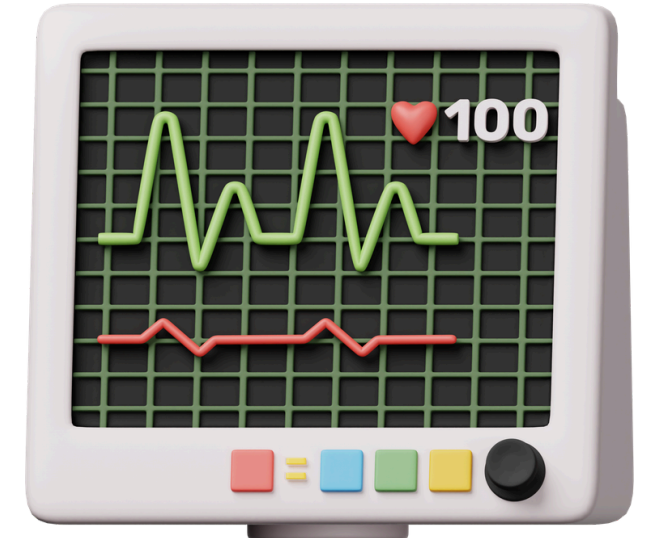
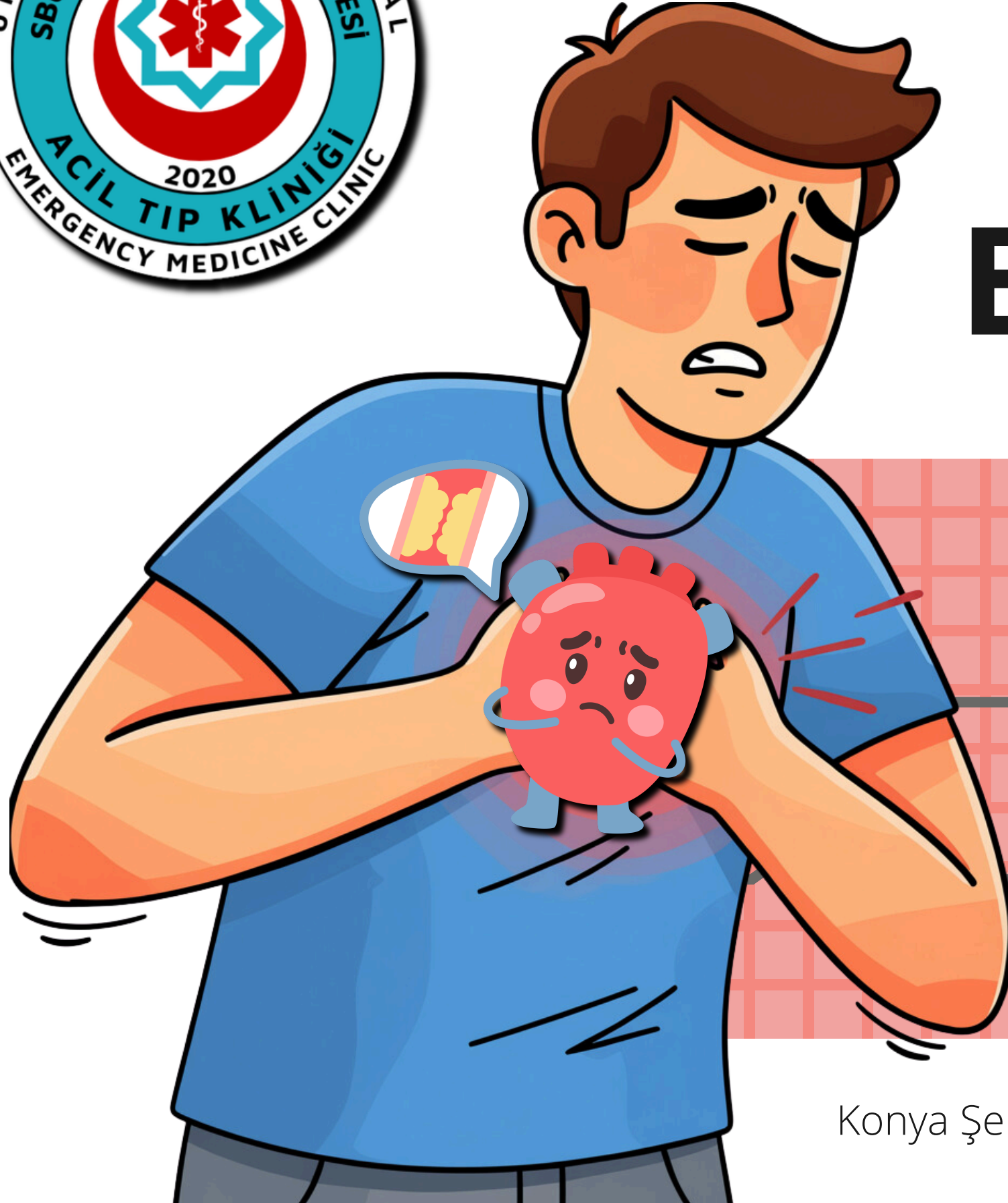




Akut Koroner Sendromda EKG Bulguları



NSTE-AKS vs. STEMI: Elektrokardiyografik Yorumlama

1

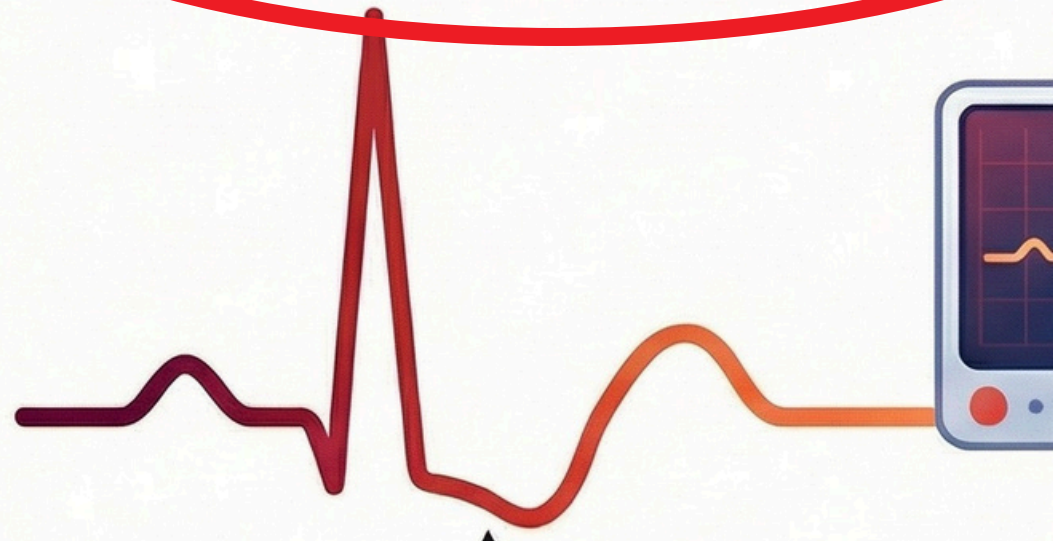
2

Akut Koroner Sendrom (AKS) şüphesi durumunda iki ana alt tip olan ST-segment yükselmez AKS (NSTE-AKS) ve ST-segment yükselmeli Miyokard İnfarktüsünü (STEMI) ayırt etmek için kullanılan spesifik EKG bulguları.

NSTE-AKS

(ST-Yükselmeziz Akut Koroner Sendrom)

İskemiye Dair Elektrokardiyografik Kanıt



≥2 bitişik derivasyonda yeni ST-segment depresyonu (≥0,5 mm) ve/veya T dalgası inversiyonu (>1 mm) görülür.

Gözlemlenen Diğer Değişiklikler

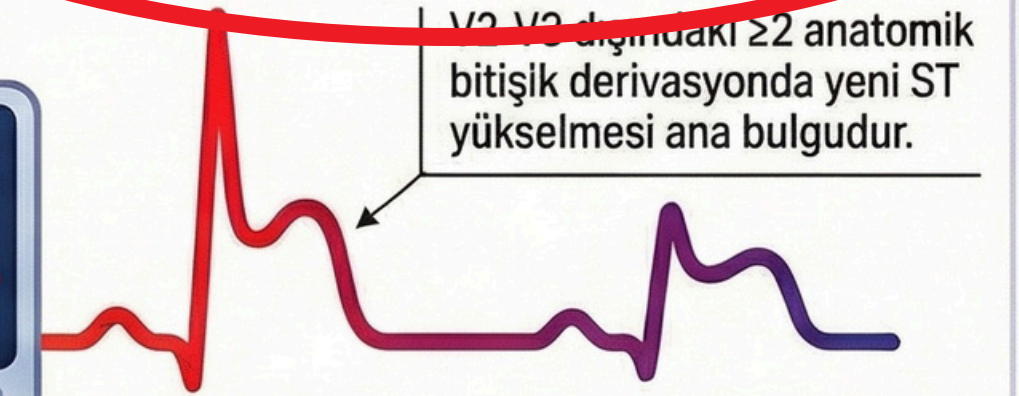


Nonspesifik ST-T değişiklikleri veya normal bir EKG de görülebilir; bu durum AKS'yi dışıamaz.

STEMI

(ST-Yükselmeli Miyokard İnfarktüsü)

İskemiye Dair Elektrokardiyografik Kanıt

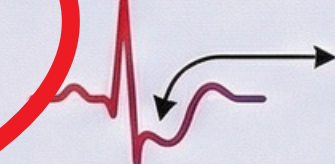


V2-V3 dışında ≥2 anatomik bitişik derivasyonda yeni ST yükselmesi ana bulgudur.

ST Yükselmesi Kriterleri

Erkeklerde	→	Erkeklerde ≥2-2,5 mm (yaşa bağlı)
Kadınlarda	→	Kadınlarda (≥0,5 mm)

Gözlemlenen Diğer Değişiklikler

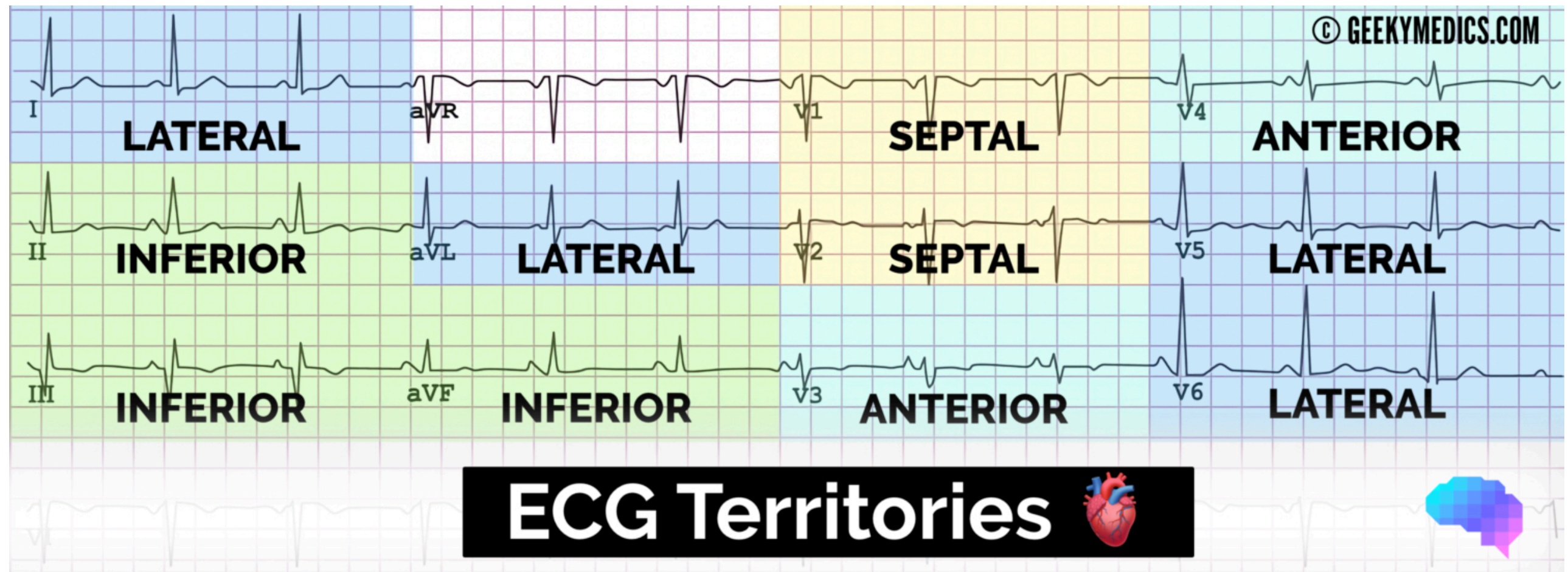


V1-V3'te izole ST depresyonu (≥0,5 mm) posterior derivasyon (V7-V9) alımını gerektirebilir.

