

ECG Interpretation Course

Small group discussion cases

Chapter 4

Bradycardia and Pacemakers

(for participant use)

This information is for individual use and not for further dissemination

LV

22-MAR-2009 11:49:27

ALBERTA HEALTH SERVICES - CHR

Male (81 yr)
Unknown

Vent. rate
PR interval
QRS duration
QT/QTc
P-R-T axes

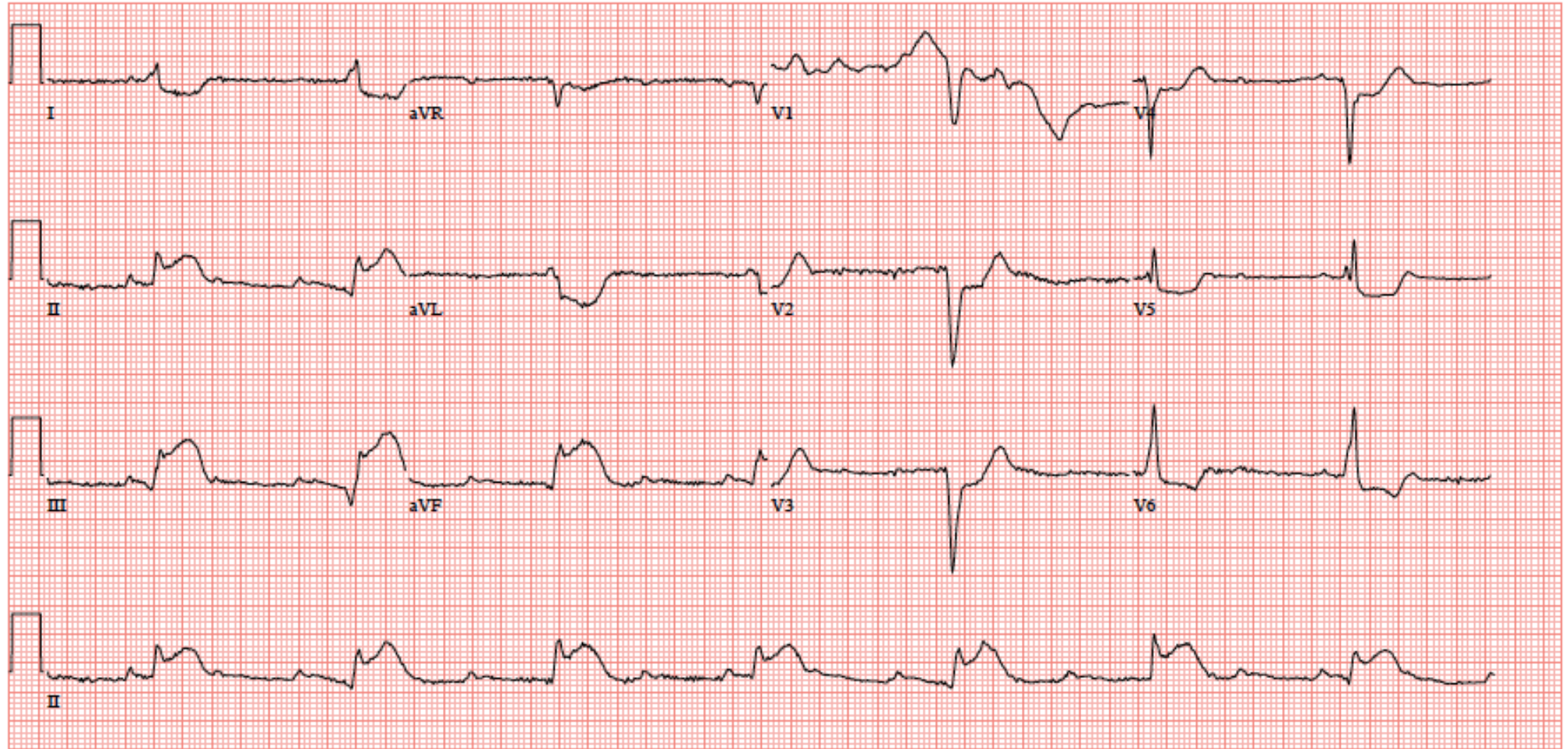
Room:
Loc:12

Technician:
Test inc

Referred by:

Confirmed by:

COMMENTS:



Chapter 4 – Heart Block & Pacemakers – Case 1 – LV

81-yr-old male, presented with acute chest pain

Rate:	Atrial:_____	Ventricular:_____
PR:	_____	
QRS:	_____	
Axis:	_____	
Rhythm:	_____	
Interpretation:	_____	

1. What conduction abnormality is present, and what is the mechanism?

2. What treatment is required?

PT

20-OCT-2008 14:10:24

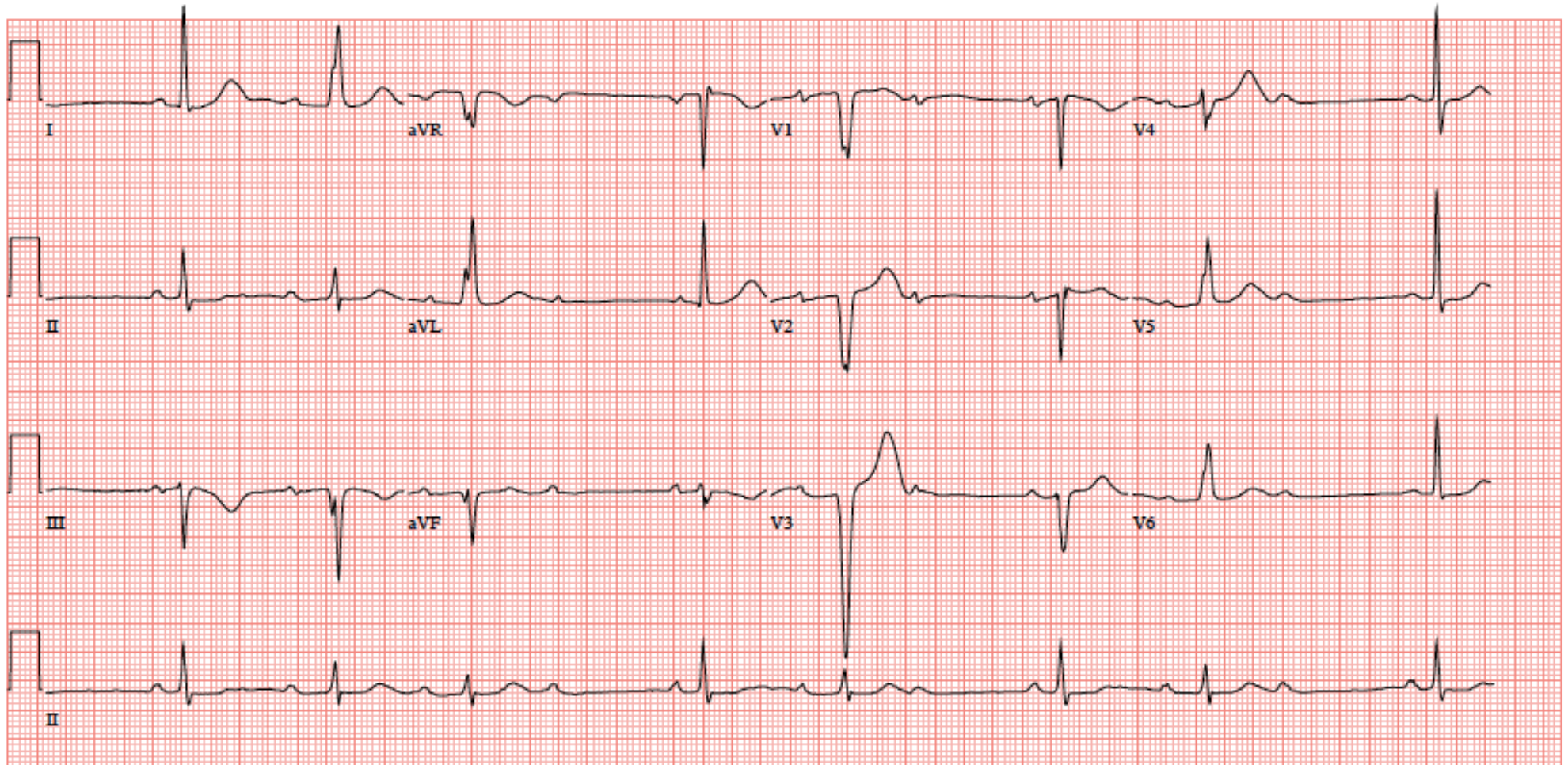
ALBERTA HEALTH SERVICES -CALGARY

Female (76 yr)
Vent. rate
PR interval
QRS duration
QT/QTc
P-R-T axes

Technician
Test ind:

