

KFH Grand Round

Emergency Department

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75 years old saudi male patient
complaining of :

- Chest pain
- Sudden fainting with profuse sweating for about 1hr. before presentation to ER.



Present History :

- On March 1st , 2009 – patient presented to ER . C/O: Severe retrosternal chest pain associated with profuse sweating and cold extremities.



Past History

- K/C of DM since 20 yrs.
- He was admitted since 15 days with anginal chest pain and he received anti anginal treatment then discharged.



- **Drug History :**

- > ASA 81mg.
- > Atenolol 25mg od.
- > Captopril 25mg OD, then 6.25mg bid.
- > Zocor 20 mg od.
- > Omeprazol 20 mg od
- > Isomack 20 mg Bid.
- > Metformin 500mg bid
- > Insulin mixitard 40 IU am, 20 IU pm.



Physical Examination

- The patient arrived on wheel chair, he couldn't stand.
- Looks ill & pale.
- Distressed from chest pain.
- No cyanosis.
- Excessive sweating (wet clothes).
- No congested neck veins.
- No L.L. edema.

Vital signs :

Pulse 60/m, regular

BP 130/70

RR 30/m

TEMP. 37



Local Examination :

> Chest : few bilateral basal crackles.

> Heart : S1 + S2 + O

> Abdomen : Soft, lax, no organomegally

> CNS : No Neurological deficits.



- **Investigation :**

CBC > WBC 20.8
> Hb 15.6
> Platelets 235

Electrolytes

> Na 135
> K 5.2
> BUN 15.8 creatinine 189
> CK on Admission 69 then increased to 5450
> CK-MB 113
> Cholesterol 3.6, LDL 1.37 TG 3.4



ECG :

- > Sinus rhythm .60 b/m.
- > ST segment elevation L II, III, AVF

CXR :

Clear Lung Field.



