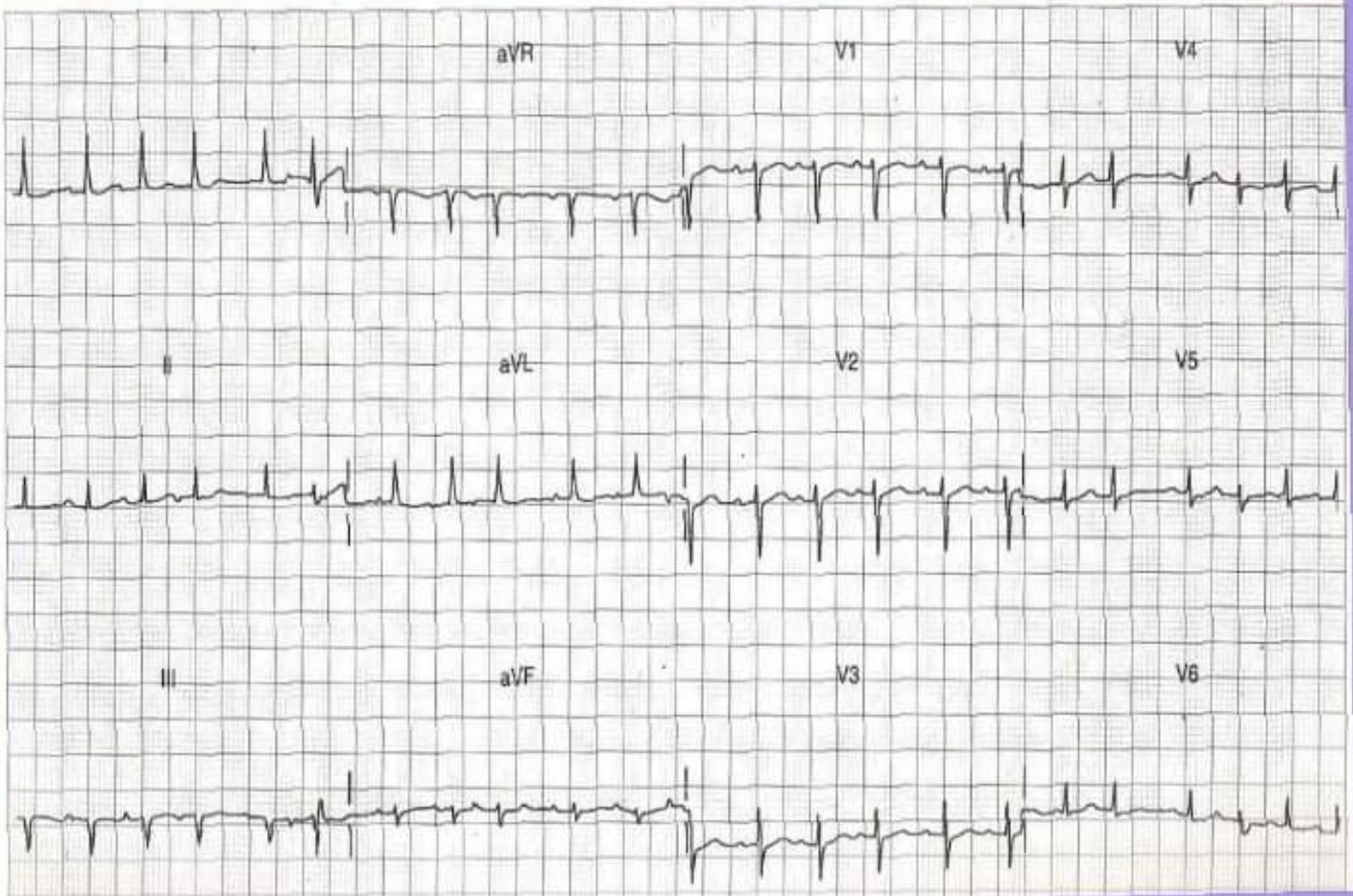
ECG QUIZ

DrHaitham Fahmey

A 65-year-old man with emphysema



Features of multifocal atrial tachycardia

-different P wave morphology

-narrow complex, irregular tachycardia.

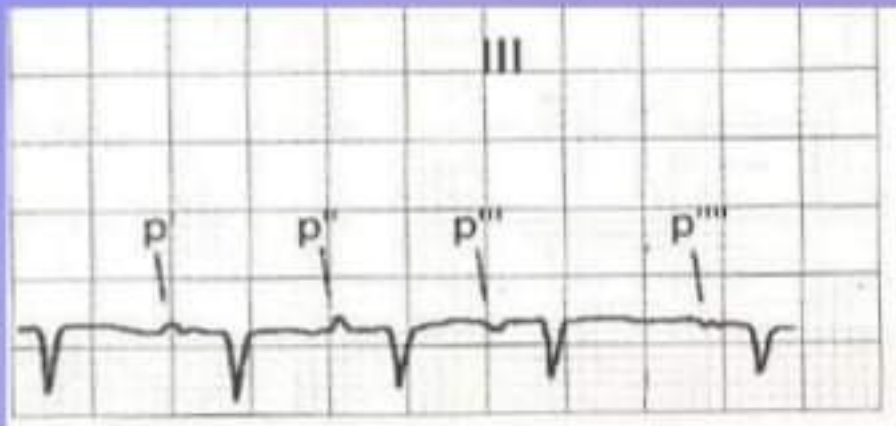
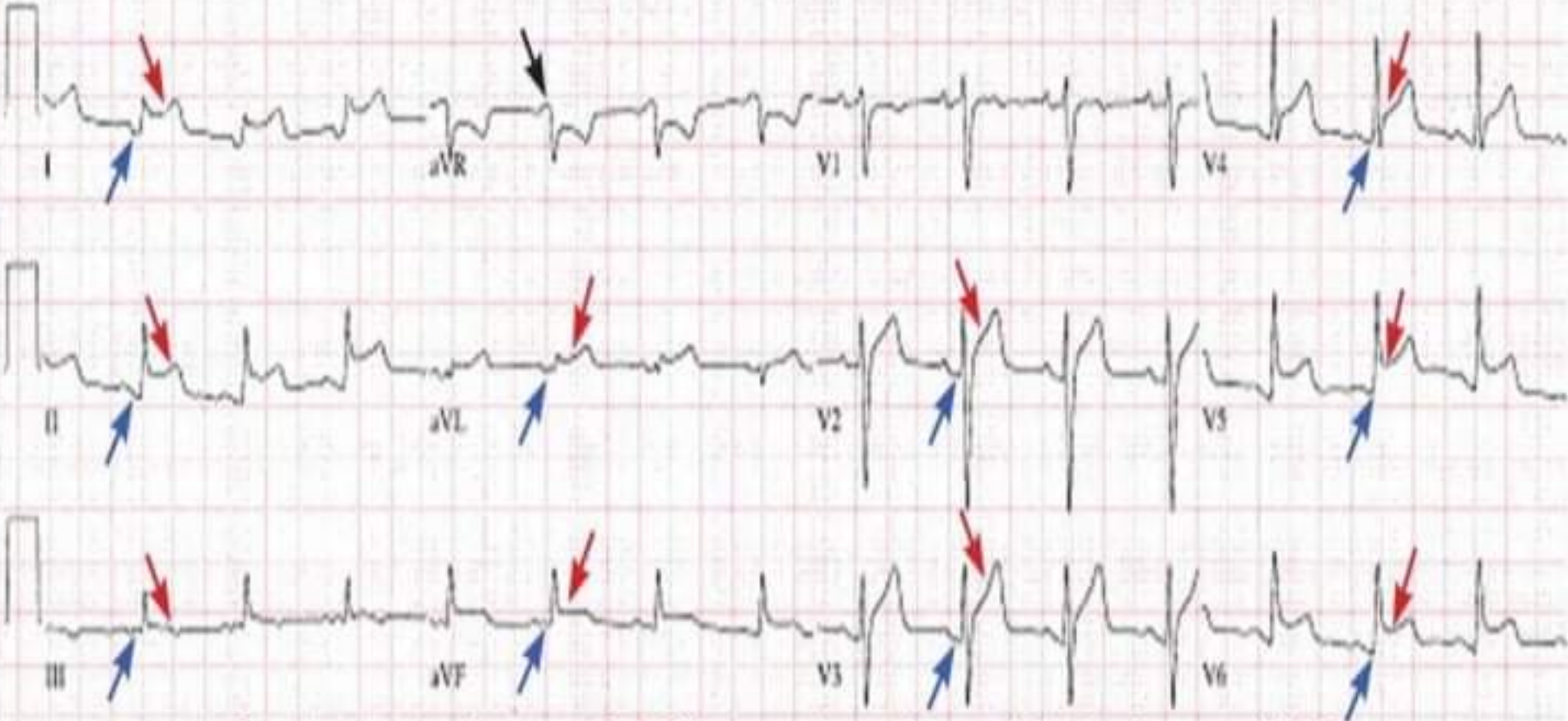


Fig. 9.1 Lead III.

What is the diagnosis



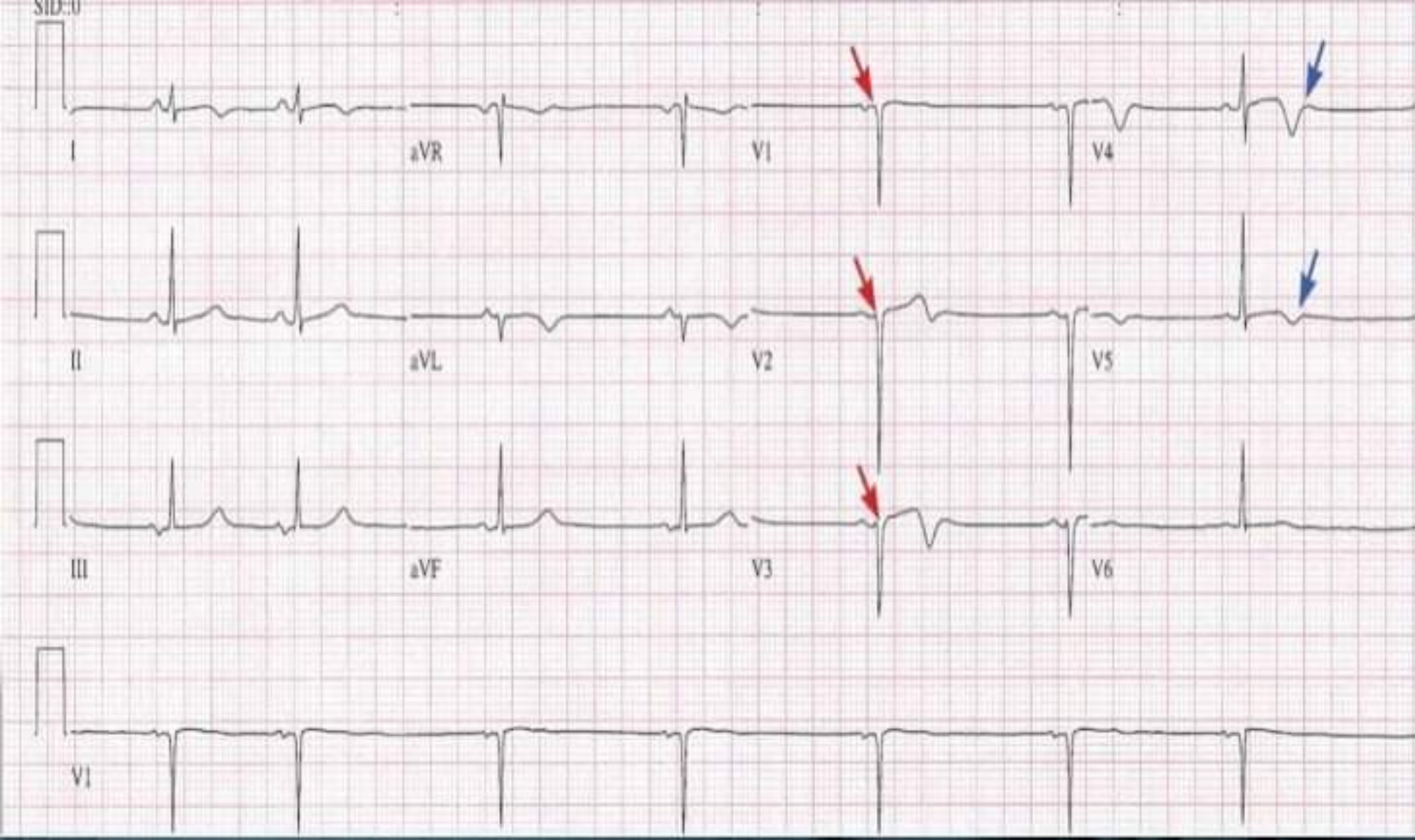
a. Acute anterior wall MI later developed inferior wall MI

b. ANTEROINFERO WALL MI

c. PERICARDITIS

d. FAILED THROMBOLYSIS

Acute pericarditis with elevation of the ST segment in all leads, often up-sloping (red arrows), and PR depression in all leads (blue arrows), except for PR elevation in aVR (black arrow).

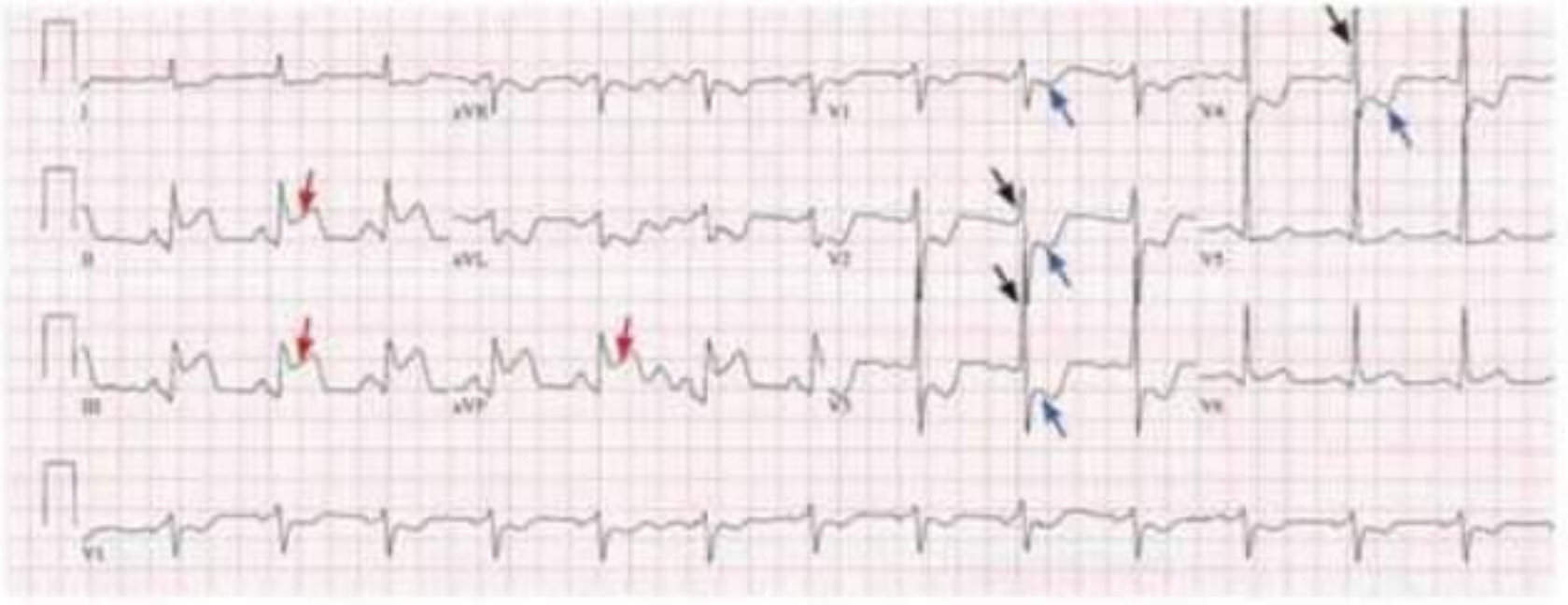


WHAT IS THE DIAGNOSIS OF THE PATIENT WHO PRESENT WITH ACUTE CHEST <6 HRS PAIN. NOT A K/C/O CAD AND THERE IS TROP T ELEVATION ?

A.ACUTE ANTERIOR WALL MI B.UNSTABLE ANGINA

C.NSTEMI D.NONE

Poor R wave progression (red arrows) with terminally symmetric T waves in leads V1 through V6 (blue arrows), which suggests possible myocardial injury; this patient had positive troponin consistent with non-ST-elevation MI.

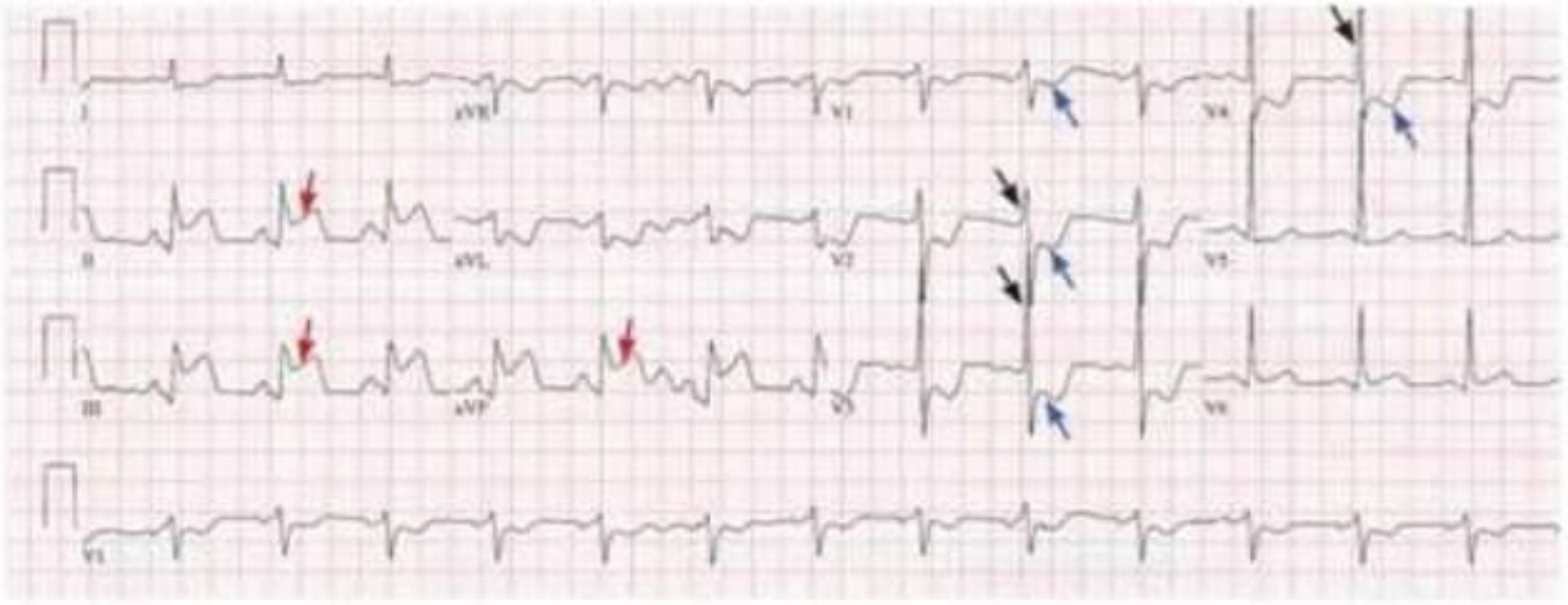


WHERE IS THE OCCLUSION?