Referred by:

Confirmed by:



Chapter 4 – Heart Block & Pacemakers – Case 2 – PT

76-yr-old female, at the time of hip replacement

Rate: _____ Atrial: _____ Ventricular: _____
PR: _____
QRS: _____
Axis: _____
Rhythm: _____
Interpretation: _____

1. What conduction abnormality is present?

2. Why is the first QRS complex of each group different?

DC

29-JAN-2009 08:28:41

ALBERTA HEALTH SERVICES -CALGARY

Male (13 yr)

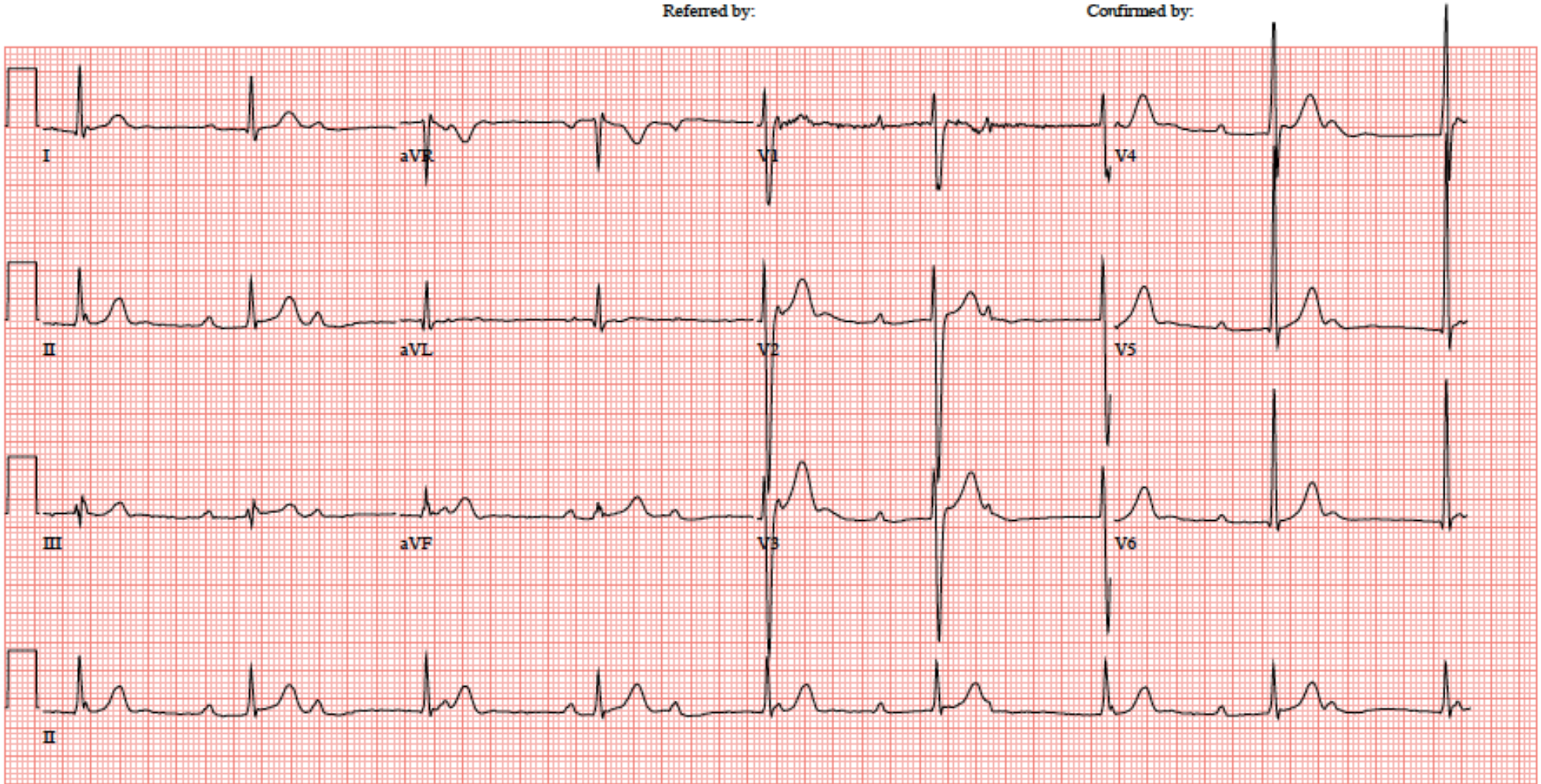
Vent. rate
PR interval
QRS duration
QT/QTc
P-R-T axes

Room:
Loc:410

Technician:
Test ind:

Referred by:

Confirmed by:



Chapter 4 – Heart Block & Pacemakers – Case 3 – DC

13-yr-old boy, asymptomatic.

Rate:	Atrial:_____	Ventricular:_____
PR:	_____	
QRS:	_____	
Axis:	_____	
Rhythm:	_____	
Interpretation:	_____	

1. What conduction abnormality is present?

2. What treatment is required? What condition did his mother suffer from?

FK1

05-MAR-2009 16:14:42

ALBERTA HEALTH SERVICES - CHR

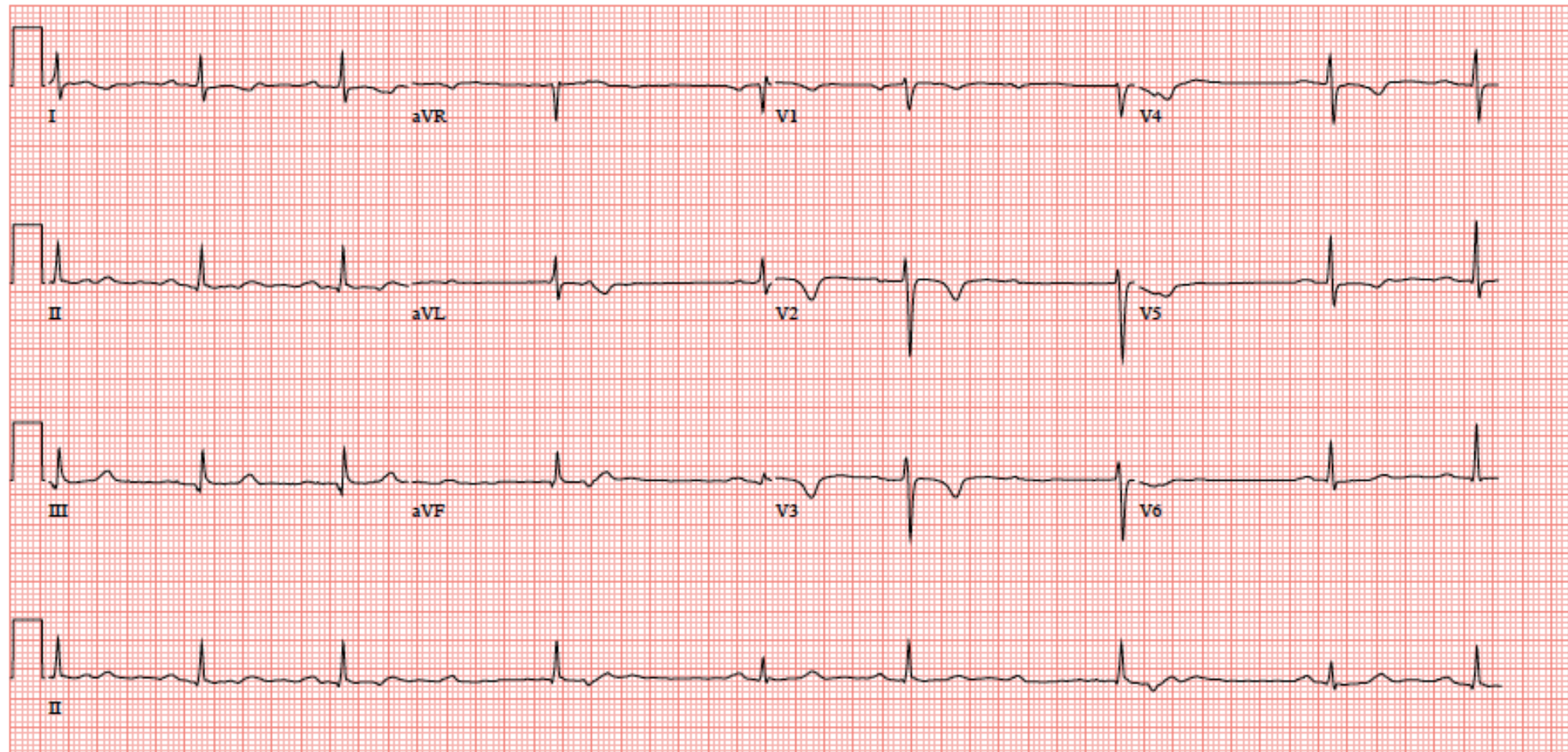
Male (81 yr)
Room: Loc:81
Vent. rate
PR interval
QRS duration
QT/QTc
P-R-T axes