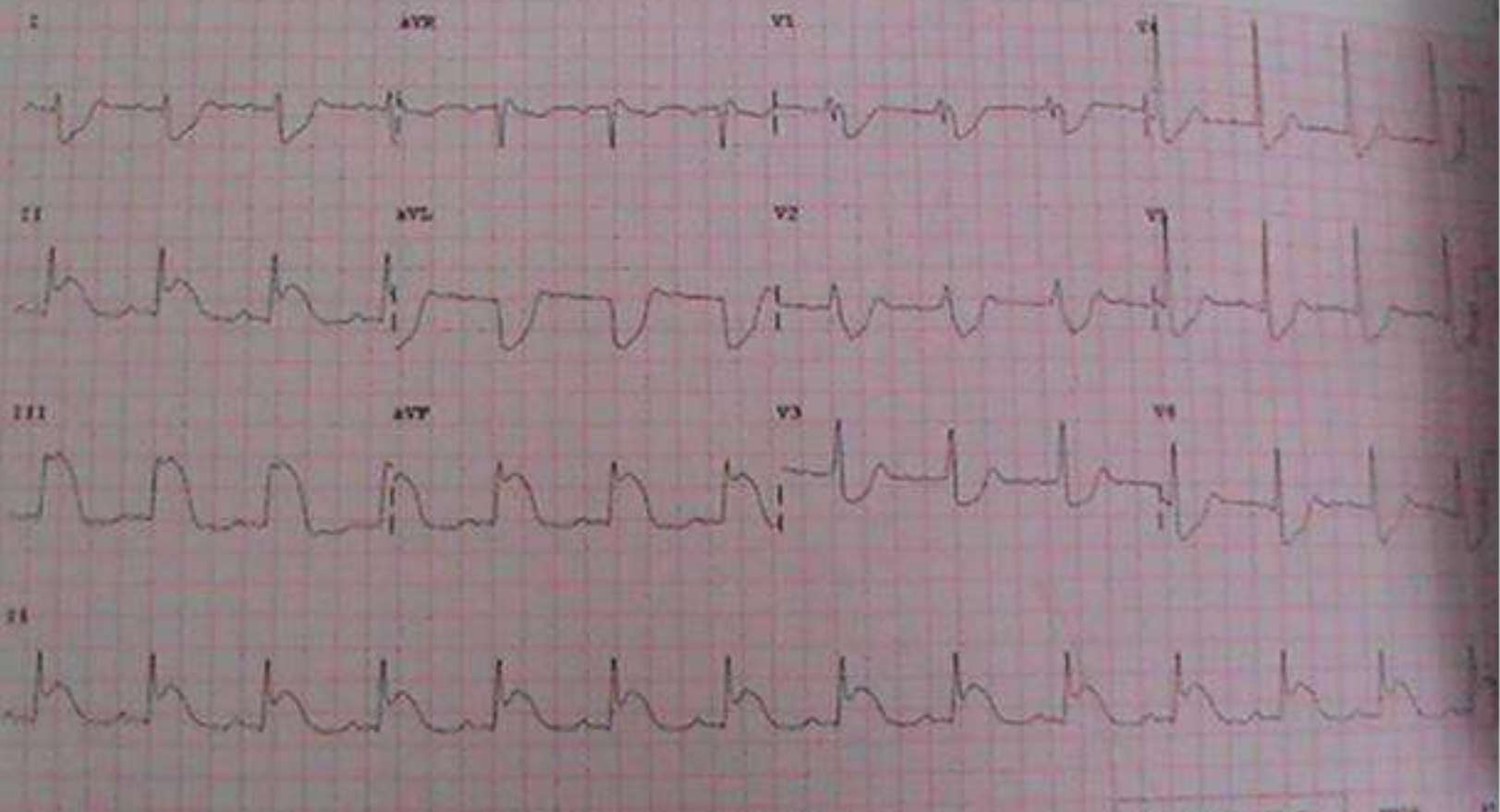
PRP 150
QT 388
QTc 453

--AXIS--
P 72
QRS 91
T 62

3

L SIDE

Just this side
lead II

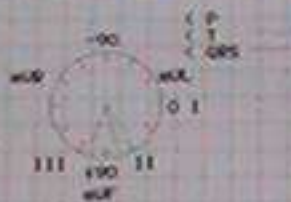


Dev. Speed: 25 mm/sec Lead: 10 mm/mV Chest: 10 mm/mV F 60-0.15-150 Hz PUCK

LABORATORY

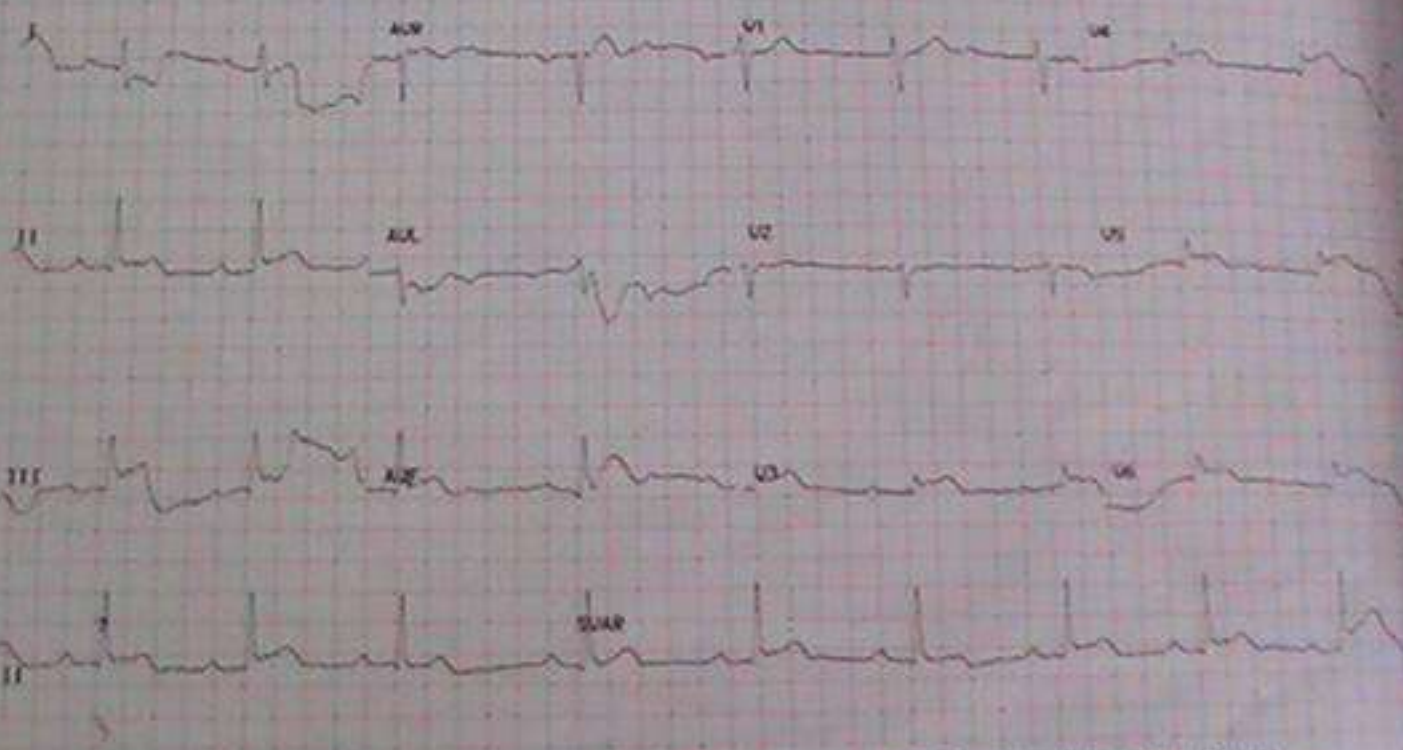
Measurement Results

PRN		142 ms
QT/QTcB	410 /	393 ms
PR		258 ms
P		116 ms
RR/RRP	1000 /	1000 ms
P/QRS/T	95 / 75 /	110 degrees
QTc/QTcB	76 /	73 ms
Sokolow		1.0 mV
MC		5



Interpretation

P₁ 142 *330*
RT bundle
3rd degree AV block
3rd degree AV block
 ① ②
 ground lead intact



Hospital Course and Management

- Patient admitted to ICU on March 1st as acute inferior and Rt. myocardial infraction. The patient received ASA 300mg, O₂, morphine, IV StreptoKinase was given while St.k going on, patients developed Hypotension, corrected with I.V fluids.



- Suddenly the patients developed ventricular tachycardia and ventricular fibrillation.
- Resuscitation started in ICU. The patient received **31 DC shock** .
- Amiodarone was given, dopamine and norepinephrine infusion.
- Resuscitation continued for 56minutes.

