



جائزة الحسين
بن عبد الله الثاني
للقمل التطوعي



النادي الطبي
Medical Club



Emergency Medicine



Subject: شرح د. عبد السلام

Group no:

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هَذَا خُلِفَ اللَّهُ فَأَرْهَبُ مَاذَا خُلِفَ الَّذِينَ مِنْ دُونِهِ بِلِ الطَّالِمُونَ فِي صَلَاتِ مُبِينِ

Hyperkalemia

Causes of hyperkalemia → ACEI, ARBs
 ↳ K^+ sparing diuretics
 ↳ digitalis
 ↳ Significant trauma
 ↳ Rhabdomyolysis

Symptoms of $\uparrow K^+$ → Intermittent paralysis, palpitation

Symptoms of $\downarrow K^+$ → Intermittent paralysis, Abdominal pain
 Paralytic ileus

If K^+ was 6, what should we do? ECG

Stabilization of Cardiac membrane → Ca^{+2} gluconate ← حتى يثبت حتى يثبت
 → $\downarrow$ Risk of arrhythmia

If $K^+ > 6.5$ give Ca^{+2} gluconate whether ECG changes are present or not

If $K^+ < 6.5$ Ca^{+2} gluconate is not necessarily

* Treatment of hyperkalemia *

1. Insulin → shifting of K^+ from blood into intracellular

2. Nebulized salbutamol (20 mg), 10 mg if history of Ischemic heart disease

3. Dextrose (50 ml D50%) + 100 ml normal saline
 25 g ← + 10 unit of Insulin for 15 minutes (150 ml fluids)

كل glucose في 100 ml ← dextrose 50%

D 50% → 50 ml

D 10% → 250 ml

D 25% → 100 ml

D 5% → 500 ml

4. Furosemide

5. Sodium Resonium (Kayexalate)

6. Dialysis → Ultimate management if patient doesn't respond to treatment

7. Sodium bicarbonate → If there is severe metabolic Acidosis with hyperkalemia, or patient had missed his dialysis & symptoms ↑K⁺ + ECG changes → give it

Features of hyperkalemia on ECG:

1. Peaked T wave (tentel)
2. Flattened P wave
3. QRS widening
4. Prolonged PR
5. Sine wave

Peaked T wave



Hyperkalemia



T wave يشبه ذئب الكلبة
tent

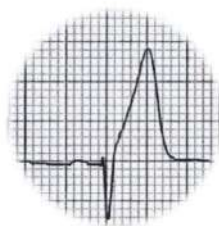
Hyperacute T wave



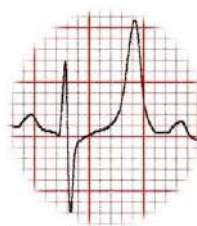
early changes on ECG
in STEMI



T wave غير متساوية الشوكة



Hyperacute T Wave



Peaked T Wave

* MI

ST elevation in lead I, II → no STEMI (non contiguous)

↳ in lead I, aVL → lateral

↳ in lead II, III, aVF → Inferior

↳ in lead II, III, V5, V6 → Inferior lateral

in V1-V4 → Anterior

V1-V6 → massive anterior MI

IF ST elevation in V1-V4, ST depression in lead II, III, aVF

↳ Anterior STEMI with Reciprocal changes (mirror image)

← الـ MI Anterior كبير massive لدرجة بيت صو الكهدة
as inferior depression

ST elevation in aVR, ST depression in other leads

↳ left main occlusion (ST elevation equivalent)

↳ treat with cath (as MI)

ST depression in V2, V3 & T inversion

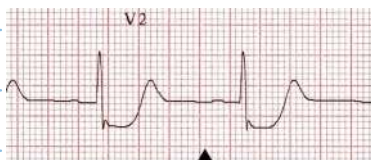
↳ Anterior wall Ischemia

ST depression in V2, V3, Upright T wave

↳ Posterior STEMI

ECG نشوف Upright T wave الـ وبعين قلب وورقة ECG

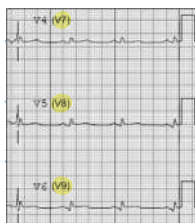
Upside down بعين الـ T wave بين ك depression



→ ST depression & Upright T wave
Upside down



→ ST elevation & depression T wave



هالـ الـ بخير جاك V4, V5, V6 وبعينهم posterior
و بصروا V7, V8, V9



→ V4 on Right side to know if there is

Right ventricular Infarction

لماذا نعرف ماذا في V4

Why?