Technician
Test ind:chest pain, bradycardia

Referred by:

Confirmed by:

COMMENTS:



Chapter 4 – Heart Block & Pacemakers – Case 4 – FK1

81-yr-old man admitted with dizziness, presyncope, chest pain. Moderate diffuse CAD on angio with ectatic vessels.

Rate:	Atrial:_____	Ventricular:_____
PR:	_____	
QRS:	_____	
Axis:	_____	
Rhythm:	_____	
Interpretation:	_____	

1. What conduction abnormality is present?

2. What treatment is required?

FK2

16-MAR-2009 13:34:23

ALBERTA HEALTH SERVICES -CALGARY

Male (81 yr)

Vent. rate
PR interval
QRS duration
QT/QTc
P-R-T axes

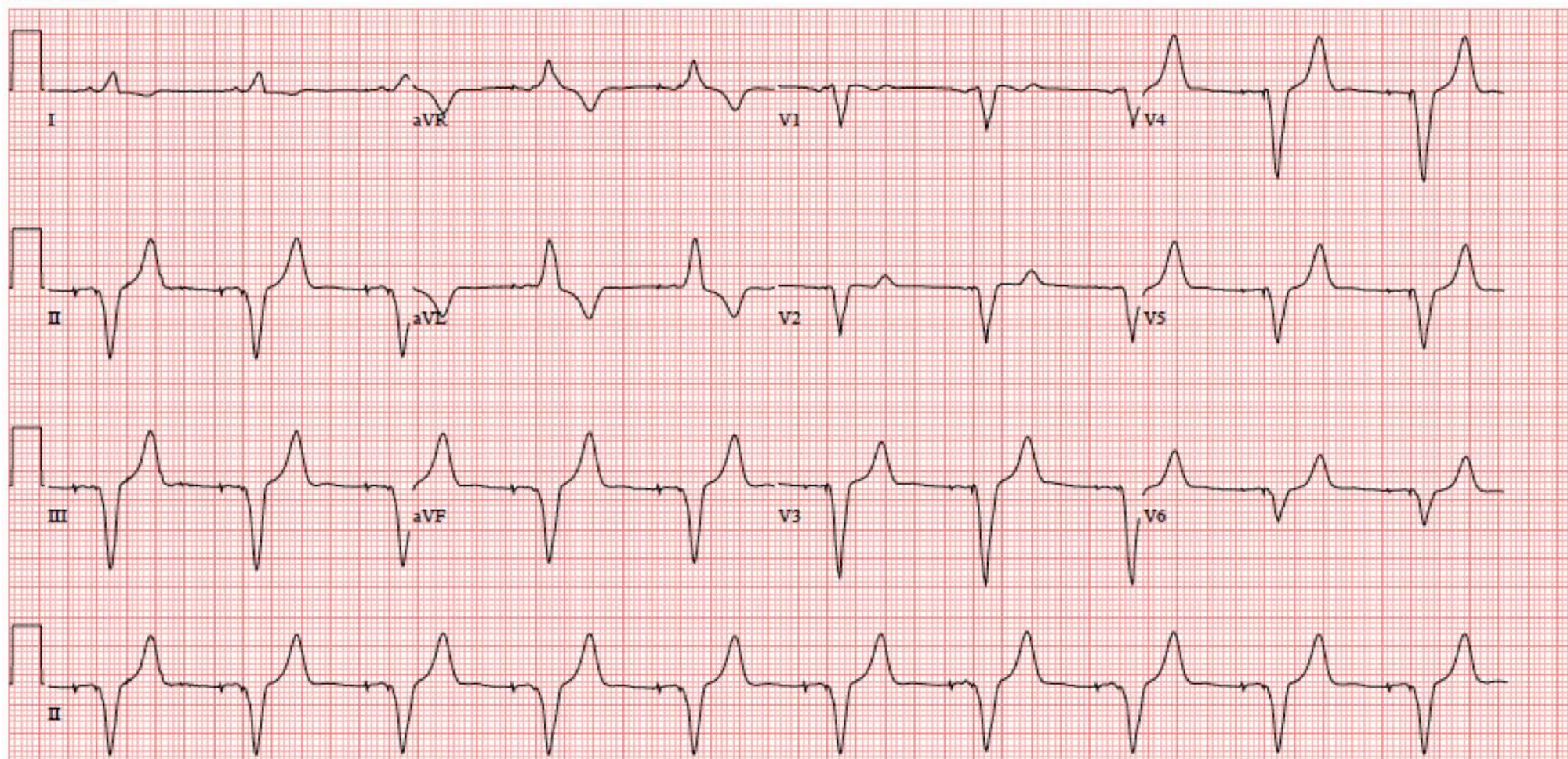
Room:872
Loc:82

Technician
Test ind: arrhythmia known

Referred by:

Confirmed by:

COMMENTS:



Chapter 4 – Heart Block & Pacemakers – Case 4 – FK2

Same patient, few days later.

Rate:	Atrial:_____	Ventricular:_____
PR:	_____	
QRS:	_____	
Axis:	_____	
Rhythm:	_____	
Interpretation:	_____	