SENTER S, FRANCIS G S Cleveland Clinic Journal of Medicine 2009;76:159-166

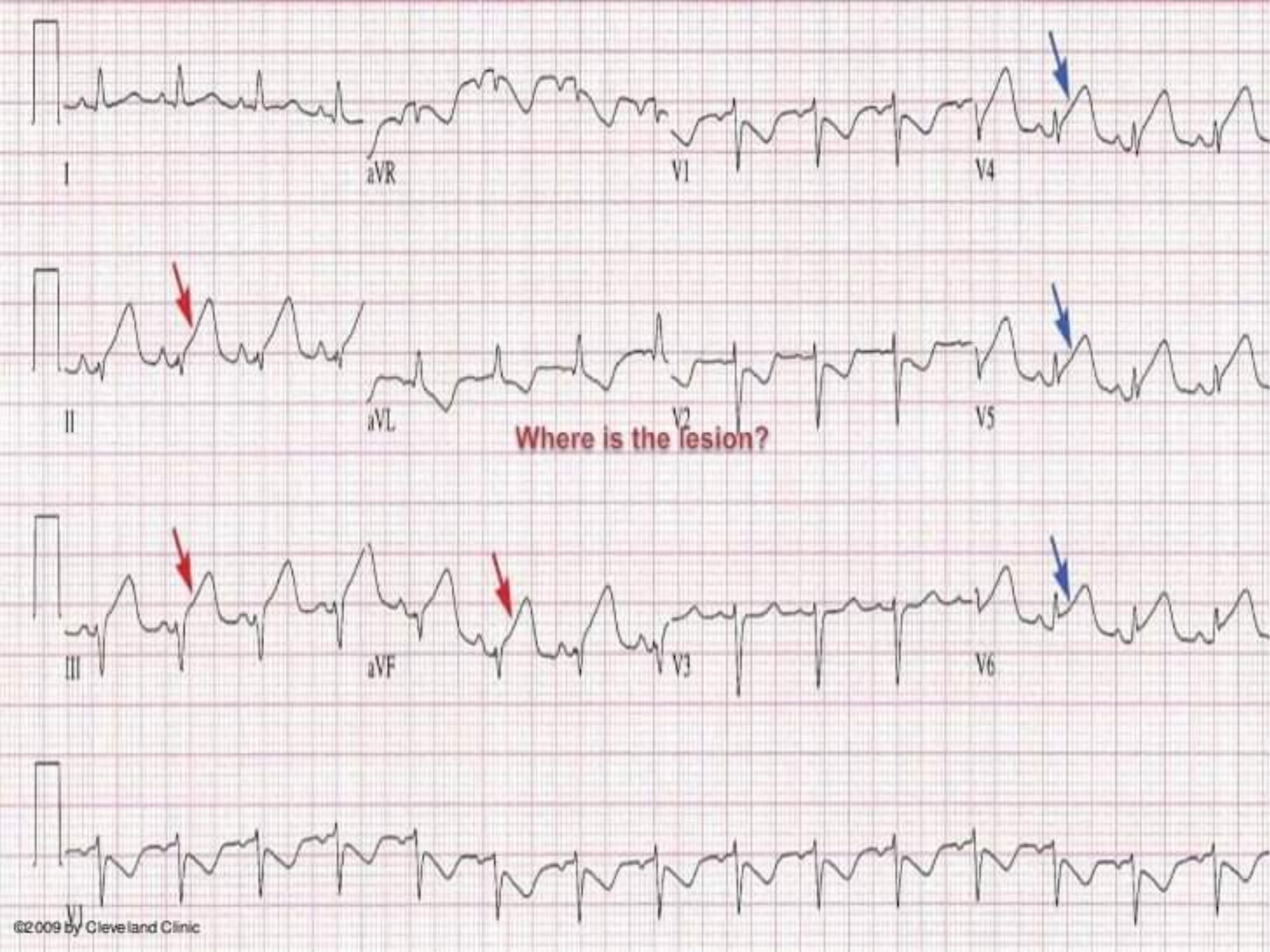
Cleveland Clinic Journal of Medicine

Inferoposterior ST-elevation MI with ST elevation in II, III, and aVF (red arrows) indicating injury in the inferior wall in addition to possible involvement of the posterior wall, as suggested by tall R waves (black arrows) with ST depression and T wave inversions (blue arrows) in V1 and V2.

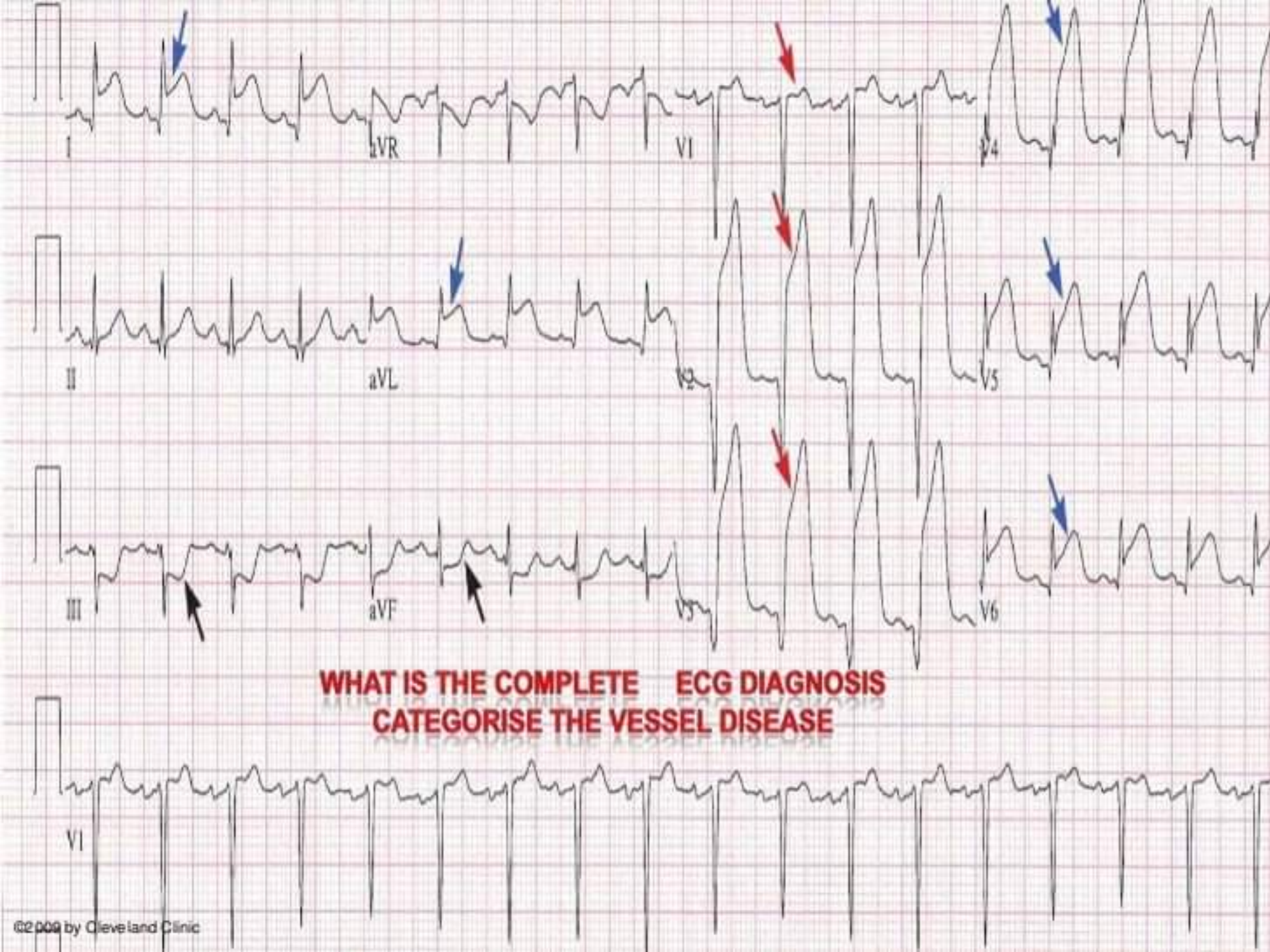


SENTER S, FRANCIS G S Cleveland Clinic Journal of Medicine 2009;76:159-166

Cleveland Clinic Journal of Medicine



Inferolateral ST-elevation MI with ST elevation in II, III, and aVF (red arrows) indicating injury in the inferior wall in addition to ST elevation in V4 through V6 (blue arrows).


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
WHAT IS THE COMPLETE ECG DIAGNOSIS
CATEGORISE THE VESSEL DISEASE
V1
©2009 by Cleveland Clinic

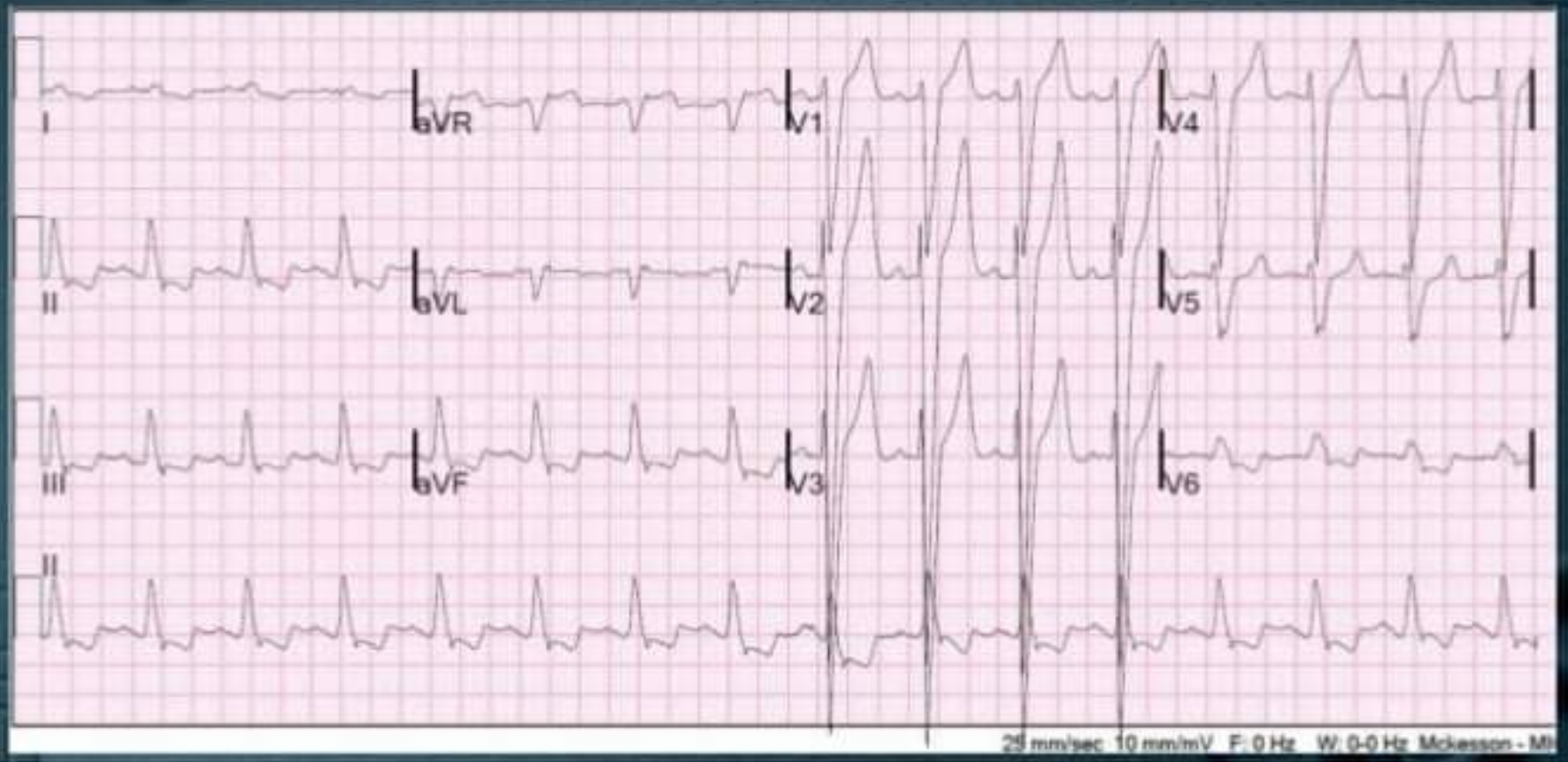
Anterolateral ST-elevation MI with ST elevation in V1 through V3 indicating infarction of the anteroseptal myocardium (red arrows), and in V4 through V6 and I and aVL indicating lateral wall involvement (blue arrows).

- 5.which mimicks the STEMI more closely even in clinical features than the other ?
- A.pericarditis
- B.early repolarisation variant
- C.taksotsubo cardiomyopathy
- D.brugada syndrome

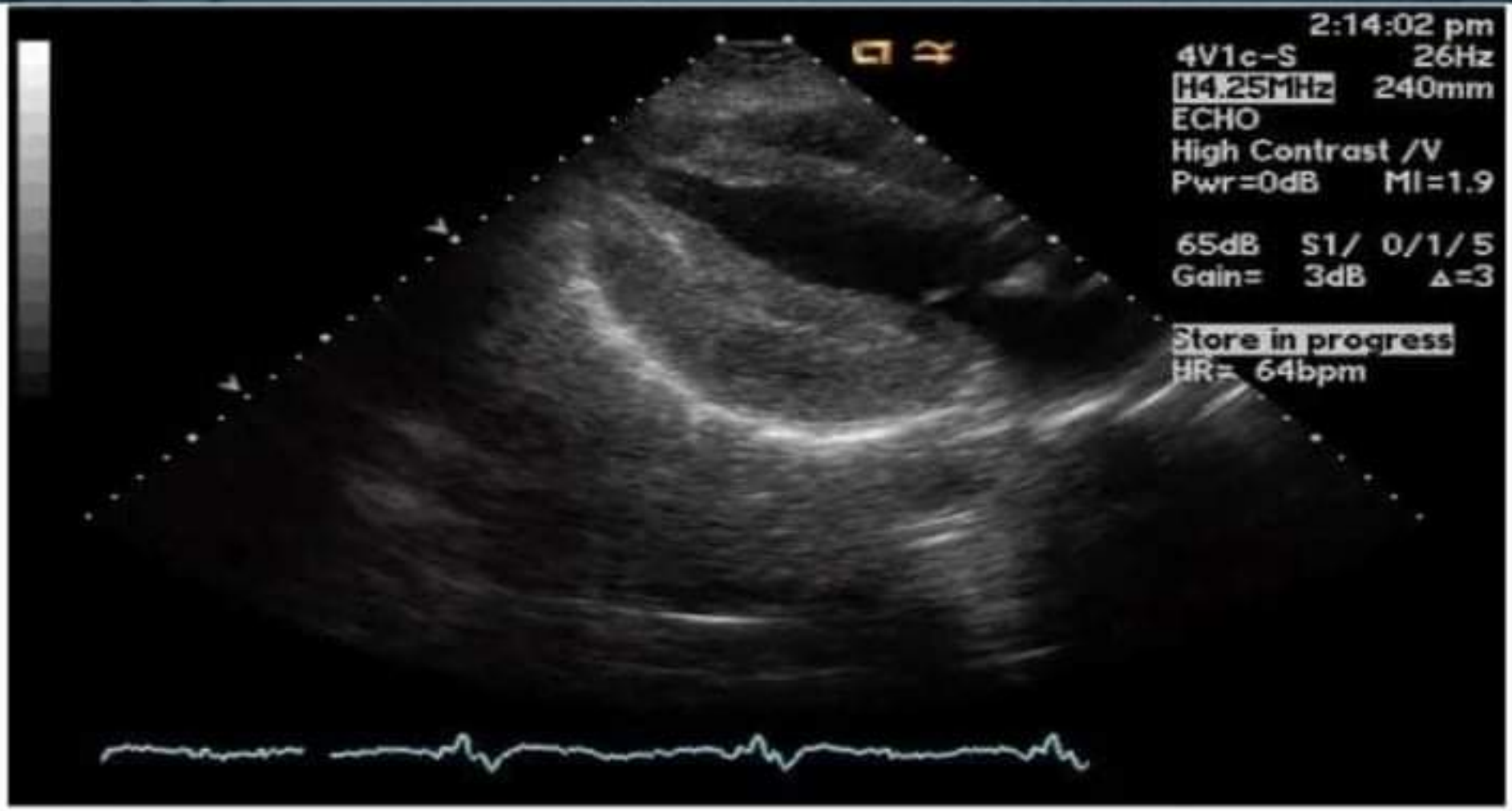
- Answer : taksotsubocardiomyopathy
- The ECG findings are often confused with those found during an acute anterior wall myocardial infarction.It classically mimics ST-segment elevation myocardial infarction, and is characterised by acute onset of transient ventricular apical wall motion abnormalities (ballooning) accompanied by chest pain, dyspnea, ST-segment elevation, T-wave inversion or QT-interval prolongation on ECG. Elevation of myocardial enzymes is moderate at worst and there is absence of significant coronary artery disease.[1]

- 6.This 74 yo male had just returned to his unit bed after successful PTCA of tight lesions of the first diagonal and obtuse marginal coronaries. He complained of chest pain. This ECG was recorded. The previous is below.


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
II


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
II
25 mm/sec 10 mm/mV F: 0 Hz W: 0-0 Hz Mckesson - Mi

6.WHAT IS THE DIAGNOSIS?



- 7.a patient had renal failure .creatinine clearance is 60ml/min ..what should the patient receive post thrombolysis?
- A.UFH only
- B.LMWH same doses
- C.LMWH reduced dose.