3

Now Normal

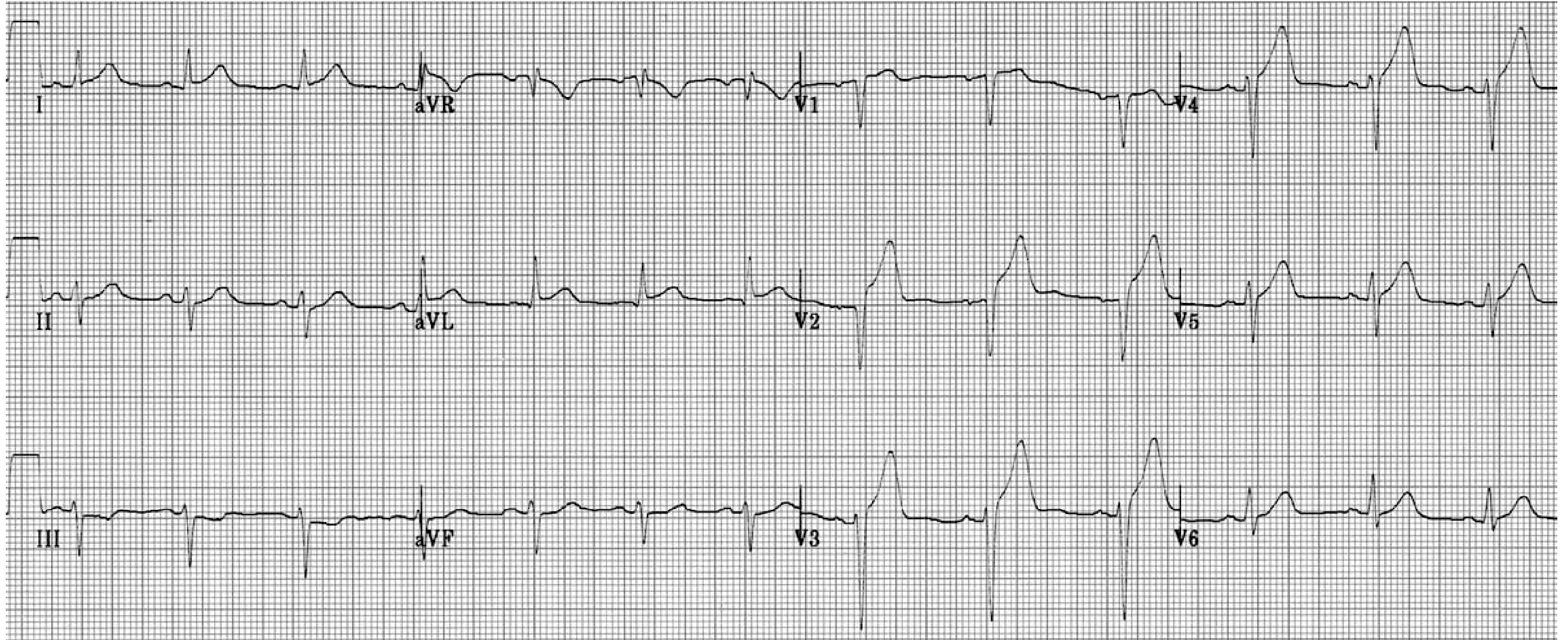






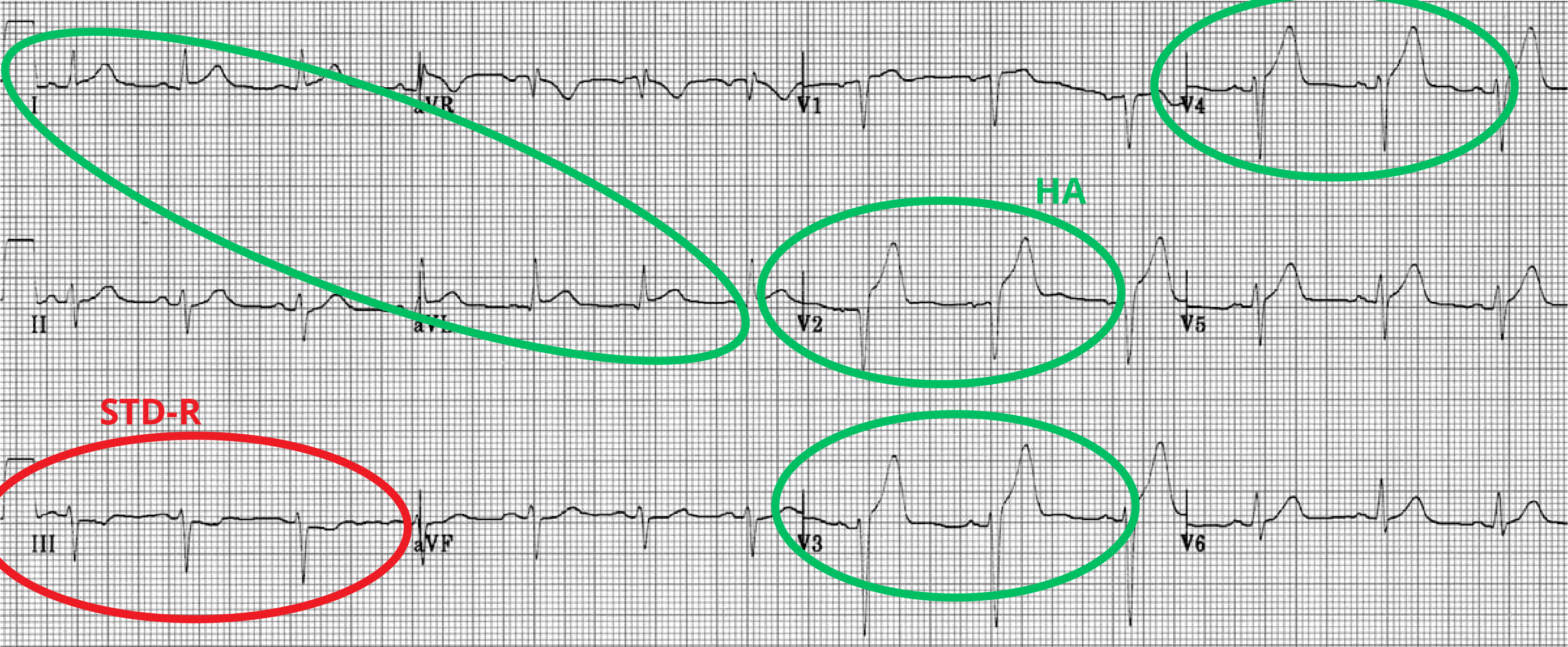
ÖRNEKLER

ÖRNEK 1



Hiperakut anteroseptal STEMI

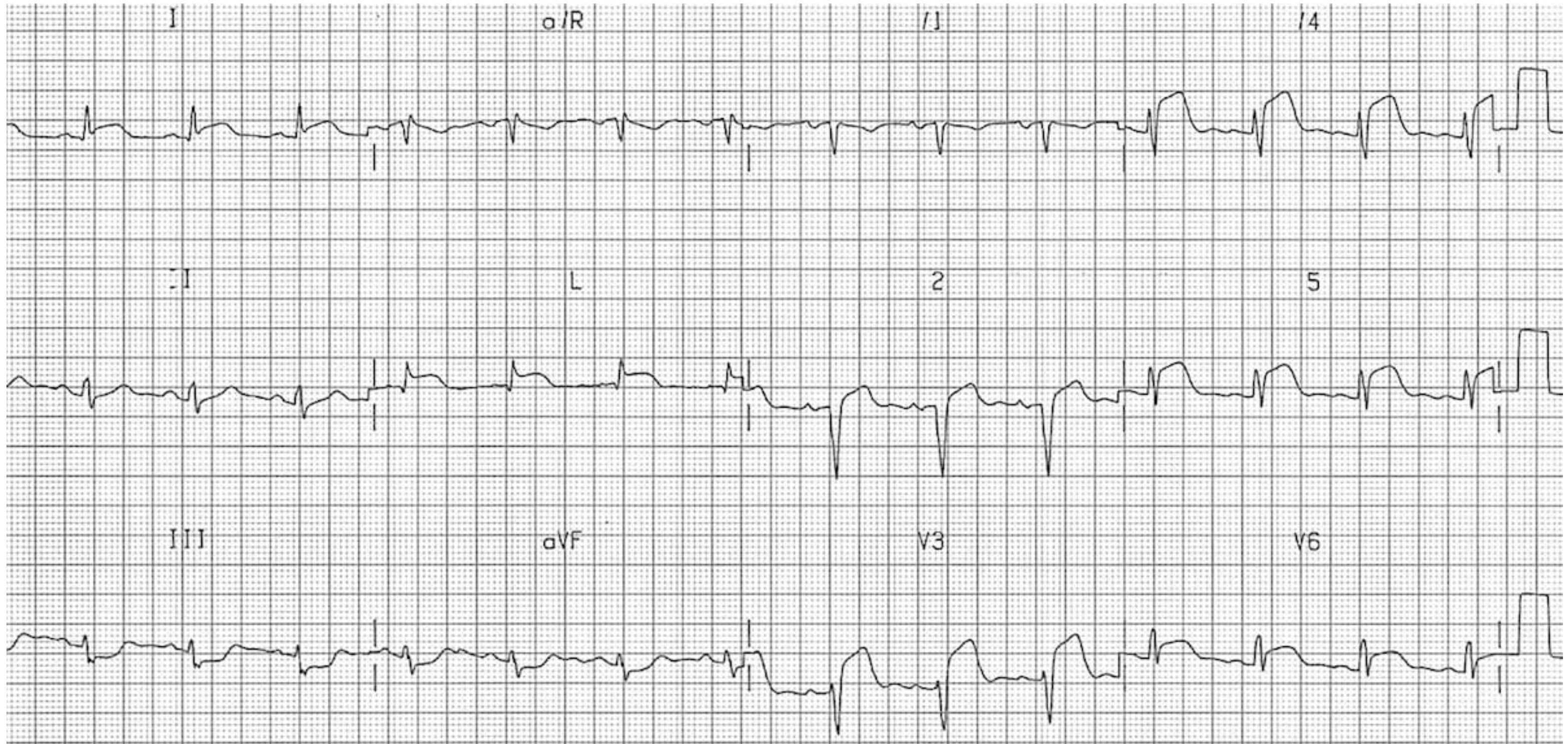
STE



HA

STD-R

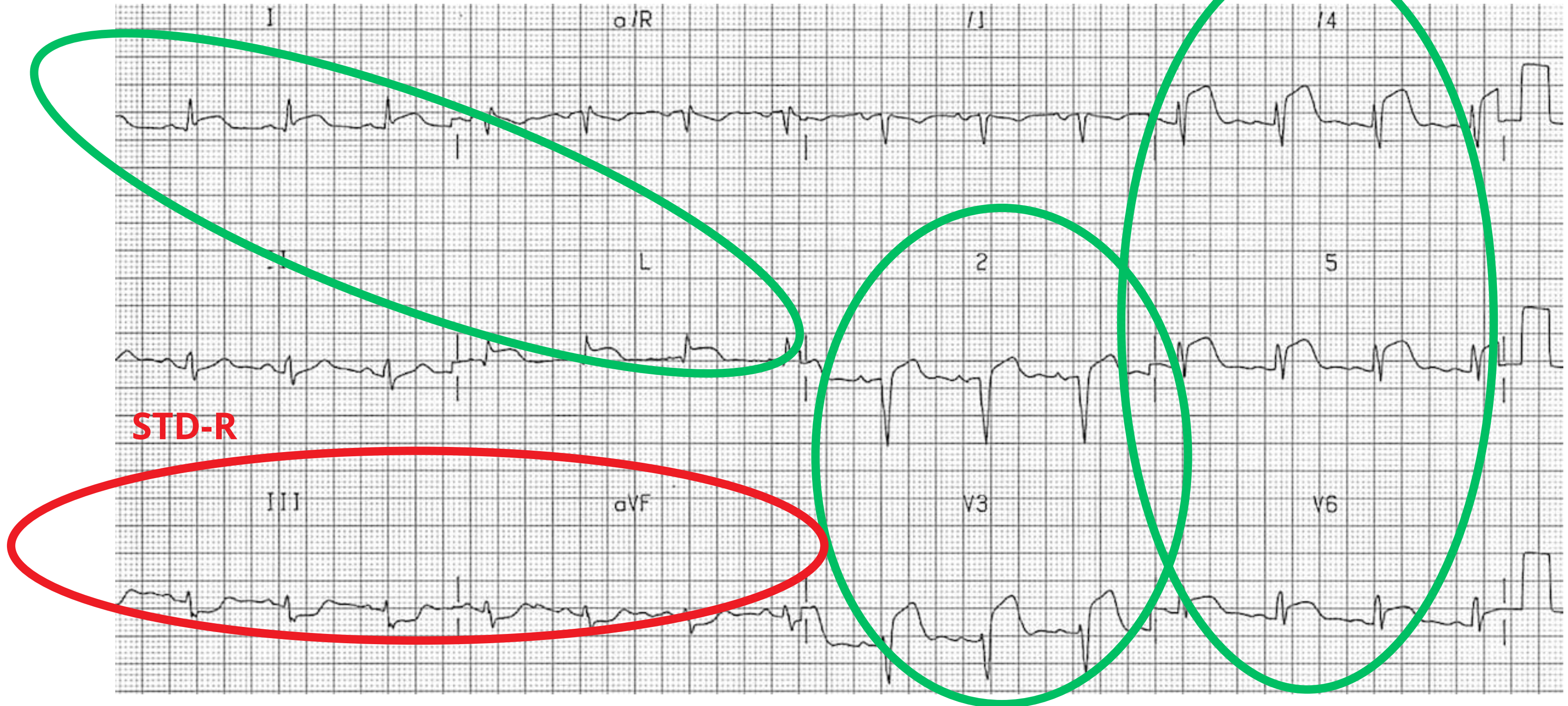
ÖRNEK 2



Anterolateral STEMI

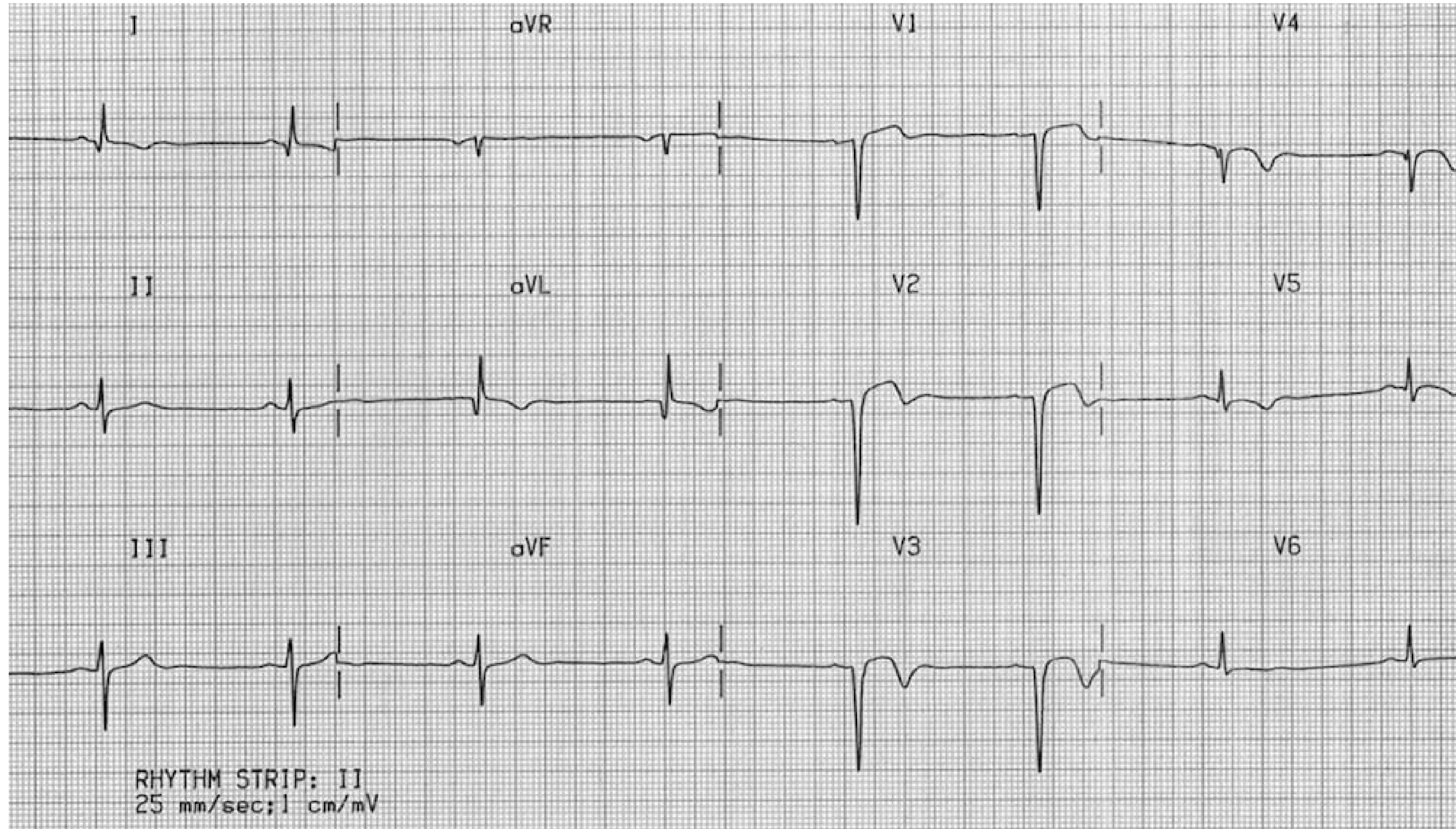
STE

STE



STD-R

ÖRNEK 3



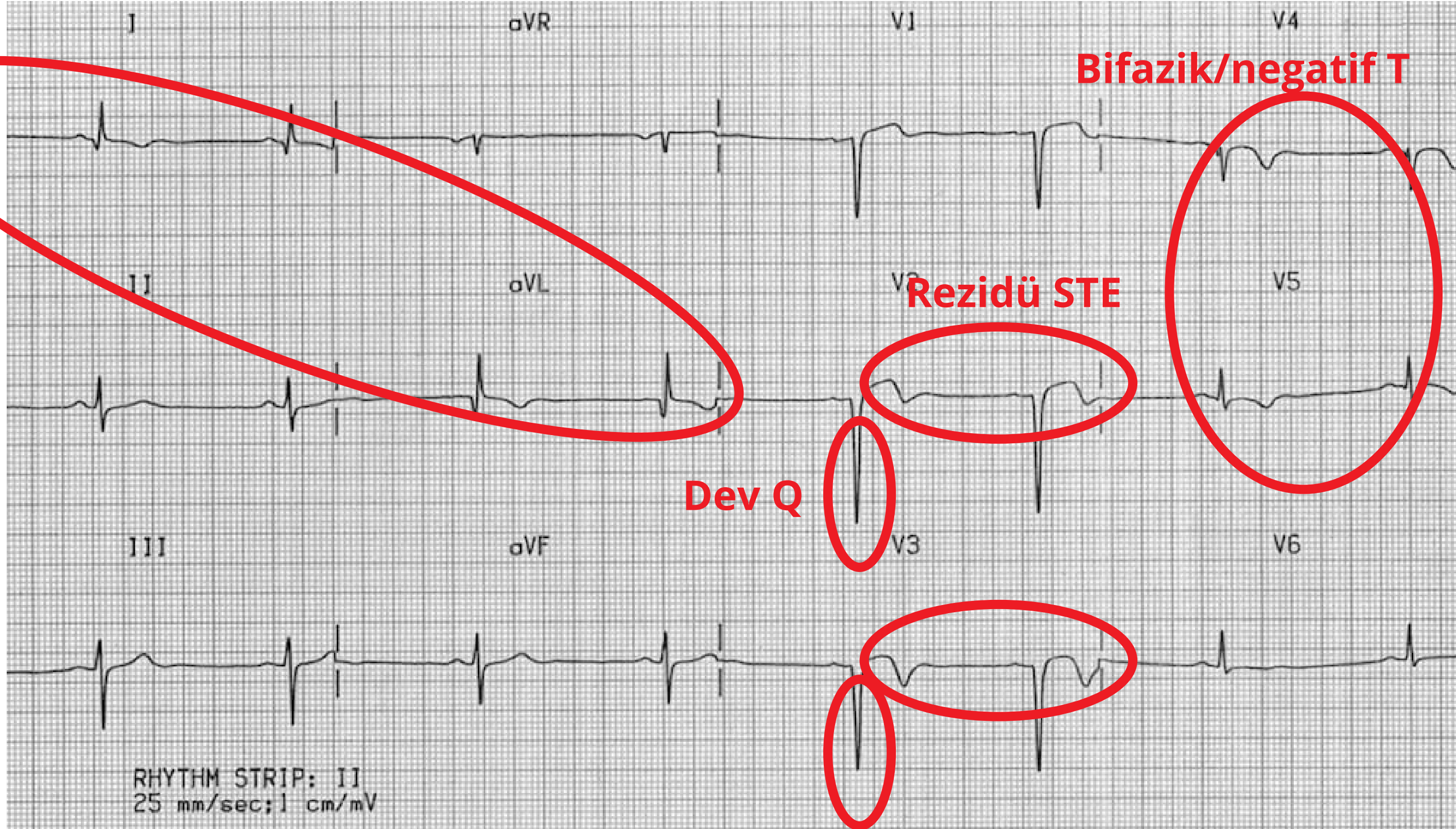
Geçirilmiş anterolateral STEMI

Anormal
q'lar

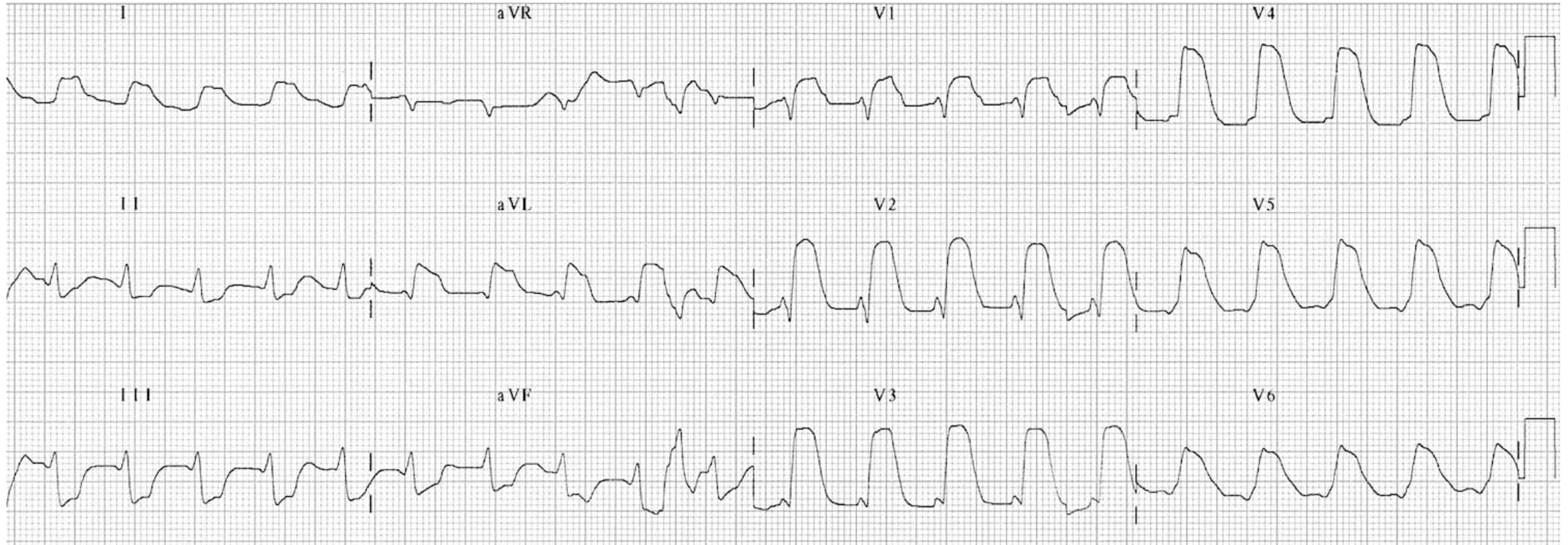
Bifazik/negatif T

Rezidü STE

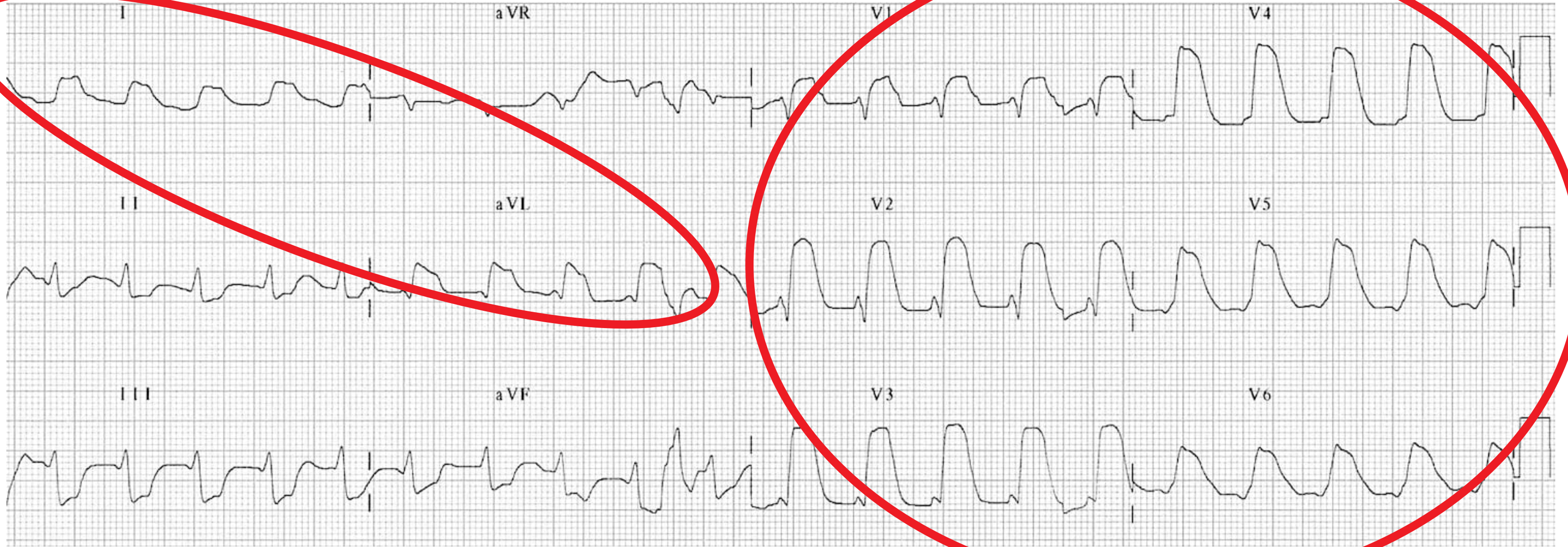
Dev Q



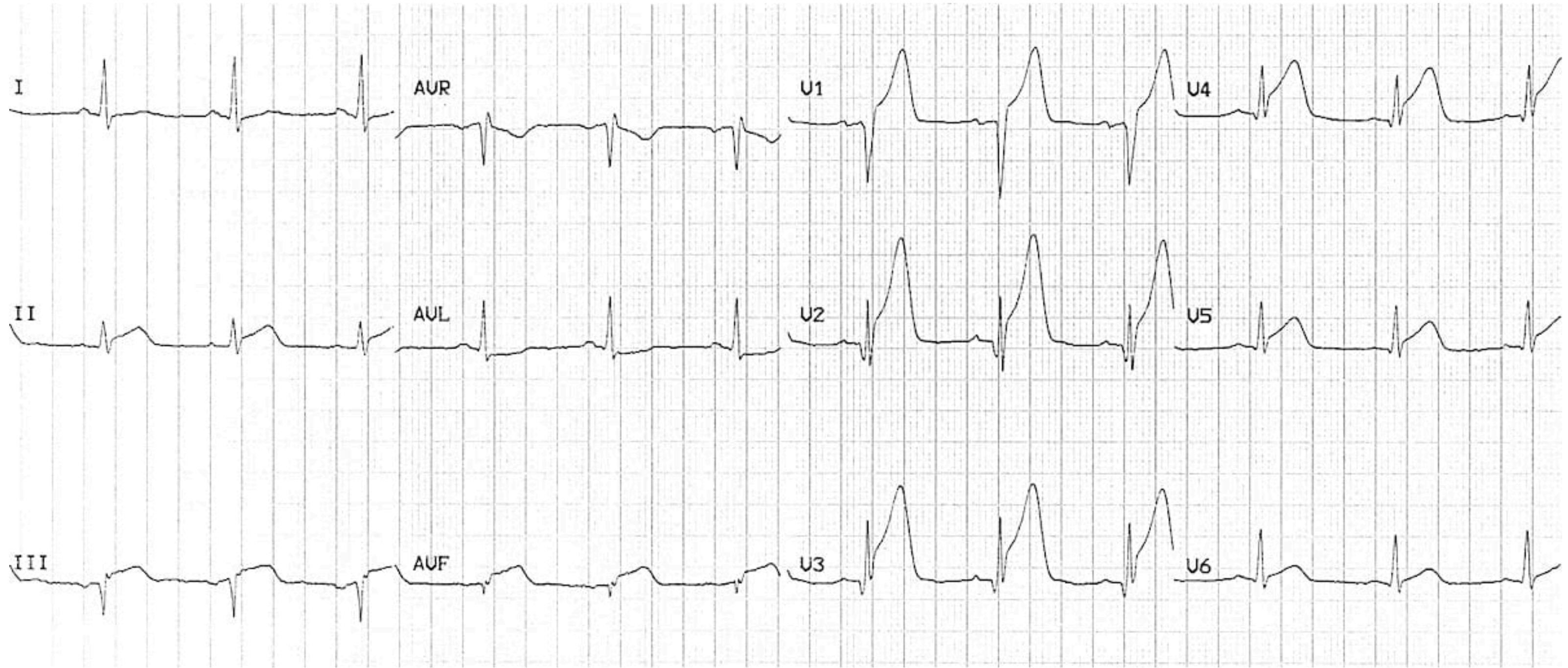
ÖRNEK 4



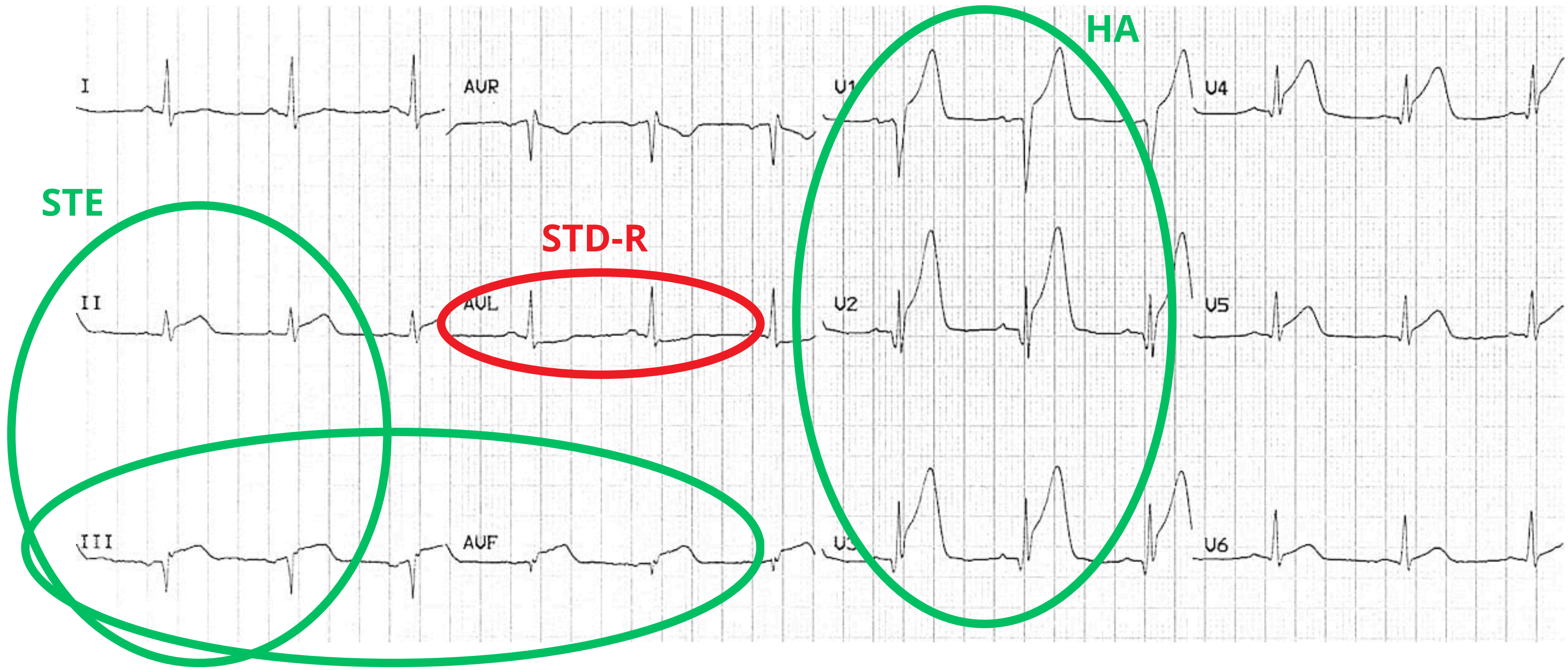
Geniş anterior MI ("tombstoning/mezar taşı" pattern)