1. What does the ECG now show?

2. What parameter could be altered on the device?

LM

11-JUL-2008 08:20:45

ALBERTA HEALTH SERVICES -CALGARY

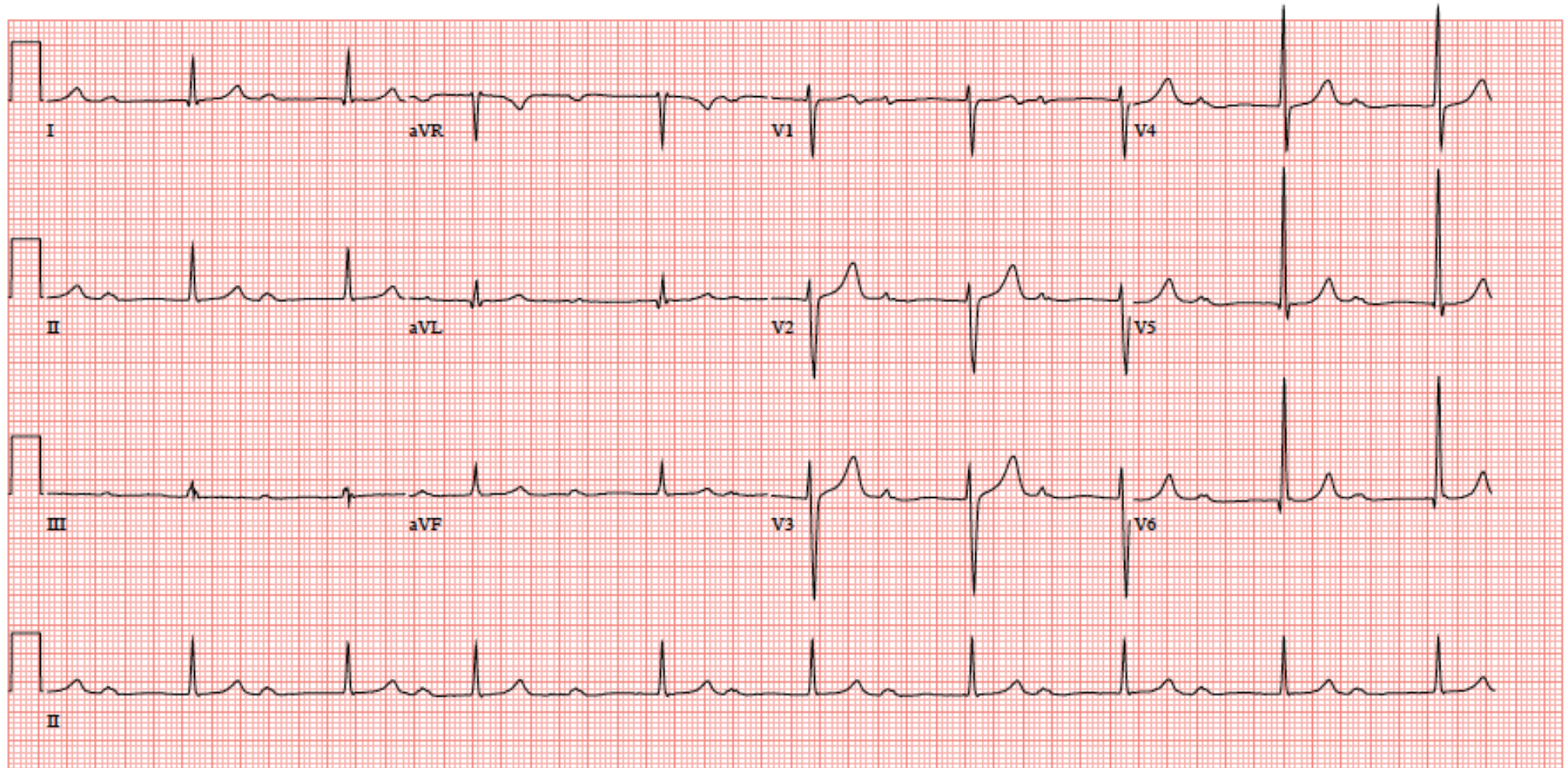
Male (62 yr)
Room:
Loc:105

Vent. rate
PR interval
QRS duration
QT/QTc
P-R-T axes

Technician:
Test ind:

Referred by:

Confirmed by:



Chapter 4 – Heart Block & Pacemakers – Case 5 – LM

62-yr-old male. Asymptomatic. Very fit – runs & cycles 50-60 km / week.

Rate:	Atrial:_____	Ventricular:_____
PR:	_____	
QRS:	_____	
Axis:	_____	
Rhythm:	_____	
Interpretation:	_____	

1. What is the rhythm?

2. What investigations could be considered? Is any treatment required?

GN

26-JAN-2010 09:52:56

ALBERTA HEALTH SERVICES -CALGARY

Male (64 yr)

Vent. rate
PR interval
QRS duration
QT/QTc
P-R-T axes

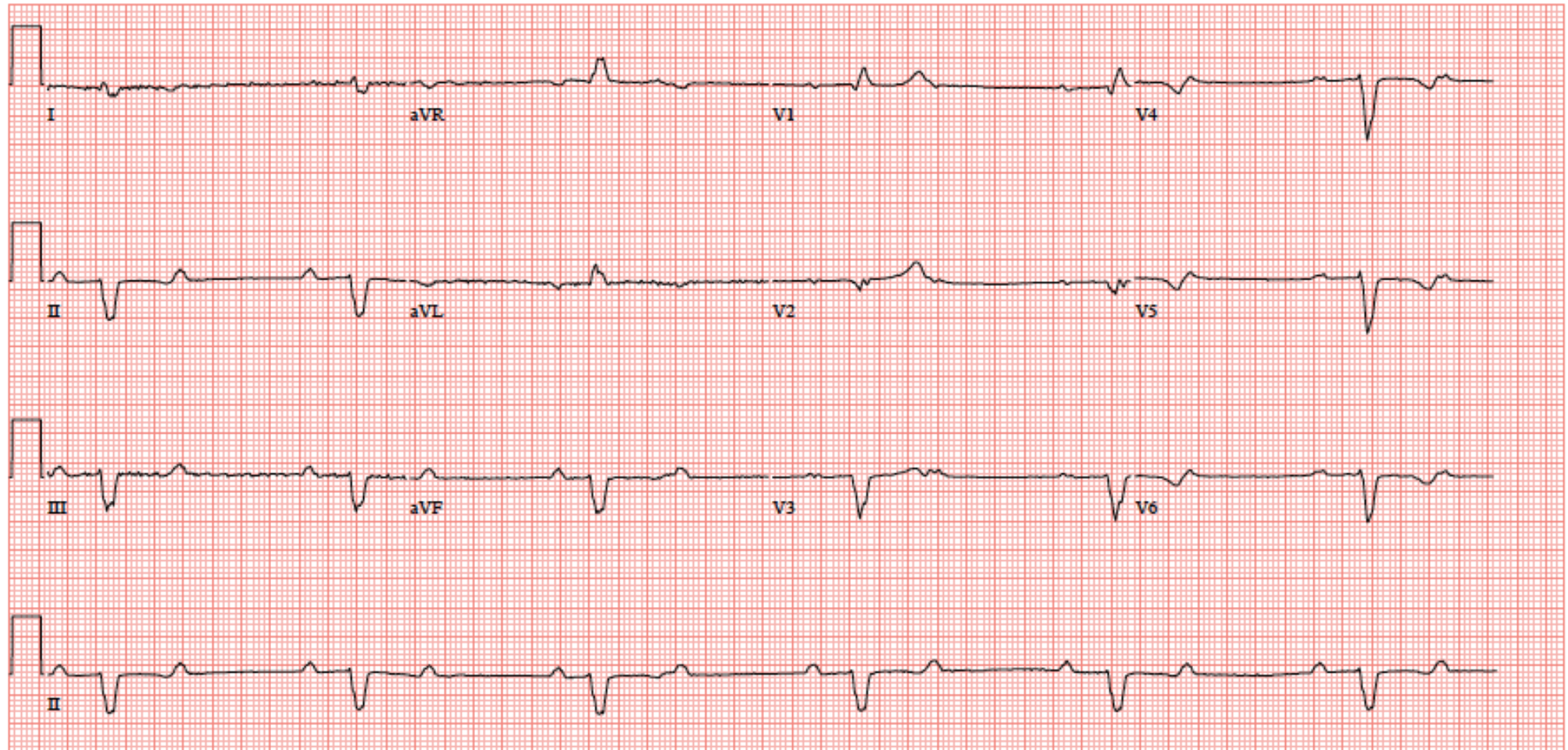
Room: 10
Loc: 92

Technician:
Test ind:

Referred by:

Confirmed by:

COMMENTS:



Chapter 4 – Heart Block & Pacemakers – Case 6 – GN

64-yr-old diabetic smoker, with CAD & CHF. Exercise intolerance & episodes of presyncope.

