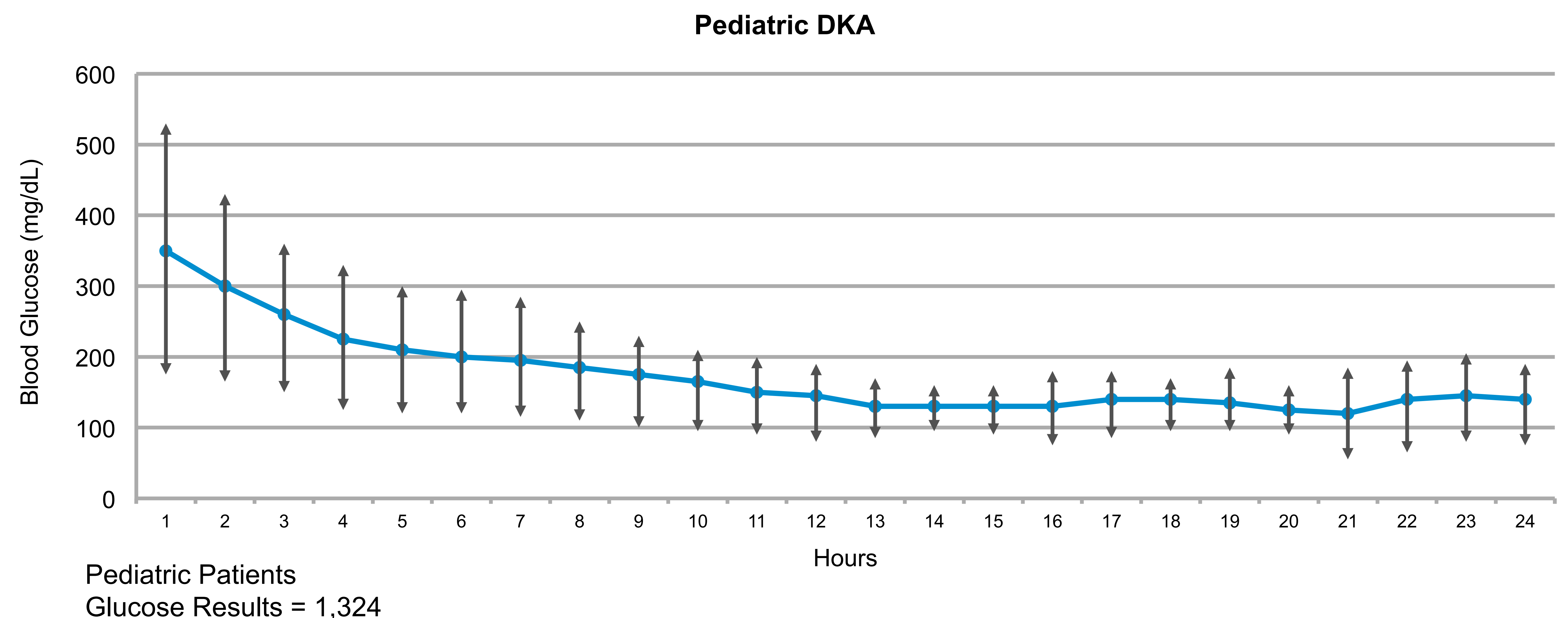
Graph 1.