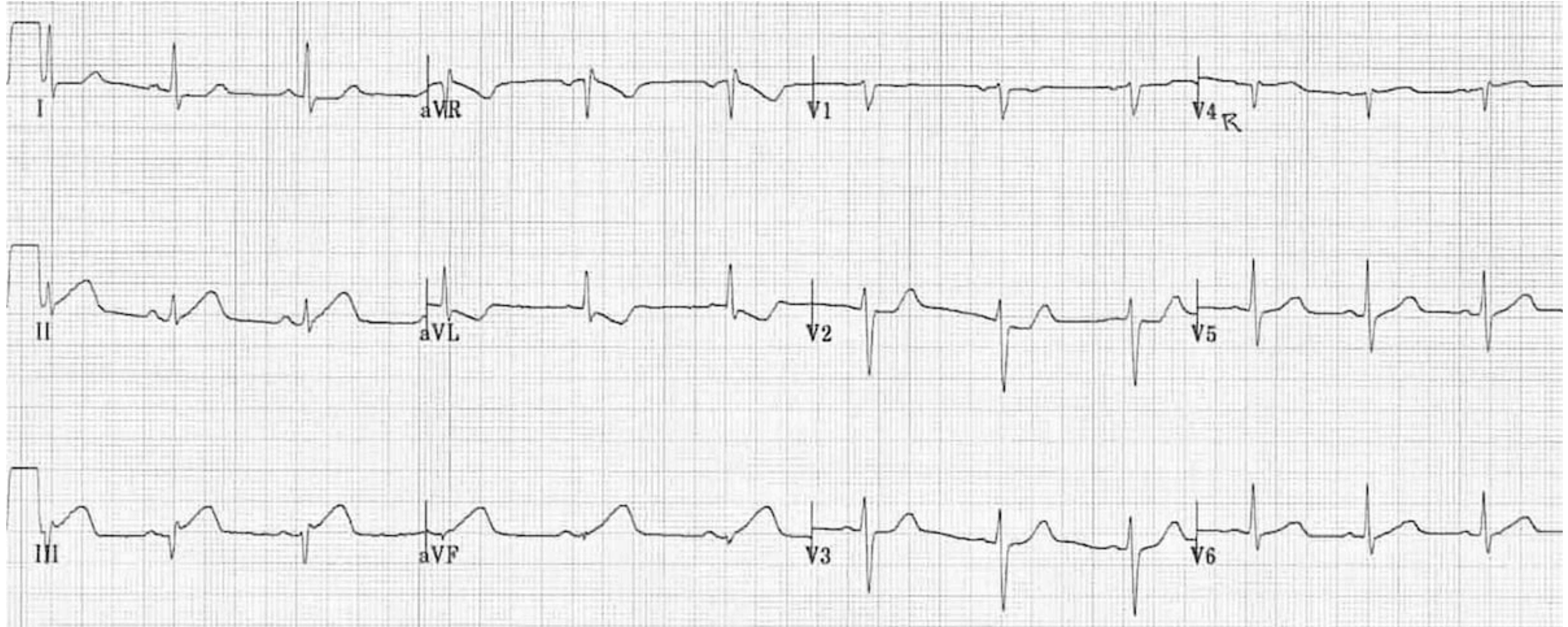
ÖRNEK 5



Anterior-inferior STEMI



ÖRNEK 6

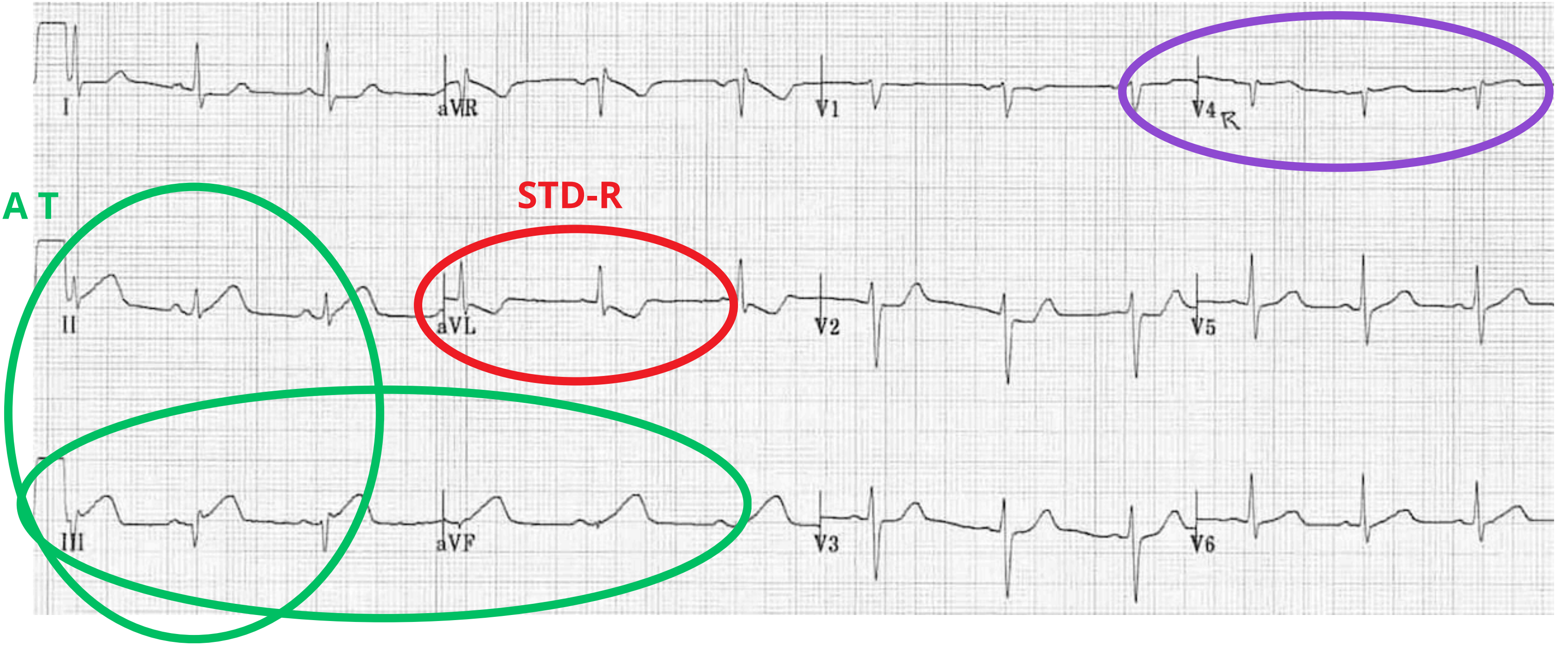


Inferior STEMI

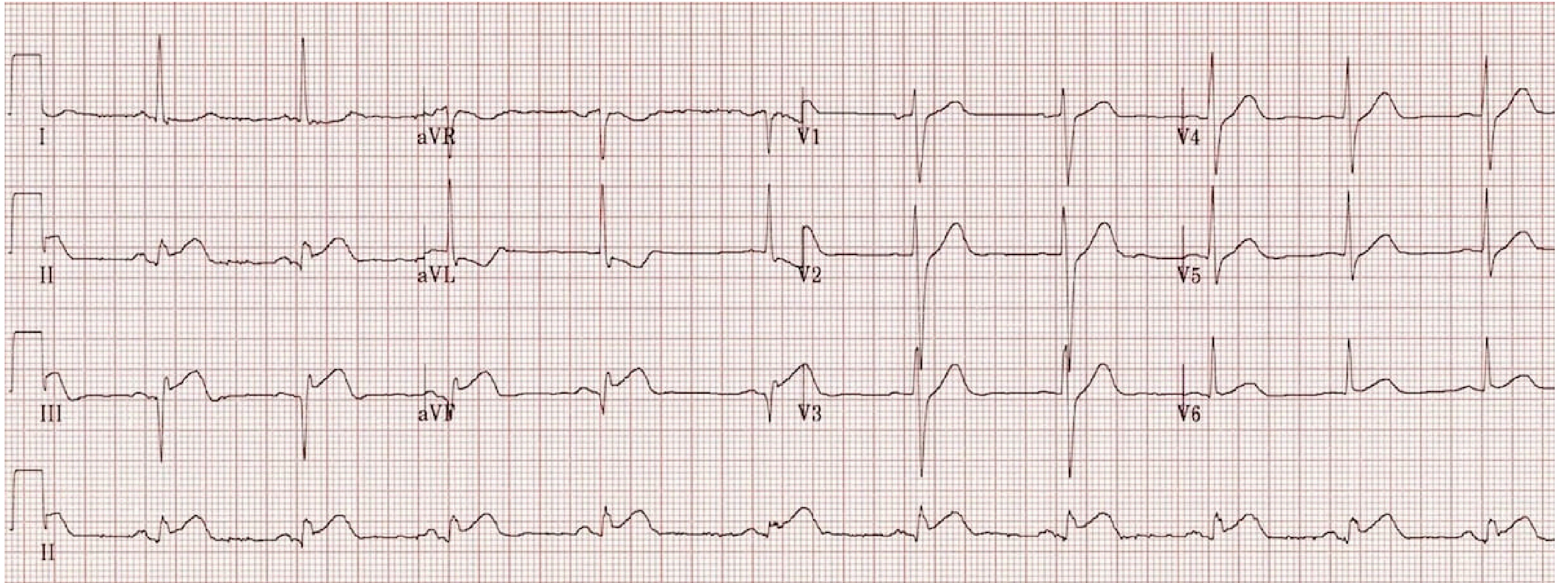
RV STEMI

HAT

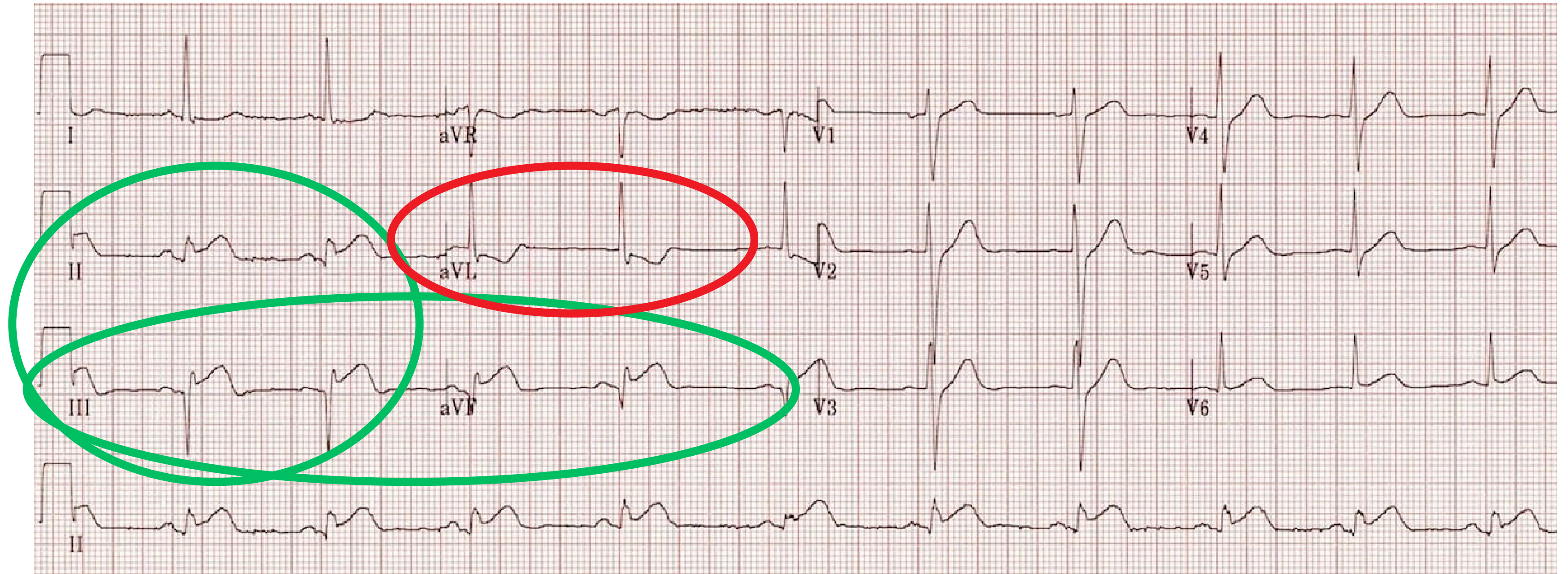
STD-R



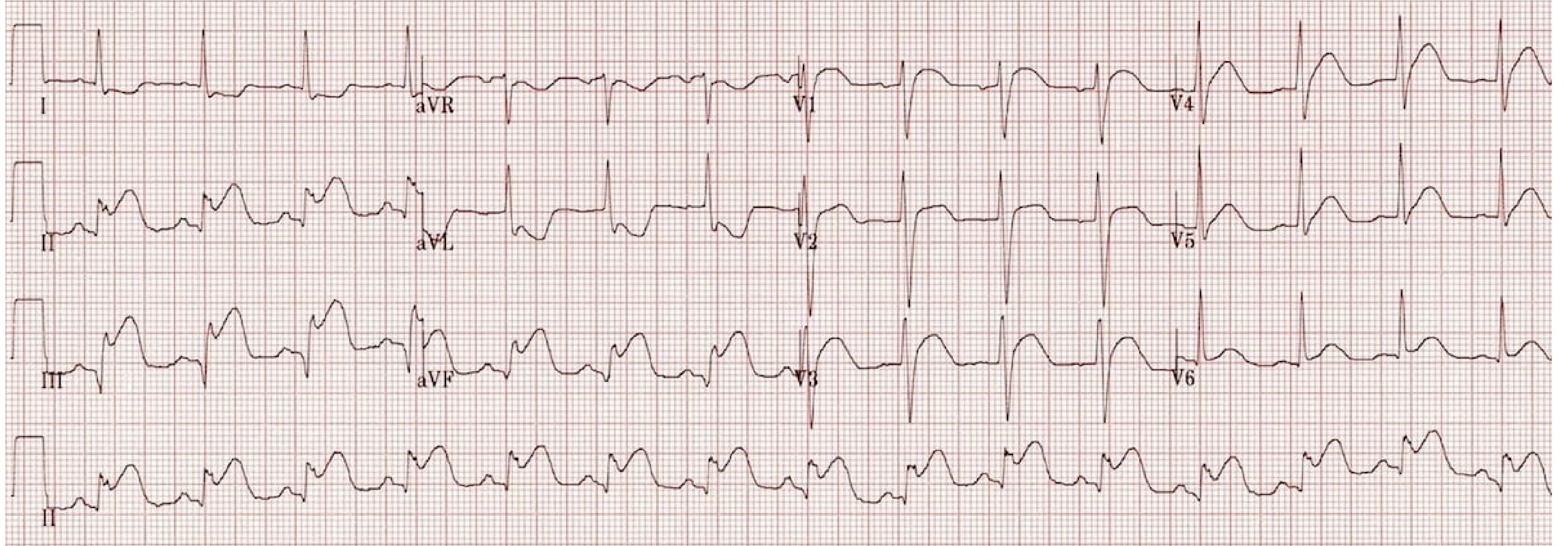
ÖRNEK 7



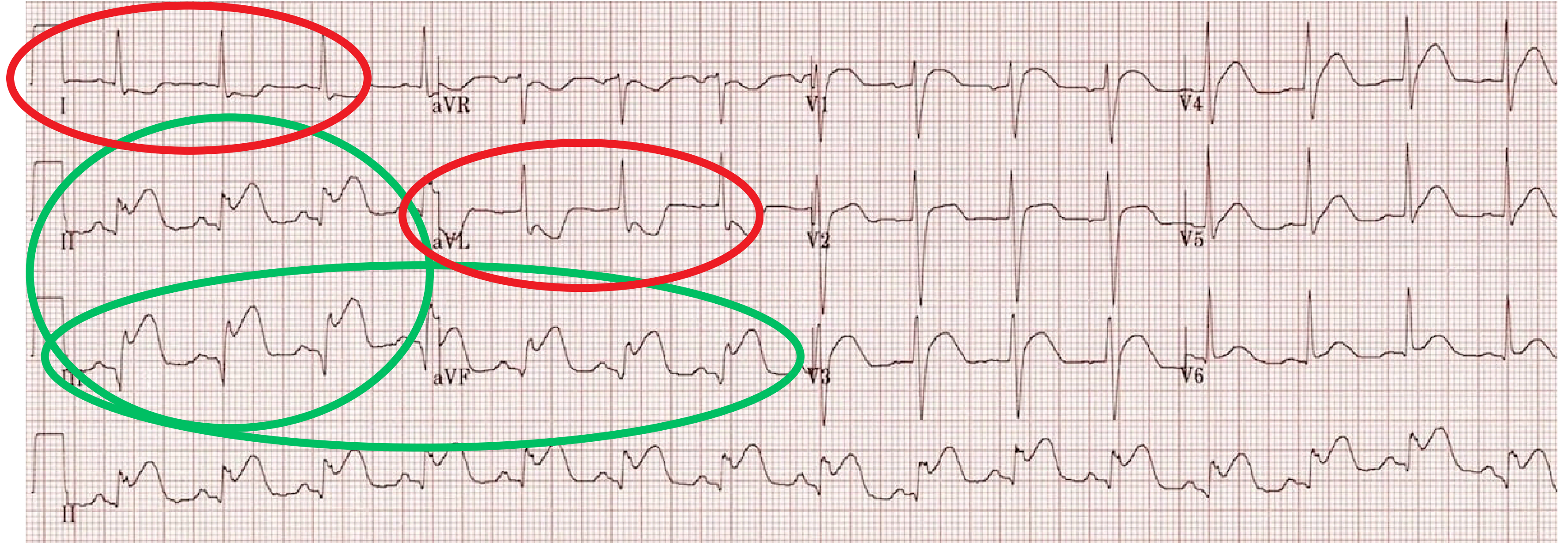
Inferior STEMI



ÖRNEK 8

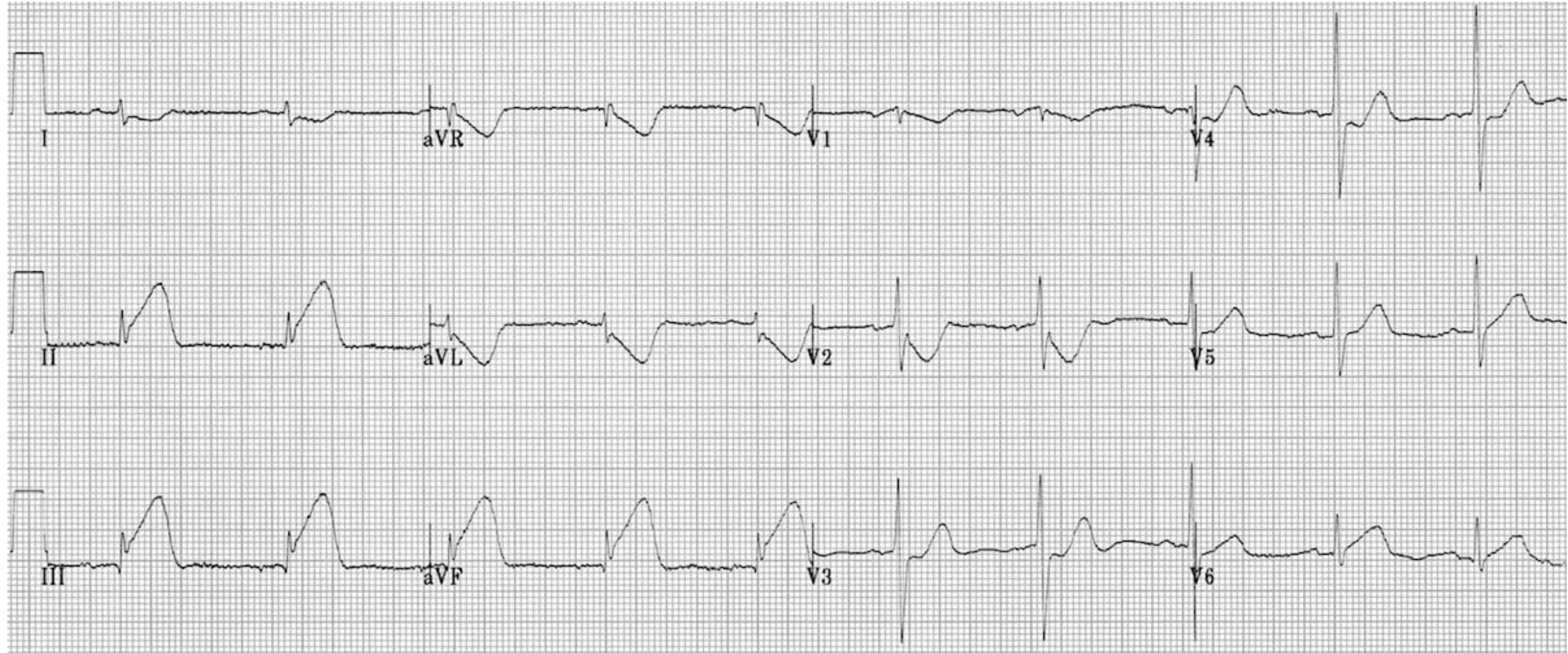


Inferior STEMI

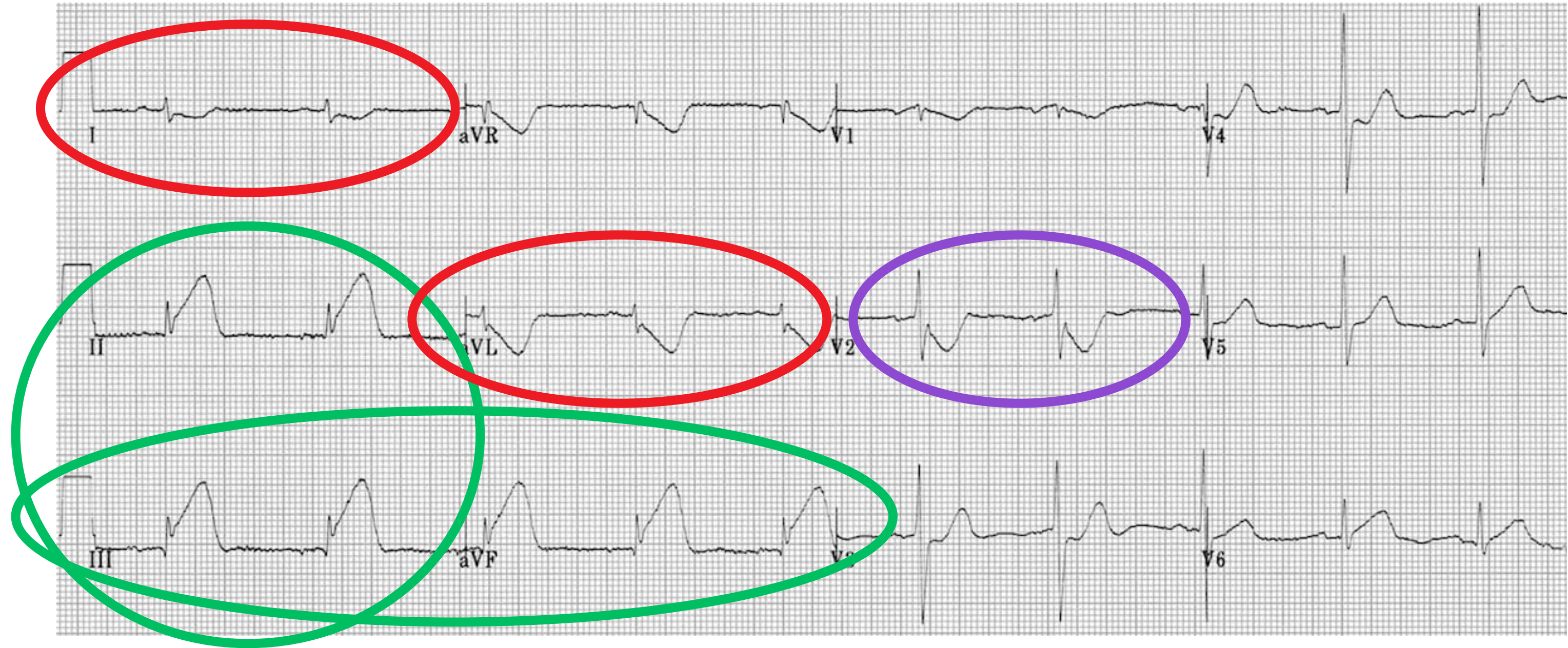


III > II

ÖRNEK 9

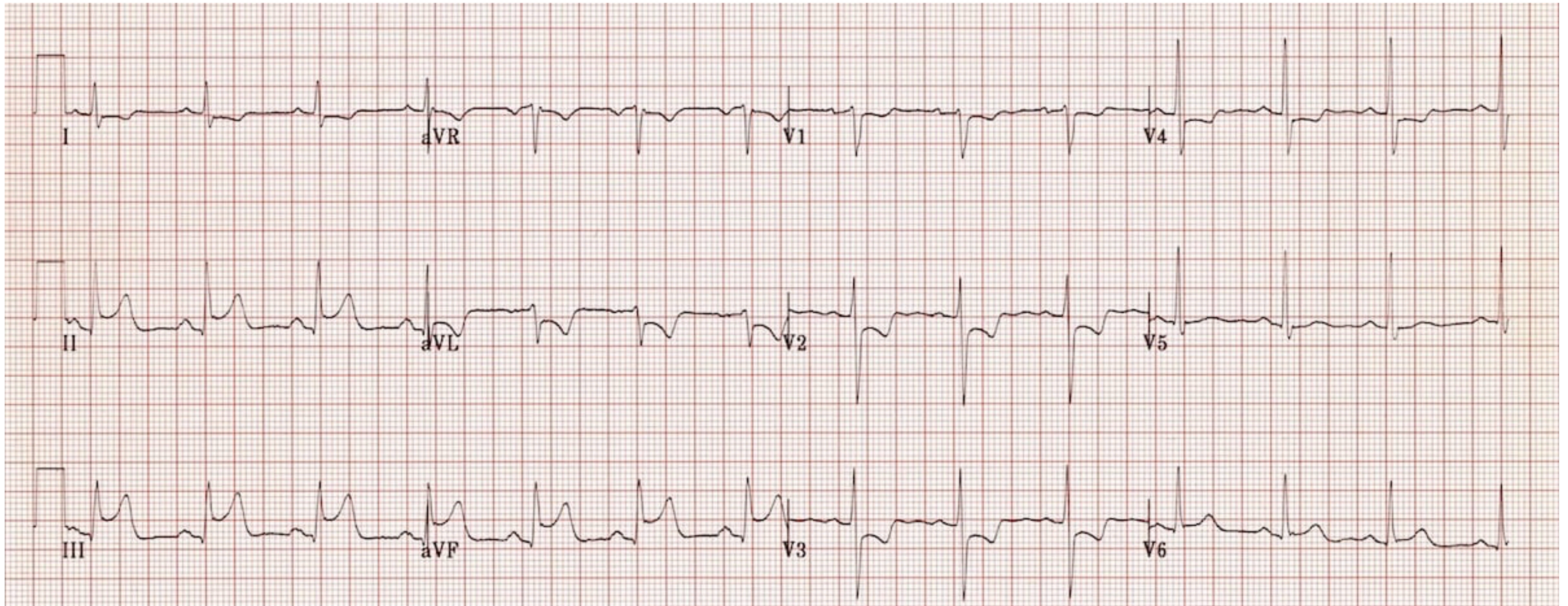