Rate:	Atrial:_____	Ventricular:_____
PR:	_____	
QRS:	_____	
Axis:	_____	
Rhythm:	_____	
Interpretation:	_____	

1. What conduction abnormality is present?

2. What treatment is required?

RF

04-JUN-2010 07:03:45

ALBERTA HEALTH SERVICES -CALGARY

Male (33 yr)

Vent. rate
PR interval
QRS duration
QT/QTc
P-R-T axes

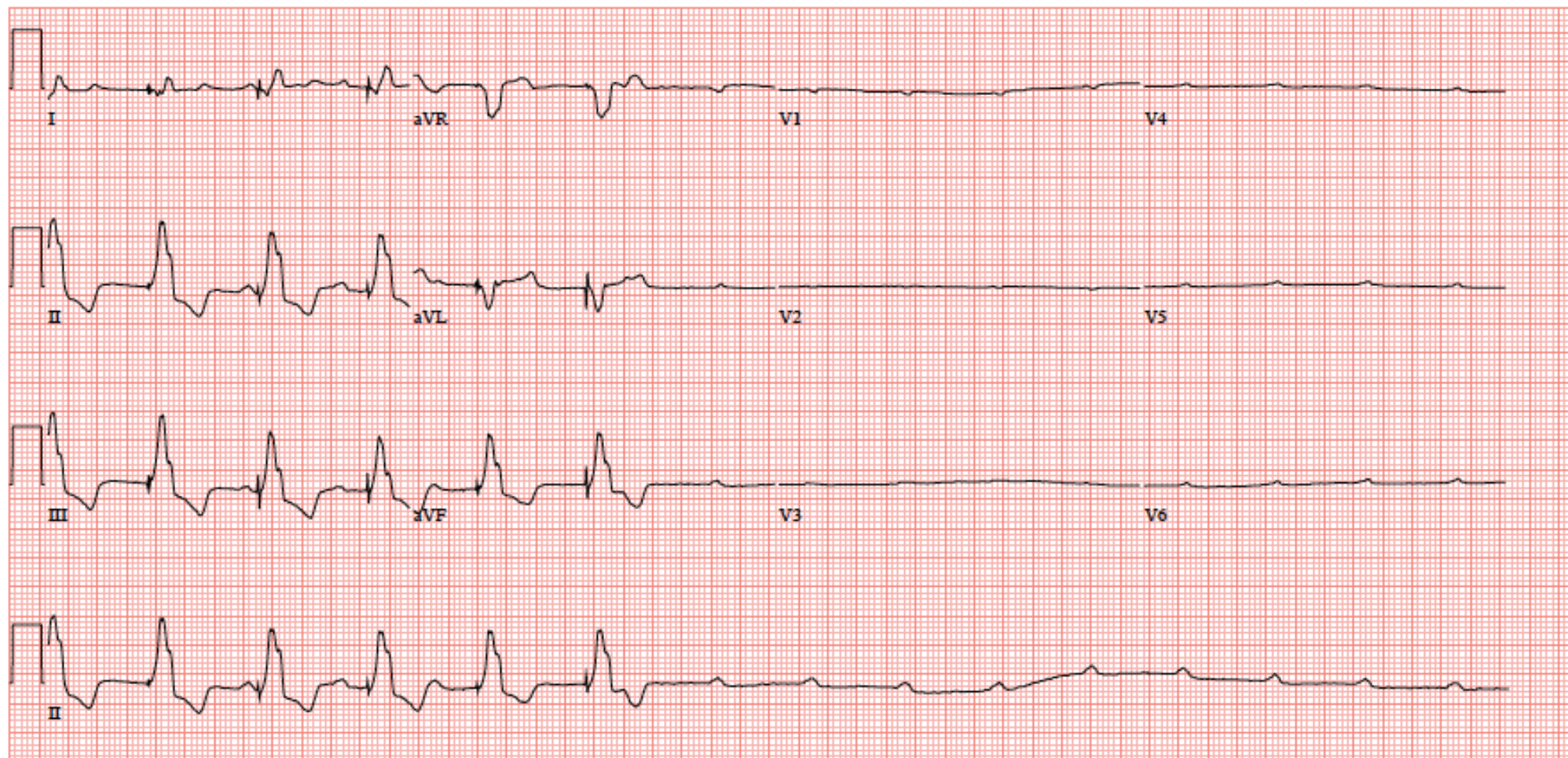
Room:07
Loc:94

Technician:
Test ind:

Referred by:

Confirmed by:

COMMENTS:



25mm/s 10mm/mV 100Hz 7.1.1 12SL 237 CID: 3

SID: 258455821 EID:1053 EDT: 19:00 04-JUN-2010 ORDER:

Chapter 4 – Heart Block & Pacemakers – Case 7 – RF

33-yr-old male with bicuspid aortic valve with severe AS & AR, s/p complete aortic root replacement, ascending aorta replacement & hemi-arch replacement. ECG performed day 1 post-op in cardiac ICU.

Rate: _____ Atrial:_____ Ventricular:_____

PR: _____

QRS: _____

Axis: _____

Rhythm: _____

Interpretation: _____

1. What is the rhythm at the start of the strip? What happens after the 6th QRS complex?

2. What is the management?

BM

27-JUL-2009 07:16:38

ALBERTA HEALTH SERVICES -CALGARY

Male (86 yr)
0cm 0kg
Room
Loc:41

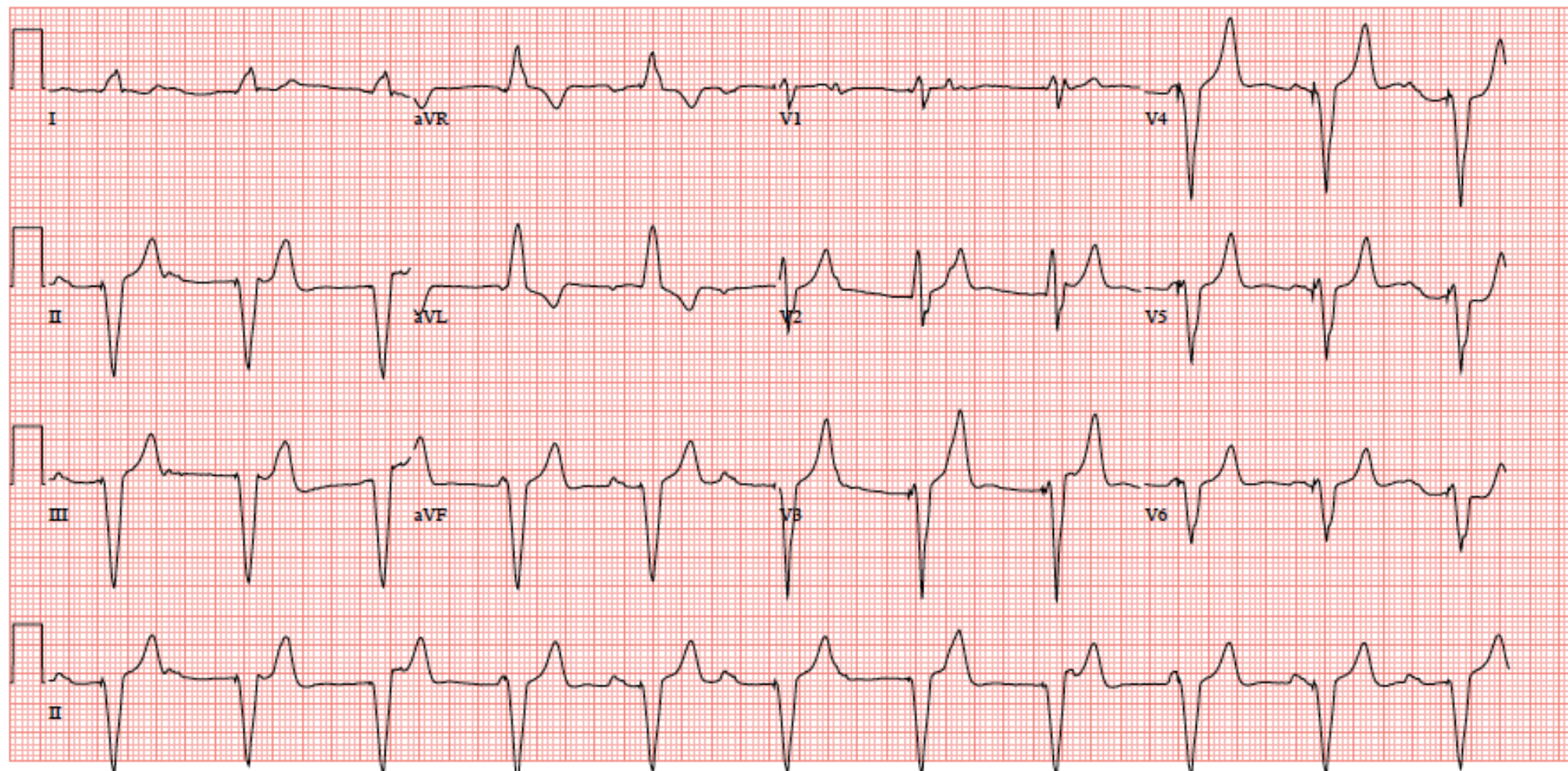
Vent. rate
PR interval
QRS duration
QT/QTc
P-R-T axes

Technician:
Test ind:

Referred by:

Confirmed by:

COMMENTS:



25mm/s 10mm/mV 100Hz 7.1.1 12SL 237 CID: 3

SID: 387857200 EID:4315 EDT: 14:03 28-JUL-2009 ORDER:

Chapter 4 – Heart Block & Pacemakers – Case 8 – BM

86-yr-old male with reduced exercise capacity.

