

① ((DKA))

((13th Oct))

- ↳ Random Blood sugar > 250
- ↳ pH < 7.3
- ↳ Ketonemia.
- ↳ Venous blood gas < 16

Note: DKA: is the initial complication / presentation to T1DM, but may also occur in T2DM (but, rarely).
Mostly.

① # # # DKA signs + ABC (Vital signs + Airway, breathing, Conscious.)

② # # # History

① Known Diabetic Patient or not.

② Duration of disease.

③ Drugs (dose, controlled, Compliance)

④ Last ~~HbA1C~~ HbA1C. [Must being every 3-6 mon]

⑤ Does Patient measure his blood sugar regularly?

⑥ Fundus scope

⑦ Last Albuminuria test.

DMT1 → every year after 5y of diagnosis.

DMT2 → every year from diagnosis

(Asymptomatic)

③ Chief Complaint

Vomiting for few hours + Abdominal Pain

DD: DM + Vomiting = DKA

① DKA

② UTI

③ Complicated cystitis (Pyelonephritis)

④ Gastritis

⑤ pancreatitis

⑥ Addison crisis

Vomiting interpretation :-

① Projectile vs. Non Projectile.

↳ Space + CNS

Occupying lesion

↳ Infection.

↳ pancreatitis

Associated symptoms $\Rightarrow$

« لازم أنقى ال DD ، لى علقامه قبل :-

① DKA $\rightarrow$ Polyuria
 $\rightarrow$ polydipsia

② UTI
(Pyeloneph.)

- Fever
- Abdominal / Flank pain
- Dysuria.

③ Addison crisis → hypoglycemia
↳ Shivering

④ Pancrease $\rightarrow$ Pain radiating to the back.

* بعد ما استويت أكثره DD ، نأله ال ((1st impression))

L2 Stress

L, Compliance ✓

↳ Infection.

↳ Other systemic diseases.

↳ education about his disease. ✓

Investigations to ensure DKA :-

① CBC

② Chemistry.

↳ urea

↳ creatinine

↳ Random blood sugar.

↳ Amylase level.

* Why urea + creatinine ??

↳ ((elevated.))

Fluid Deficit in DKA $\approx$ (6 L)

((serious Dehydration))

↳ May cause AKI))

WBCs

RBCs

platelets

- infection $\Rightarrow$

leukocytosis.

- Severe infection $\rightarrow$

leukopenia.

- Stress condition

of DKA may $\rightarrow$ cause leukocytosis.

- severe

$\rightarrow$ thrombocytopenia.

* Hyper osmolar

Hyperglycemic state.

$\rightarrow$ life threatening

emergency

manifested by marked elevation

of blood glucose

and hyper osmolarity

with little or no

ketosis ...

other differential to

DM (T2) and may occur in (T1) Mostly.

* Random Blood Sugar > 250 .

* Amylase (الأميليز)

Spleen (البنكرياس)

* Pancreatitis may cause DKA.

* DKA may cause Pancreatitis.

... ((Acute Pancreatitis + DKA))

Note * There is many medical causes that increase Amylase level.

But in Pancreatic injury (serious) being (3X) Normal level.

Diagram of a beam with a triangular load. The load intensity increases from 0 at the left end to 5 kN/m at the right end. The total length of the beam is 5m. The reaction at the left end is 12.5 kN. The area under the load is calculated as $\frac{1}{2} \times 5 \times 5 = 12.5 \text{ m}^2$. The resultant force is 12.5 kN acting at $\frac{5}{3} \text{ m}$ from the right end.

ABC

+ Painful

Parameters of management:-

① Fluid, fluid, fluids.

4,

* 1st hour : Normal Saline (1 L)

2nd H : 1 L NS

Over 3 Hs : 1 L NS

يعني خلال الـ 4 ساعات

الأولى طريقتان، الأولى مأخوذة من 3L =

1 L NS : within 4 h $\approx (250 \text{ cc/hr})$

② Insulin ..

✱✱ الأتوني سجل (Hypokalemia) ، حيث يبد خل ال K^+ من ال

((Intra vascular $\rightarrow$ to intracellular))

* لهذا أفضل حل خلال آتون ساعة أعطى Fluid كيه خروج نتيجة الـ (K^+) ..

(Don't give insulin) $\leftarrow K^+ < 3.3$

لے خوفافہ حدوث ال (Cardiac arrest).

Insulin dose : 4

* Bolus in ED $\Rightarrow (0.1 / \text{kg})$

ex. 70 K $\Rightarrow$ 7 unit Bonus.

→ unit / h ← (0.1 kg / h) ← يدخل القسم

NK⁺ level
(3.4 - 3.5)

$$K^+(N)$$

in intracell

but;

it active in

Extracellular

If No bonus: e

0.14 / Kg / h (dose)

هذه الطريقة افضل .

- أقلية الأشخاص ما بعد الأكل Blood sugar $\downarrow$ ساعتين في إدر
 bolus بخافه إدر Hypokalemia / Hypoglycemia

③ electrolyte imbalance :-

20 meq if K^+ being (3.3 - 5.3) ← (KCl) ← أعطى المريض
↓ why ??
Total deficit ← # Total deficit ←

follow up :-

- Random blood sugar → every (hour - 2 hours)
- Electrolyte → (each 2 - 4 hs)

((Out of DKA??))