Hiperakut inferior STEMI

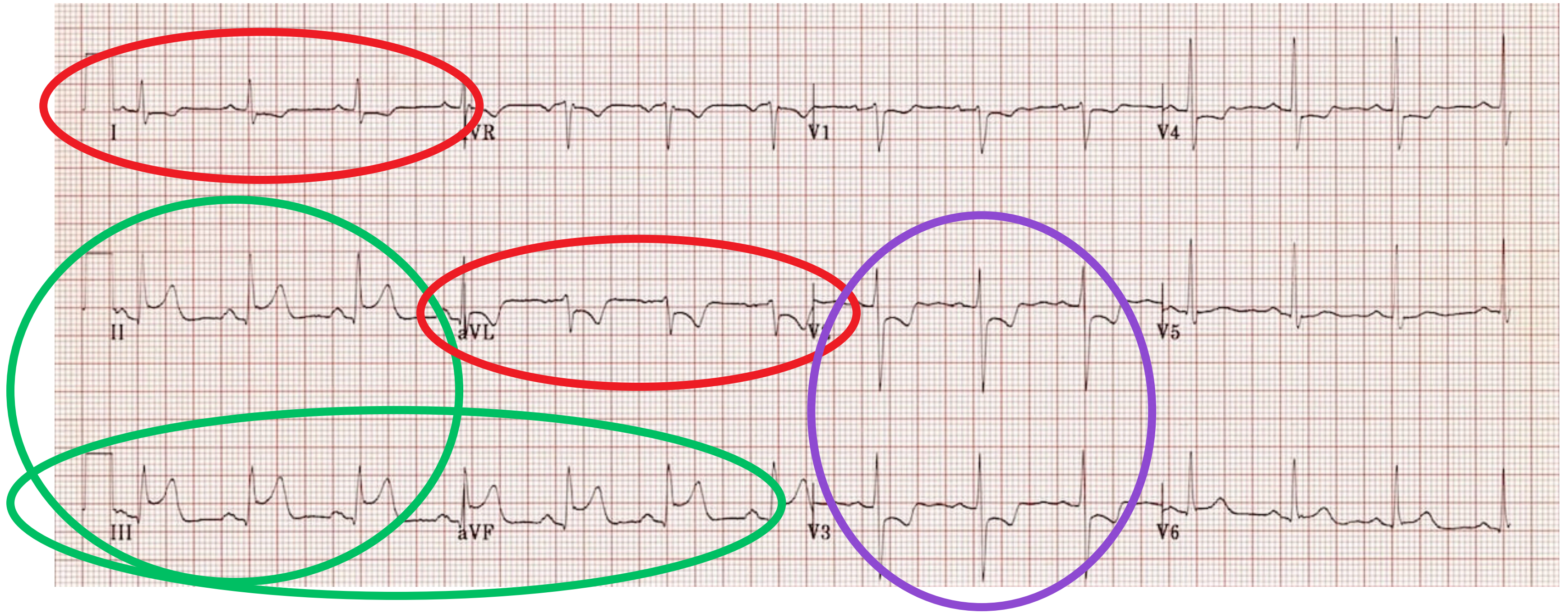


III > II

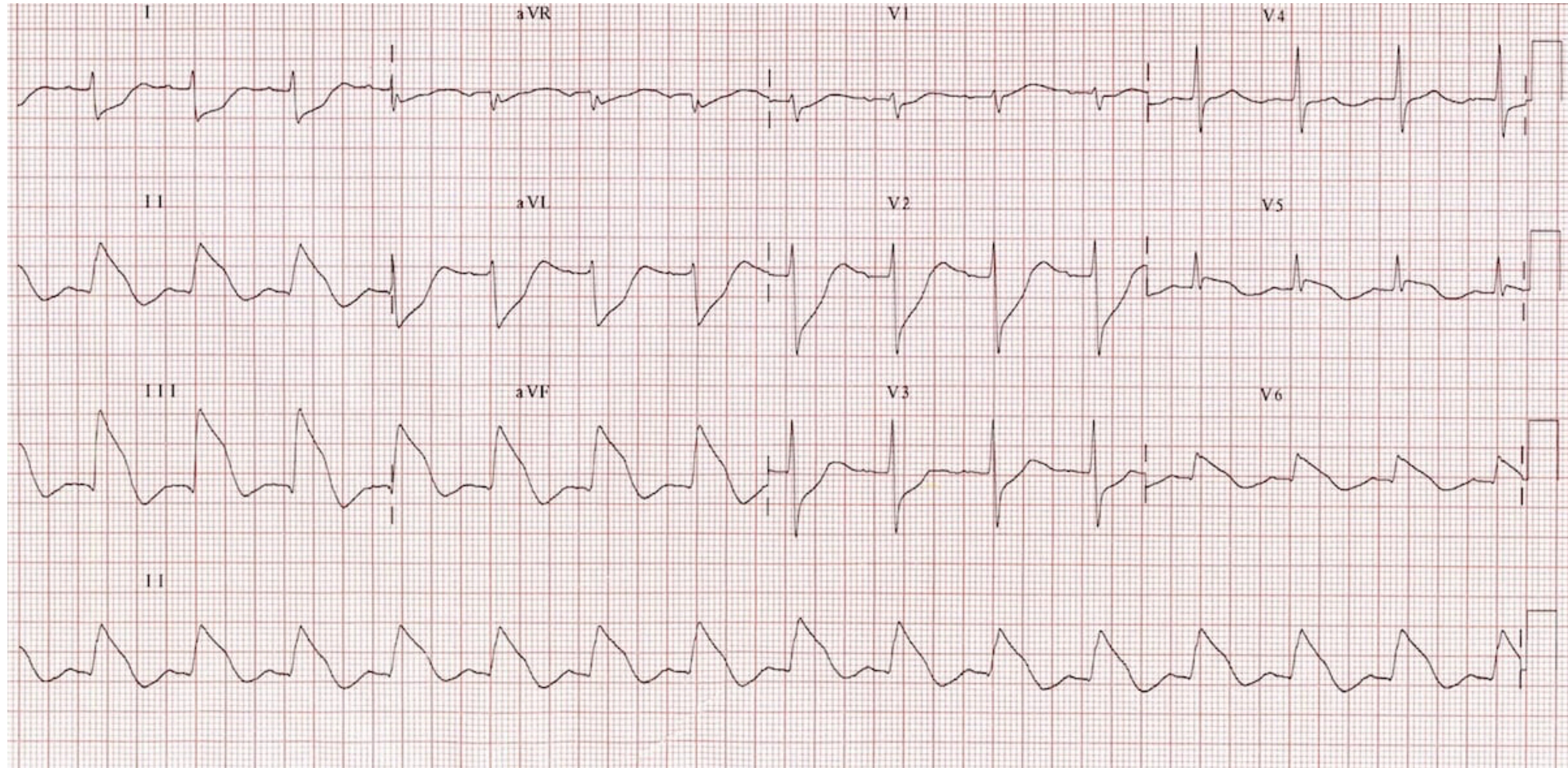
ÖRNEK 10



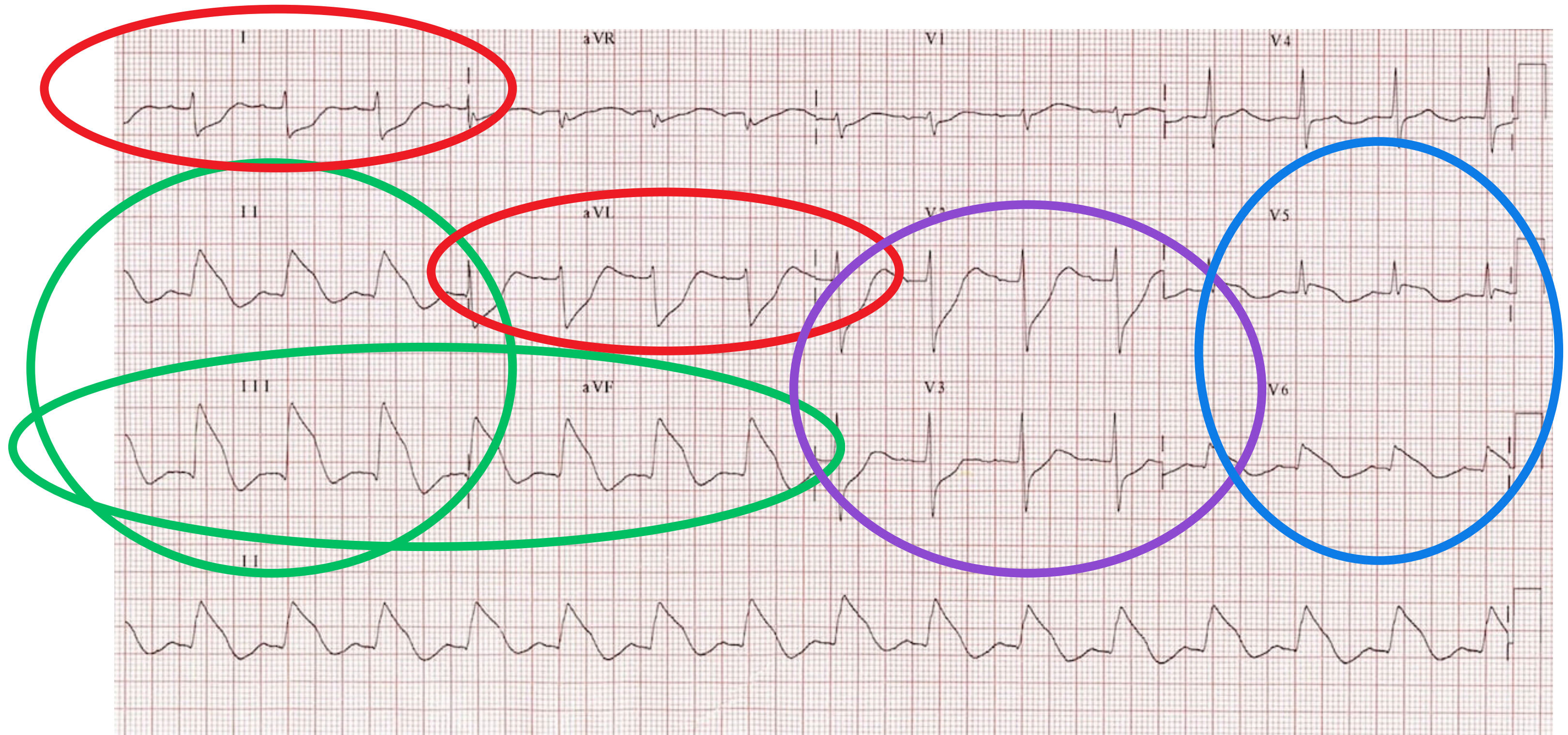
Inferior STEMI



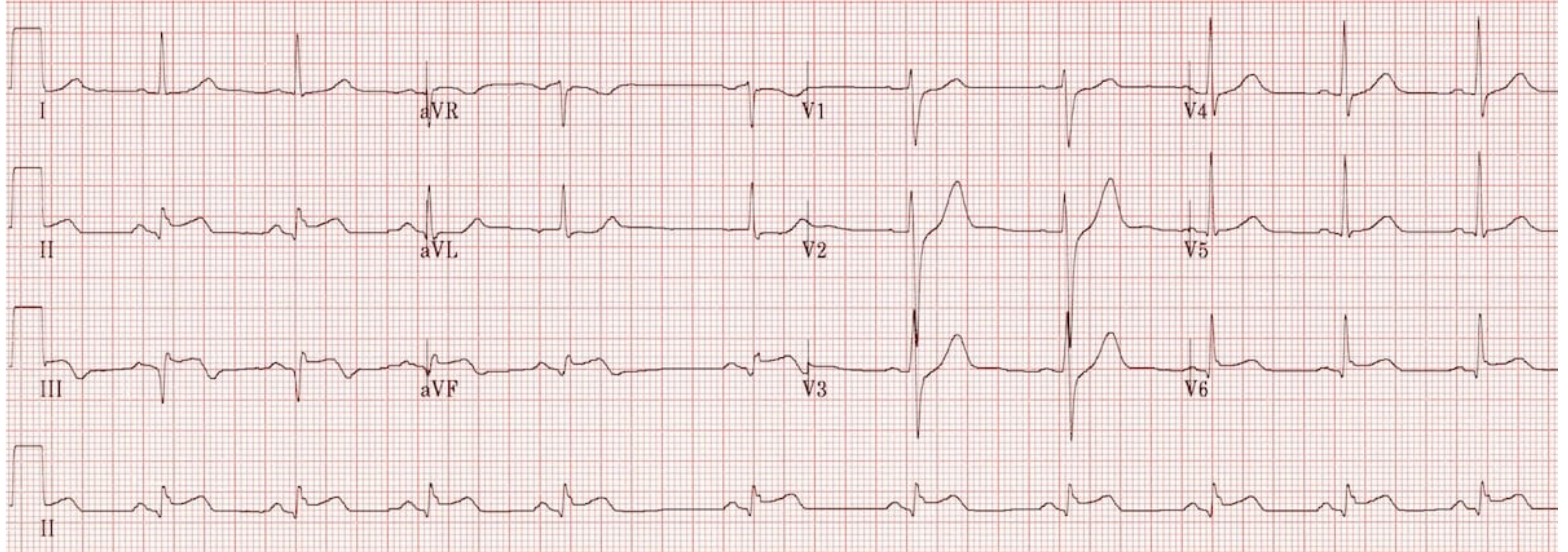
ÖRNEK 11



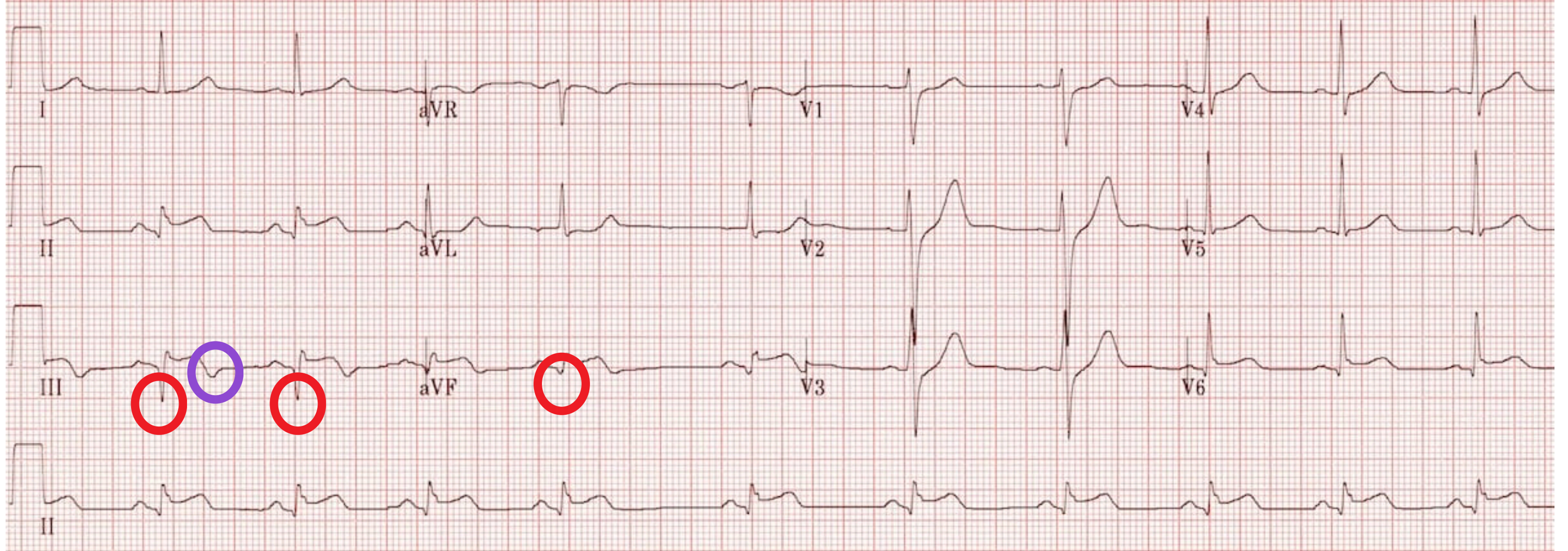
Masif inferolateral STEMI



ÖRNEK 12

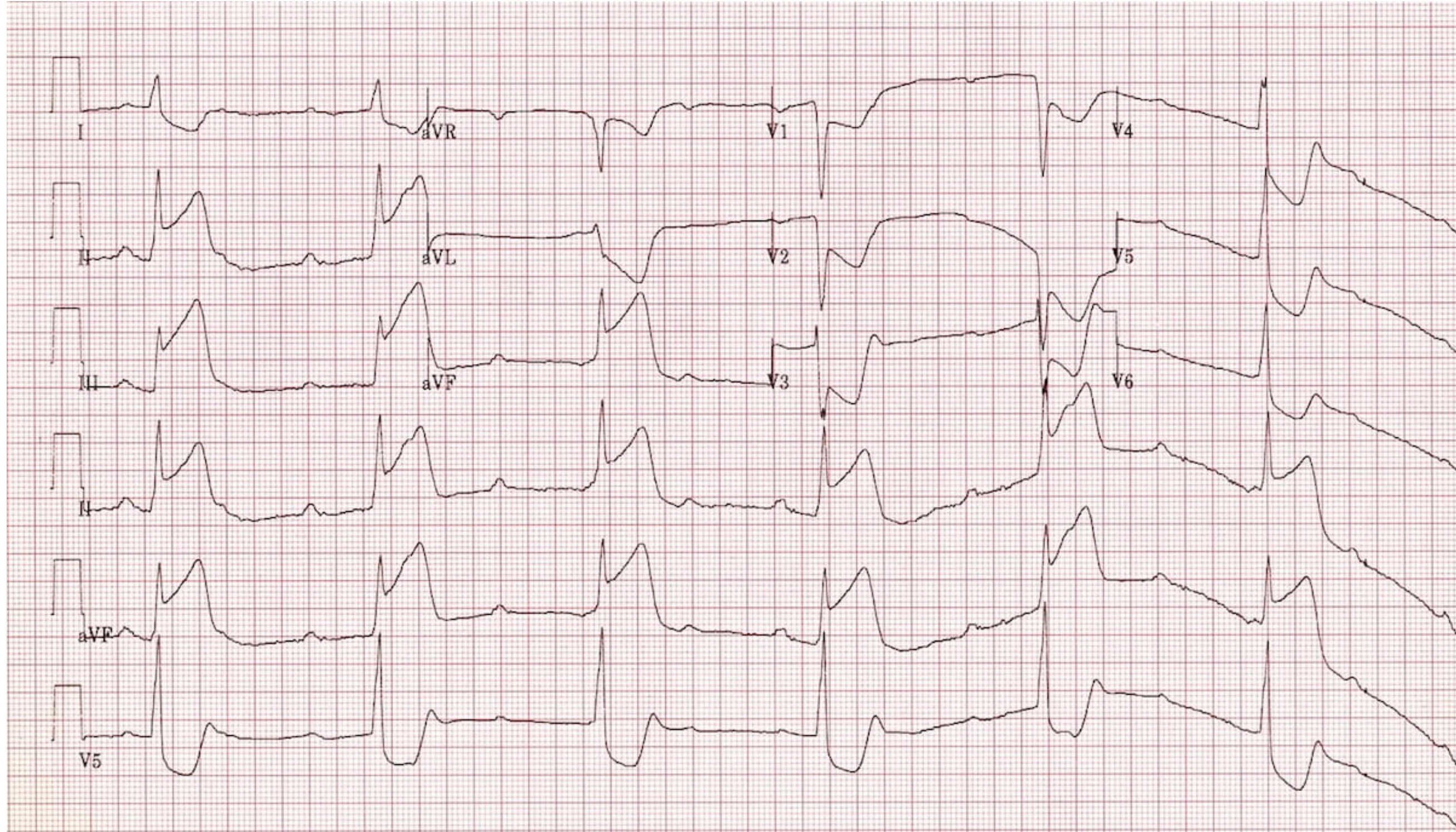


Yeni geçirilmiş inferolateral STEMI

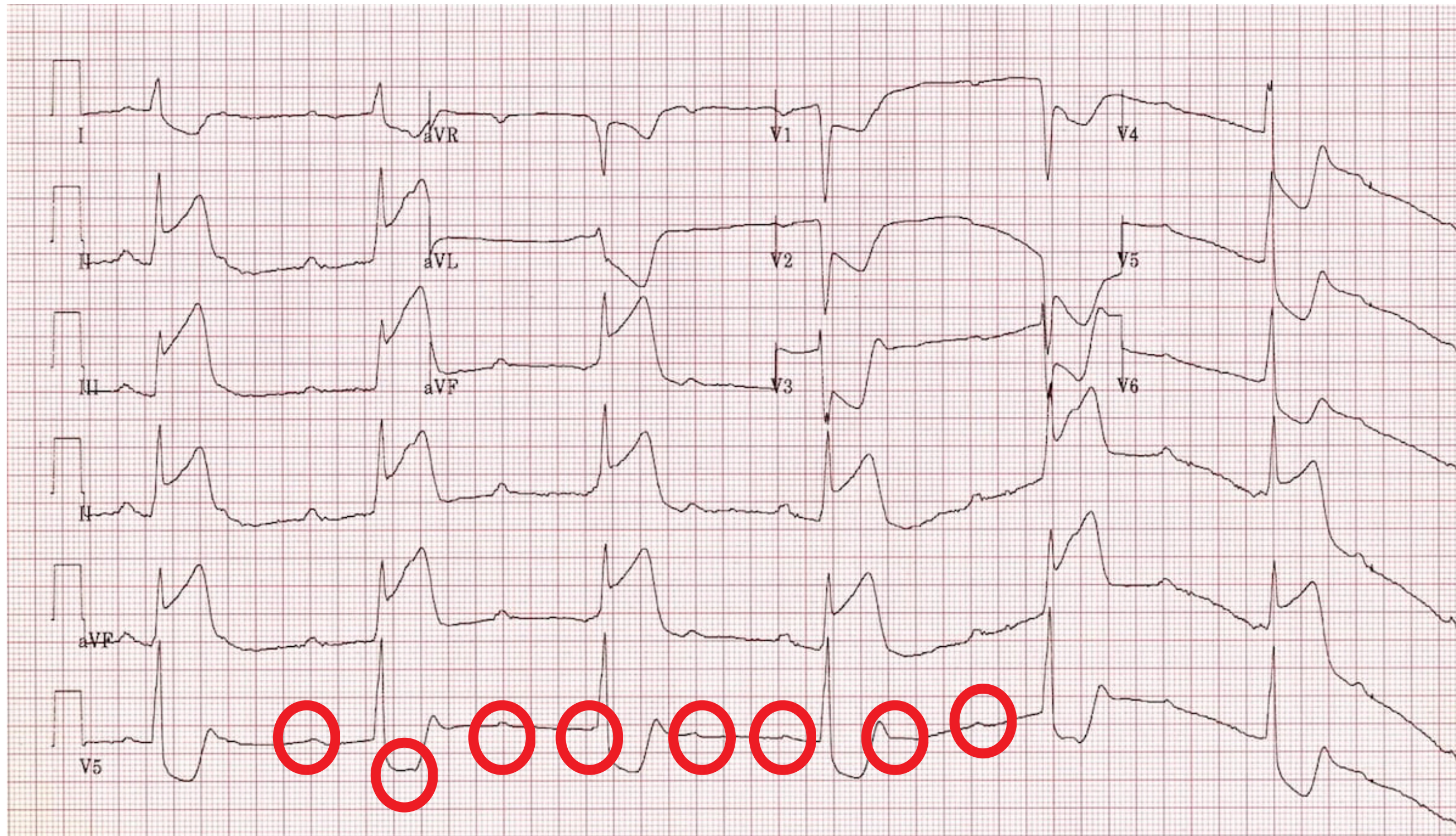


Ama devam eden GA olsa = STEMI gibi yaklaşılmalıdır.