- B.LMWH same dose
- Only when creatinine clearance is less than 30 ml/min the dose to be reduced.
- Ncbl.nim.com

- 8.which is most fibrin specific ..and what is its advantage?
- A.tenectplase
- B.reteplase
- C.alteplase
- D.streptokinase

- Ans –tenectplase
- Single bolus
- More fibrin specific

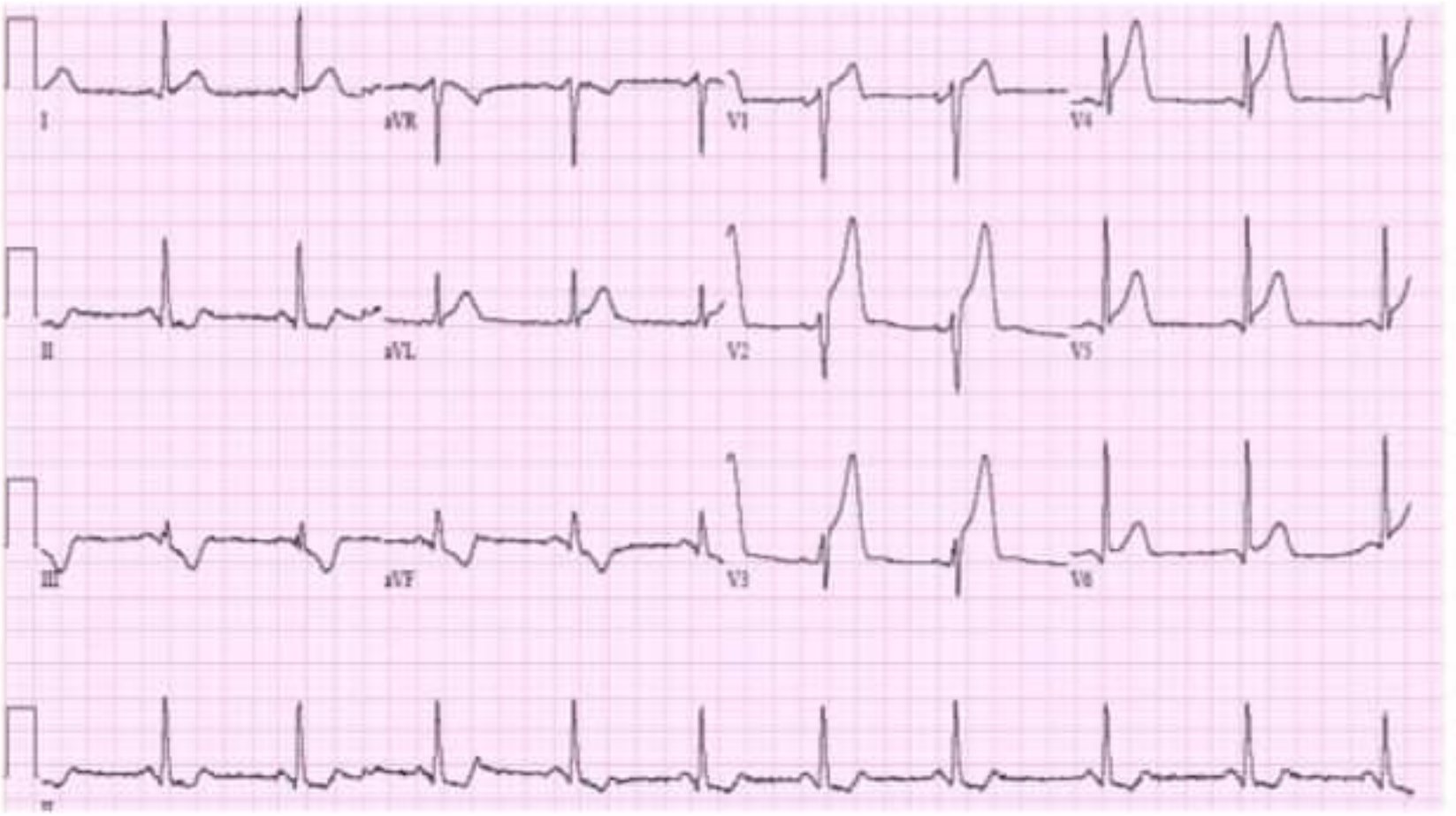
- 9.a patient developed bradycardia on monitoring..ecg diagnosis was made..which is more at risk of going into CHB and who to be sent for pacemaker?
- A.anterior wall MI with mobitz type 1 block
- B.Anterior wall MI with mobitz type 2 block
- C,.Inferior wall MI with mobitz type 2 block
- D.Inferior wall MI with unresponse to atropine

- Anterior wall MI with mobitz type 2 block..

- 10 .which papillary muscle is damaged in anterior wall MI and inferior wall MI ?
- WHY so ?

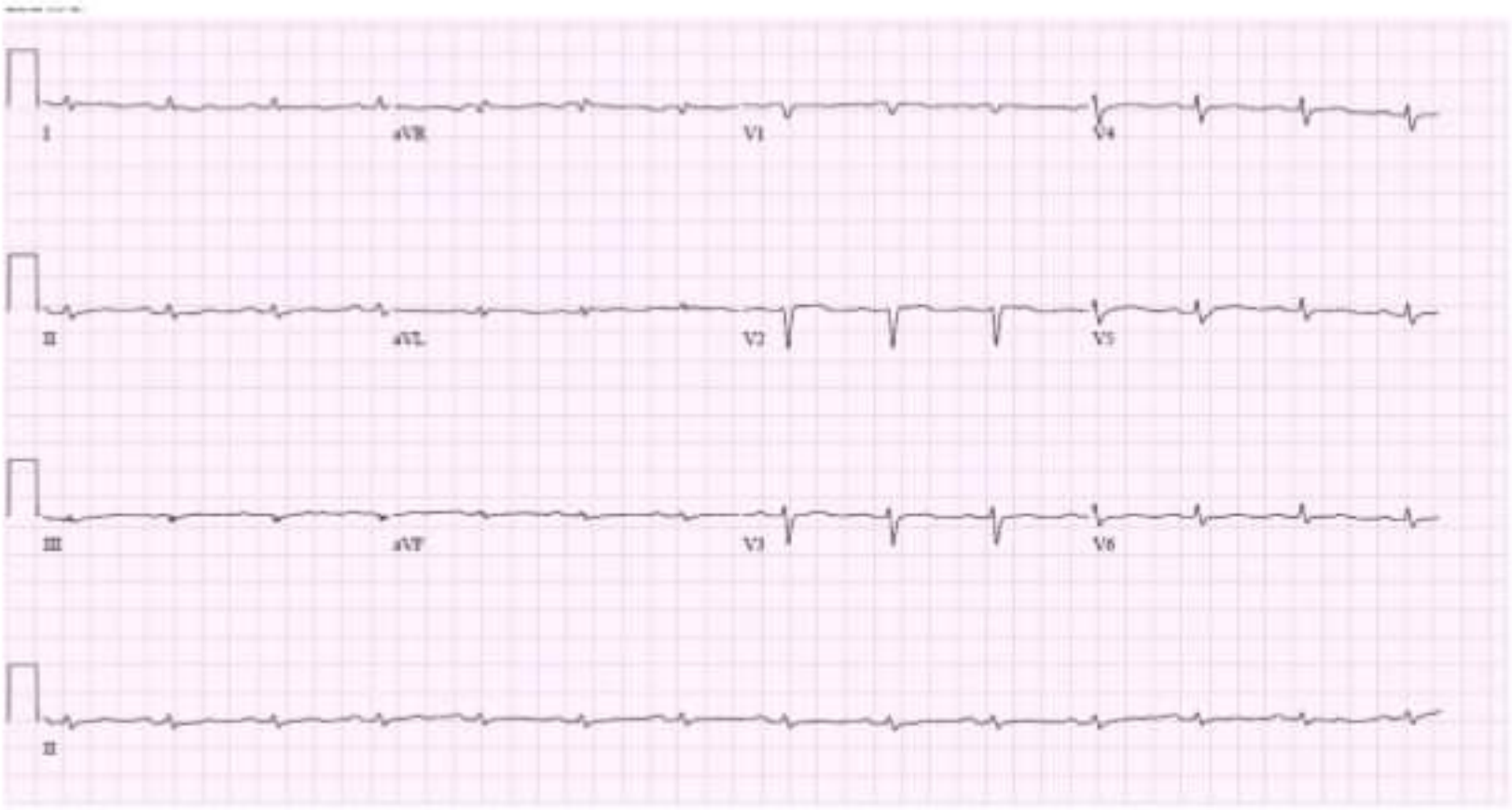
- Anterolateral in anterior wall mi
- Posteromedial in inferior wall MI

Q1 60 years old DM,HTN Severe CP



- A- Acute Ant STEMI in Sinus with inferior Ischemia (reciprocal)

Q2 55 Years old lady with SOB & fatigability

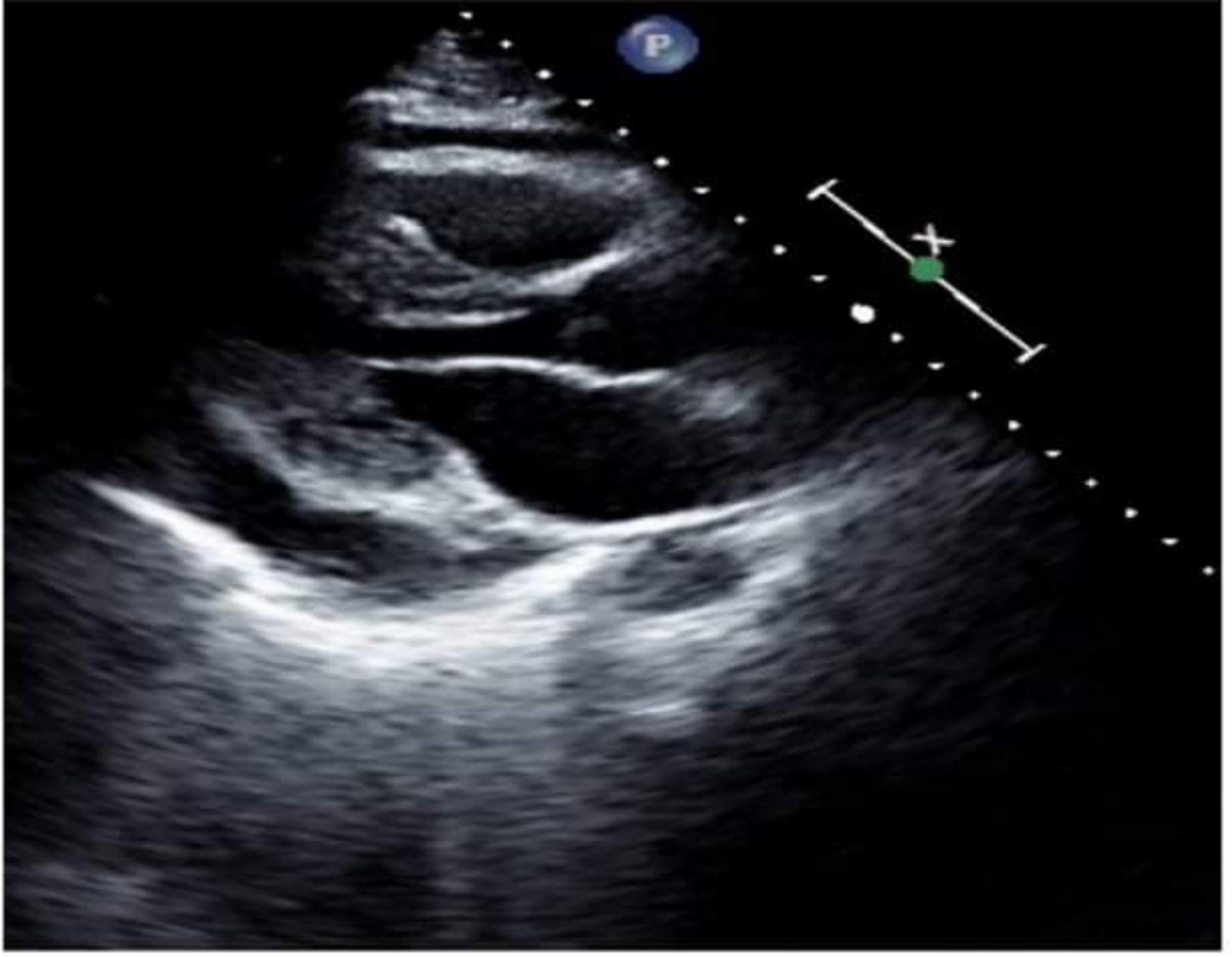


25mm/s 10mm/mV 40Hz 7.1.1 12SL 237 CID: 158

EID:21 EDT: 16:56 14-MAY-2011 ORDER: ACCOUNT: 2374818

A 2

- A- NSR ,Low voltage ECG on Limb leads & pre cordial leads.


P

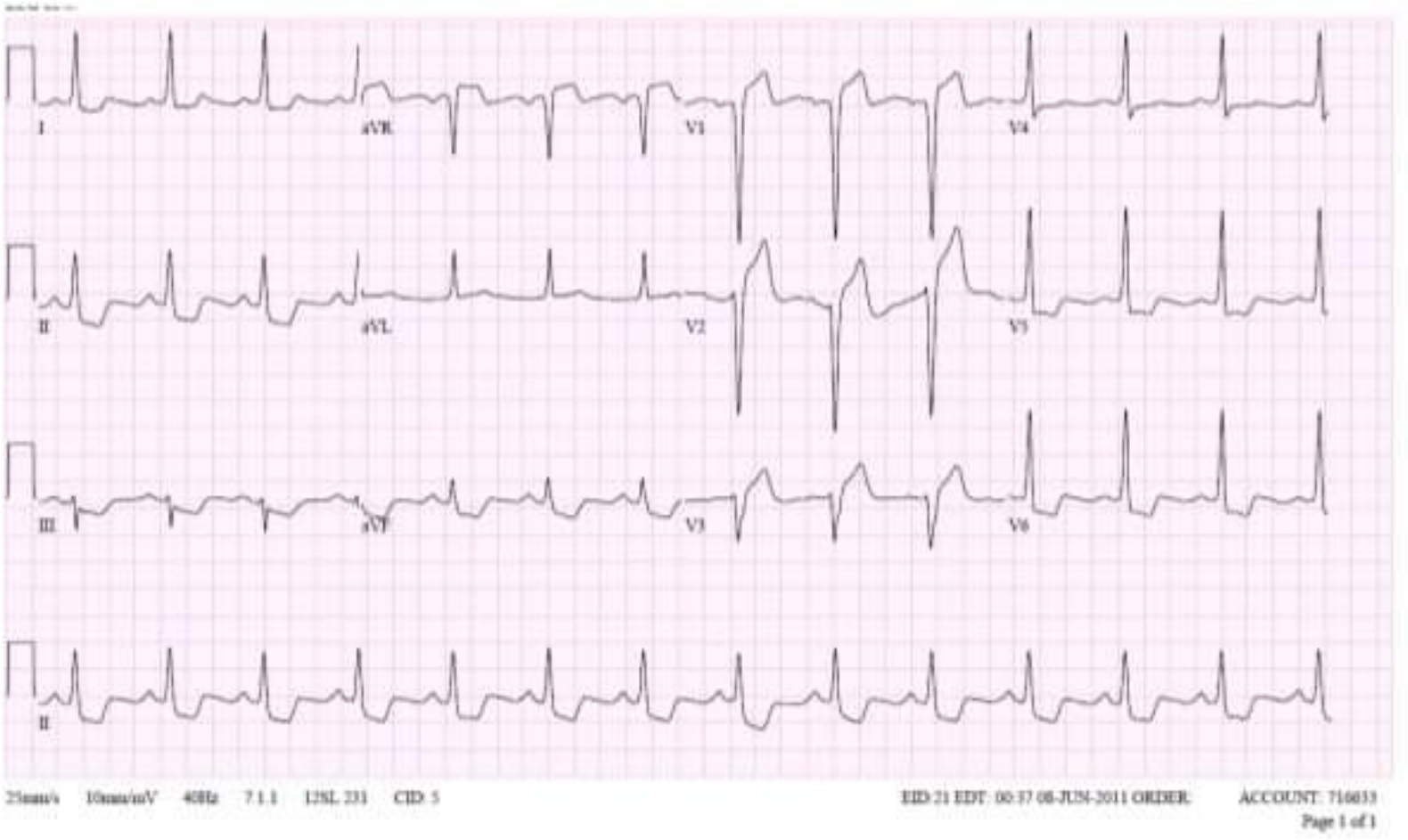
A2

- Echo showed Pericardial Effusion

A 2

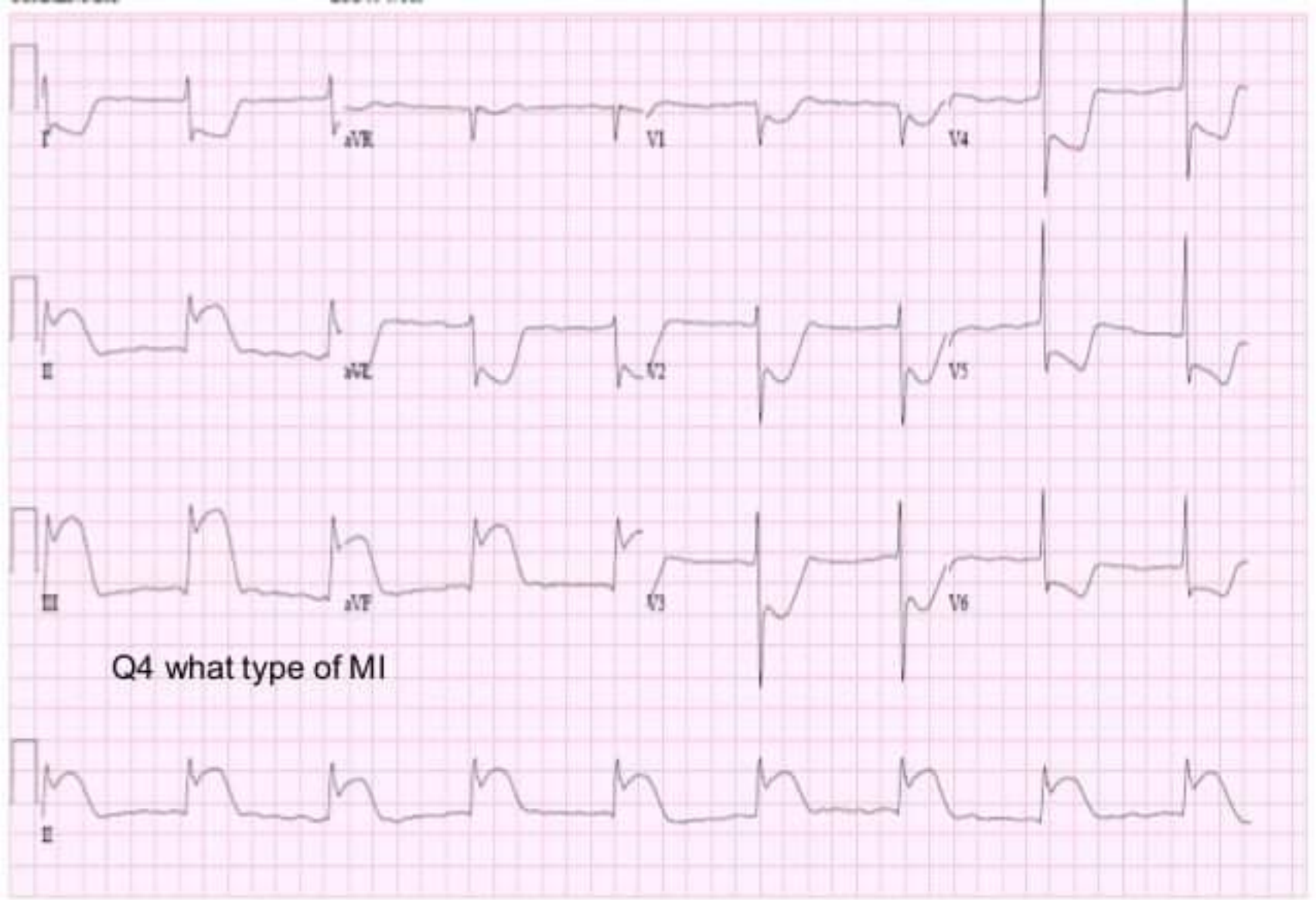
- Severe Hypothyroidism

Q3- 60 years old with CP



A 3

- C-Anteroseptal STEMI with diffuse ischemia.



