

SHOCK OF UNCLEAR ETIOLOGY IN A FIVE-MONTH INFANT

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CASE PRESENTATION

Five-month-old infant, fever **for two days**, vomiting, **difficulty with breathing for one day**

Drinks less for several weeks – adding water to breastfeeding

8:00 GP: tachypnea, centralized blood circulation



8:30 ambulance **small district hospital**

Circulatory shock

Intraosseous entry, empirically Ceftriaxone + Acyclovir, rehydration

LABORATORY FINDINGS

CRP < 5 mmol/l

Astrup's capillary blood test: **pH 7,07**, PO₂ 11,9 kPa,
PCO₂ 1,4 kPa, HCO₃.S 6,1 mmol/l

Blood count: **WBC 29 x10⁹/l**, HGB 127 g/l, PLT 495
x10⁹/l



Consultation with our hospital, measure of capillary
glycemia – **immeasurably high**

Patient referred to hospital in Ceske Budejovice

CLINICAL STATUS WHEN ADMITTED TO OUR ICU

Arrival **9:50**

Tachypnea – Kussmaul breathing, SatO₂ 100%, Pulse 200/min

Severe dehydration (7,8 kg 6,8 kg)

Laboratory: **glycemia 47 mmol/l**, capillary pH 6,95, glycosuria 4+, ketonuria 4+, HbA_{1c} 60mmol/mol



**Manifestation of neonatal diabetes mellitus with
severe ketoacidosis (DKA)**

KUSSMAUL BREATHING



INITIAL TREATMENT AT ICU

Therapy of ketoacidosis:

- Intensive parenteral rehydration
- Electrolytes replacement (intravenous 7,45% KCl)
- Continuous iv infusion of insulin at a rate 0,05 IU/kg/h

Central venous catheter

After **24 hours** referral to Motol University Hospital in Prague
in good clinical condition - **glycemia 14,5mmol/l, pH 7,34**

FURTHER TREATMENT OF DIABETES



6th day after diagnosis of DM converted to subcutaneous insulin Novorapid administered by **insulin pump Tandem t:slim X2 with hybrid closed loop using technology Control-IQ** – diluted insulin (1 part insulin : 3 parts diluting solution)

Released home after **13 days**



CURRENT STATUS

Diabetologist check-up 12 / 2022

Overall satisfactory glycemia

Data from IP: **TIR 76%**, T<3,9 3%, T>10 20%, GMI 50,5 mmol/l

Etiology of diabetes: no mutation in four basic genes of neonatal diabetes, genetic testing continues

Positive insulin antibodies (IAA) – Type 1 Diabetes

CONCLUSION

- DKA = severe acute complication of diabetes, in critical clinical condition always necessary to **measure glycemia**
- Manifestation of diabetes under the age of 6 months = **neonatal diabetes**
 - Monogenic inheritance - KCNJ11, ABCC8, INS, FOXP3 and other genes
 - Treatment insulin, mutation of KCNJ11 and ABCC8 – sulfonylureas
 - However, there are exceptions...

THANK YOU FOR YOUR
ATTENTION