↳ RBS (Random blood sugar) < 200

(2/3) ⇒ ① Able to eat + drink.

② No Ketonemia.

③ Anion Gap < 12 (Closed)

AG = Cations⁽⁺⁾ - Anions⁽⁻⁾ ...

$$AG = (Na^+ + K^+) - (Cl^- + HCO_3^-)$$

Complications of DKA :-

From DKA # self-

① AKI

② dehydration →

↓ Intravascular fluid

↓

((↑ Thrombosis)) → MI
↓ DVT

From management.

① Hypoglycemia.

② Hypokalemia.

③ Brain edema.

٥٤

Most common Cause of Death in Pediatric who has DKA ??

- ↳ Brain edema.
- ↳ Hypoosmolar fluids, الكثير من السوائل ← ←
- ... tissue blood fluids ← ←

② Brucellosis : Lp (lumber puncture)
↳ (لشعة)

- ↳ Fever 10 days
- ↳ pancytopenia.
- ↳ hepatosplenomegaly.

Treatment : (Centamycine)

Study (PcV)

Doxycycline ⇒

Empirical Antibiotic
.. infection
* كله ما جاب مع المريض

③ حالة الكبد

- مريض أتي عنده

((very High)) ← ← PTT / PT
↳ Male, 29 y

الفران الـ → ورجل :
Organophosphorus poisoning.

الفران الـ / الأخضر بجل :
Supra warfarine.

↳ warfarine الـ

التي يتخزن في الـ adipose tissue

↳ (Vit. K) ((High dose))
↳ 20 - 100 mg

* DIC Sepsis
{ may caused by }

*
[Cannabinnes Contaminated with rat Poisoning]
Half life of warfarine = 5-7 d.

DKA

- RBS > 250
- Ketones
- pH < 7.3

~~DM type 1 - Vomiting.~~

Vitals

History - Duration -
- Drug -

- Compliance.

- HbA1c 3.6 max.

- Fasting glucose 4-15.

- U/A Albumin.

Presenting illness

- Vomiting < projectile → Ans / pancreatitis
- Non

- Associated symptoms

P.D.

Gastritis

DKA

poly. poly
fever.

UTI / P

1100 ~ fever per
tent. p.

Addison cr. rel. P. zinz hyper

pancreatist... A

DKA

precip.

DKA

CBC

wbc
- kb
Ht

chemistry

VRG

ABG

urea
cr

RBs → 25

Amplase Uve

GL

H.H.s

GL

electrolytes

af

Fluid

liters N.S. — 1st hr
2nd → 2nd hr
3L liter over 2 hr
liter 0.4 hr

Insulin

$K < 3.3$ Don't give Insulin

Dose $0.14 / \text{kg/hr}$ if No bolus

→ $0.11 / \text{kg/hr}$ if give bolus

Electrolyte Imbalance

R.F

20 meq/l if
liter N.S.

KCl

K bet $3.3 - 5.3$

fb1

F.u. — PRS 1-2 hr

— electrolytes 2 hr — 4 hr.

Out of PKA

RRS < 200

+ 2/3 - Able to eat &
Drink.

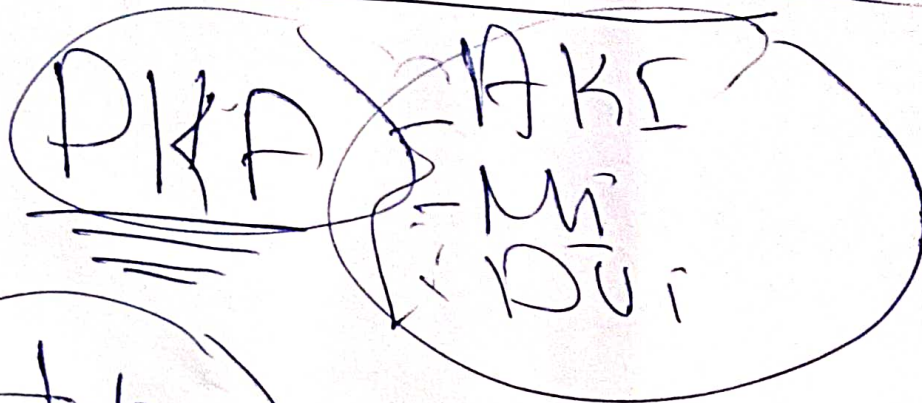
- AG < 12 (close)

- NO Ketoneuria

AG Cat - An.

$(Na + K) - (Cl + HCO_3^-)$

Complications of AKF



++

- Hypoglycemia
 - Hypokalemia
 - Brain edema
-

Fever 10 days

pancytopenia

H.S.

LP ⊖

Poxycyfine

2nd

⊖ C.S.T

3rd

⊖ C.S.T

no

Post pois → m.

Sticks

O.P.

Recs

Chief complain

Flank pain
fever

1 Day.

57 PM
Htn.

~~Flank fever~~

~~Pass stones~~

~~Infection~~

~~Tram~~

~~pain~~