Right ventricular Infarction is preload dependent and vasodilator

↓ preload → Morphine, Nitroglycerin

↓ Preload → ↓ stroke volume → ↓ Cardiac output → Severely hypotensive → Refractory to treatment with fluids → shock

Vasopressor

Inferior STEMI, Posterior STEMI

Nitroglycerin, morphine

Mortality ↓ Aspirin

Aspirin

Morphine (Analgesic + vasodilator)

O₂ if O₂ sat < 95%

B-Blockers if severely hypertension

Plavix 300 mg / 600 mg if Aspirin is contraindicated

Heparin 70 mg/Kg (upper limit 4000)

- Do ECG within 10 minutes

- PCI within 90 minutes / 120 min if transfer

give thrombolytic ← cath

→ Thrombolytic (streptokinase, alteplase)

→ within 30 min from admission

Door to needle therapy

Give O₂ if O₂ sat < 95%

O₂ if O₂ sat < 95%

Vasopressor

treatment of DKA → IV fluids

↳ Insulin

treat underlying cause

↳ Potassium

↳ if low → give 40 mg

if normal → give 20 mg

ABG in DKA → $\text{HCO}_3^- < 6$

pH < 7.35

Triggers for DKA → Infection, non compliance with meds
trauma, IV drug abuse

Complication of DVT

Phlegmasia Cerulea Dolens 2

أخطر بكثير ⚠️ (Blue leg)

شو اللي بصير؟

Massive DVT

انسداد:

Deep veins

superficial veins

✗ collateral veins

يعني:

ولا طريق لتصريف الدم الوريدي

→ الدم يحتبس داخل الطرف

↑↑ venous pressure →

edema شديد جدًا

↑ compartment pressure →

arterial ضغط عليهم

Congestion

↓
purple

Severe forms of DVT 1

Phlegmasia Alba Dolens 1

(White leg)

شو اللي بصير؟

في extensive deep venous thrombosis

بس لسا في partial collateral venous drainage

الشرايين بعدها شغالة ✓

لكن:

الوريد مسكر → السوائل بتتجمع → edema

edema بضغط على الشرايين

arterial inflow ↓ →

→ compression on arterial

cause ischemia

due to massive DVT

False elevation troponin → Pregnancy, trauma, Chronic kidney disease, HF

لَا إِلَهَ إِلَّا أَنْتَ سُبْحَانَكَ
إِنِّي كُنْتُ مِنَ الظَّالِمِينَ

SVT → Regular, usually absent P wave (masked, buried within QRS), usually narrow QRS
Rate > 140

SVT → Unstable → hypotension, signs of shock, signs of acute HF, typical Angina chest pain altered mental status
↳ Stable

Unstable patient → check ABC then synchronized cardio-version

Midazolam ← Sedation ← إذا كان المريض awake بنعطي
↳ cause anterograde amnesia (not analgesic)

Anterograde amnesia يعني إنو المريض ما بقدر يتذكر الأحداث اللي

صارت بعد ما أخذ الدواء

بس يكون طبيعي بتذكر الأشياء اللي صارت قبل الدواء

benzodiazepines وهو من عائلة الـ Midazolam لما نعطي

- (sedation) بخلي المريض يهدأ
- (anxiolysis) يقلل القلق
- anterograde amnesia ويسبب

سبحان الله
الله أكبر
الحمد لله
استغفر الله