Rate:	Atrial:_____	Ventricular:_____
PR:	_____	
QRS:	_____	
Axis:	_____	
Rhythm:	_____	
Interpretation:	_____	

1. What does the ECG show?

2. What would you see on his JVP?

JB

28-AUG-2009 23:23:34

ALBERTA HEALTH SERVICES -CALGARY

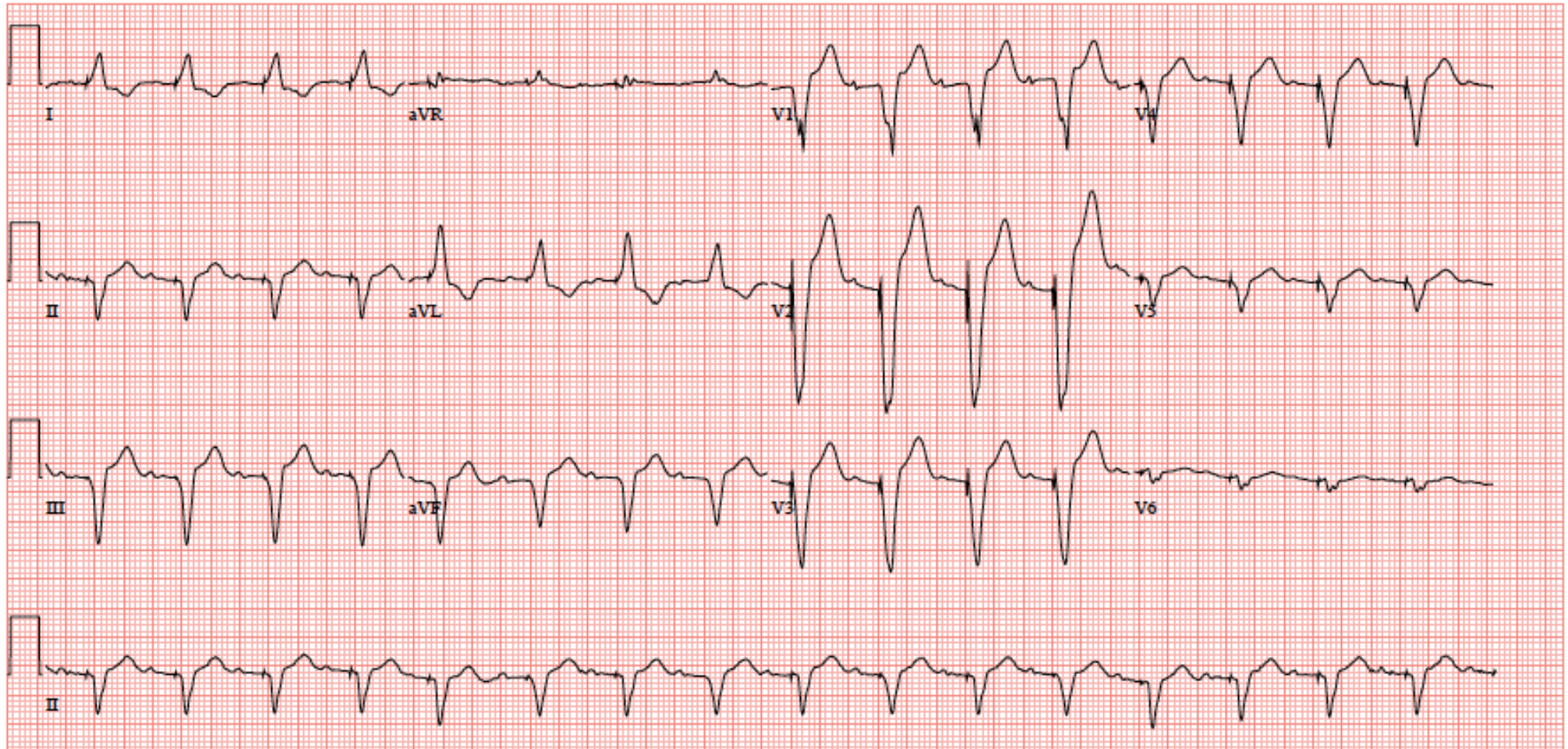
Male (66 yr)
Vent. rate
PR interval
QRS duration
QT/QTc
P-R-T axes

Technician:
Test ind:

Referred by:

Confirmed by:

COMMENTS:



Chapter 4 – Heart Block & Pacemakers – Case 9 – JB

66-yr-old male admitted with chest pain & troponin rise.

Rate:	Atrial:_____	Ventricular:_____
PR:	_____	
QRS:	_____	
Axis:	_____	
Rhythm:	_____	
Interpretation:	_____	

1. What is the rhythm?

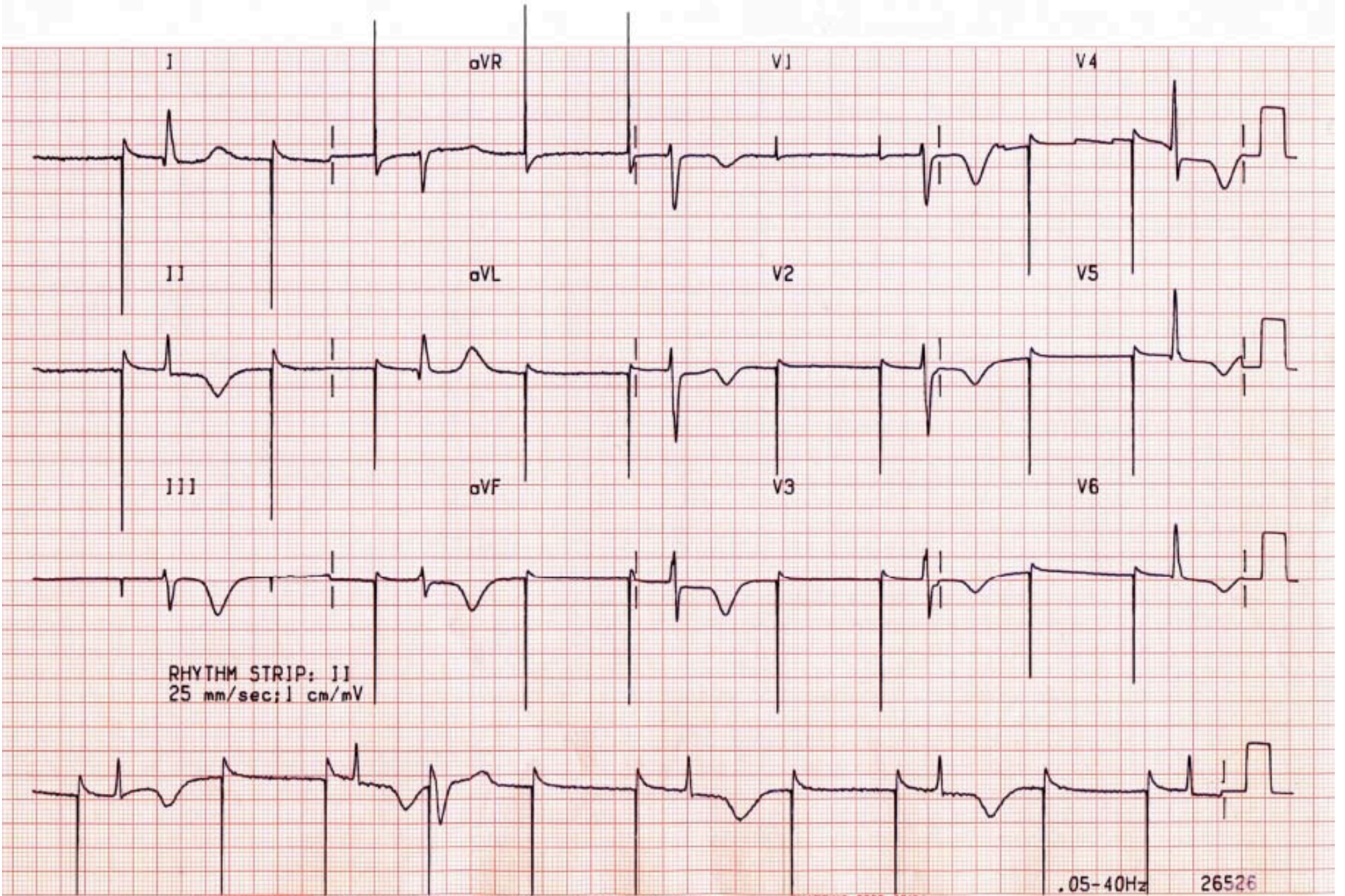
2. What is the significance of the ST changes?