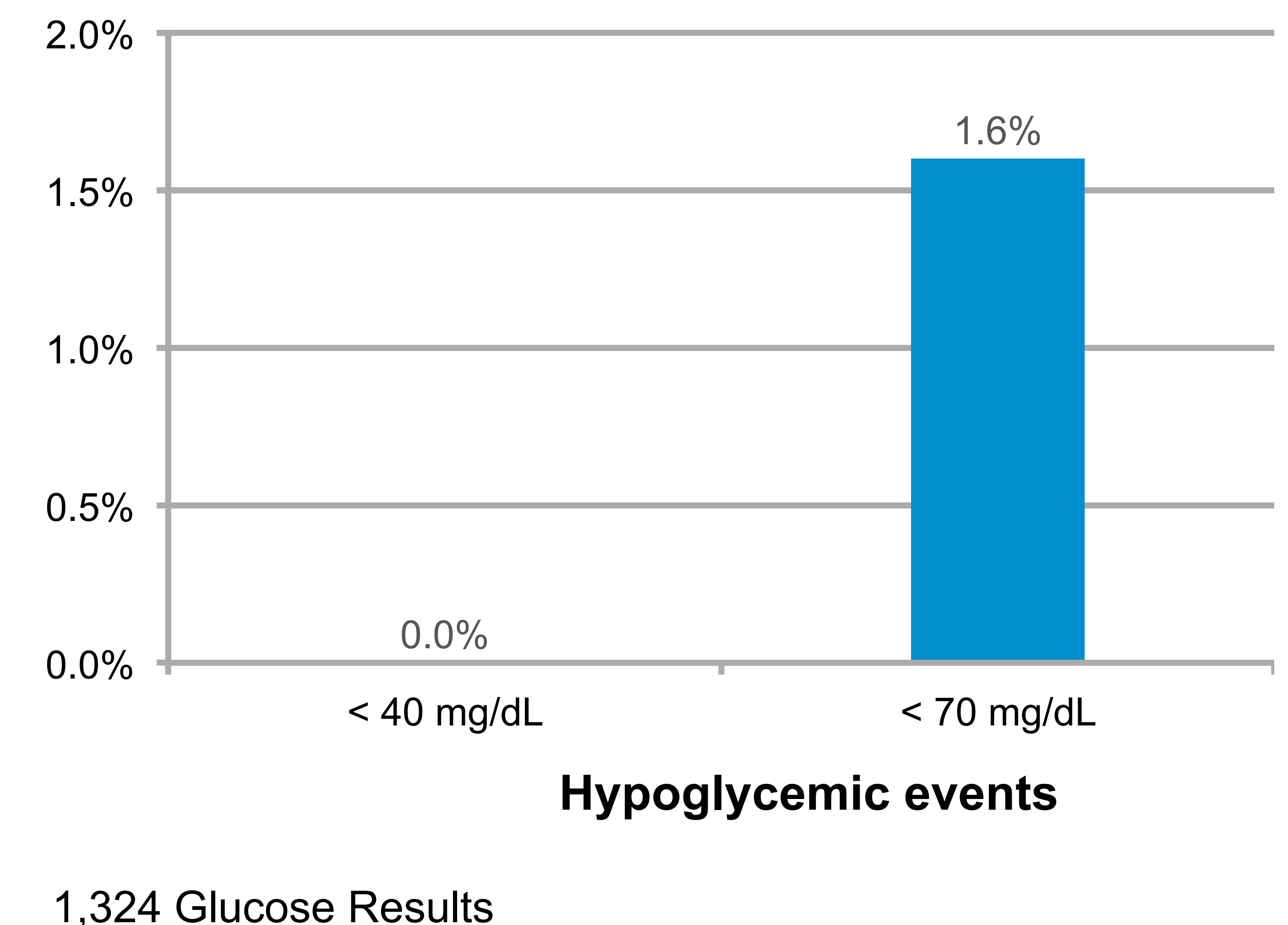
RESULTS

Initial BG average was 345 mg/dL. Pediatric patients average overall BG was 172 mg/dL. Average BG after target glucose goal reached was 123 mg/dL. Hypoglycemia <70 mg/dL was 1.6% and no BGs were <40 mg/dL. Average time to target was 11 hours with an average glucose velocity drop of 20 mg/dL/hour. 96% of glucose velocity drops were <100 mg/dL.

Graph 2.



Graph 3.



CONCLUSION

Pediatric patients with DKA treated with GM IV achieved a safe time to target glucose velocity drop with a very low incidence of hypoglycemia (<70 mg/dl) and no severe hypoglycemia < 40 mg/dL. Glucose velocity brought patients into the prescribed target range slowly, and safely.