25mm/s 10mm/mV 40Hz 7:1:1 12SL 239 CID: 155

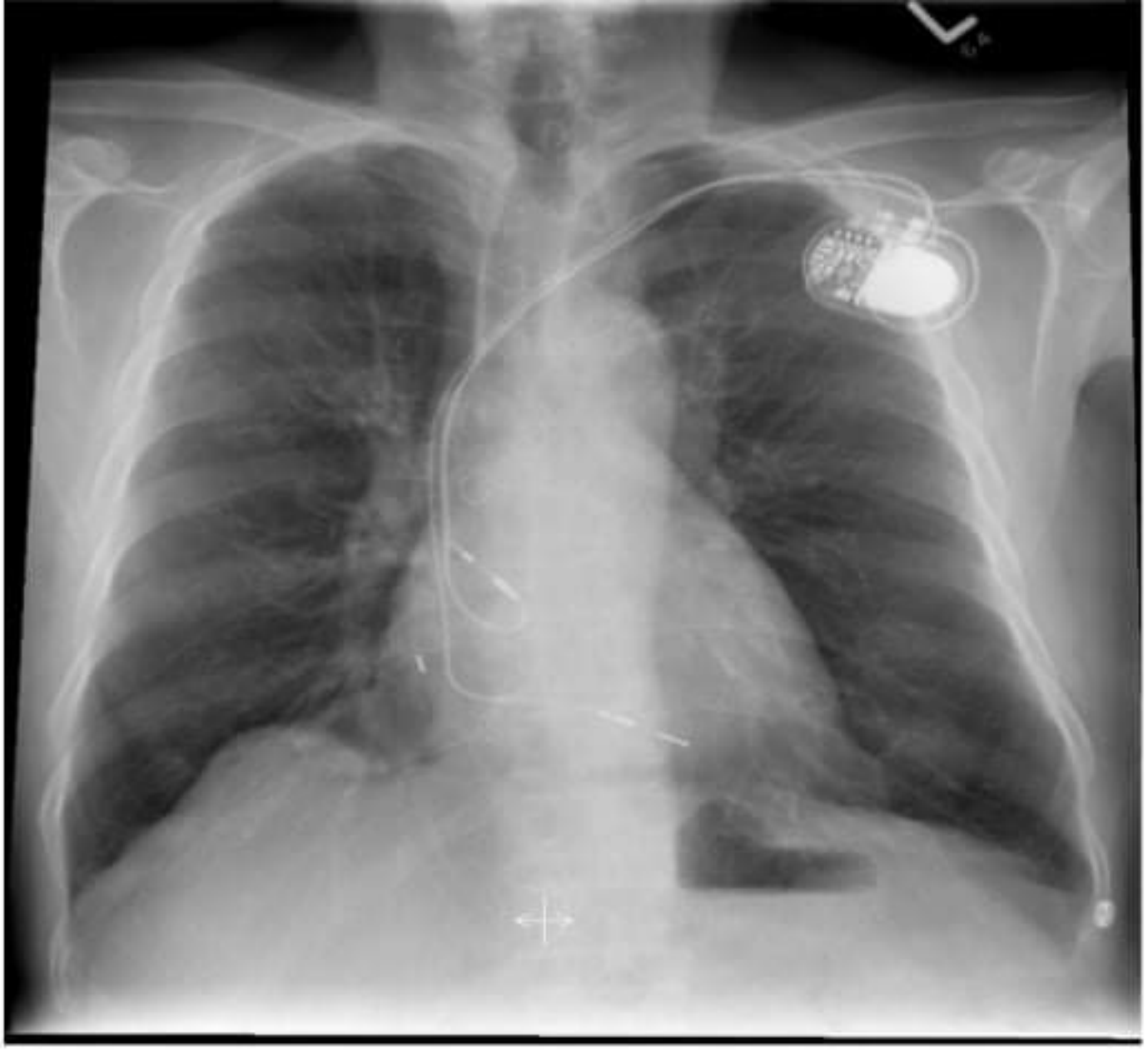
EID:21 EDT: 21:20 23-OCT-2013 ORDER:

A 4

- A- Extensive Inferoposterior STEMI

Q5 84 years old male with S/P CABG and cardiac devise. EF >55%

Q 5



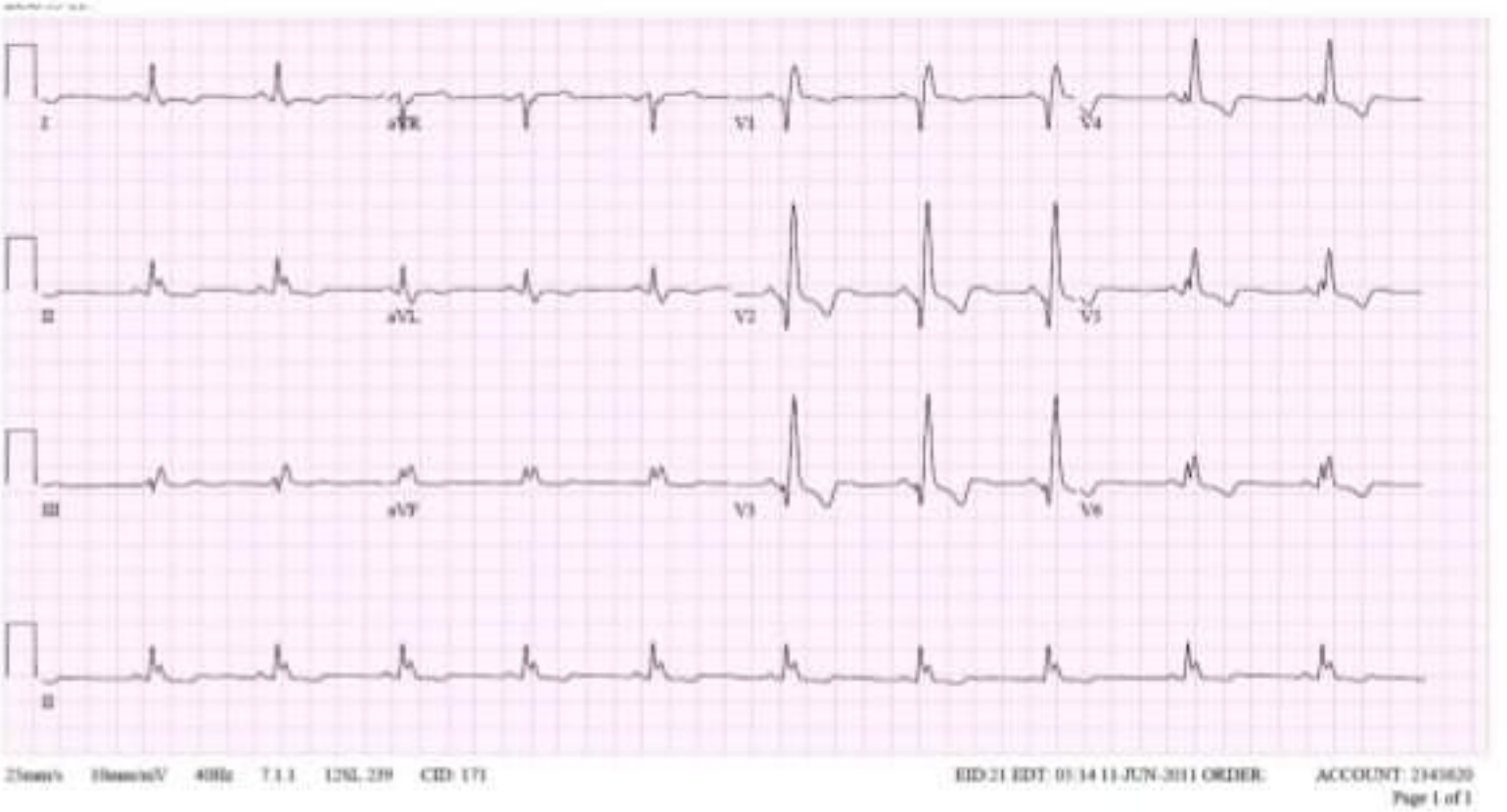
Q 5

- ECG showed ??
- A-Dual camber pacemaker
- B-AICD
- C- Single lead pace maker

A 5

- A-Dual camber pacemaker

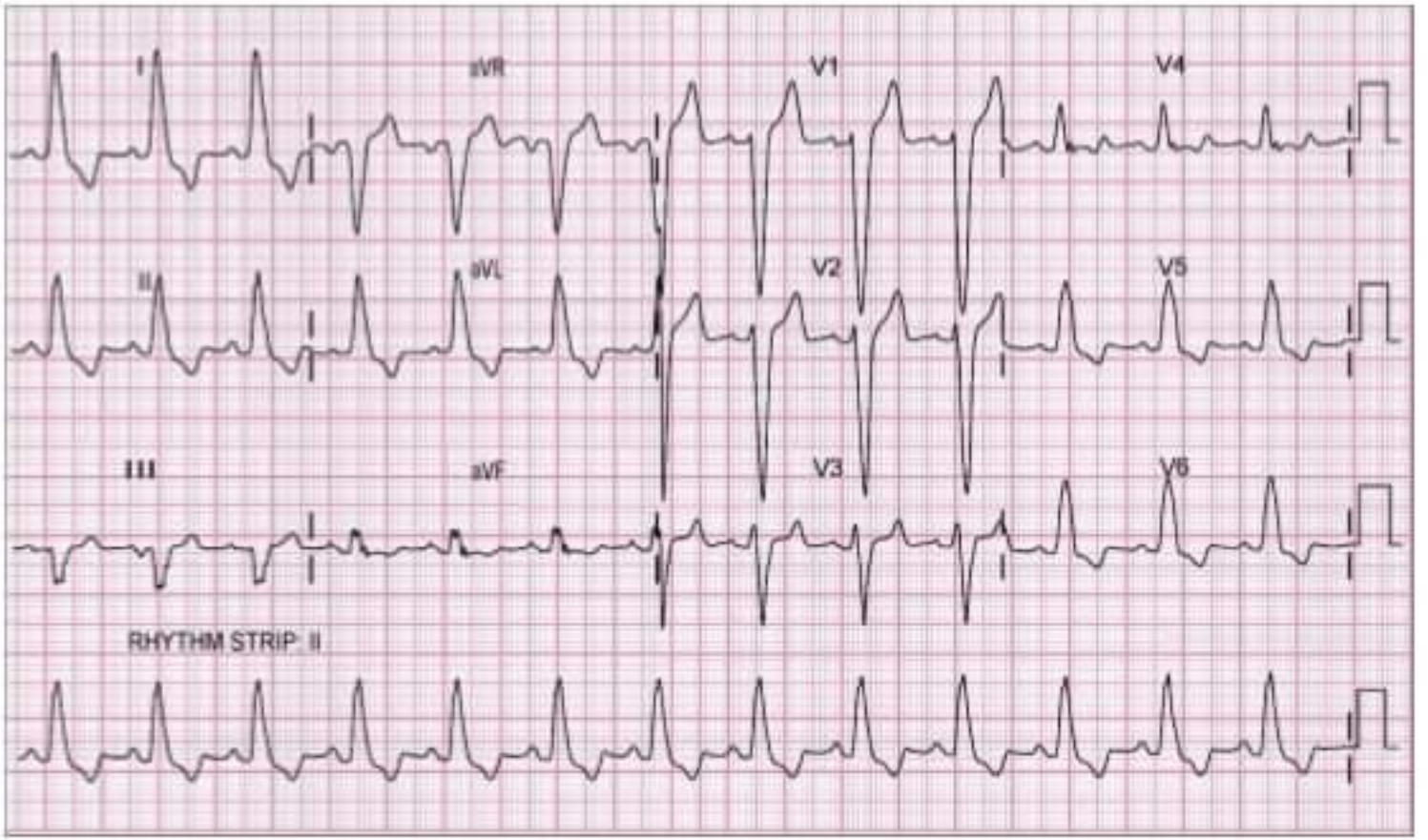
Q 6 ECG of a patient with Fallots who had previous surgery

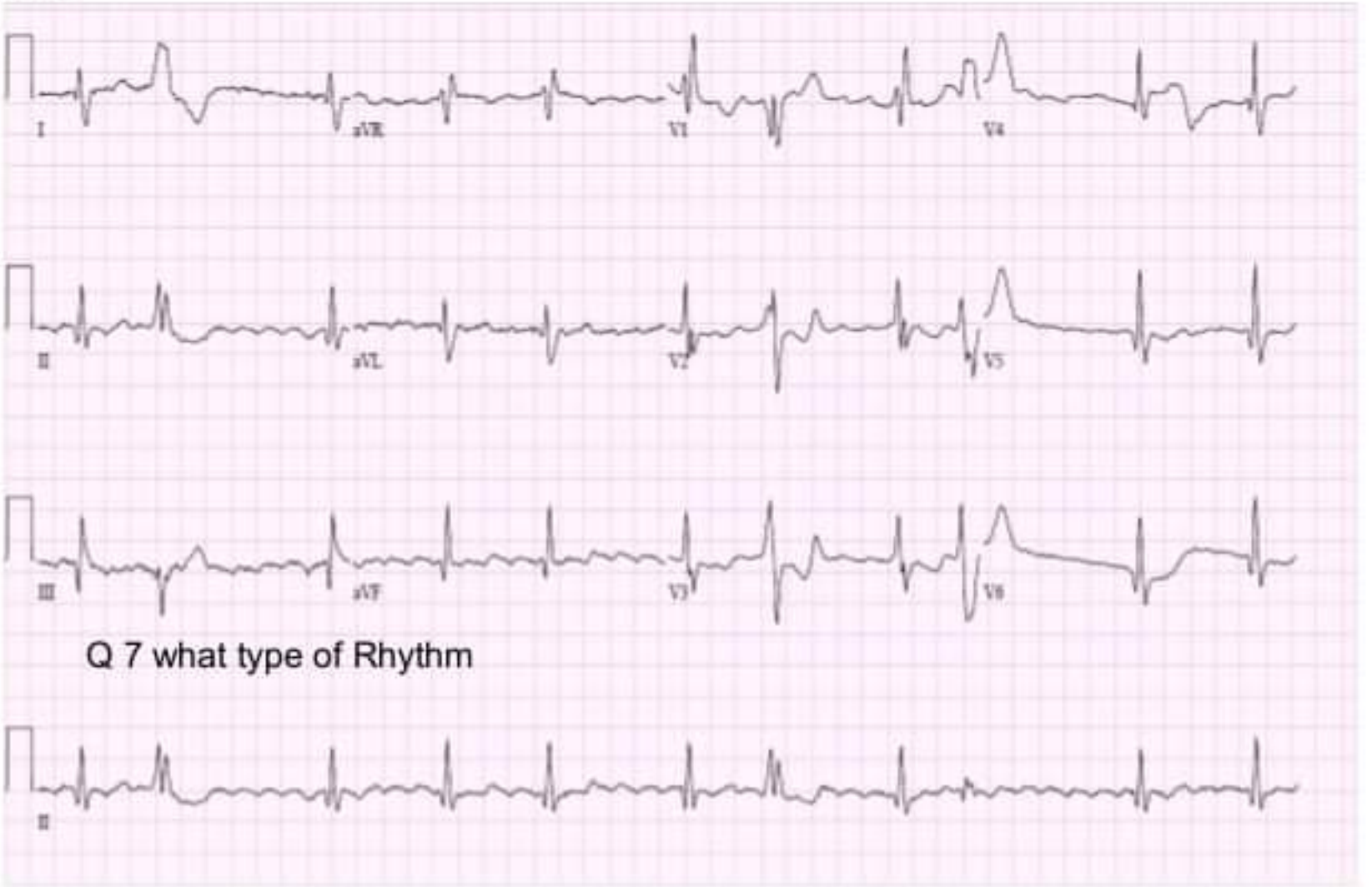


A 6

- A- RBBB.