AC

Aug 15/88

EMERG

ECG# 54.862-34



RHYTHM STRIP: II
25 mm/sec; 1 cm/mV

.05-40Hz

26526

Chapter 4 – Heart Block & Pacemakers – Case 10 – AC

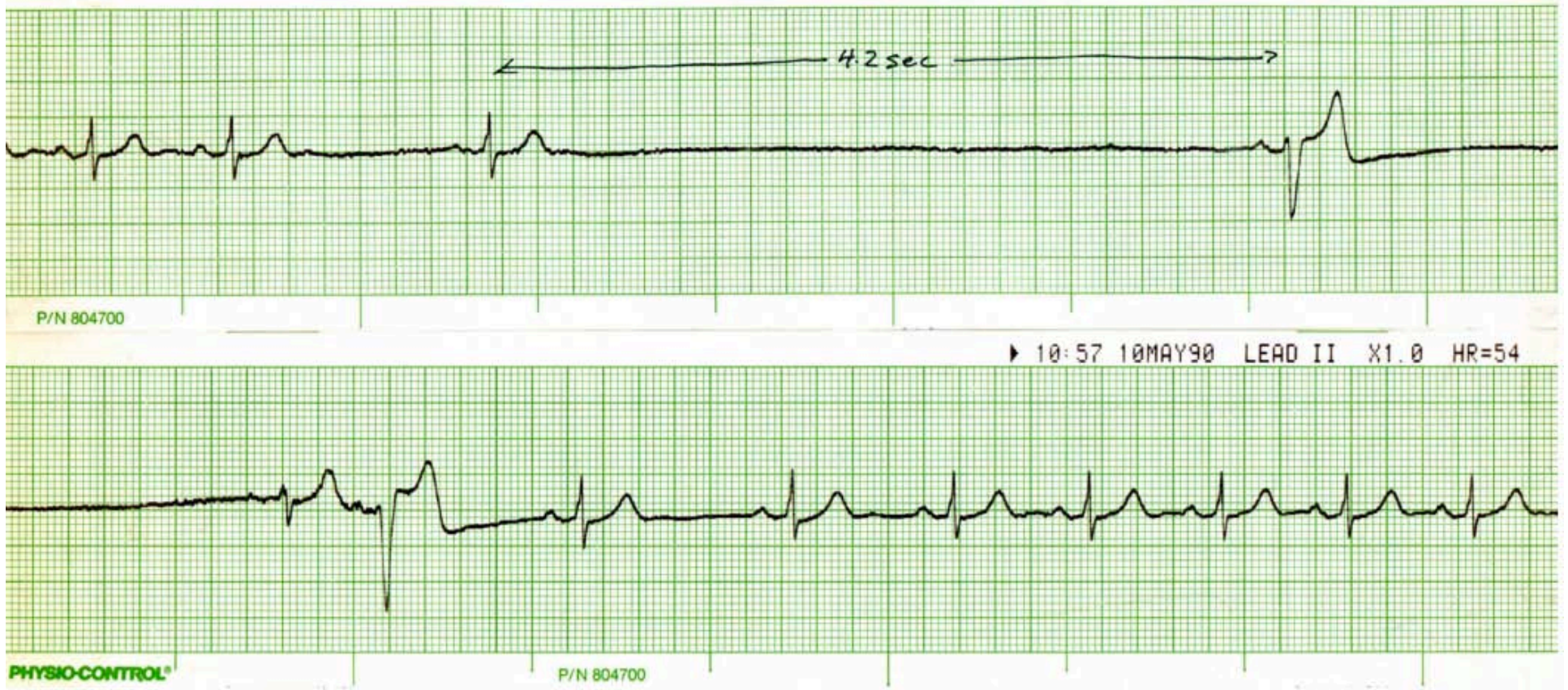
75-yr-old female with permanent pacemaker. Complains of fatigue.

Rate:	Atrial:_____	Ventricular:_____
PR:	_____	
QRS:	_____	
Axis:	_____	
Rhythm:	_____	
Interpretation:	_____	

1. What does the ECG show?

2. How can this be remedied?

Case 11



Chapter 4 – Heart Block & Pacemakers – Case 11

Patient with history of dizzy spells and syncope. Carotid sinus massage performed.

Rate: _____ Atrial: _____ Ventricular: _____
PR: _____
QRS: _____
Axis: _____
Rhythm: _____
Interpretation: _____

1. What is the aetiology of the pause?

2. If the patient has had recurrent syncopal spells, what treatment should be considered?

MT

ID:

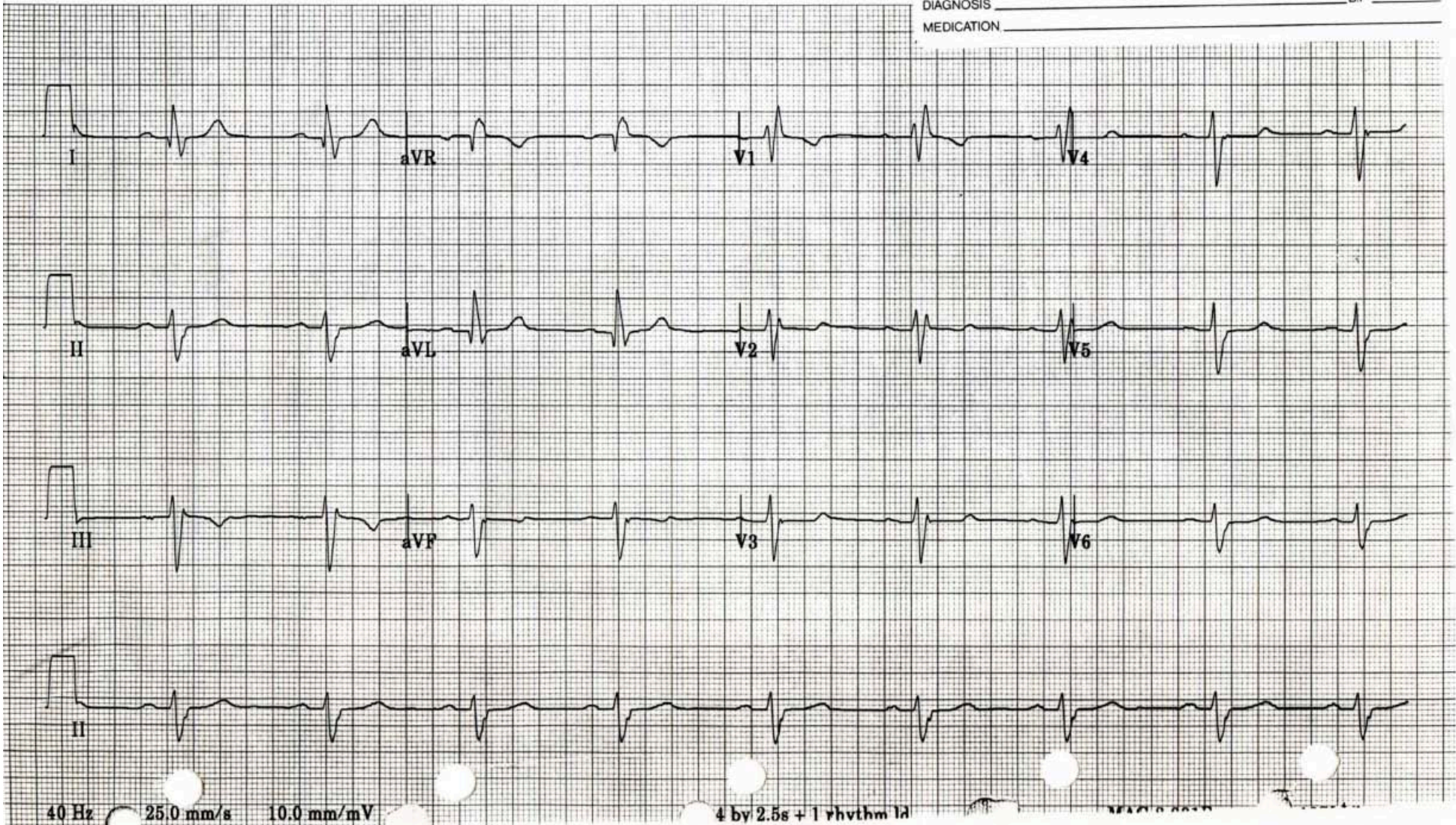
10-Aug-1999 8:12:46

YORKTON REGIONAL HEALTH CENTRE

0

8.99
DATE DONE
0812
TIME
RD
TECH.
HS

DIAGNOSIS _____ B.P. _____
MEDICATION _____



Chapter 4 – Heart Block & Pacemakers – Case 12 – MT

54-yr-old female, with diabetes & hypertension, presenting with recurrent unheralded syncope.

