

Postnatal Linear Growth and Weight Gain in Infants of Diabetic Mothers (IDM) Who Were Born at or Near Term and Had Severe Neonatal Hypoglycemia Without Other Comorbidities

Ashraf Soliman, Nada Alaaraj, Fawzia Alyafei, Noor Hamed, Maya Itani, Fatima Al-Naimi

Department of Pediatrics, Dietetics and Nutrition - Hamad General Hospital, Doha, Qatar

Introduction

Growth abnormalities at birth and abnormal postnatal pattern of weight gain have been reported in infants born to mothers with gestational diabetes (IDM)

Objective

study evaluated the growth pattern from birth to the age of 2 years of 60 IDMs who were born at or near term with significant hypoglycemia

Materials

Anthropometric measures (z scores) from birth, 2,4,6,12,18 and 2 years were measured in 60 IDM who presented with significant neonatal hypoglycemia (plasma value less than 20-25 mg/dL (1.1-1.4 mmol/L)) that required proper therapy (IV glucose bolus followed by IV glucose infusion) for two days or more.

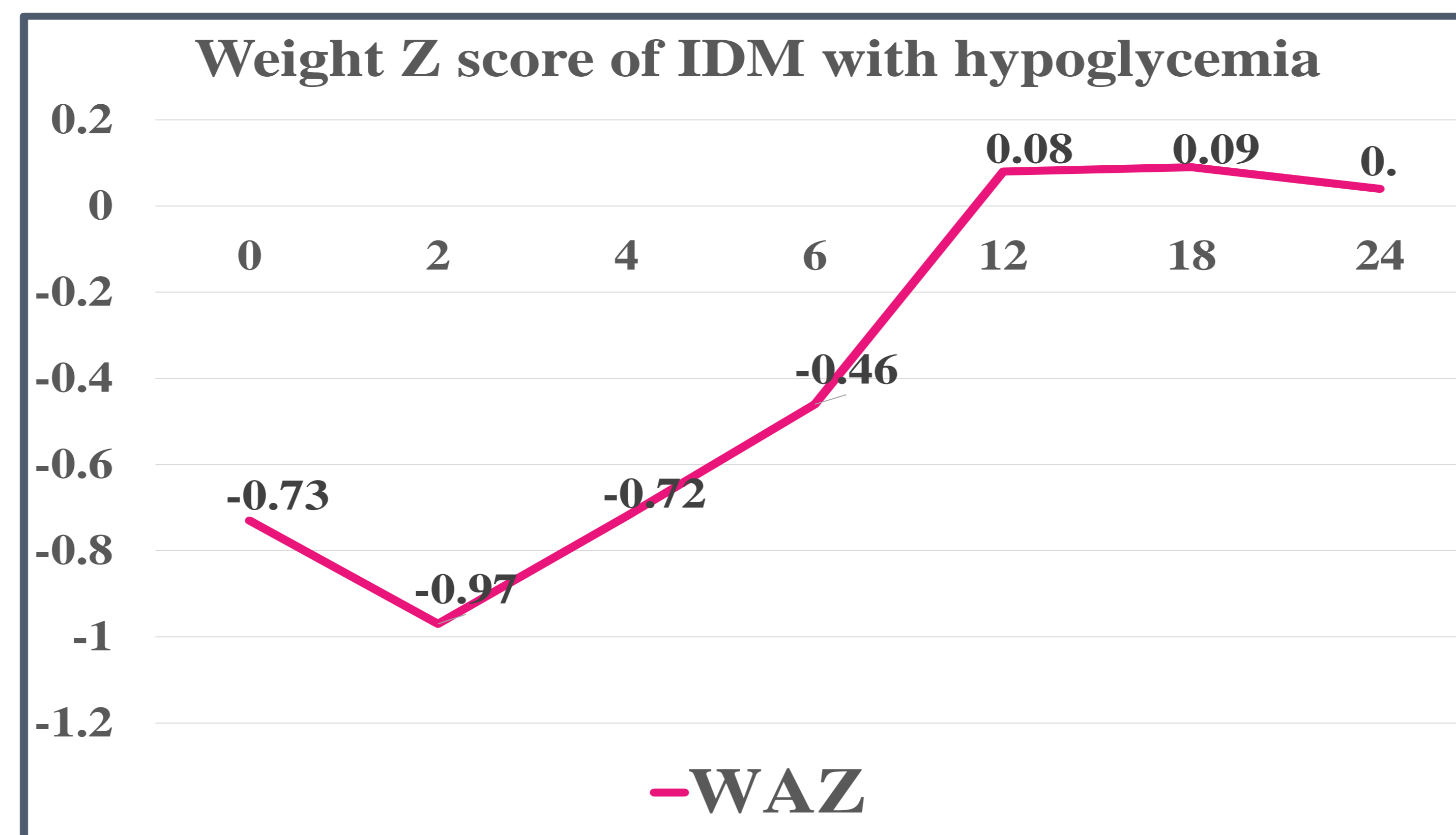
Their anthropometric data were compared to standard growth for normal age and sex-matched infants (WHO growth standards)