Left Bundle Branch Block

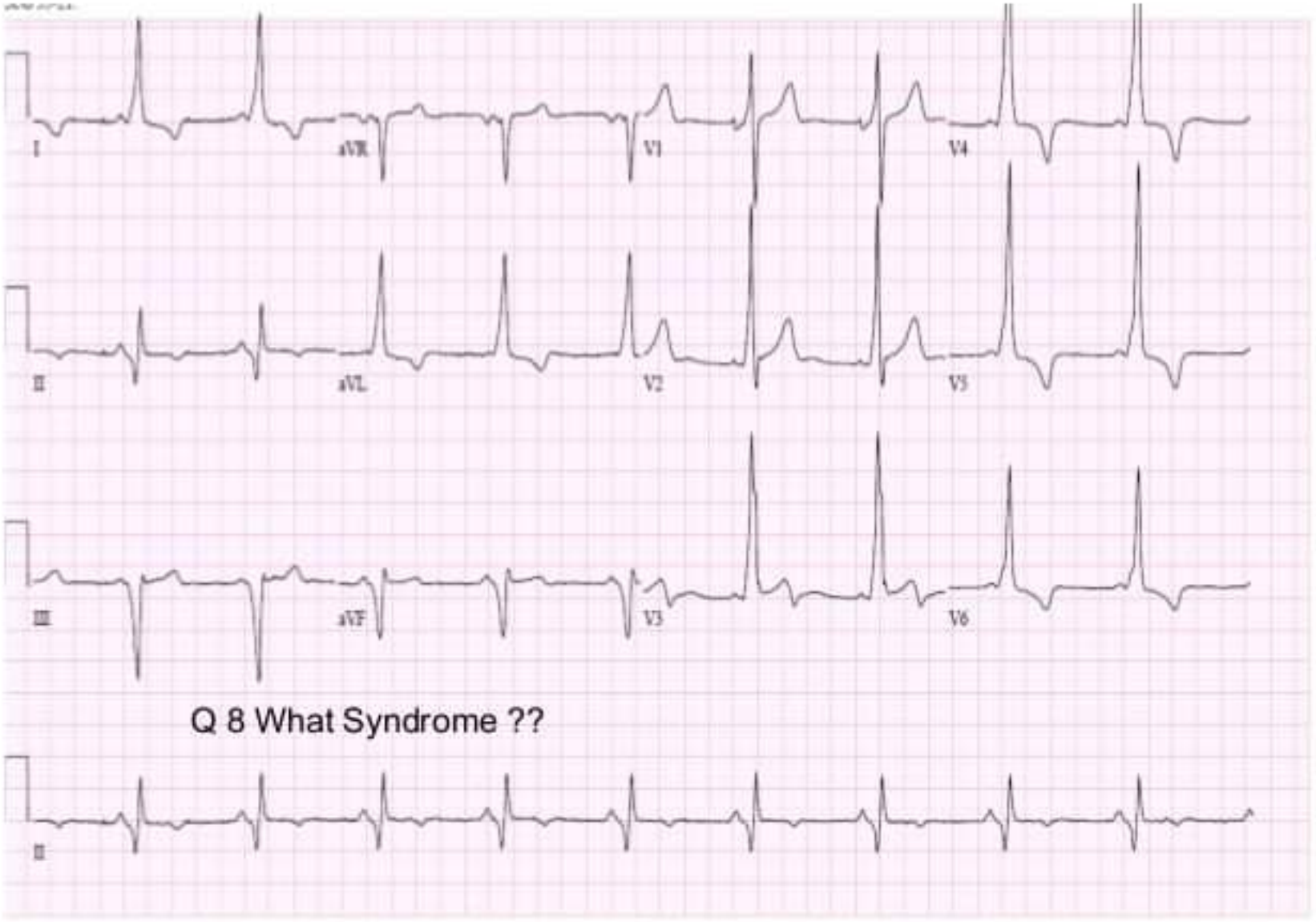




25mm/s 10mm/mV 40Hz 7 1 1 I2SL 237 CID 158 EID 21 EDT 15:02 31-MAY-2011 ORDER ACCOUNT: 2122390

Q 7

- A-Atrial Flutter
- B-AVNR/SVT



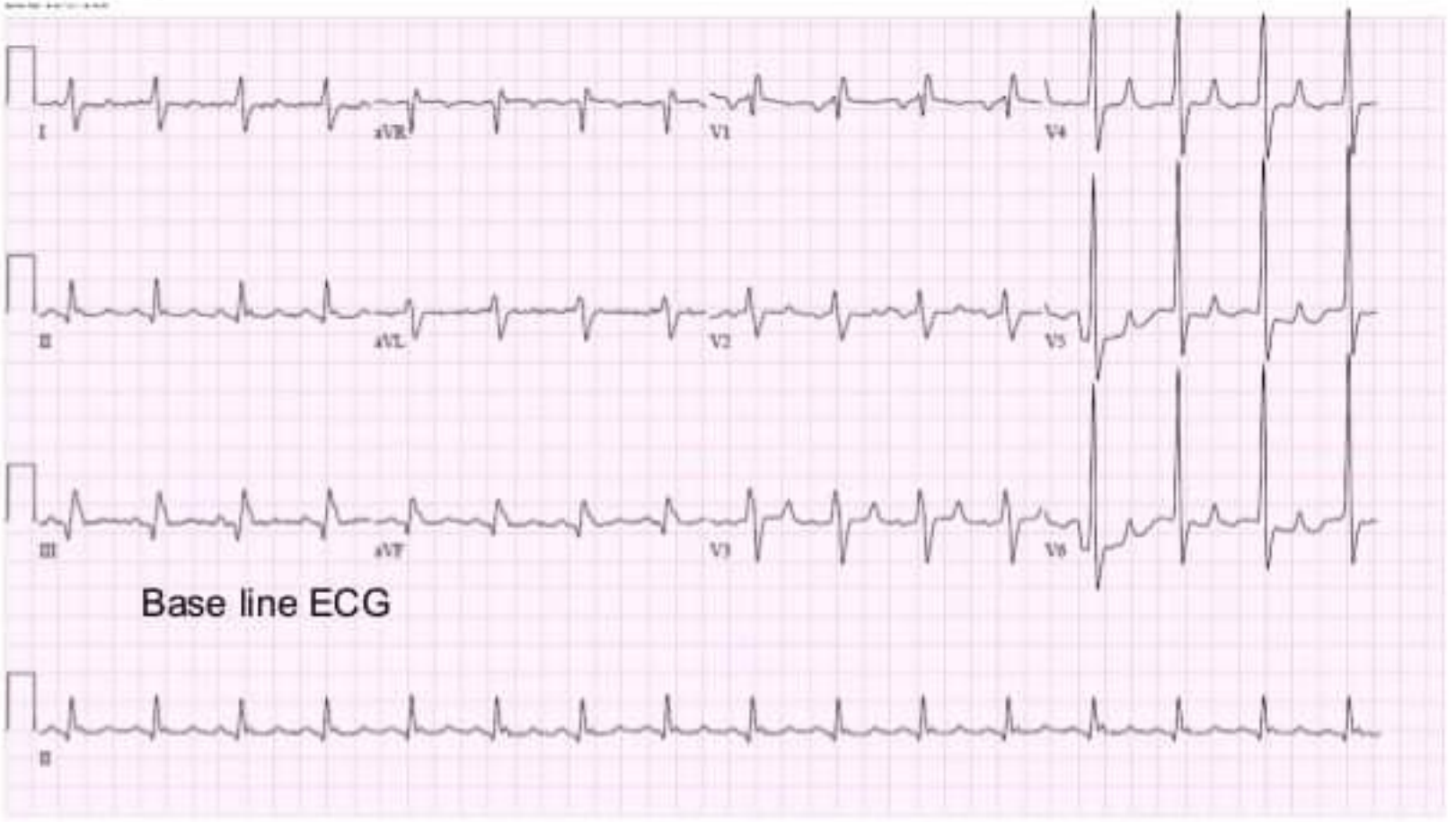
25mm/s 10mm/mV 40Hz 7:1:1 12SL 239 CID: 171

EID:21 EDT: 05:08 18-JUN-2011 ORDER: ACCOUNT: 732540

A 8

- A- WPW Syndrome.

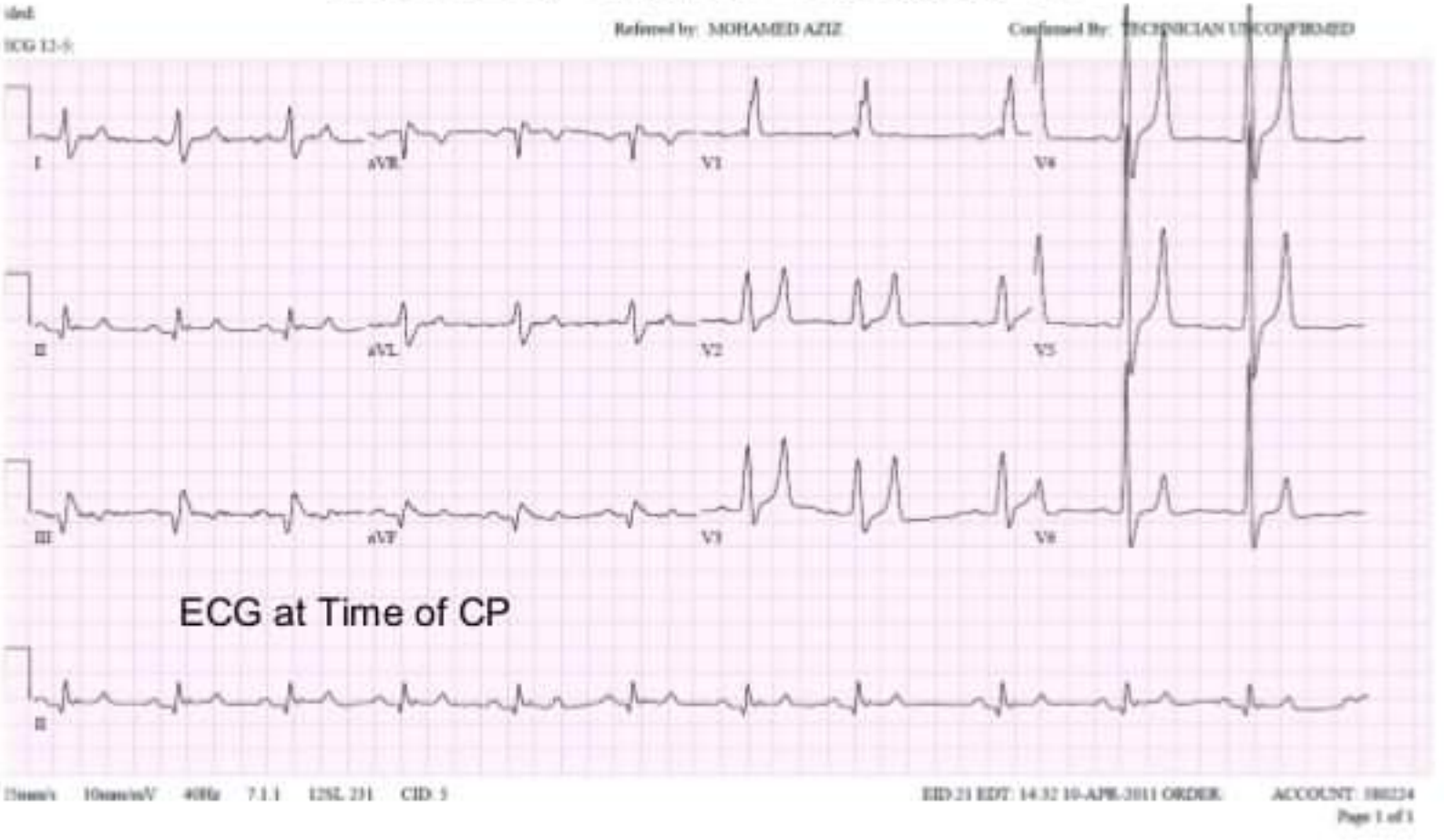
60 years old male with Multiple Co-Morbid issues.



Base line ECG

25mm/s 10mm/mV 40Hz 7.1.1 12SL 231 CID: 5 EID: 21 EDT: 23:47 16-FEB-2011 ORDER: ACCOUNT: 580224

60 years old male with Multiple COMORBID ISSUES, came 2 ER with CP



60 years old male with Multiple COMORBID ISSUES
ECG side by Side

A 8

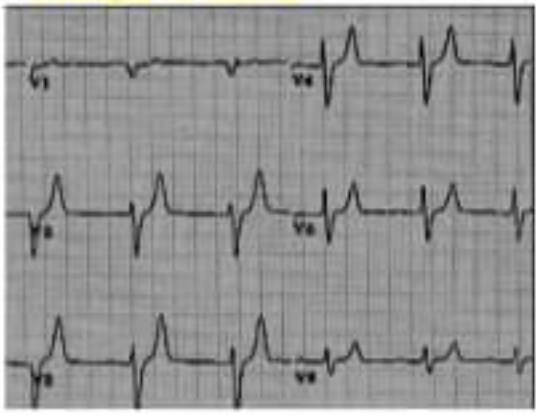
07/02/11 0822	13.8	141	5.4	114	N/A		228
16/02/11 2309						Not applicable	
16/02/11 2317						Not applicable	
16/02/11 2355	17.0	139	5.7	112	16	6.3	178
17/02/11 1123	19.8	139	5.4	112	18	9.3	199
18/02/11 0645	20.9	139	4.4	110	N/A		223
19/02/11 0500	22.8	139	4.7	107	N/A		241
21/02/11 1014	24.5						247
05/03/11 0710	23.5	134	5.8	108	N/A		273
29/03/11 0703	28.9						224
10/04/11 0813	42.2	133	7.9	107	16		341
10/04/11 1348						Not applicable	
10/04/11 1355						Not applicable	
10/04/11 1436	>44.0	130	9.3	102	15	8.1	334
10/04/11 1720	>44.0	134	8.6	101	18	7.6	331
10/04/11 1839	>44.0	137	8.3	101	21	5.4	324
11/04/11 0035	28.0	135	4.5	103	22	7.9	210
14/04/11 1058						Not applicable	
17/04/11 0703	23.3	141	6.7	112	21		221
24/04/11 1622						Not applicable	
24/04/11 1715						6.5	
24/04/11 2024	24.5	134	5.8	106	13	5.7	207
26/04/11 0545	22.5	137	5.1	111	16		194
27/04/11 1130	17.9	137	5.2	109	17	5.9	207
29/04/11 0635	13.8	135	4.5	106	22		181
03/05/11 0550	18.3	137	5.9	111	18	4.0	236
04/05/11 1100	19.7	134	6.0	109	16		227
05/05/11 0600	21.7	135	6.1	110	17	4.2	247

25mm/s 10mm/mV 40Hz 7 1 1 12SL 237 CID: 150

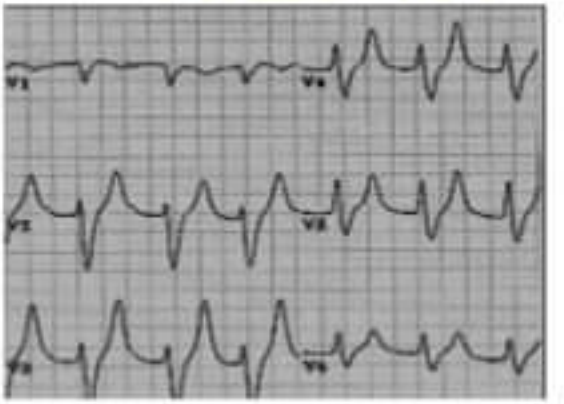
EID:21 EDT: 12:43 21-APR-2011 ORDER: ACCOUNT: 180224

Hyperkalemia

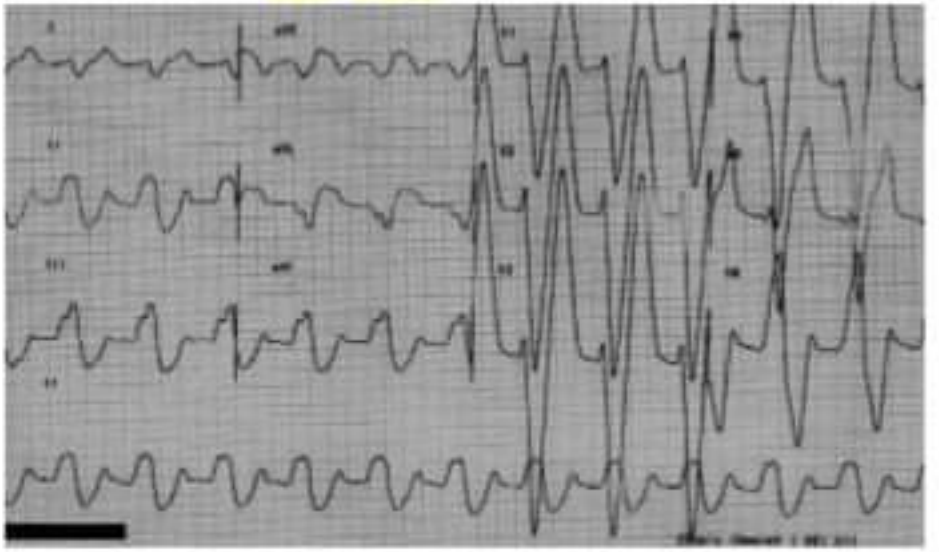
Peaked T waves (> 1/3 QRS)
Prolonged PR interval

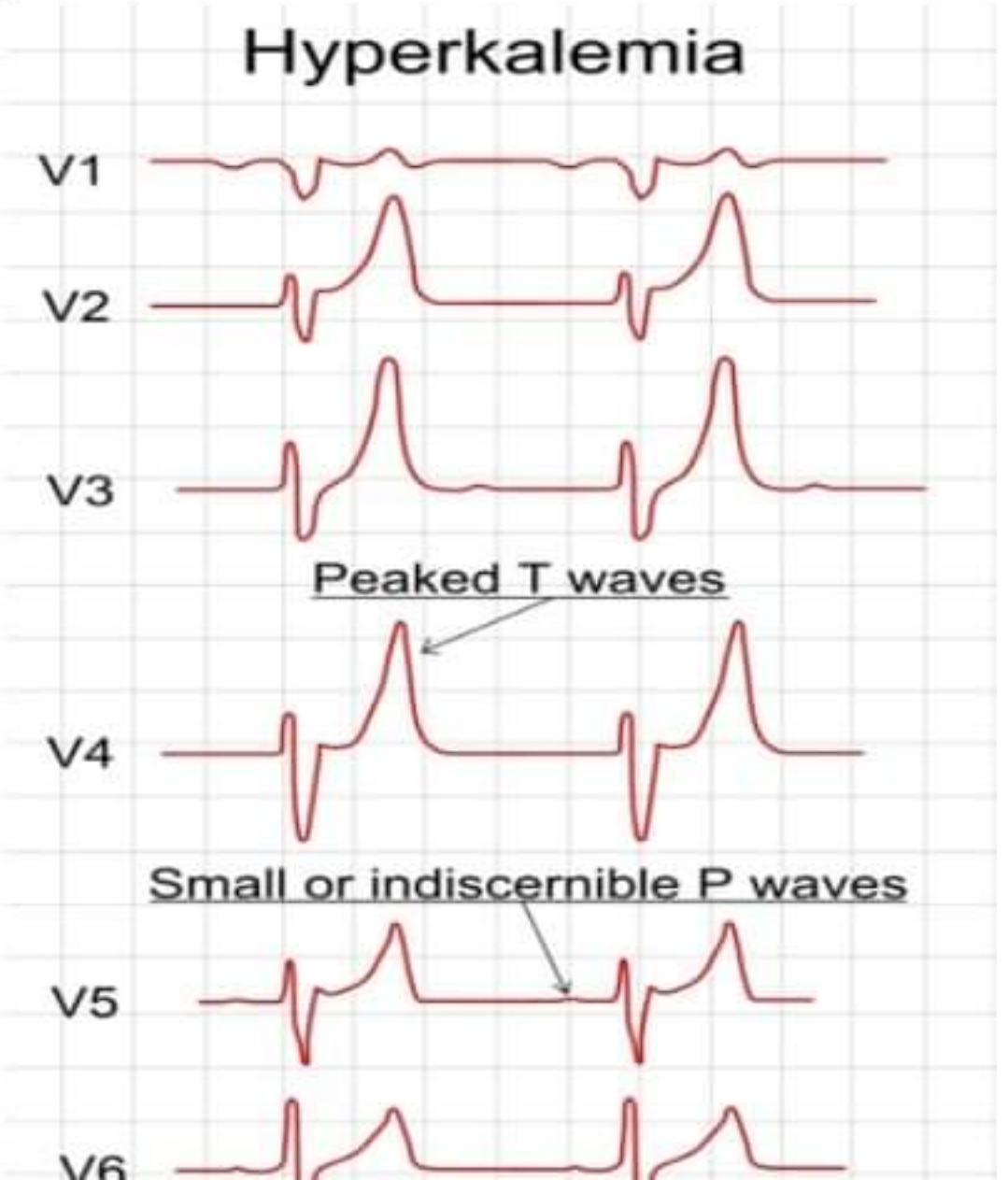


Widening of QRS



Sine Wave




Hyperkalemia
V1
V2
V3
Peaked T waves
V4
Small or indiscernible P waves
V5
V6

Q 9

KING ABDULAZIZ CARDIAC CENTER

Loc:24 P-R-T axes * 90 136

Technician:SILVA GIGI
Test ind:

Med:

Reviewed by: AHMED TAMZEED Confirmed By: AHMED TAMZEED

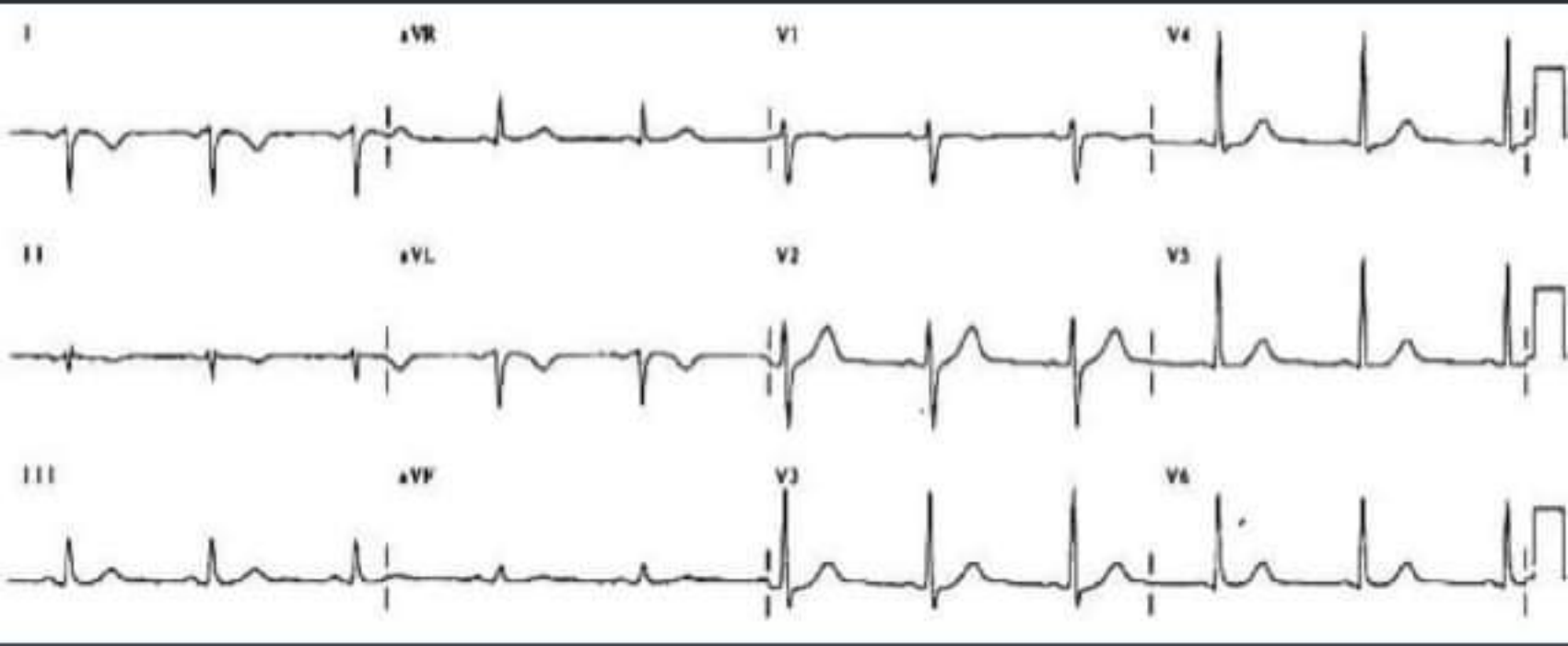
LOCATION: T1

25mm/s 10mm/mV 40Hz 7:1:1 12SL 252 CID: 8

EID:10 EDT: 11:06 04-MAY-2002 ORDER:

A 9

- B-VT

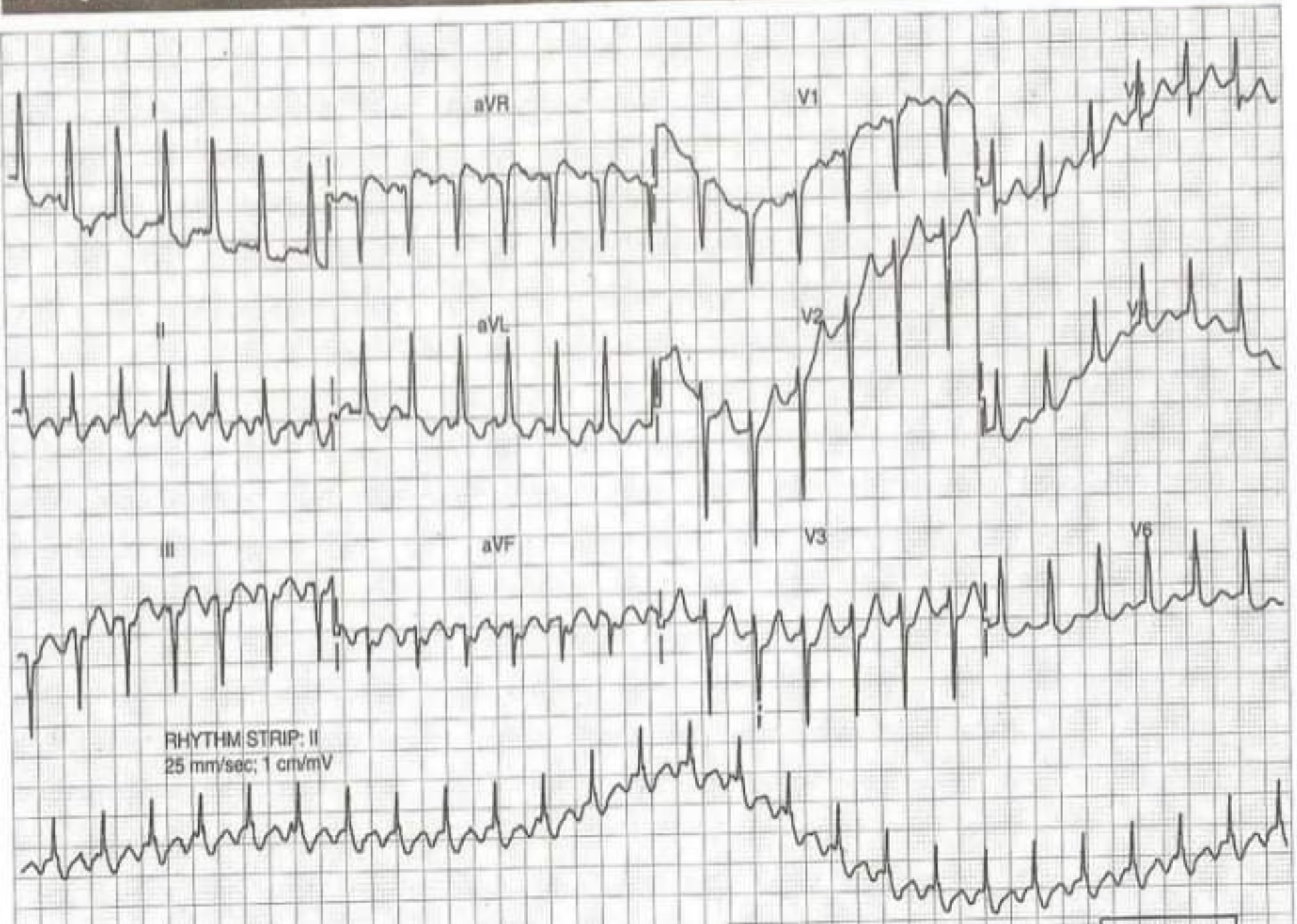

I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6

LIMB LEAD REVERSAL

- LA and RA reversal

"True" lead Reversal	I	II	III	aVR	aVL	aVF	V1– V6
LA / RA	- I	III	II	aVL	aVR	aVF	No change
LA / LL	II	I	- III	aVR	aVF	aVL	No change
RA / LL	- III	- II	-I	aVF	aVL	aVR	No change
Clockwise	III	- I	- II	aVL	aVF	aVR	No change
Anti-Clockwise	- II	- III	I	aVF	aVR	aVL	No change

A 79-year-old lady with dyspnoea and sweating



Atrial Flutter with 2:1 AV block

-flutter line

-QRS rate is half the flutter rate.

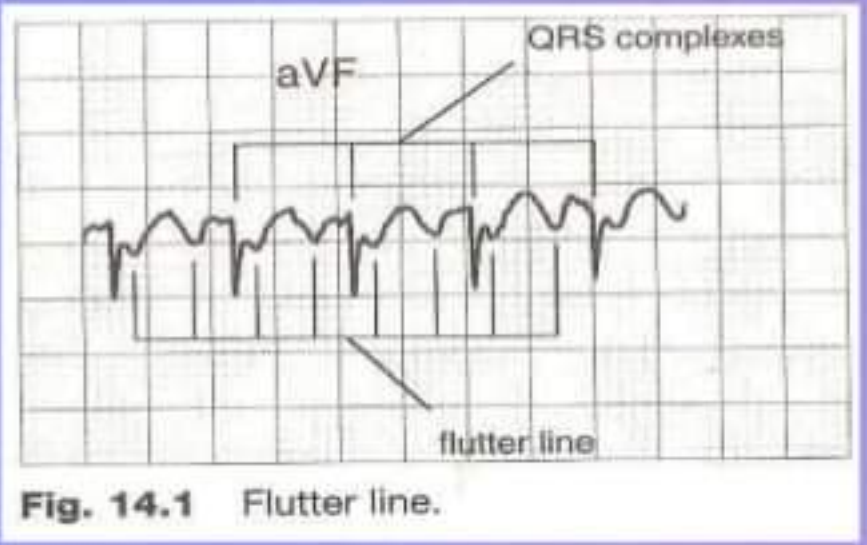
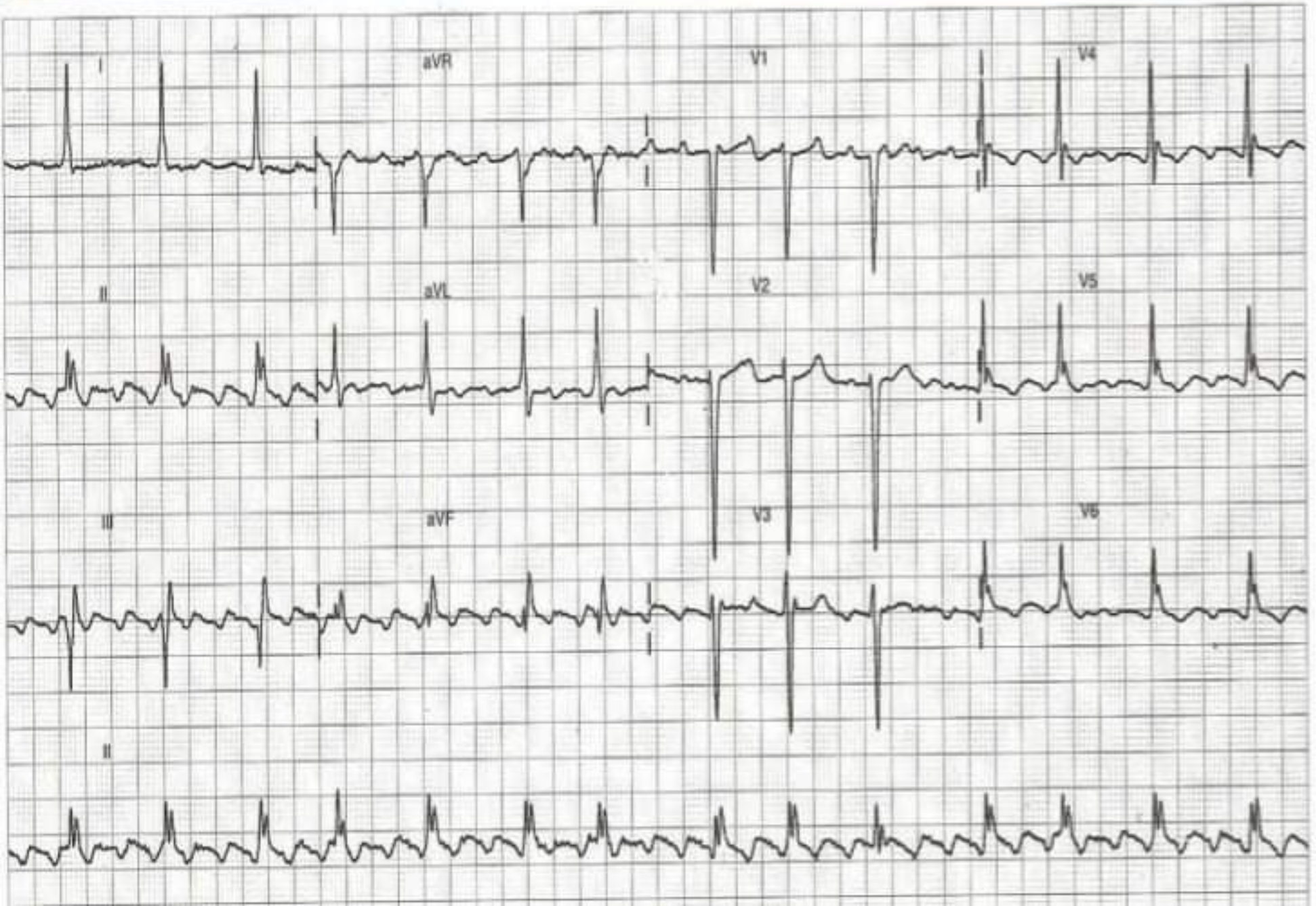


Fig. 14.1 Flutter line.

A 60-year-old man with a history of palpitations controlled on medication



Atrial flutter with variable AV conduction

Saw tooth waveform (250-350 bpm)
Irregular AV conduction

-QRS complexes conducted in 3:1 & 4:1 ratio

Non-specific intraventricular conduction delay
(RsR' complexes in II,aVF & V6.

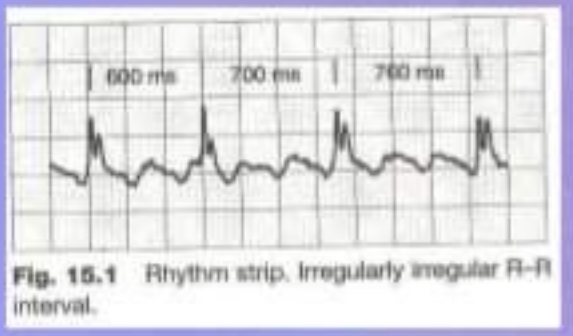


Fig. 15.1 Rhythm strip. Irregularly irregular R–R interval.

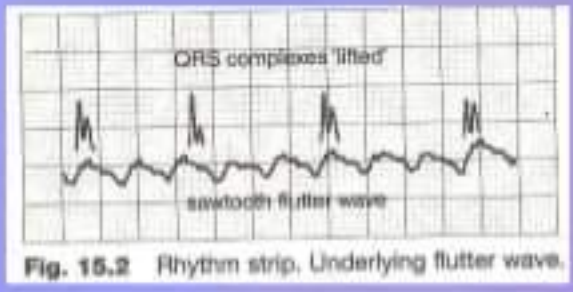
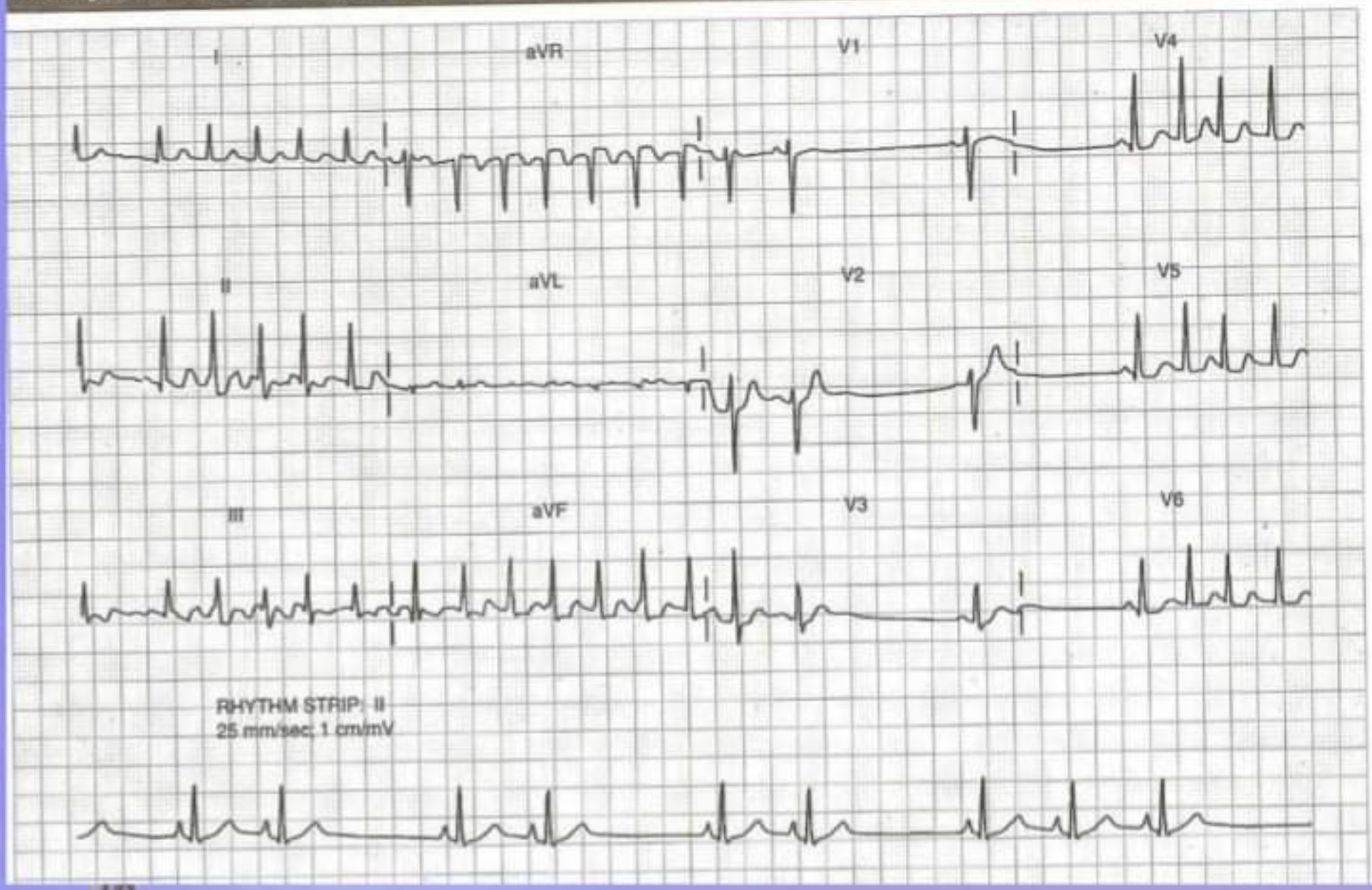


Fig. 15.2 Rhythm strip. Underlying flutter wave.