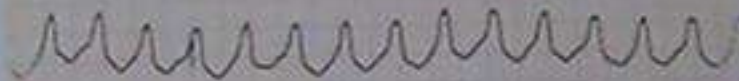


External Paddles On

D01 Mar 09 16:47:13 HR 87
Manual Lead II 2.5mm/mV



D01 Mar 09 16:43:18 HR 182
Manual Lead II 2.5mm/mV .05-150 Hz



D01sarm

D01 Mar 09 16:42:11 HR 90
Manual Lead II 2.5mm/mV .05-150 Hz



D01 Mar 09 16:42:49 HR 16
Manual Lead II 2.5mm/mV .05-150 Hz

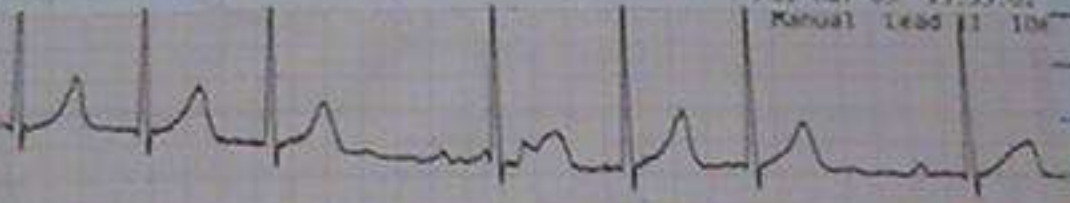


D01 Mar 09 16:41:32 HR 40
Manual Lead II 2.5mm/mV



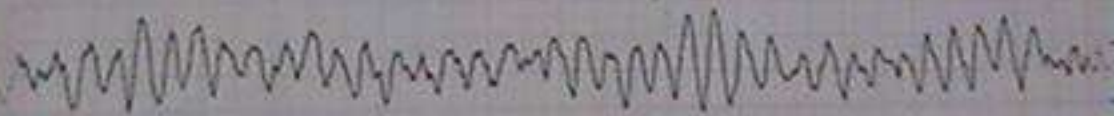
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01 Mar 09 15:55:01
Manual Lead I 10s



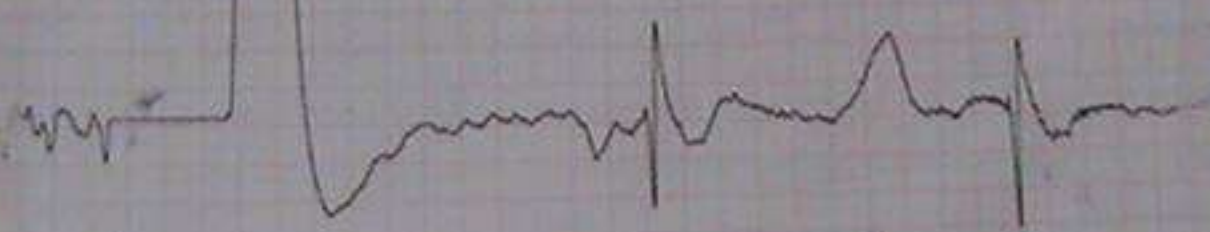
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Delayed



1200

01 Mar 09 16:21:07 HR ---
Manual Paddles 10mm/sV .15-40 Hz Sync



2011 67 ohms 29A Sync

External Paddles On

01 Mar 09
Manual Pac

- **2nd day** patient improved, became conscious & haemodynamically stable.
- **3rd day** he became more stable with chest pain mostly due to DC shocks (Traumatic CPR).
- ECG showed ST segment came down in inferior leads. CK became lower.
- ***The patient had PTC with stent employment.***



- **Diagnosis:**
 - - Acute inferior and Rt. ventricular infraction
 - - Recurrent V.T. & V.F.
 - - Type II DM.
 - - Mild Renal impairment.

- **One month later:** The patient presented to ER C/O chest pain ; ECG was the same with no recent changes. Sever tenderness of anterior chest wall & he was haemodynamically stable.



Ventricular Fibrillation (V.F.)

- The most frequent mechanism of SCD.
- It is a rapid disorganized ventricular arrhythmia, resulting in non-uniform vent. contraction, no COP & no recordable blood pressure.
- ECG : -Rapid (300 – 400 b/m)
Irregular, shapeless QRST undulation, of variable amplitude, morphology and interval.



- 60% of deaths associated with acute MI occurred within 1st hour and caused by V.F. and many cases of out of hospital SCD are due to very early V.F. due to acute MI.
- ***Incidence*** : V. arrhythmias appear to be higher with STEMI than NSTEMI.



TYPES

Primary VF :

< 48hr. Post MI, not associated with recurrent ischemia or HF. (not complicated MI) i.e. 1ry electrical event.

- ***Early*** <4 hours (i.e absence of H.F & Shock).
- ***Late*** VF >4 < 48 hours.

- Both early and late 1ry VF within 48hrs were associated with a significant increase in hospital mortality.
- The mortality rate from discharge to 6 months was not affected by primary VF.

Non 1ry VF :

- All other episodes of VF more common in patients with MI that are complicated by HF or recurrent ischemia.
- The mortality from discharge to 6 months was markedly increased in those with non-1ry VF.



Acute therapy

- VF is almost universal lethal if not treated.
- Defibrillation is the definitive therapy of VF
- Biphasic wave form defibrillator is preferable since the success rate for defibrillation is higher than with monophasic
- Following successful reversion to sinus rhythm, treatment with amiodarone for 24 – 48 hours is recommended.



Thank you

