Ketogenic diet in a child with diabetes and global developmental delay
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Introduction

1. Used effectively in type two diabetes, epilepsy in diabetes, pyruvate dehydrogenase deficiency
2. Challenging in achieving ketosis without DKA
3. The high fat diet regimen of the ketogenic diet (70-90% of calories)

Ketogenic diet plan

- 3x amino acid mix 200g
- 930 kcal/day, 24g protein, 90g CHO, 60g LCT
- If medicine >1G of CHO -> add to diet
- Aim for ketone level 2-3 -> achieved in 5 weeks
- On ketogenic diet for 4 months

Signs and symptoms of ketosis

- rapid, panting breath ('Kussmaul' breathing)
- increased heart rate
- facial flush
- irritability
- vomiting
- unexpected lethargy
- important: Excess ketosis may also mimic non-convulsive status as the children are often less responsive

Daily Management

- Check ketone 4 times per day
- At home Optimum Neo (Abbott) or Glucomen Aero 2K meter
- Blood gas weekly
- Support day-to-day management including sick day management

Effects on total daily dose and HbA1C

- Ketosis without acidosis and achievable by careful monitoring
- Helps in controlling HbA1C level
- There is reduction in total daily dose of insulin