A 48-year-old lady with blackouts



Sick sinus syndrome

Features of this ecg
-paroxysms of atrial tachycardia rate of 150 bpm.

3:2 sinoatrial exit block

Normal QRS axis.

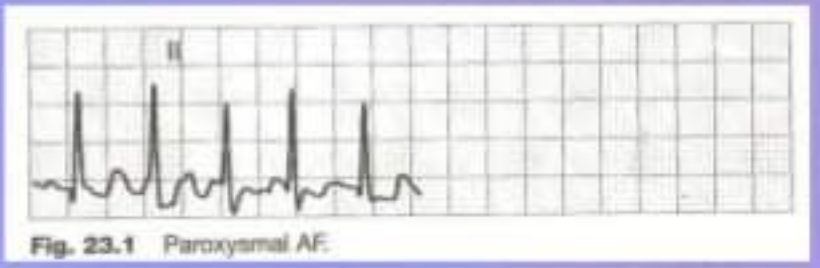


Fig. 23.1 Paroxysmal AF.

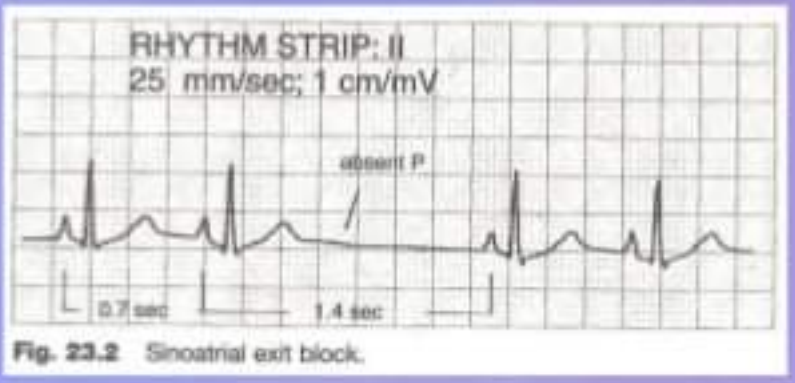
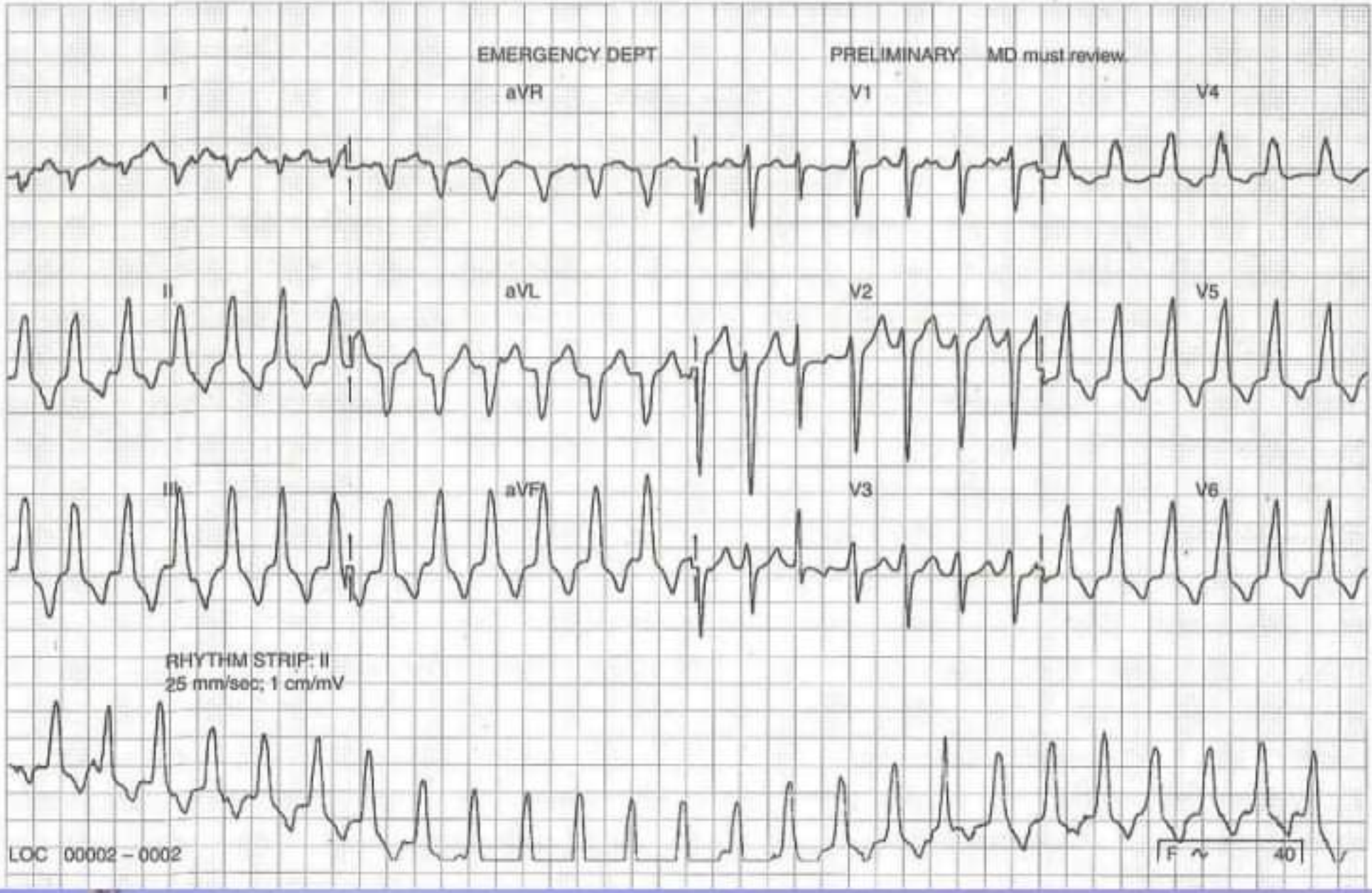


Fig. 23.2 Sinoatrial exit block.

A 24-year-old lady, previously well, with 6 hours of palpitations, BP 120/80



Ventricular tachycardia – capture and fusion beats

Ventricular tachycardia, 160 bpm, RAD +100`

-wide complexes & AV dissociation

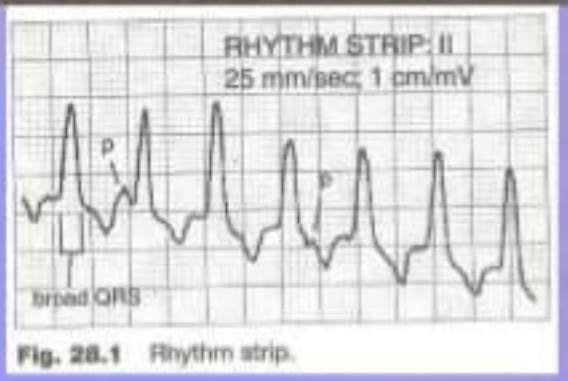


Fig. 28.1 Rhythm strip.

-a capture beat

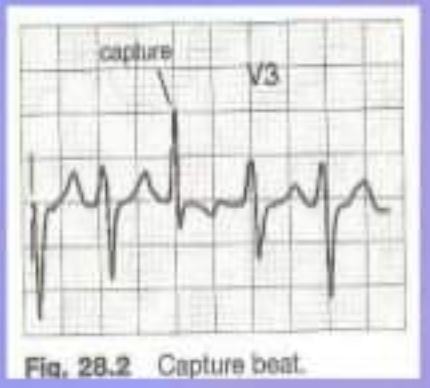
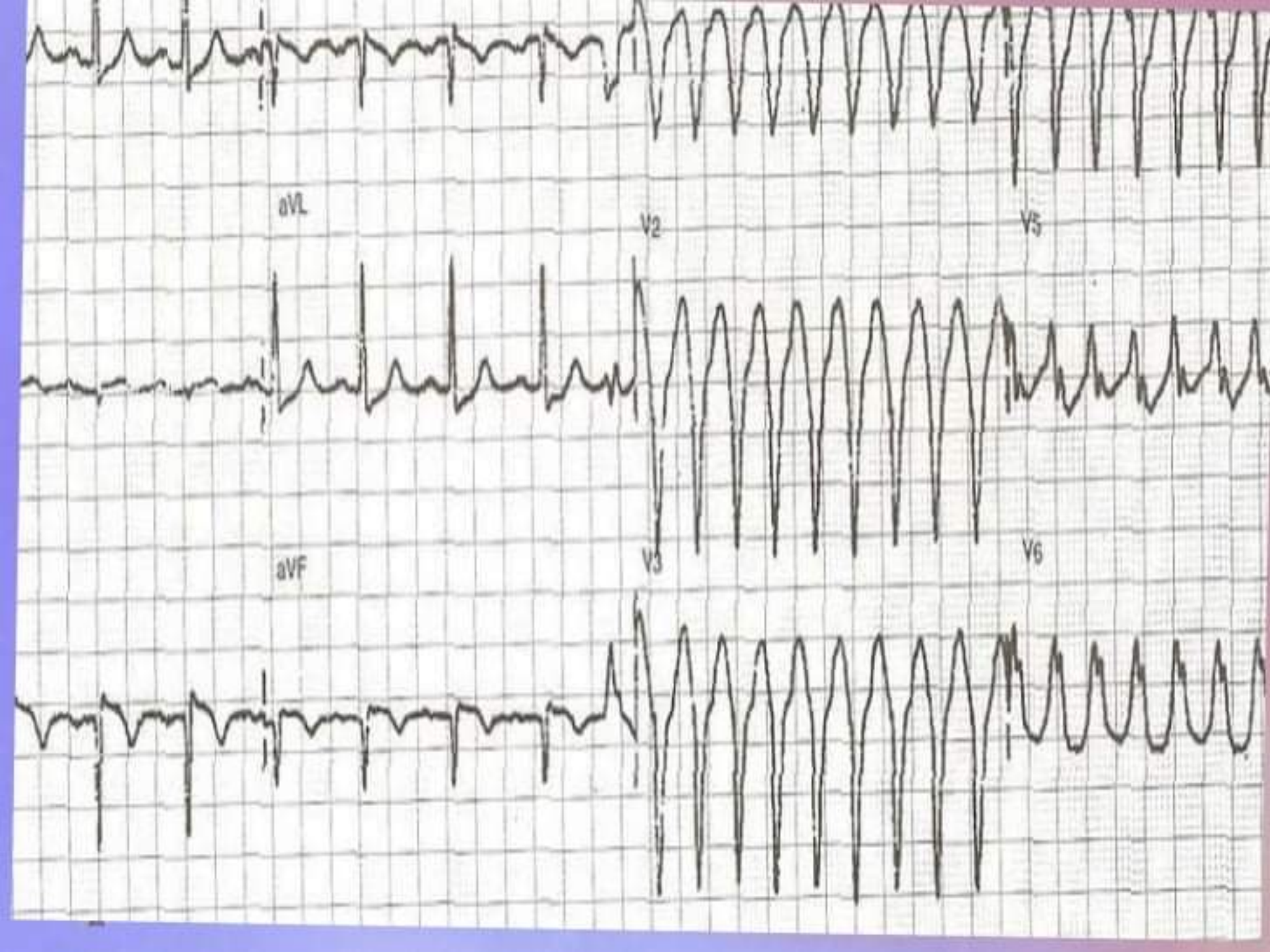


Fig. 28.2 Capture beat.

-a fusion beat.

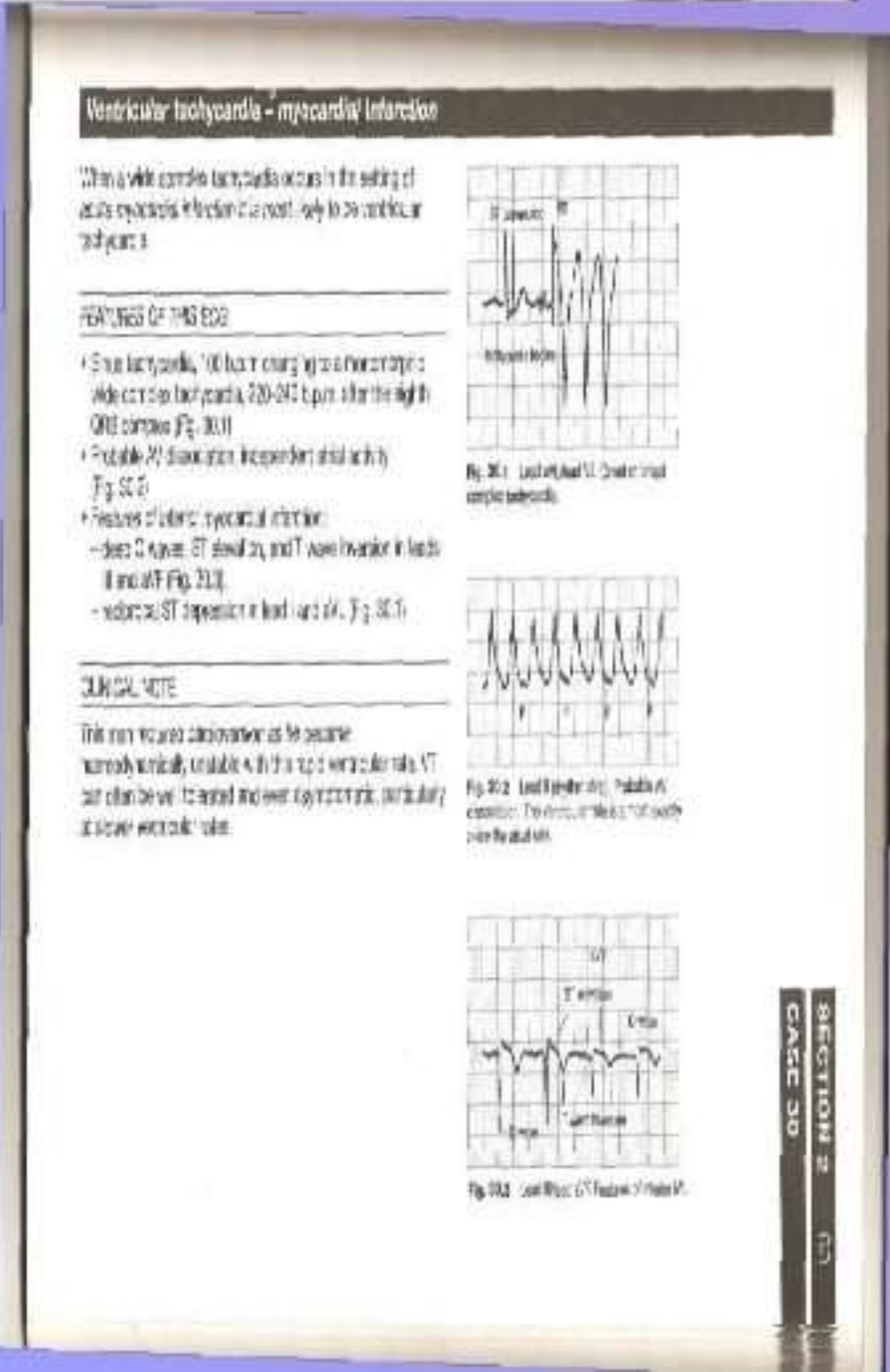
Fig. 28.4 Fusion beat.

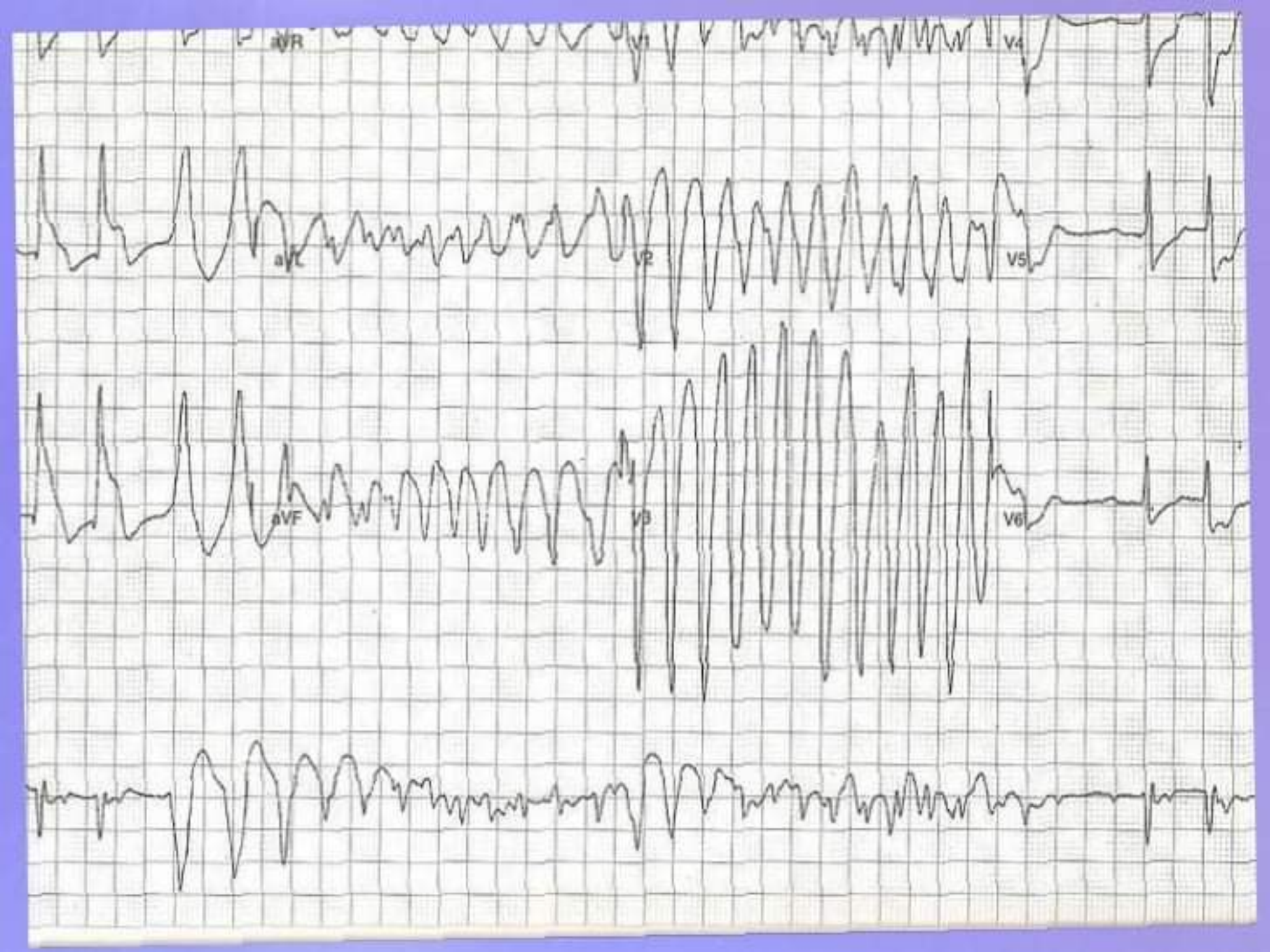

aVL
V2
V5
aVF
V3
V6

Sinus rhythm-monomorphic wide complex tachycardia.