Rate: _____ Atrial: _____ Ventricular: _____
PR: _____
QRS: _____
Axis: _____
Rhythm: _____
Interpretation: _____

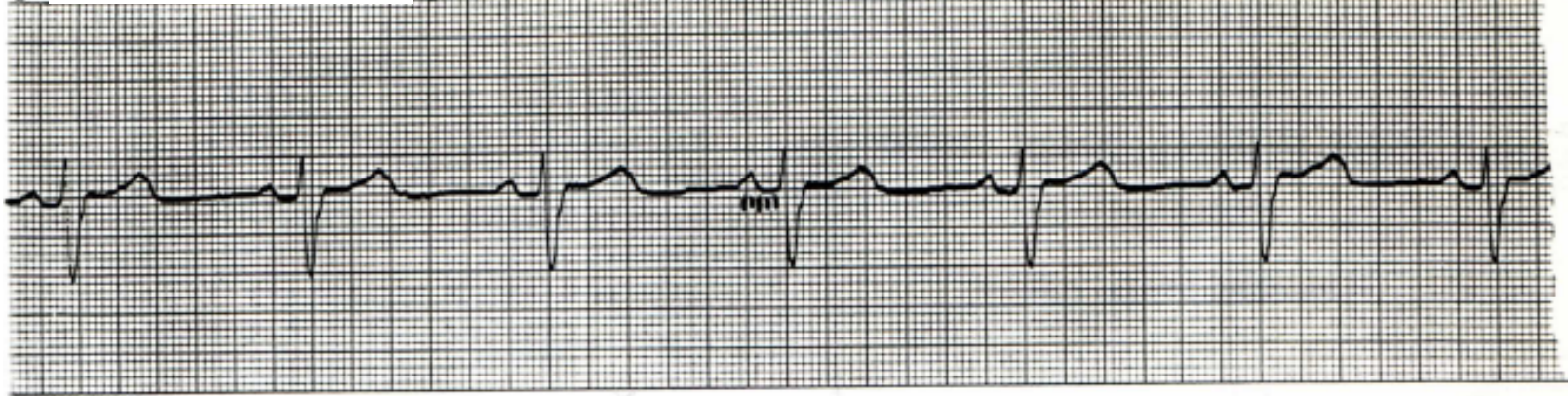
1. What conduction abnormality is present?

2. What is the most likely cause for her syncope?

MT

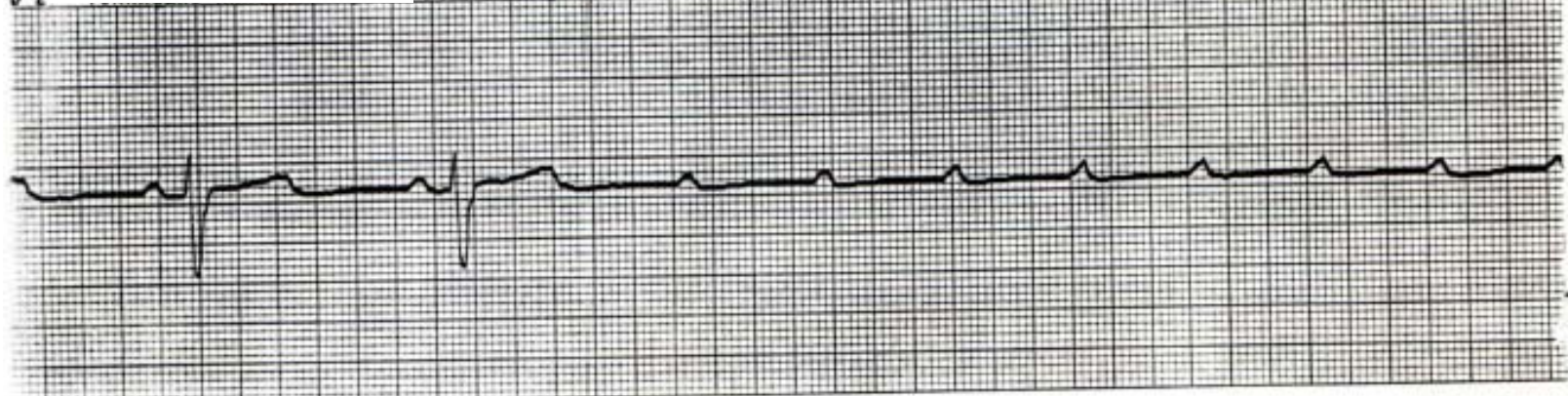
2

6 AUG 99 0048 ** HR 49 < 50 II HR 49 VPB 0 PULSE -?- SAO2 -?- NBP 151/67 (

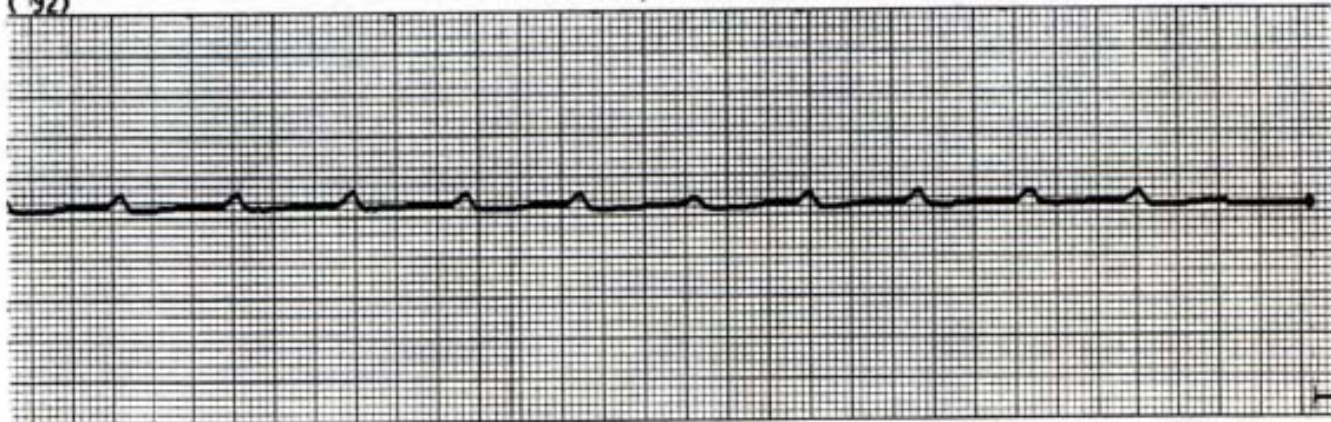


0.2

16 AUG 99 0150 ***ASYSTOLE II HR 0 VPB 0 PULSE -?- SAO2 -?- NBP 151/67



(92)



Chapter 4 – Heart Block & Pacemakers – Case 12 – MT

Same patient, on telemetry.

Rate:	Atrial:_____	Ventricular:_____
PR:	_____	
QRS:	_____	
Axis:	_____	
Rhythm:	_____	
Interpretation:	_____	

1. What is the rhythm on the first strip? What happens on the second strip?

2. What treatment is required?