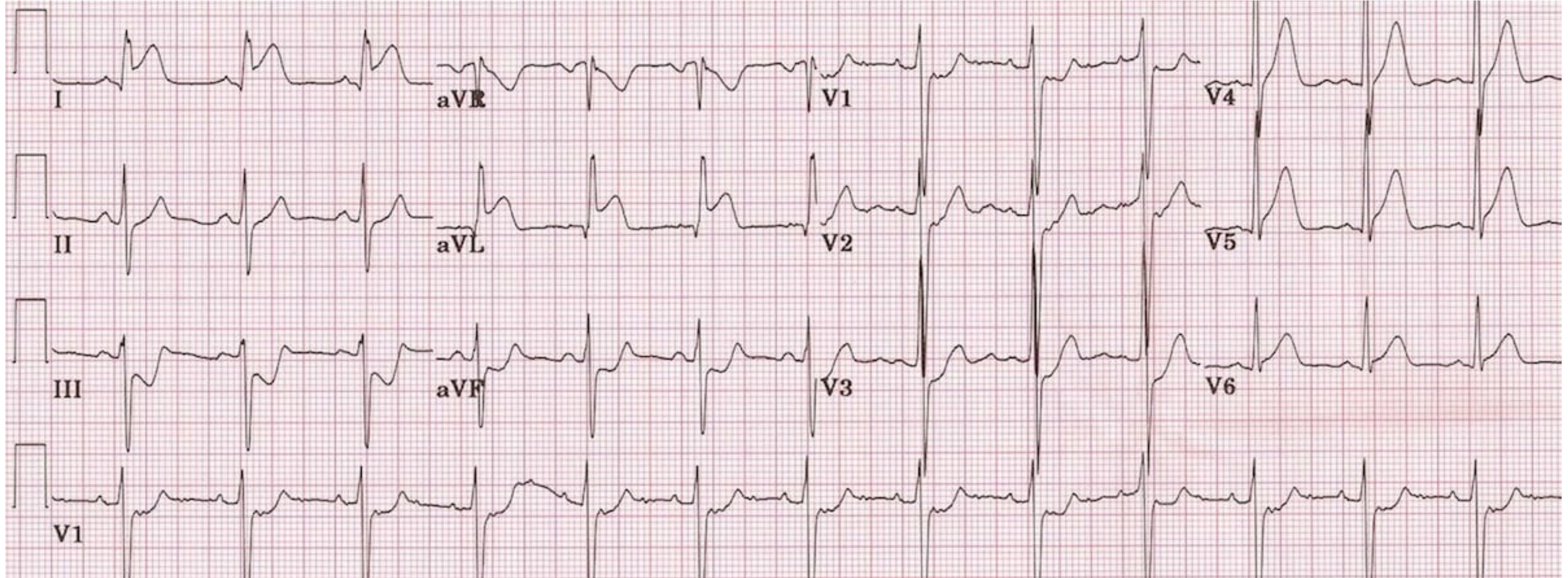
ÖRNEK 13



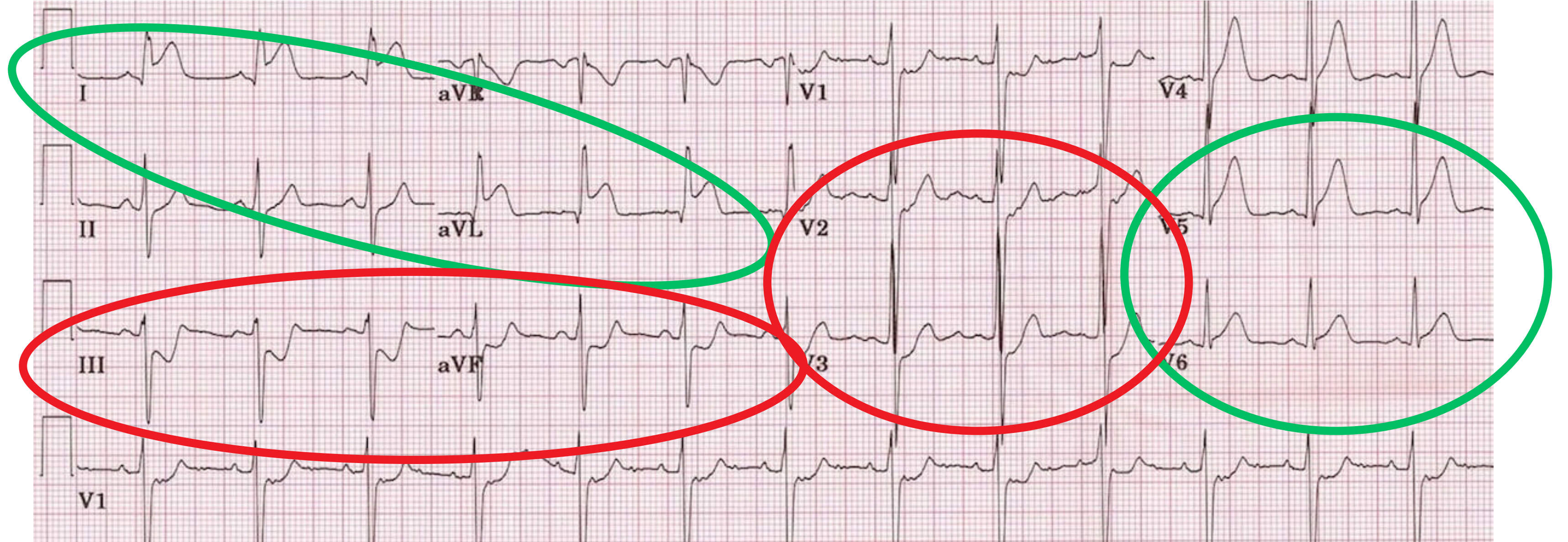
Inferior STEMI + 3.derece AV blok



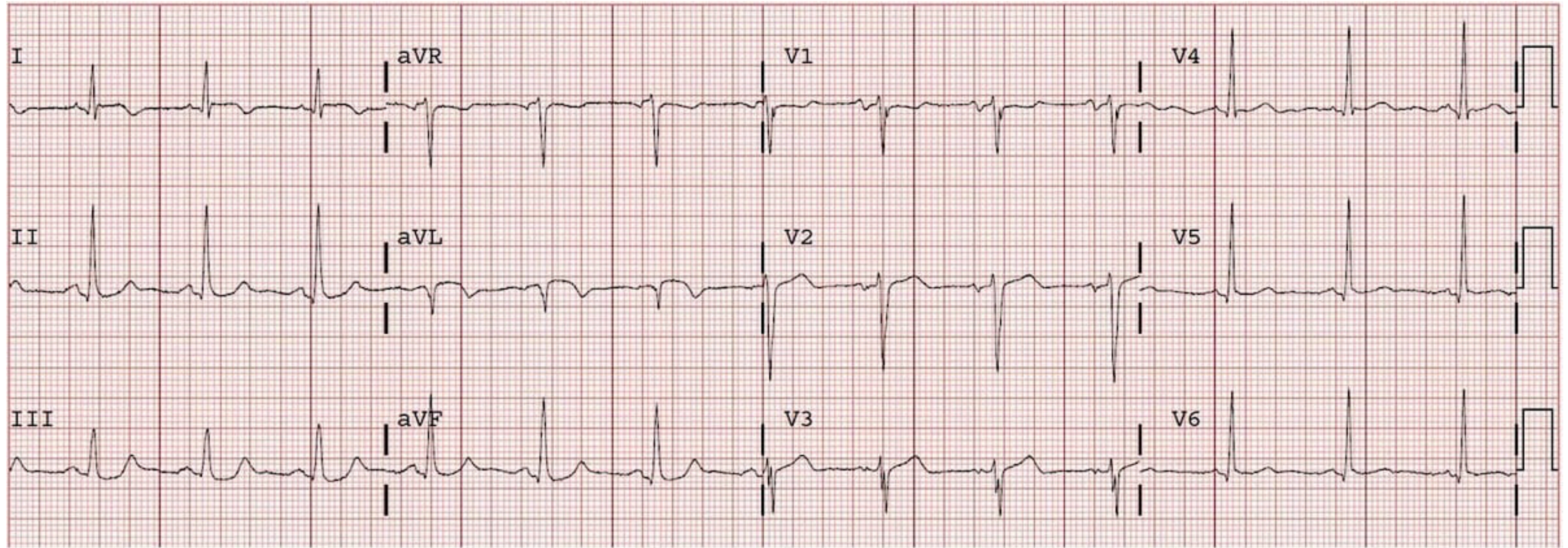
ÖRNEK 14



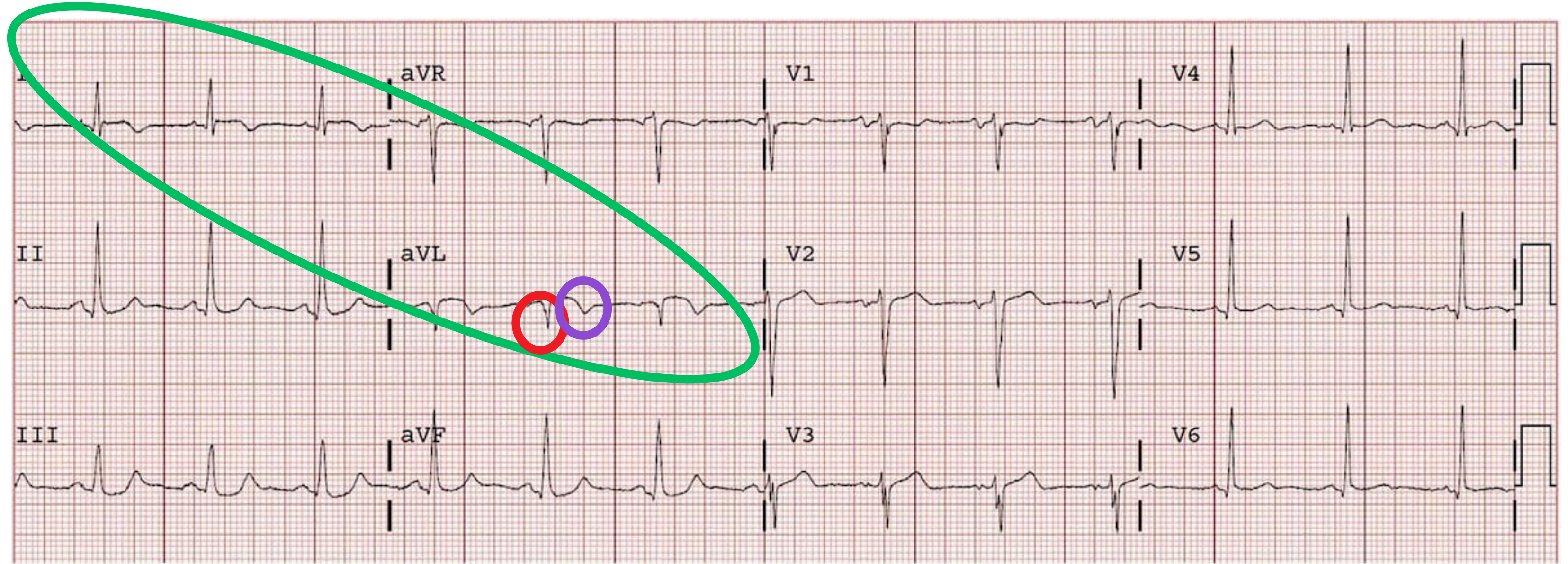
Yüksek lateral STEMI



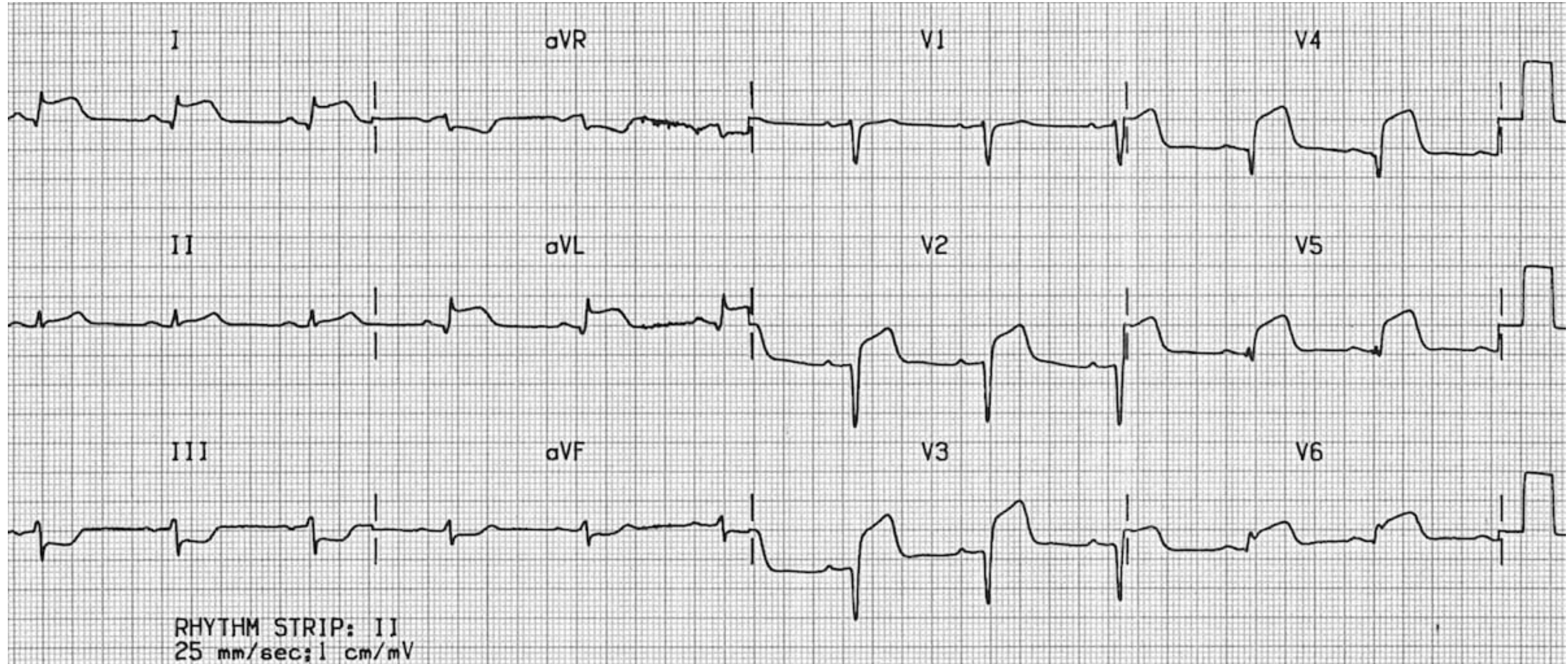
ÖRNEK 15



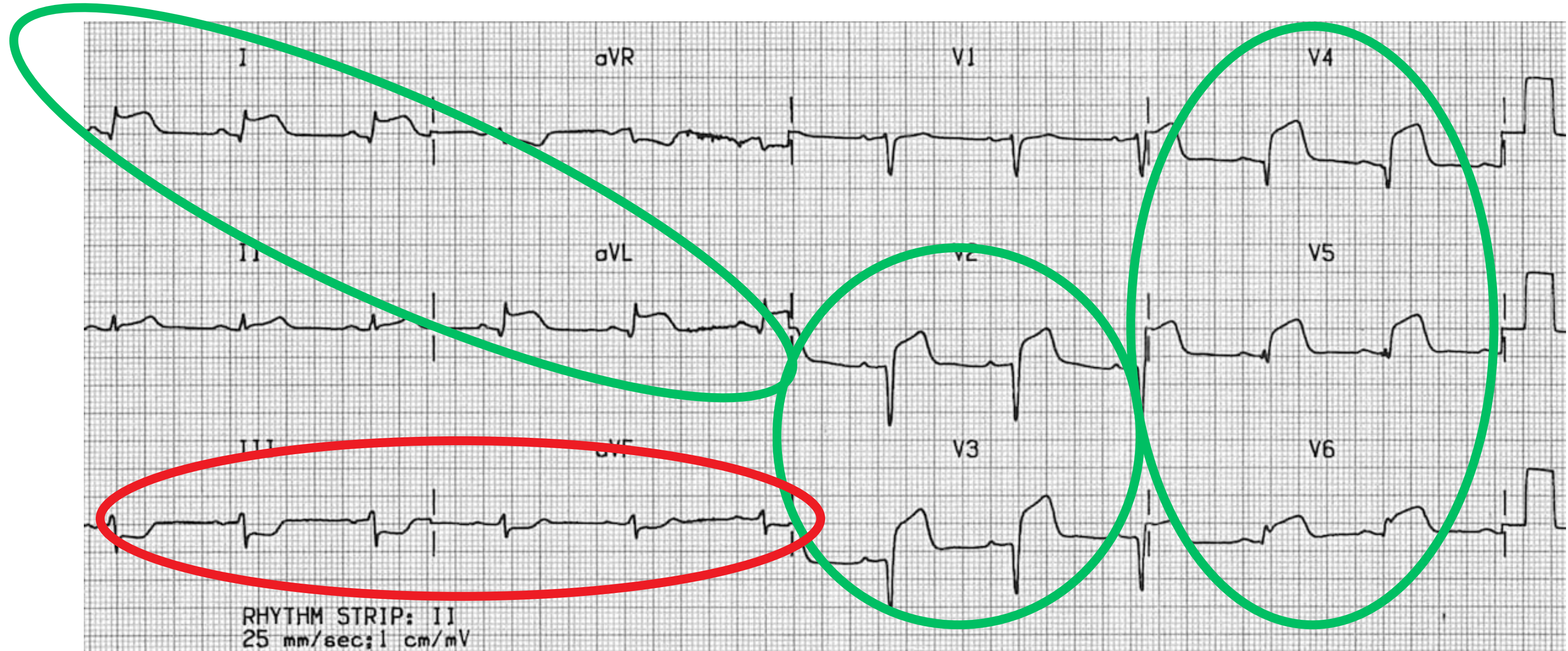
Yeni Geçirilmiş Yüksek Lateral MI



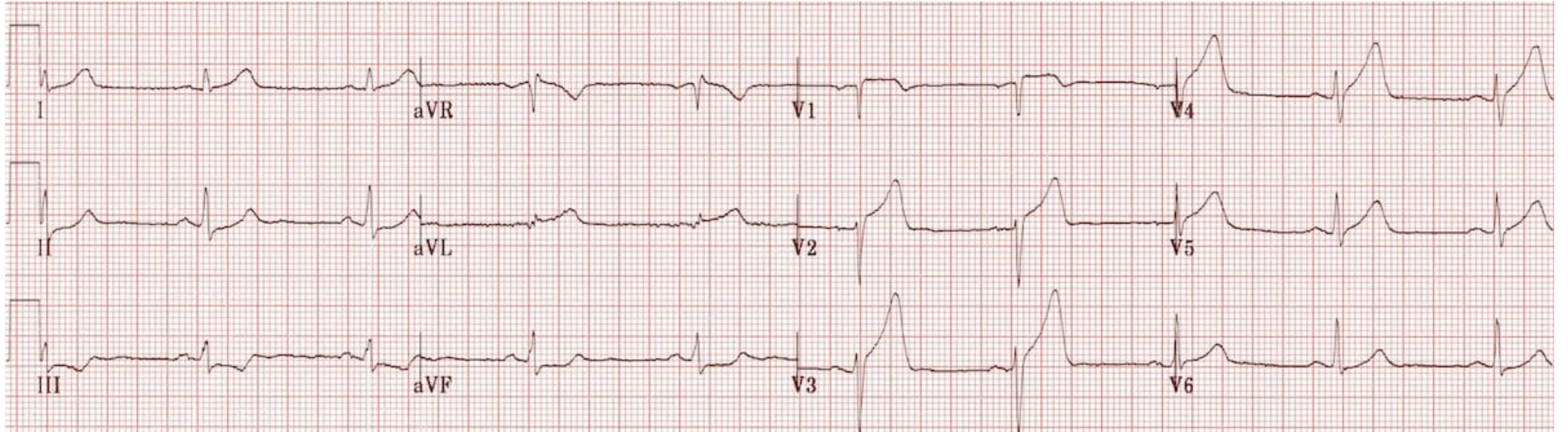
ÖRNEK 16



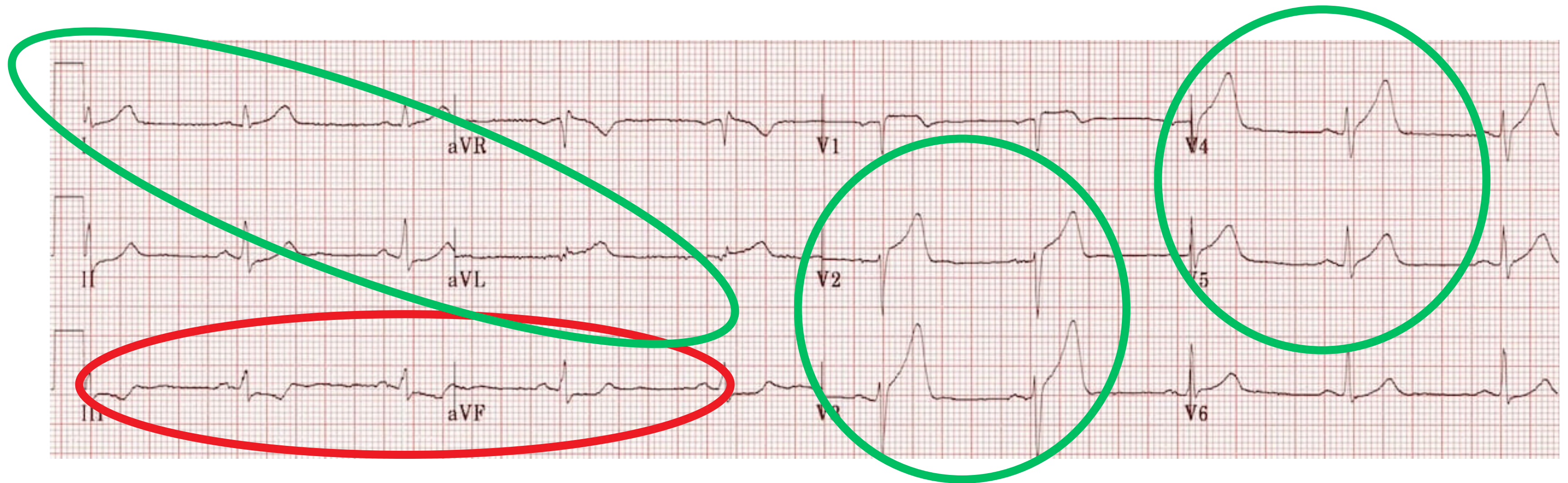