AV Dissociation ,independent atrial activity.

Features of Inferior wall MI
-deep Q waves,ST elevation & T wave inv. In leads III and aVF.
-reciprocal ST depression in leads I & aVL.




aVR
V4
aVL
V2
V5
aVF
V3
V6

Polymorphic ventricular tachycardia

Sinus rhythm –atrial ectopics.
RAD, incomplete RBBB pattern
Complete heart block.

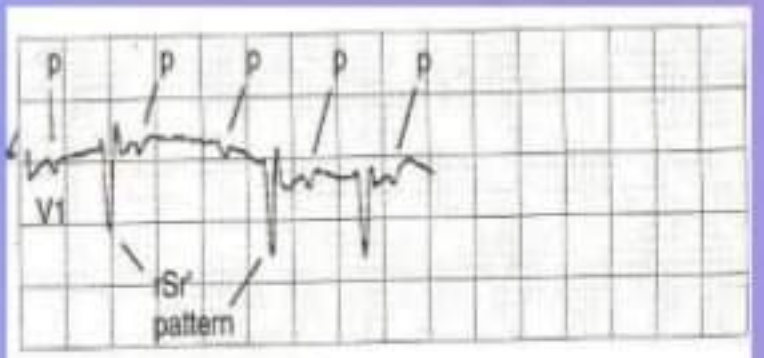


Fig. 31.1 Rhythm strip.

Acute inferior MI
-ST elevation in leads II & III
-reciprocal changes in leads I,V4-6.

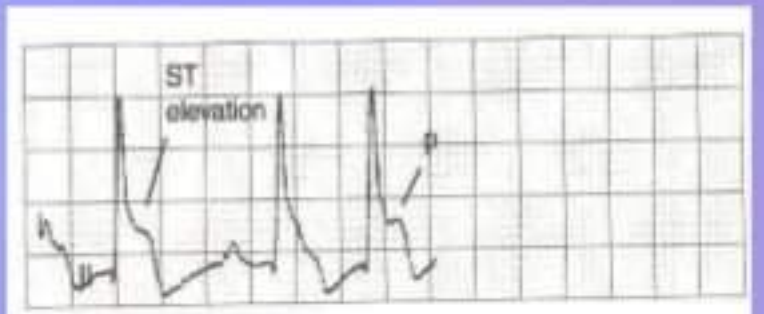


Fig. 31.2 Lead II.

Polymorphic VT
-multiple morphologies
-varying R-R intervals

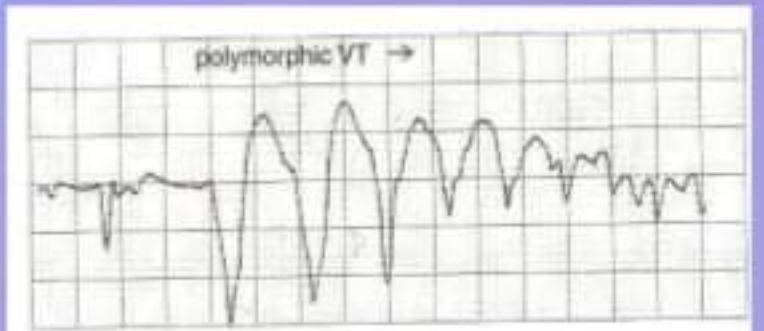


Fig. 31.3 Rhythm strip.

A 48-year-old man with palpitations

Supraventricular tachycardia with aberrant conduction

Wide complex tachycardia
LAD --60`

A short R-S interval
No AV dissociation.

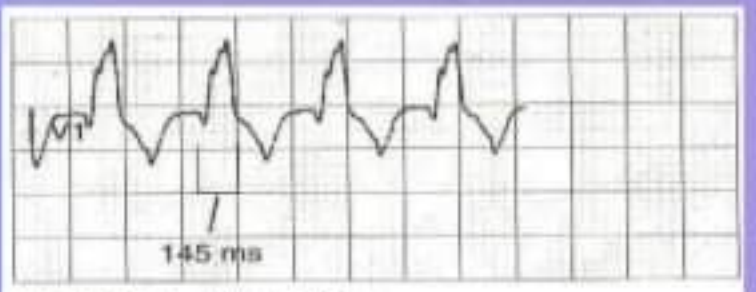


Fig. 22.1 Wide QRS.

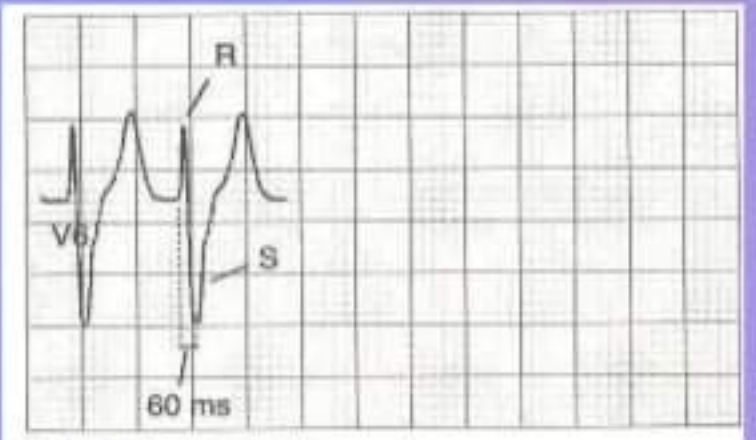
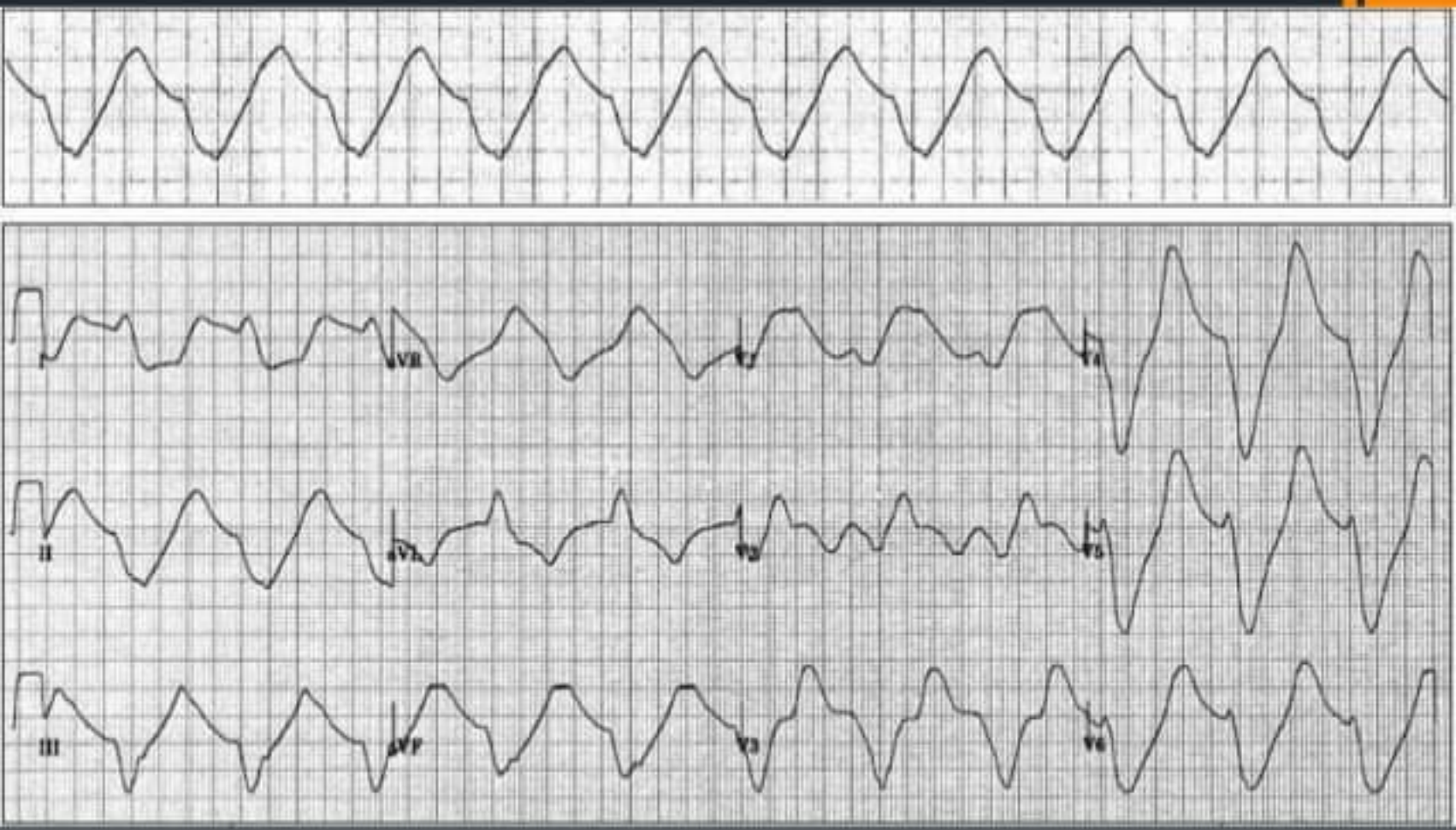


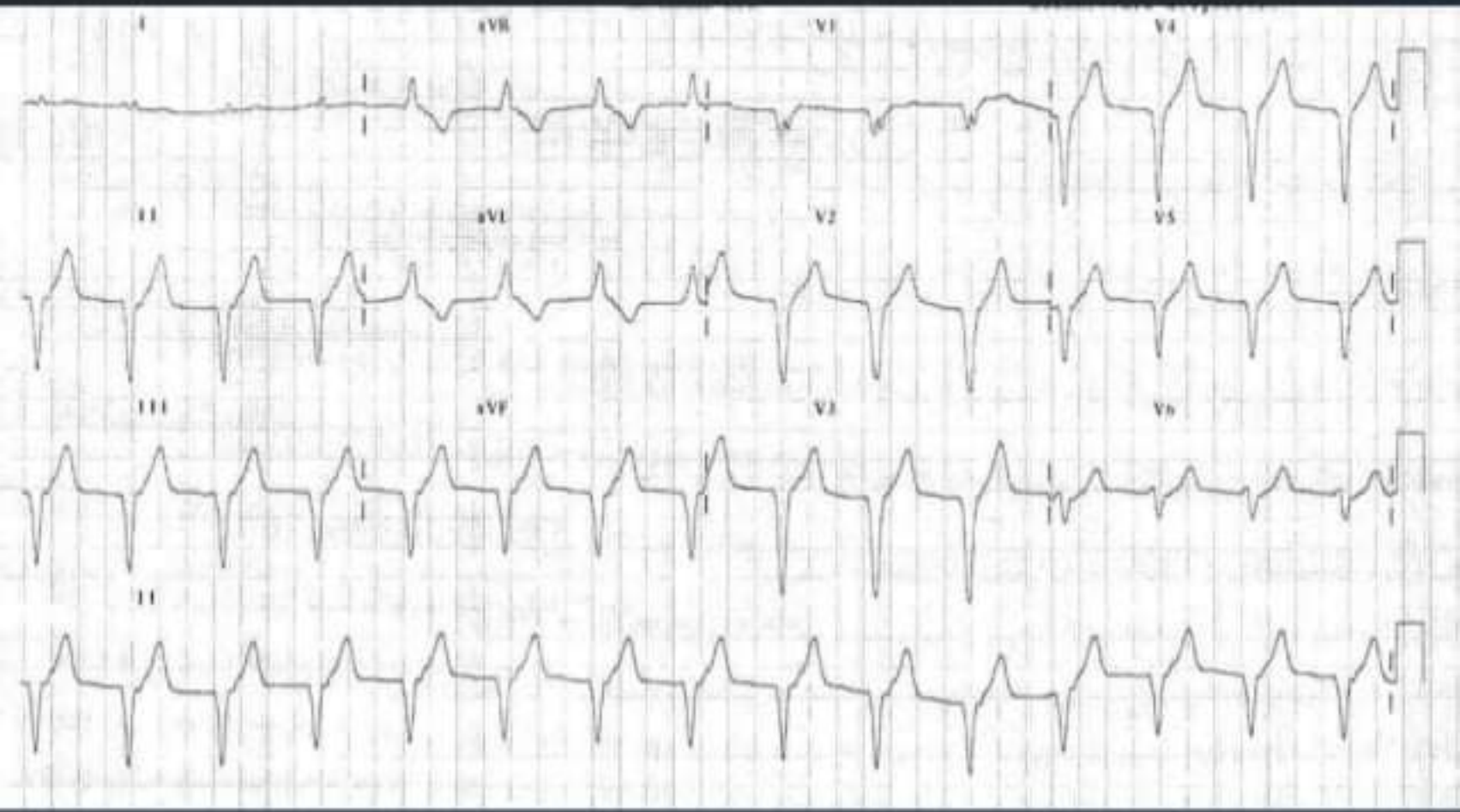
Fig. 22.2 R–S interval.

Fig. 22.3 After adenosine.


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6

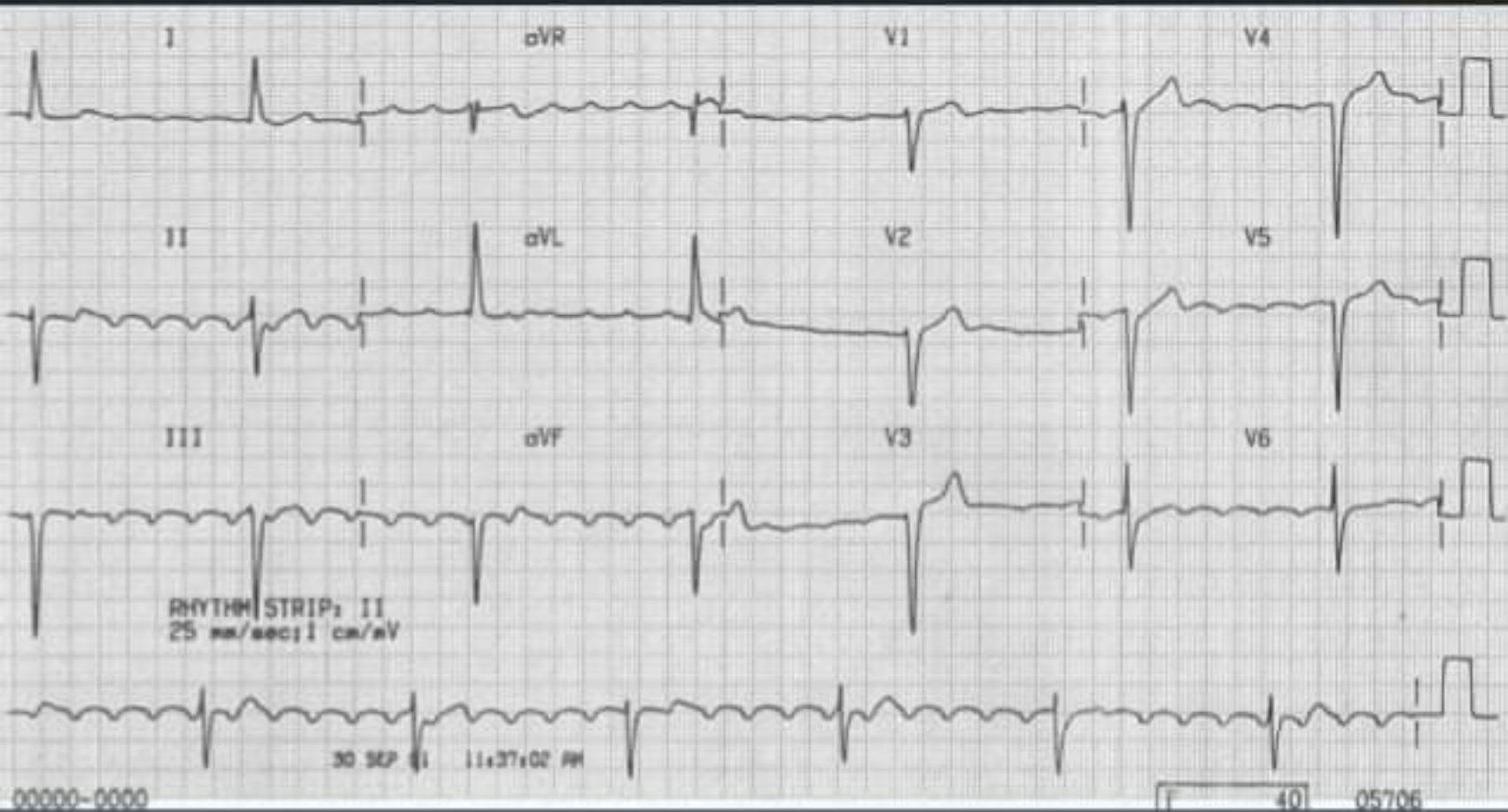
SINE WAVE PATTERN ECG

- Typical of Hyperkalemia
- Increased chances of asystole.
- Inj. Calcium gluconate IV to be given before control of hyperkalemia.
- Insulin infusion ,injection lasix and B agonists have faster action .


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
II

ACCELERATED IDIOVENTRICULAR RHYTHM

- Accelerated because rate more than 50 and less than 100 bpm
- Also called as slow VT
- It is a reperfusion arrhythmia
- Need not be treated


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
RHYTHM STRIP: II
25 mm/sec; 1 cm/mV
00000-0000
40
05706

ATRIAL FLUTTER with 4:1 conduction

- Typical
- Atypical
- Atypical mostly after surgeries
- Atrial flutter is the only arrhythmia which can be cardioverted with least energy.