Results

Their gestational age (GA) at delivery of IDM was 37.36 +/- 1.9 weeks. They had Wt. z score (WAZ) = -0.73 +/- 1.6, length Z score (LAZ) = -0.57 +/- 1.7 and Wt. for L Z score (WLZ) = -0.82 +/- 1.5

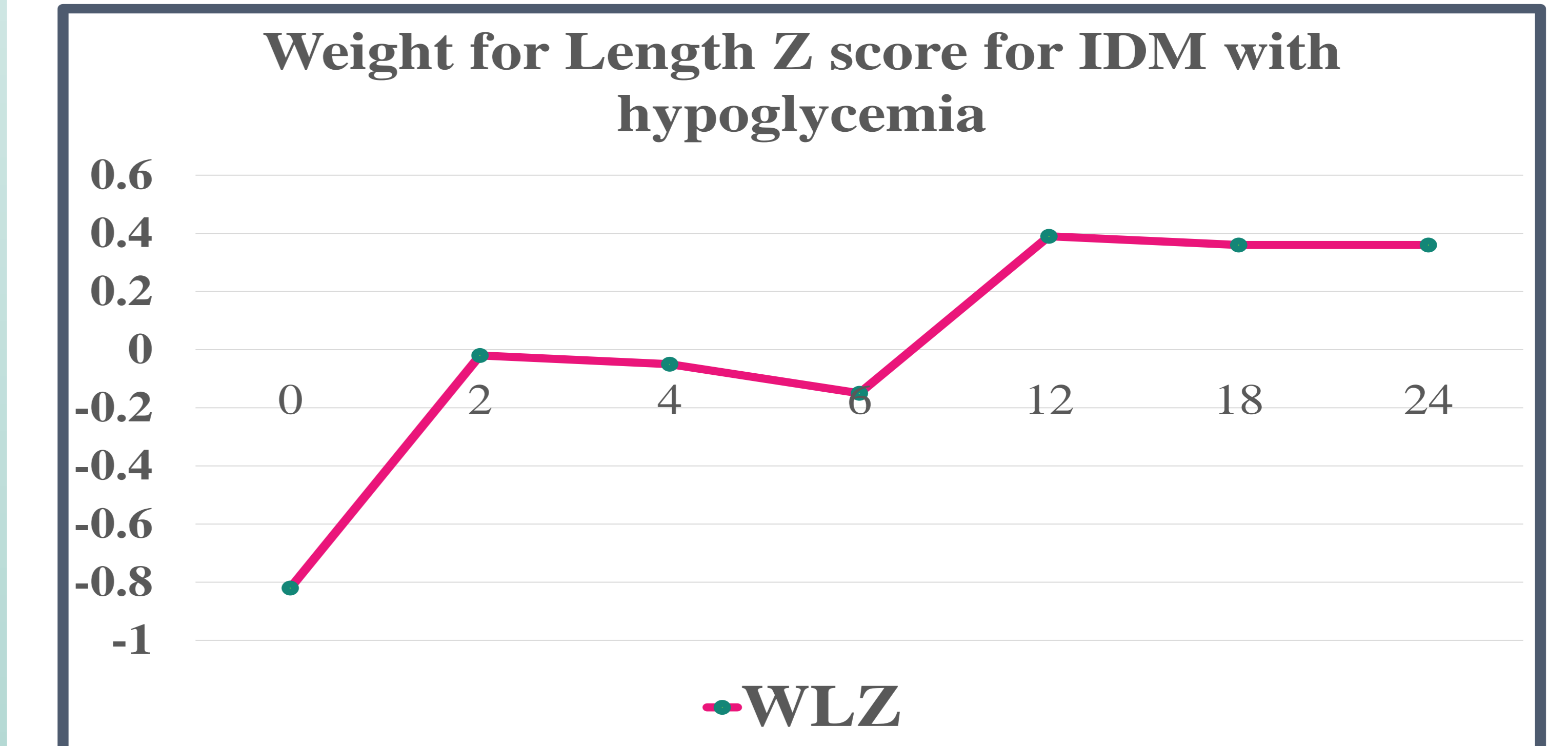
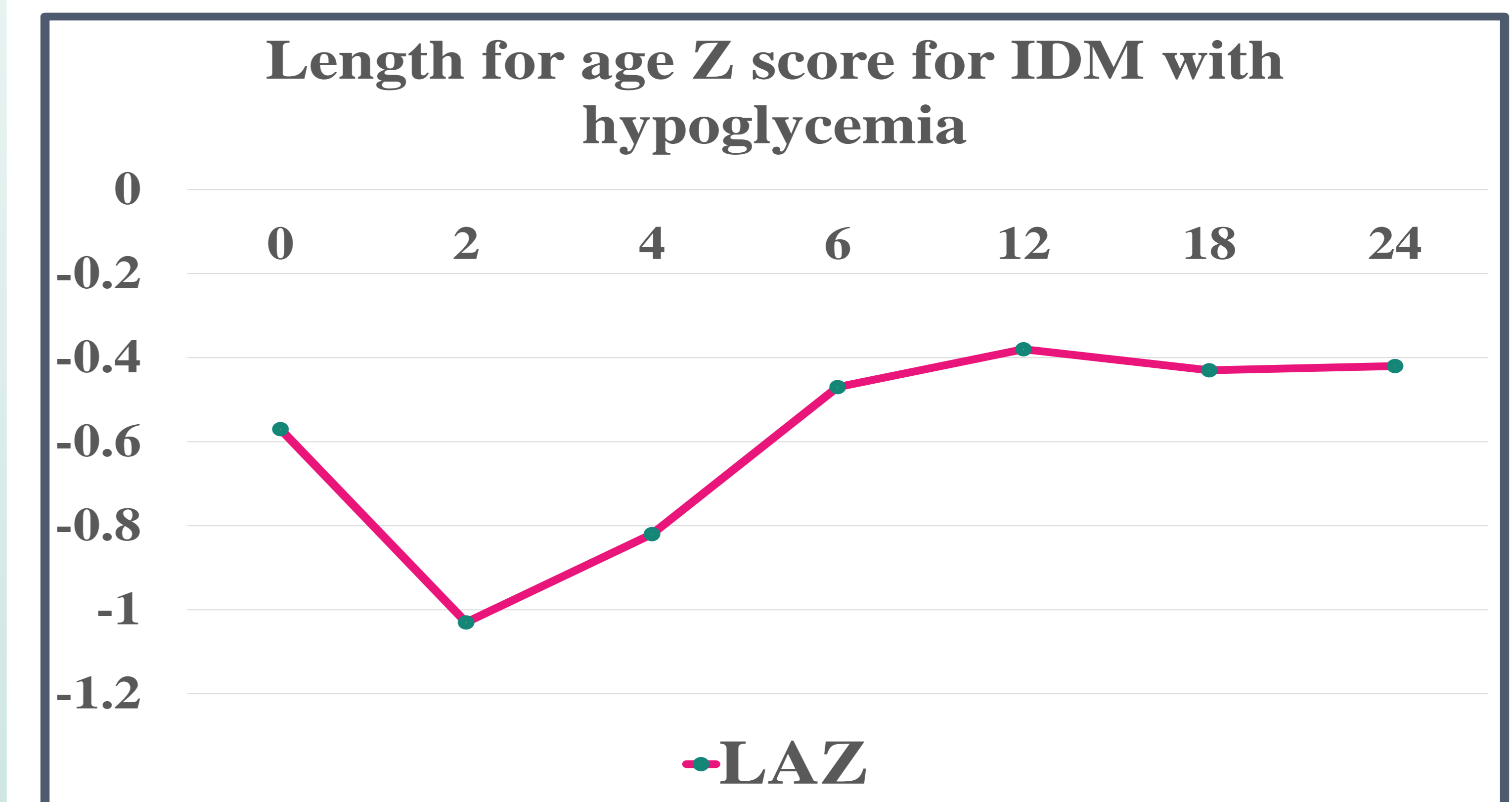
Results (cont'd)

- At birth 13/60 had LAZ <-2, 17/60 had WAZ < -2 and 14/60 had WLZ <-2.
- After an initial decrease in WAZ for the first two months, they had a progressive gain in WAZ that occurred during the first 12 months (from -0.7 to 0).
- This was followed by a stable WAZ during the second year of age



- After an initial deceleration of LAZ for 2 months, they had a progressive increase in the LSDS for 6 months (from -1 to -0.5)
- This was followed by stable LSDS (normal growth velocity) for the next 18 months.
- By the age of 12 months, 6/60 had LAZ <-2, 5/60 had WAZ <-2, and 5/60 had WLZ <-2 and none had WLZ > 2.
- By the age of 2 years, none had LAZ <-2, 2/60 had WAZ <-2 and none had WLZ <-2. 3/60 had WLZ > 2 (overweight)

Results (cont'd)



Conclusion

- IDMs born at or near term with severe hypoglycemia had a special growth pattern during the first two years of life.
- Although a considerable % had growth abnormality at birth, by the age of 2 years all these abnormalities disappear with a tendency to overweight