Anterolateral STEMI



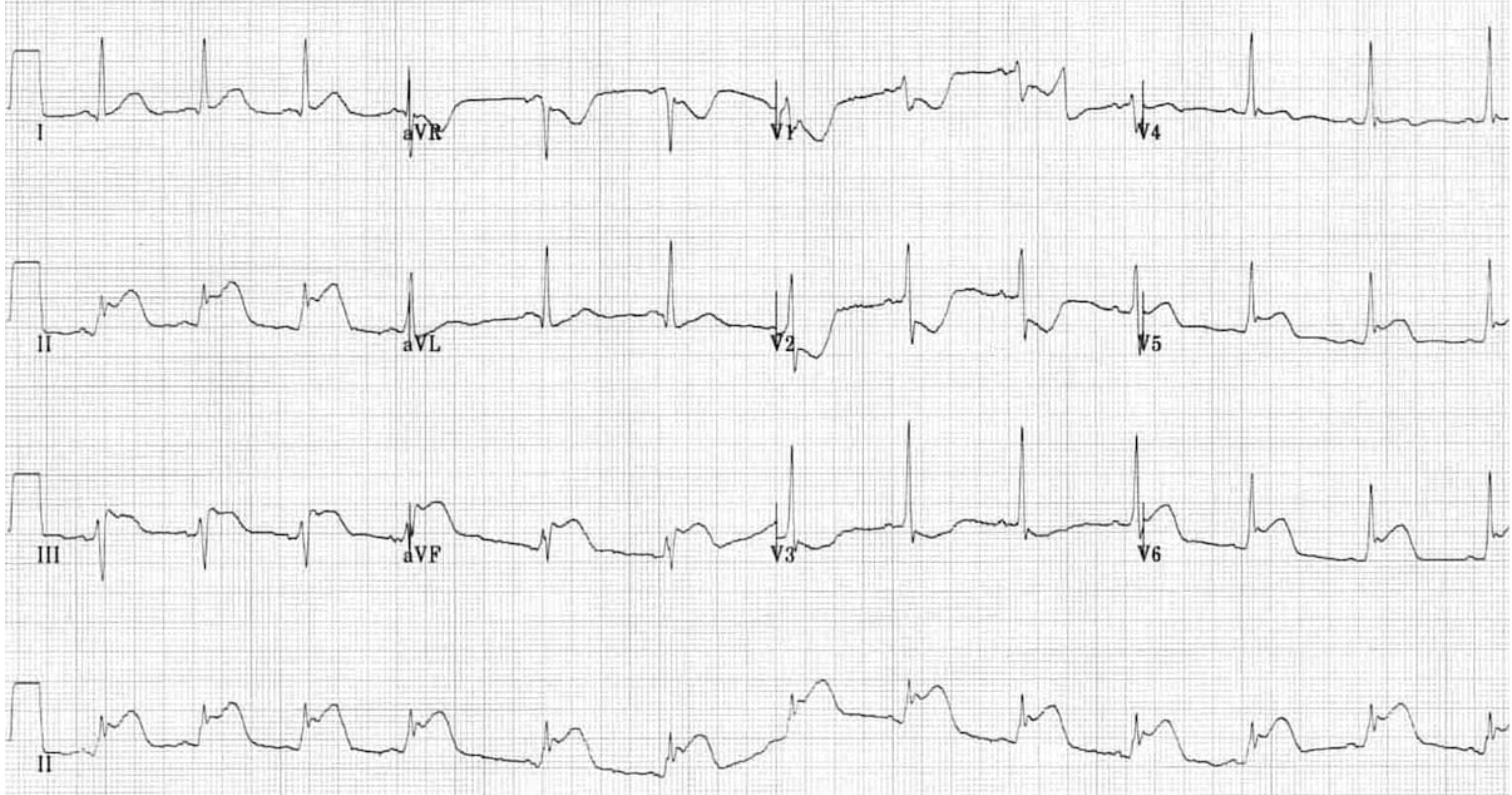
ÖRNEK 17



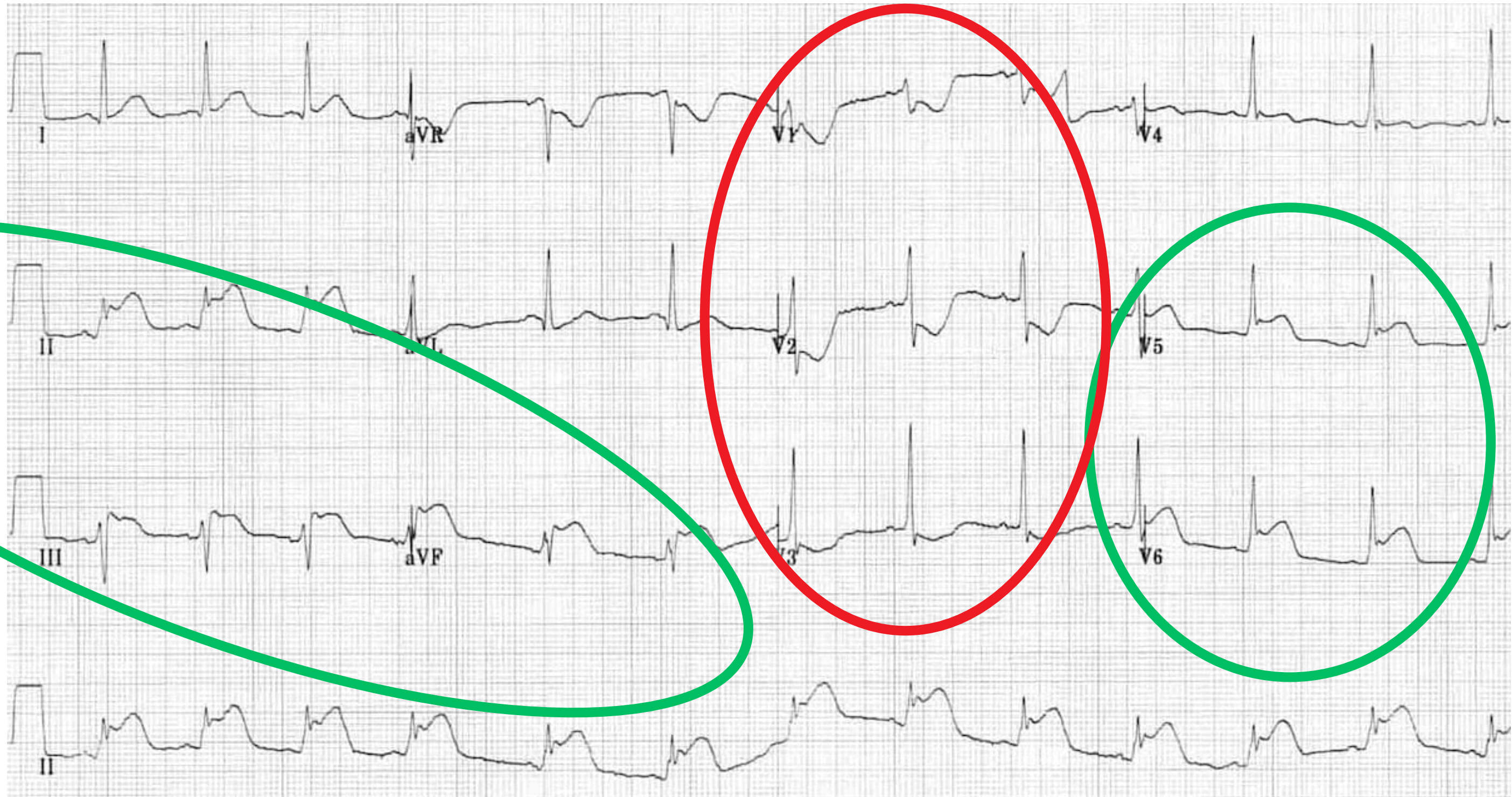
Hiperakut Anterolateral STEMI



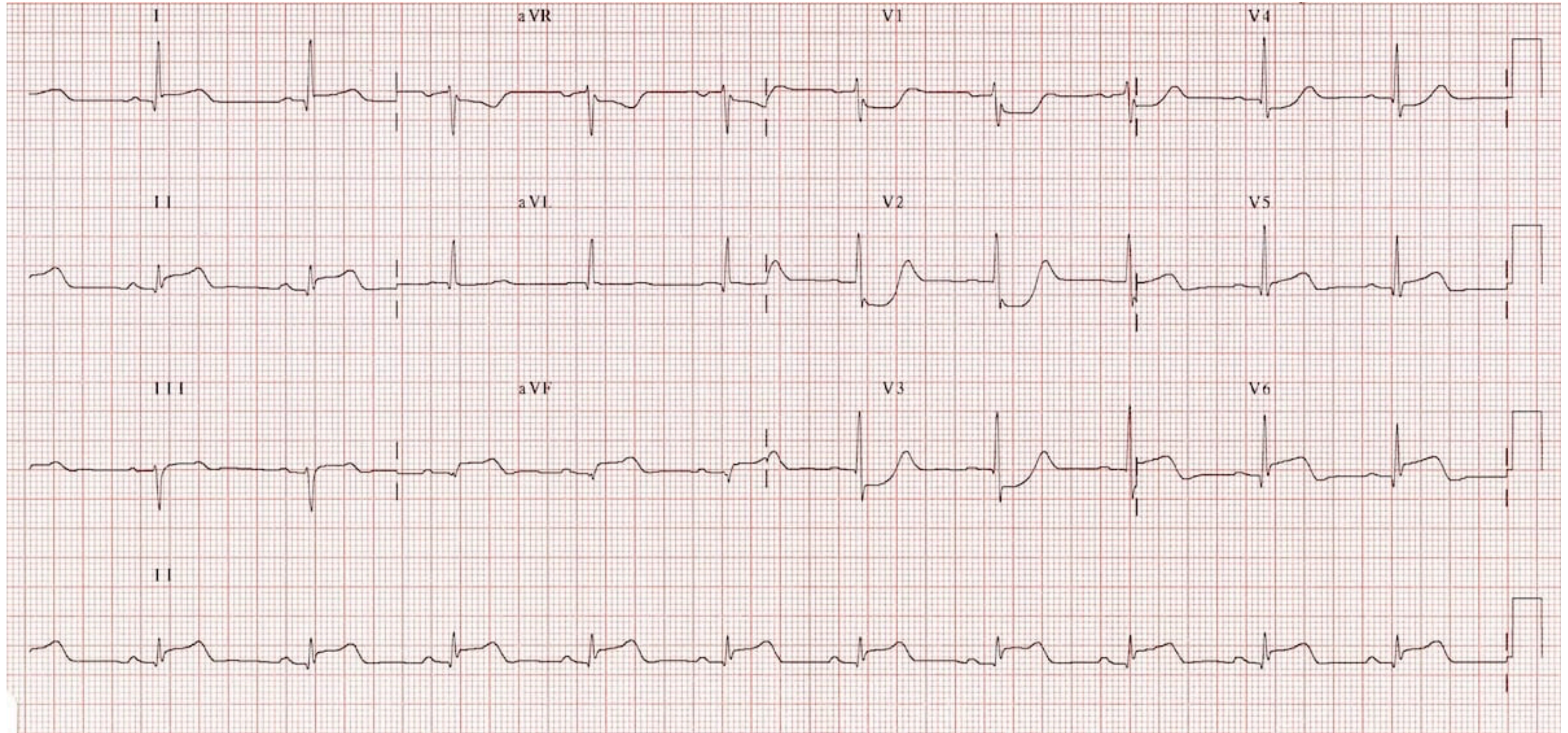
ÖRNEK 18



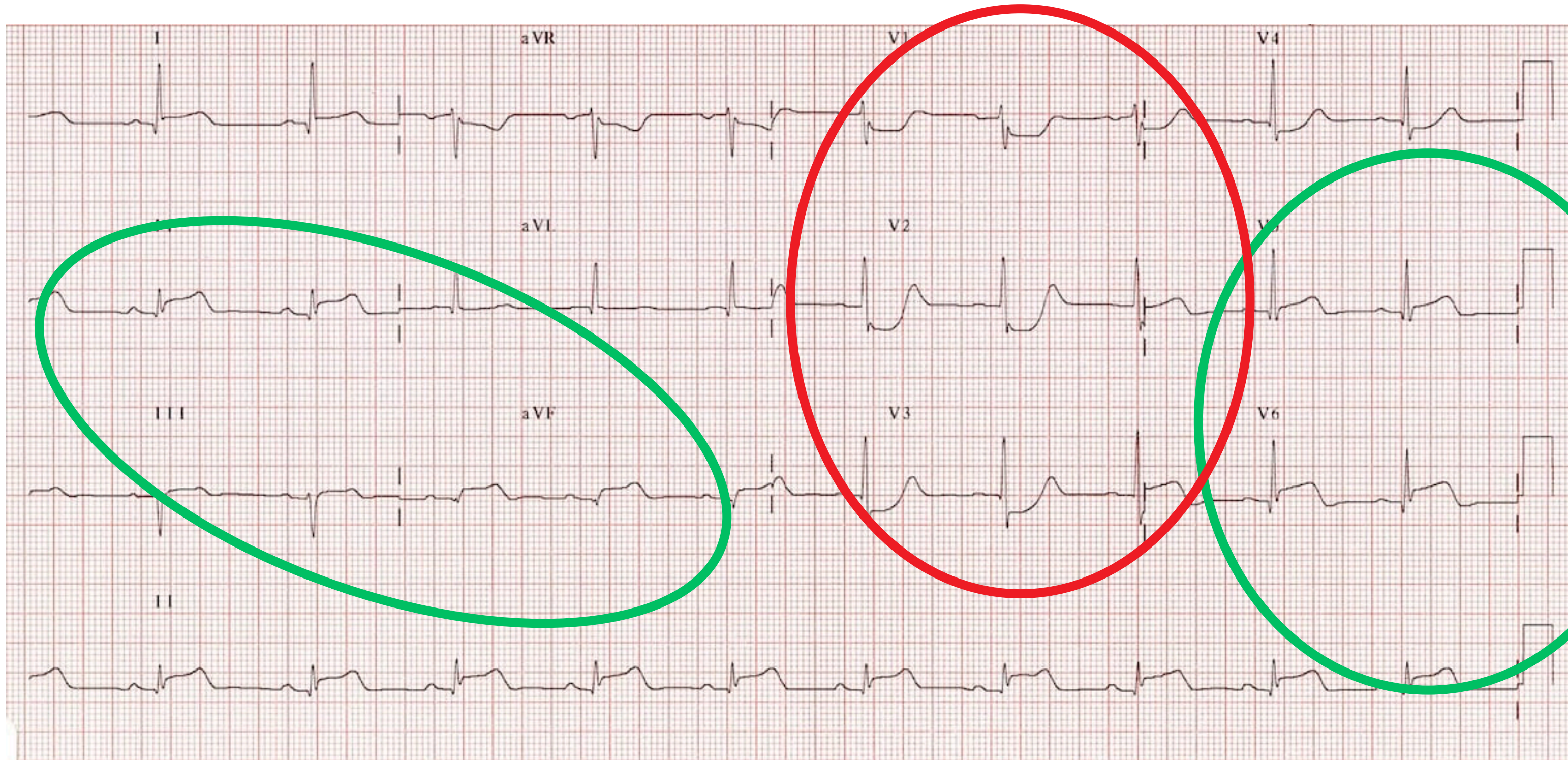
Inferolateral STEMI

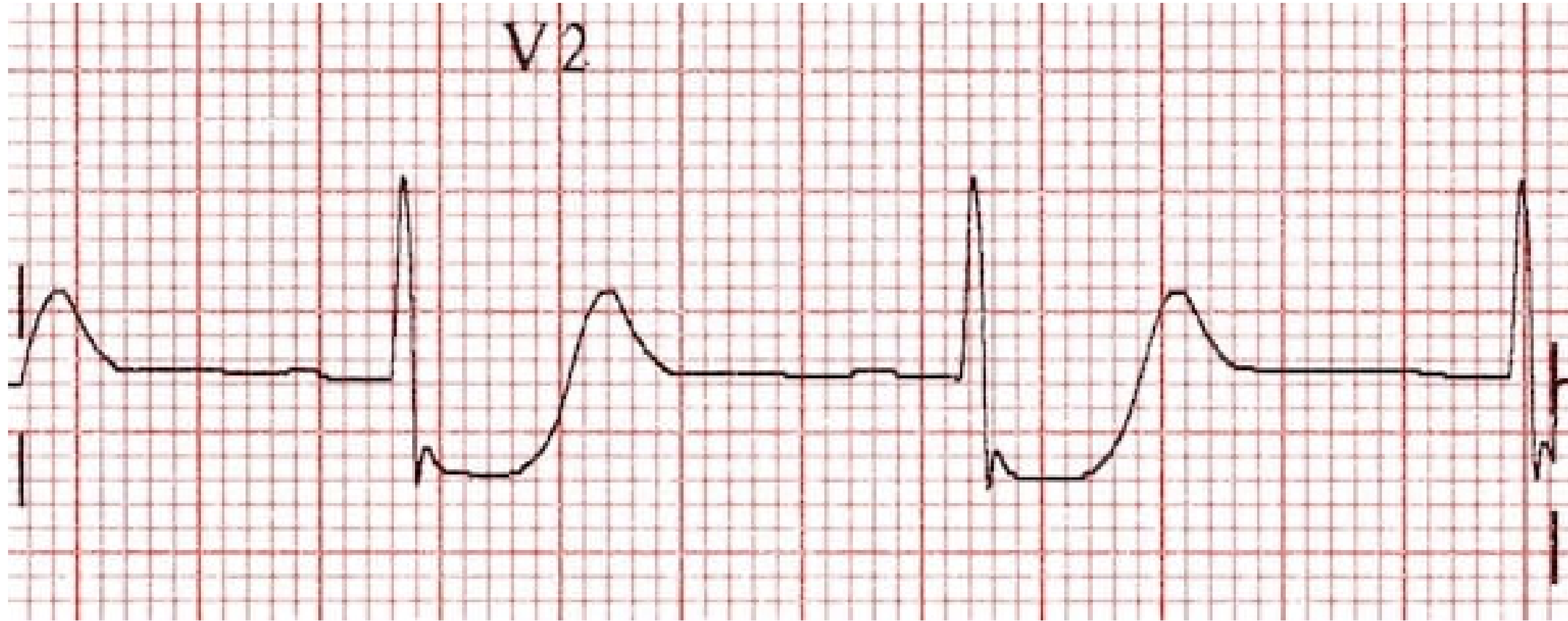


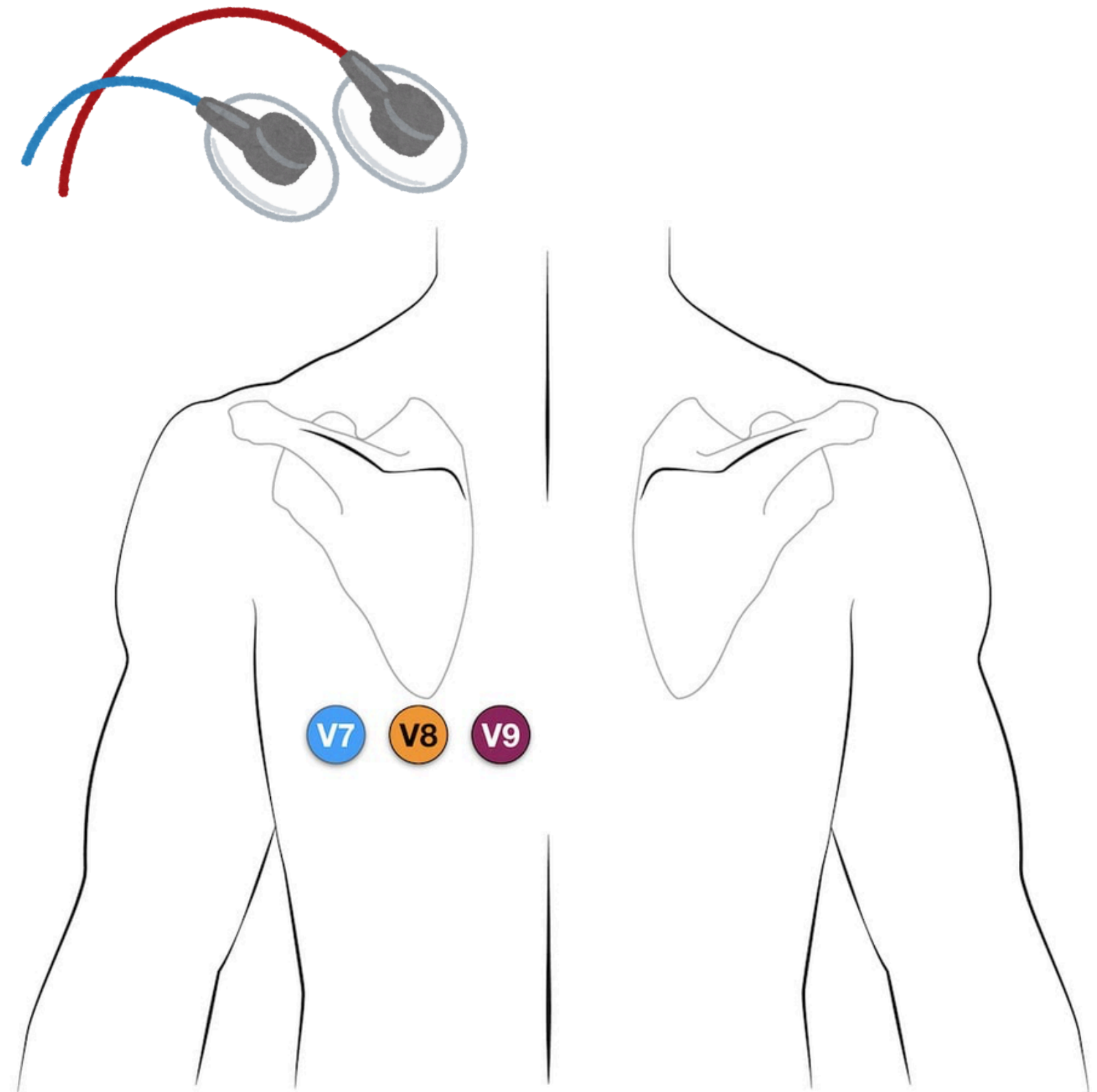
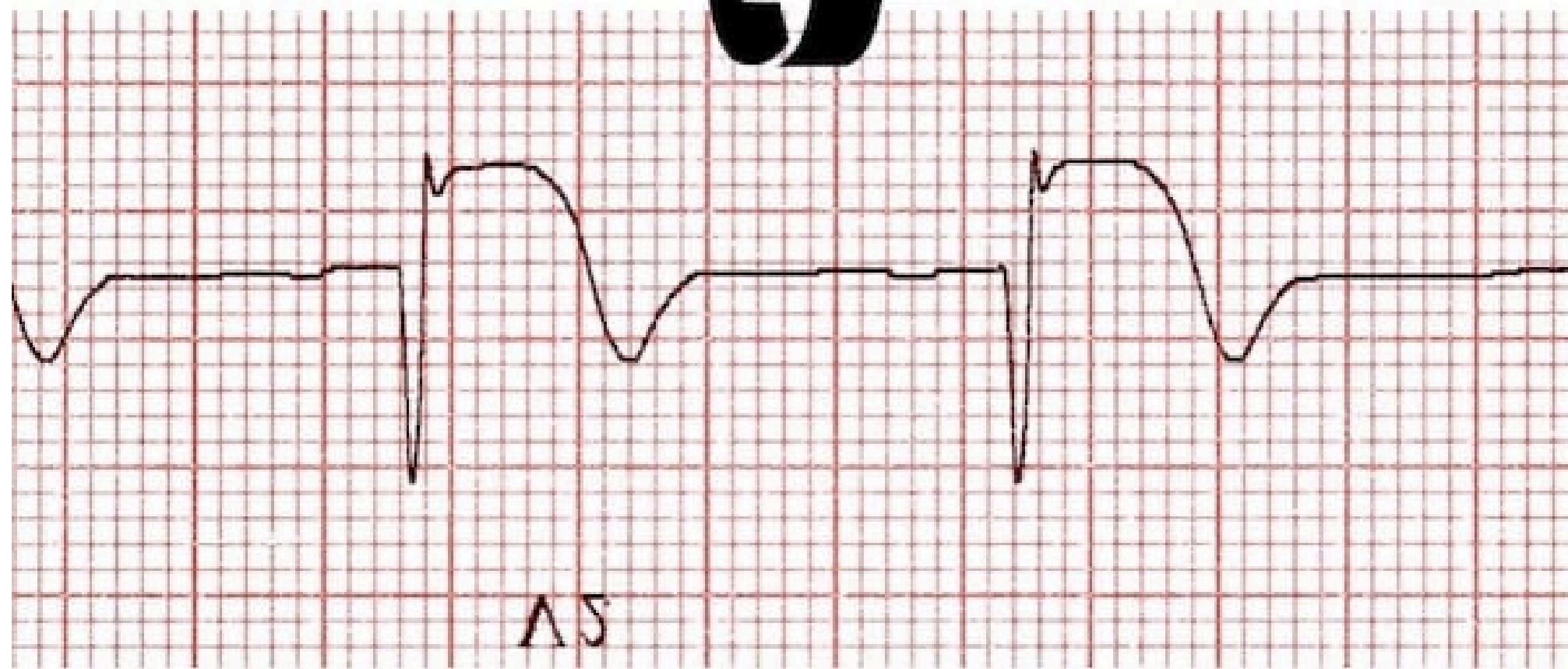
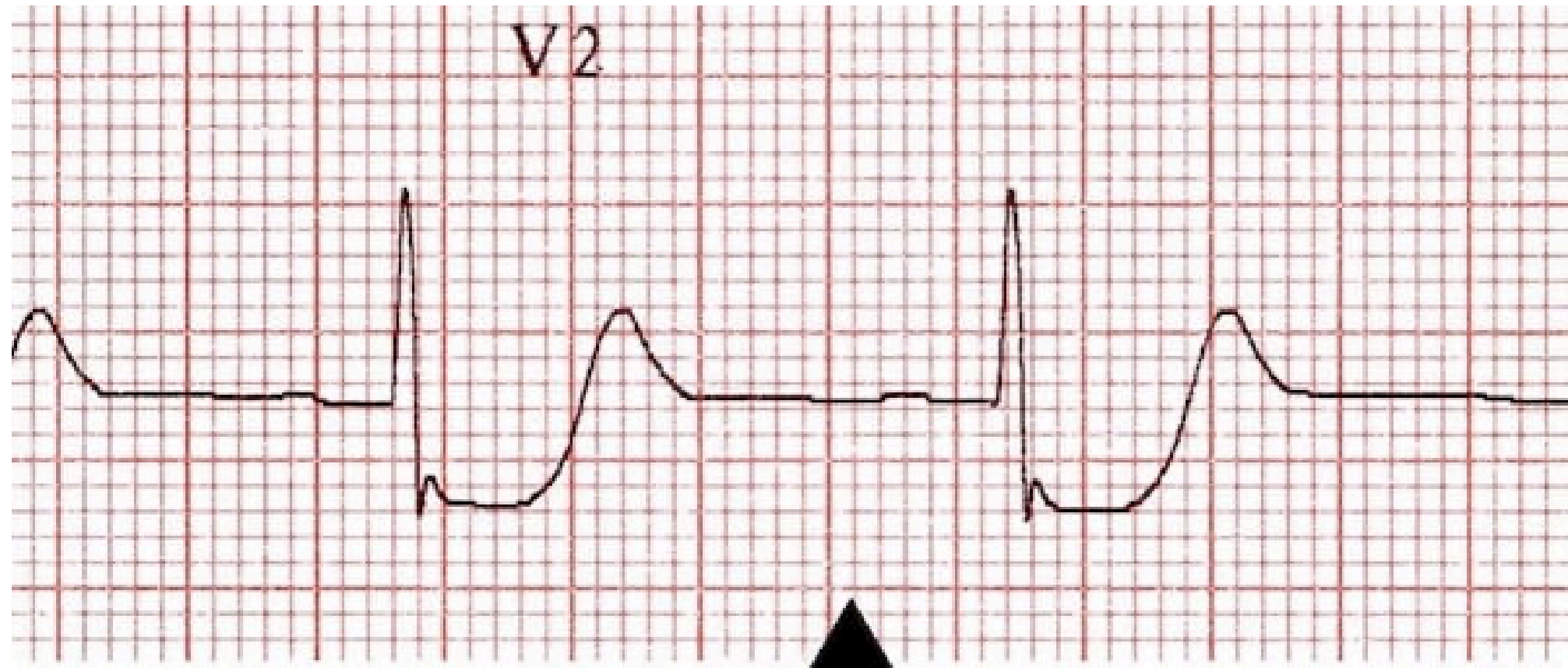
ÖRNEK 19



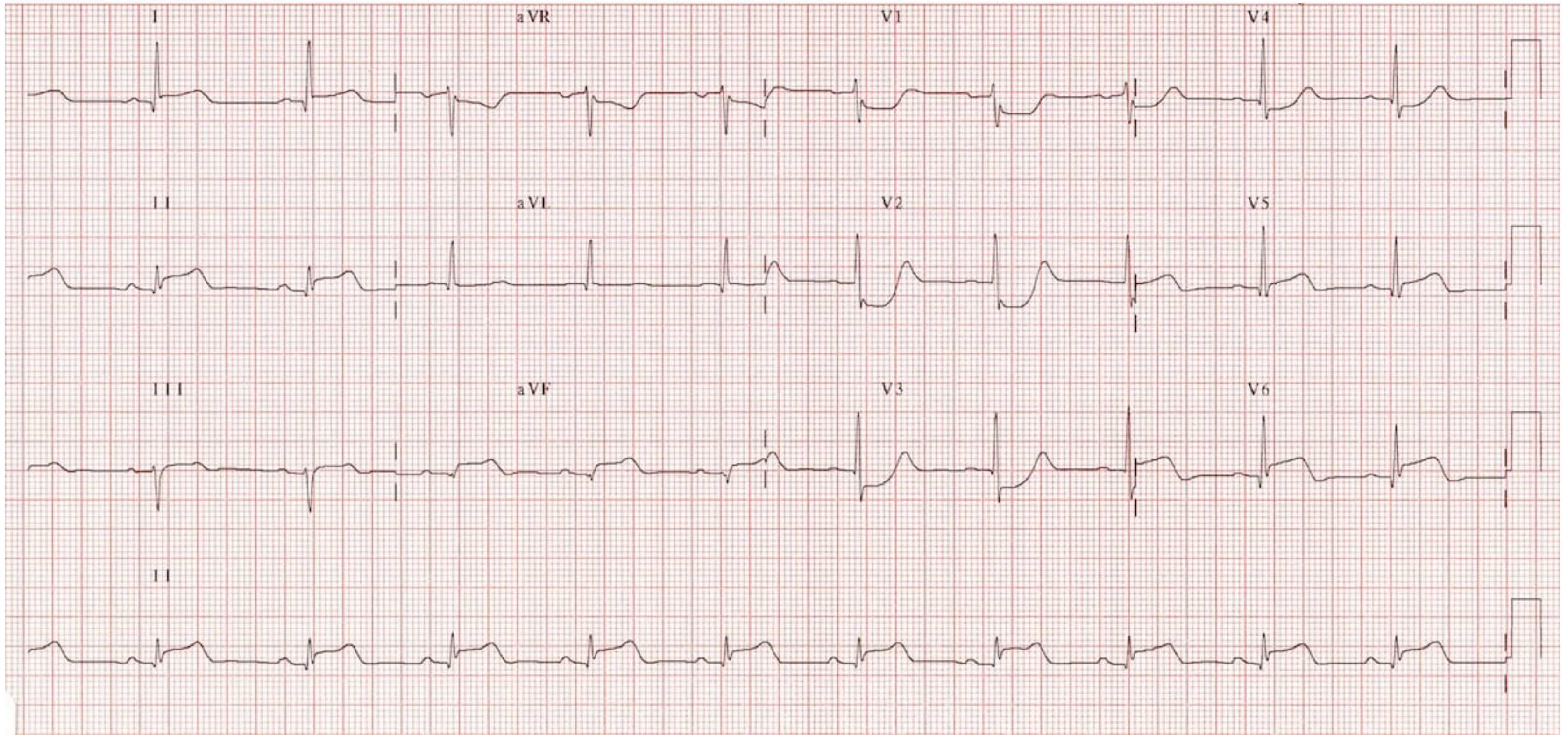
Infero-postero-lateral STEMI



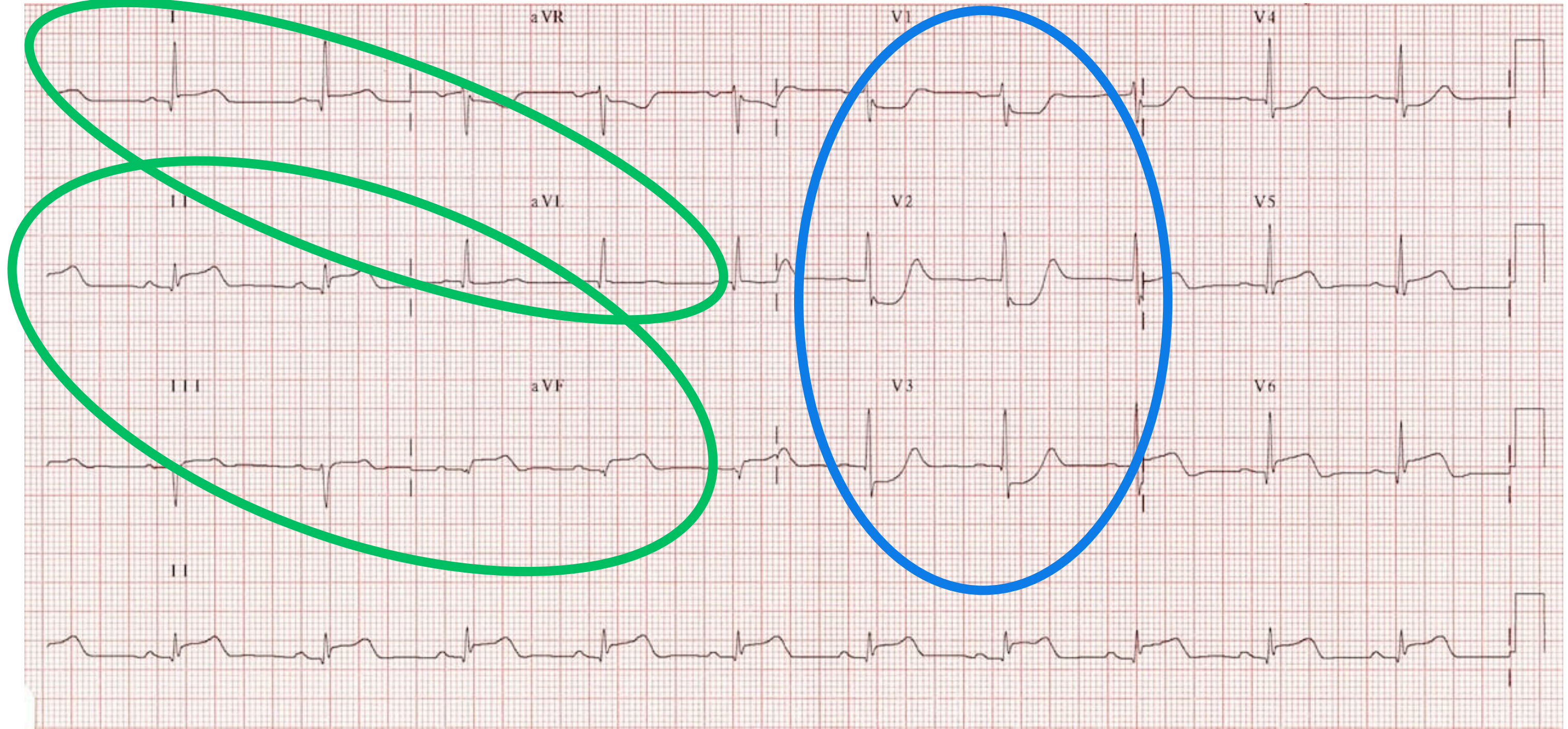




ÖRNEK 20



Inferolateral STEMI. Posterior tutulum da düşünölmeli.



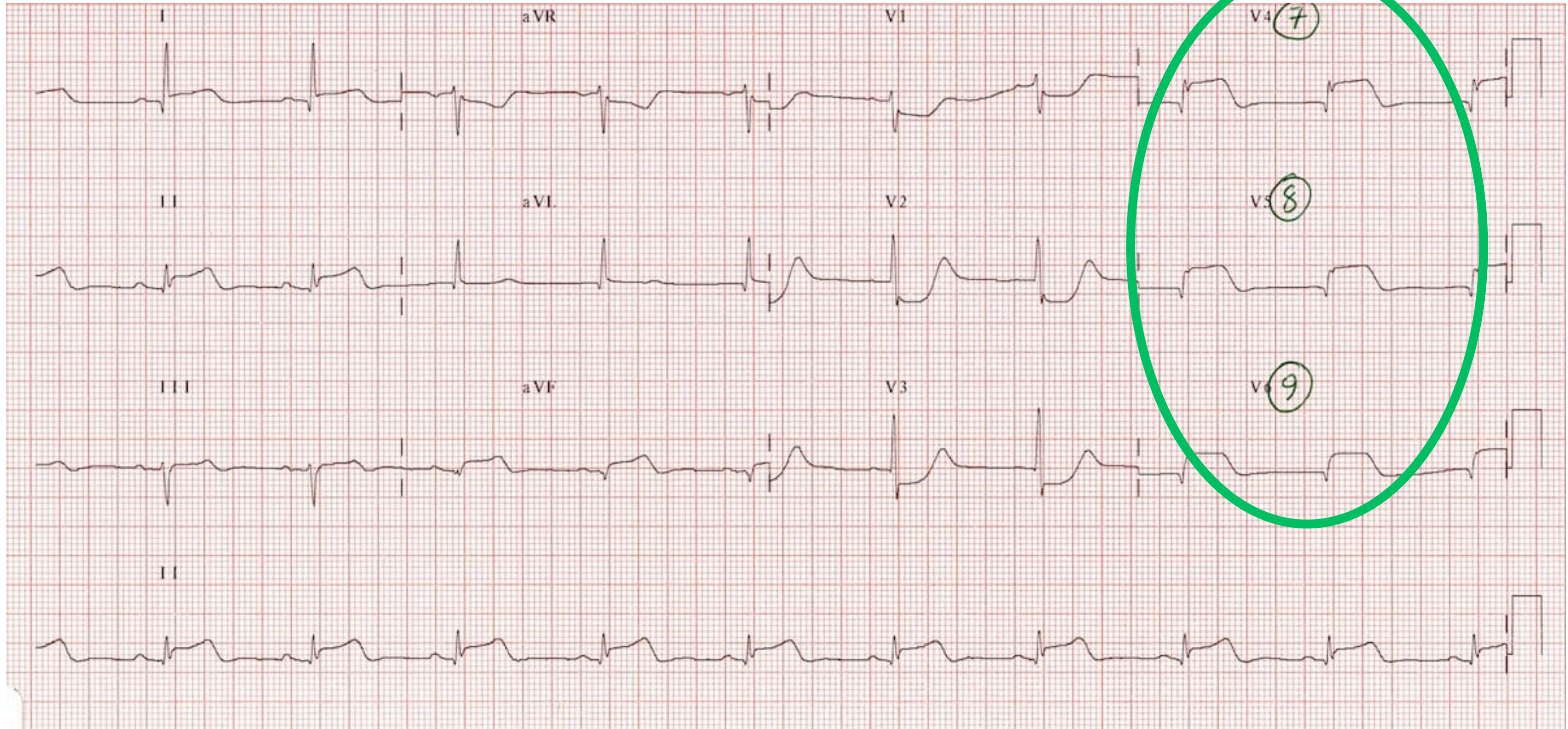
V1-2'de horizontal ST depresyonu

V2-3'te uzun ve geniş broad R dalgaları (> 30ms)

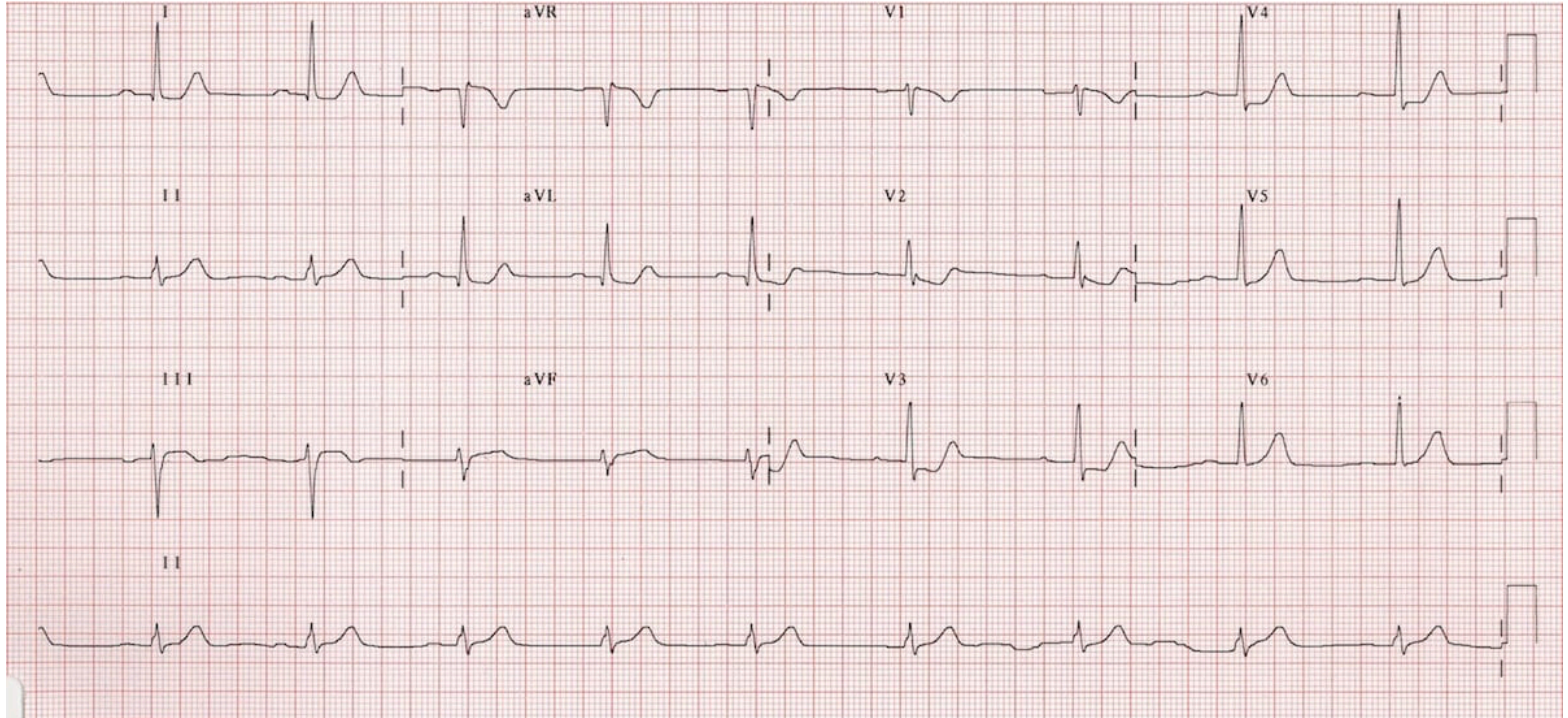
V2'de dominant R dalgası (R/S oranı > 1)

V2-3'te pozitif T dalgaları

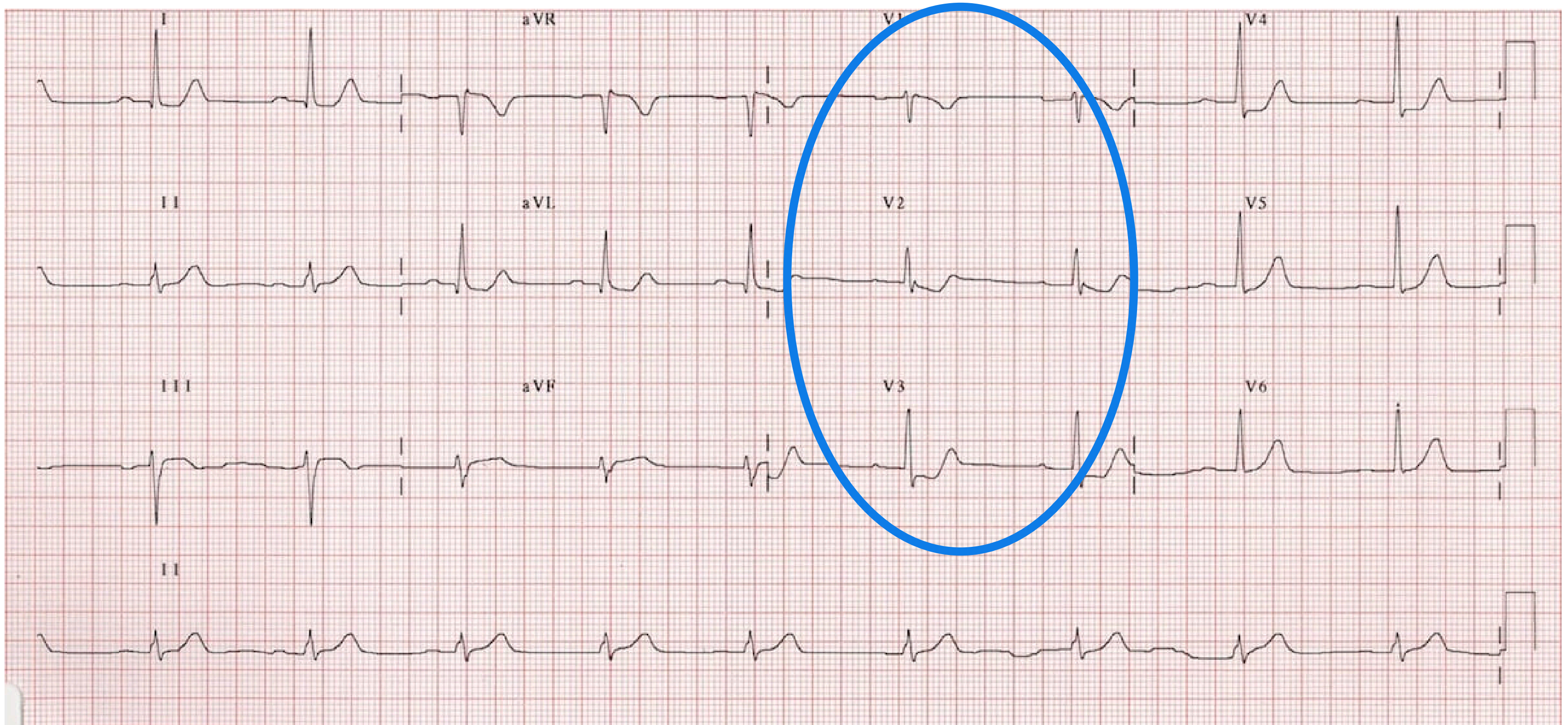
Aynı hastada posterior EKG çekildiğinde:



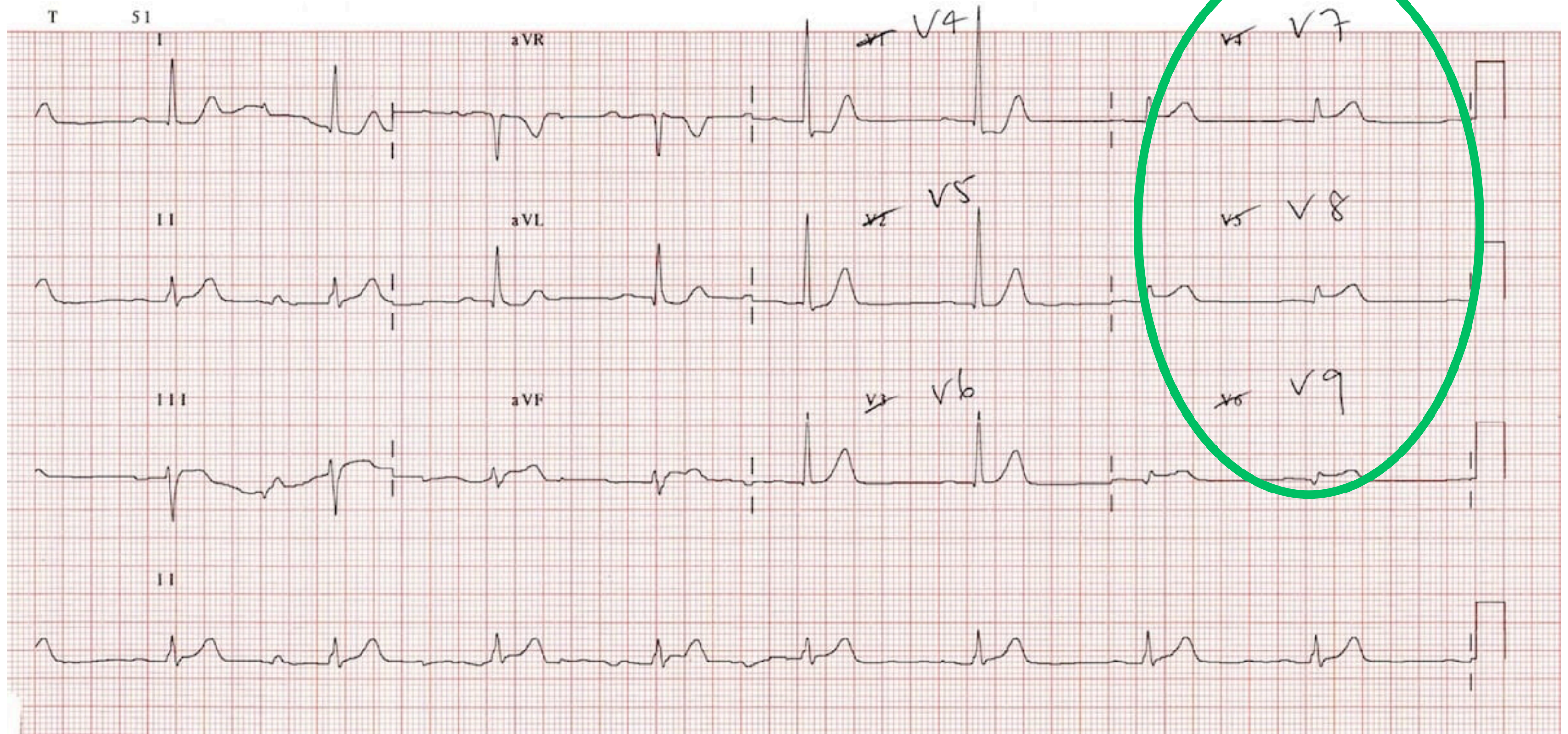
ÖRNEK 21



Posterior şüpheli...

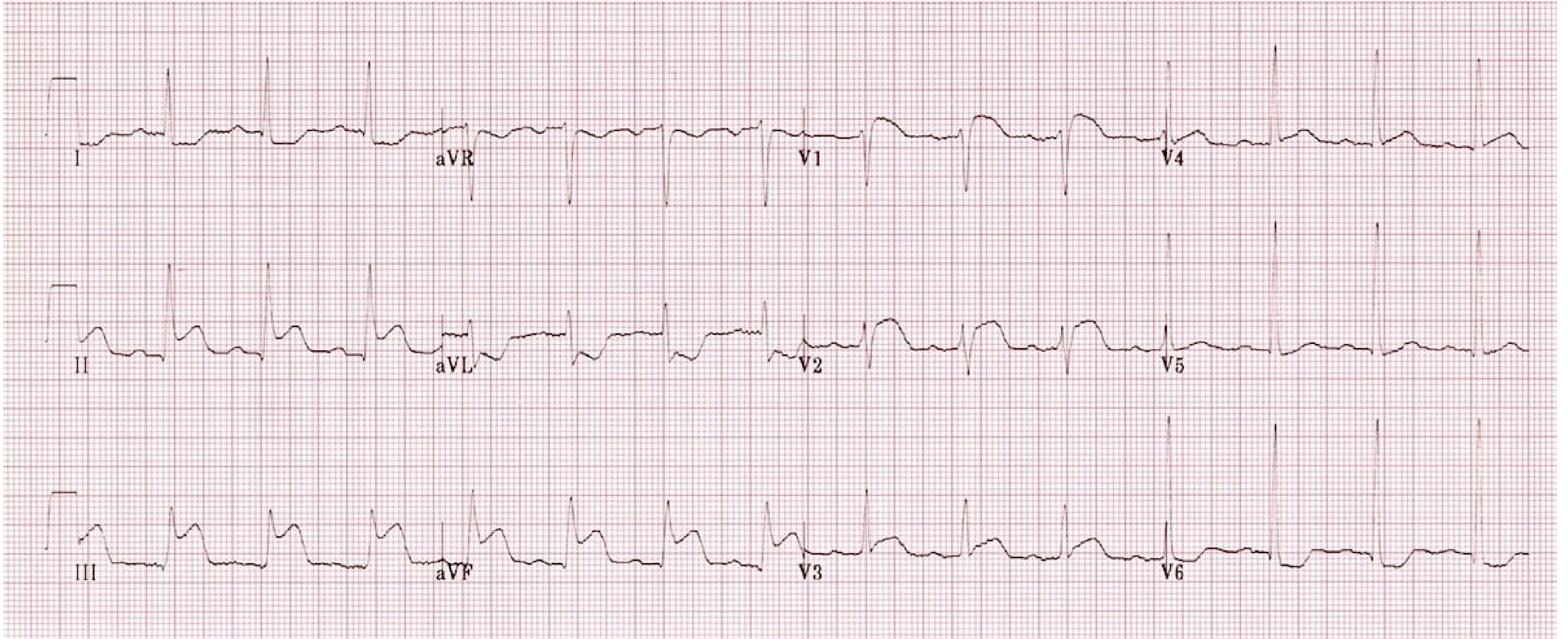


Posterior çekildiğinde...

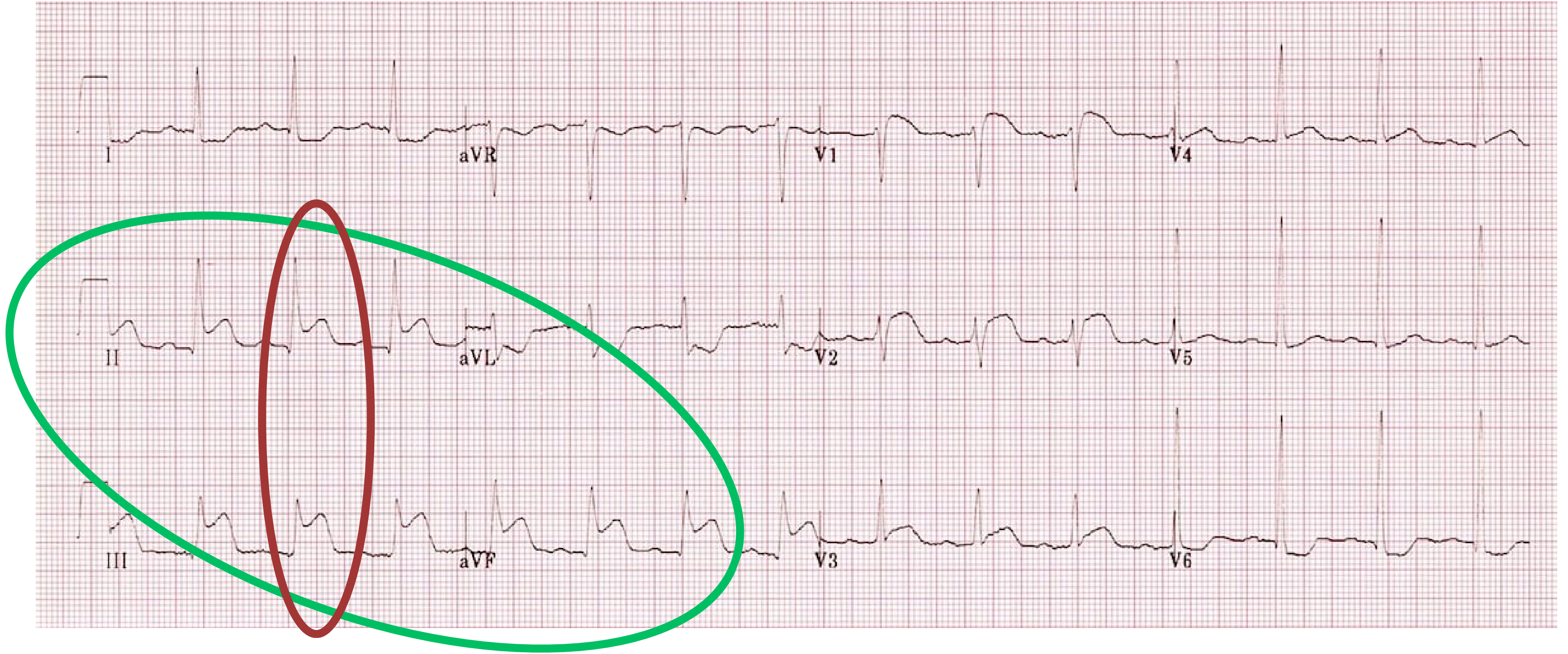


> 0,5 mm

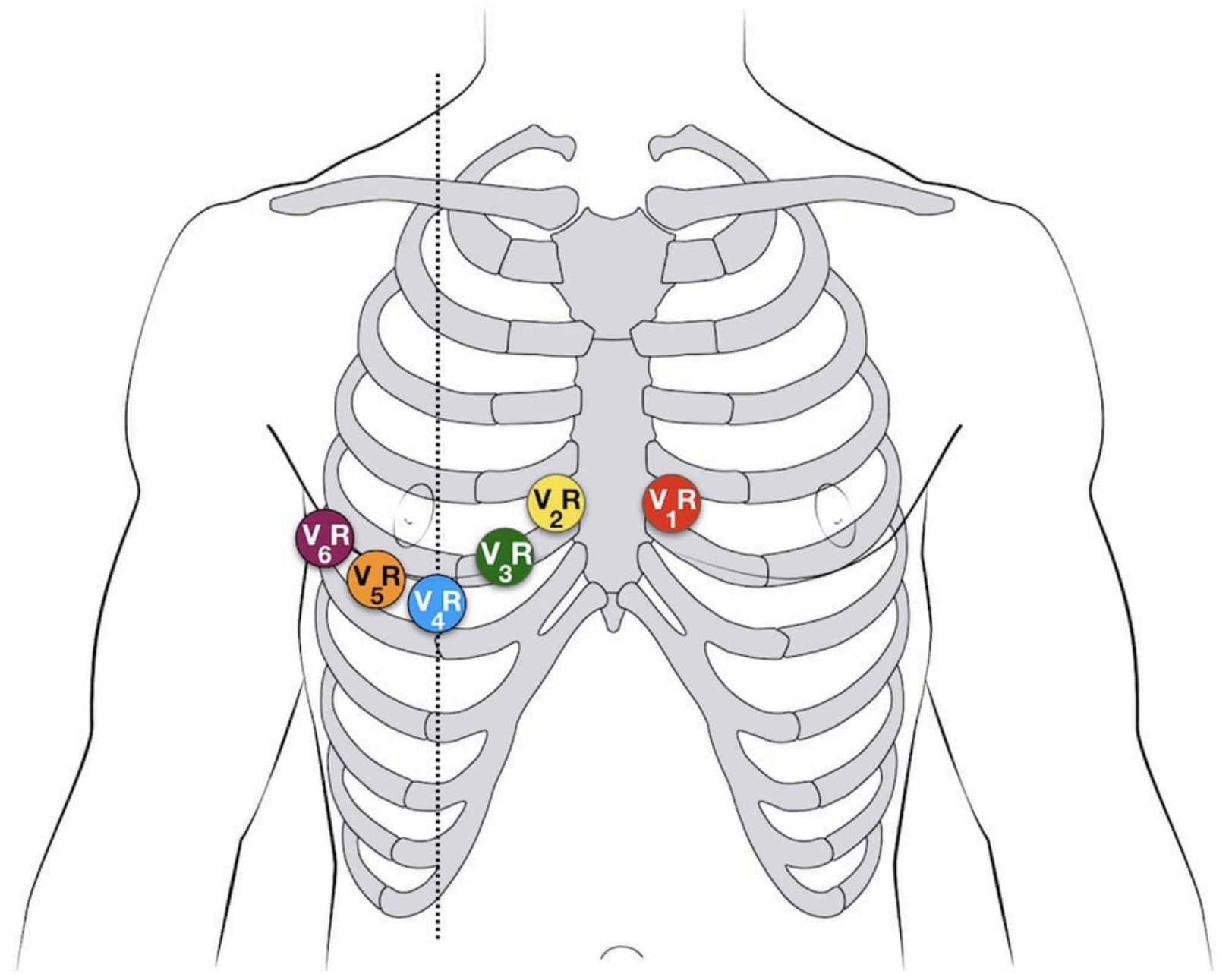
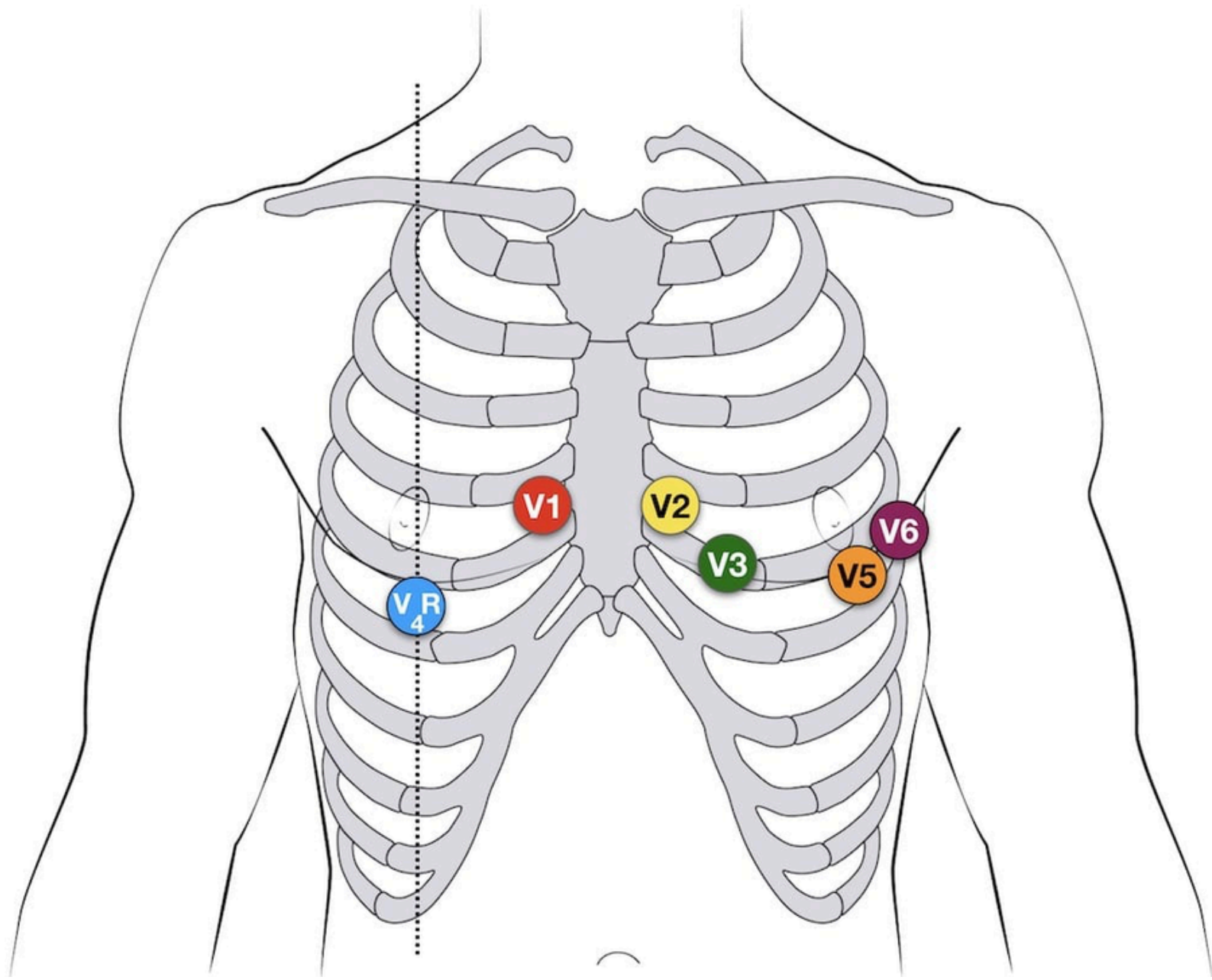
ÖRNEK 22



Inferior STEMI. Sağ ventrikül tutulumu da düşünölmeli:



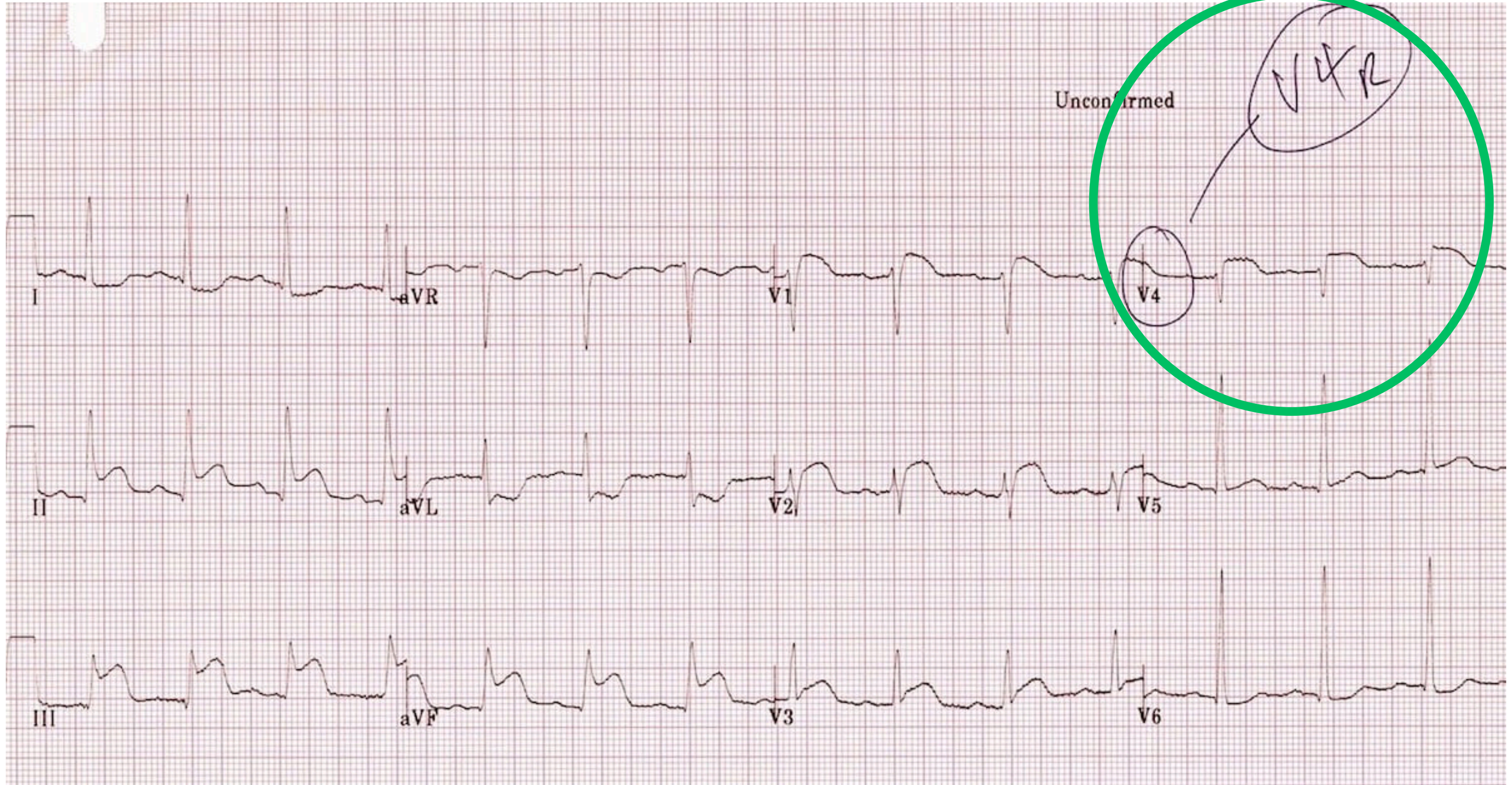
III > II



V4R derivasyonunda ST elevasyonu, sağ ventrikül miyokard enfarktüsü (RV MI) tanısında %88 duyarlılık, %78 özgüllük ve %83 tanısal doğruluğa sahiptir.

Sağ taraf derivasyonlarında ST elevasyonu geçici bir fenomendir ve sağ ventrikül enfarktüsü olan hastaların %50'sinde 10 saatten daha kısa sürer.

Aynı hastada Sağ EKG çekildiğinde...



Voltaj ve mm kriterleri...

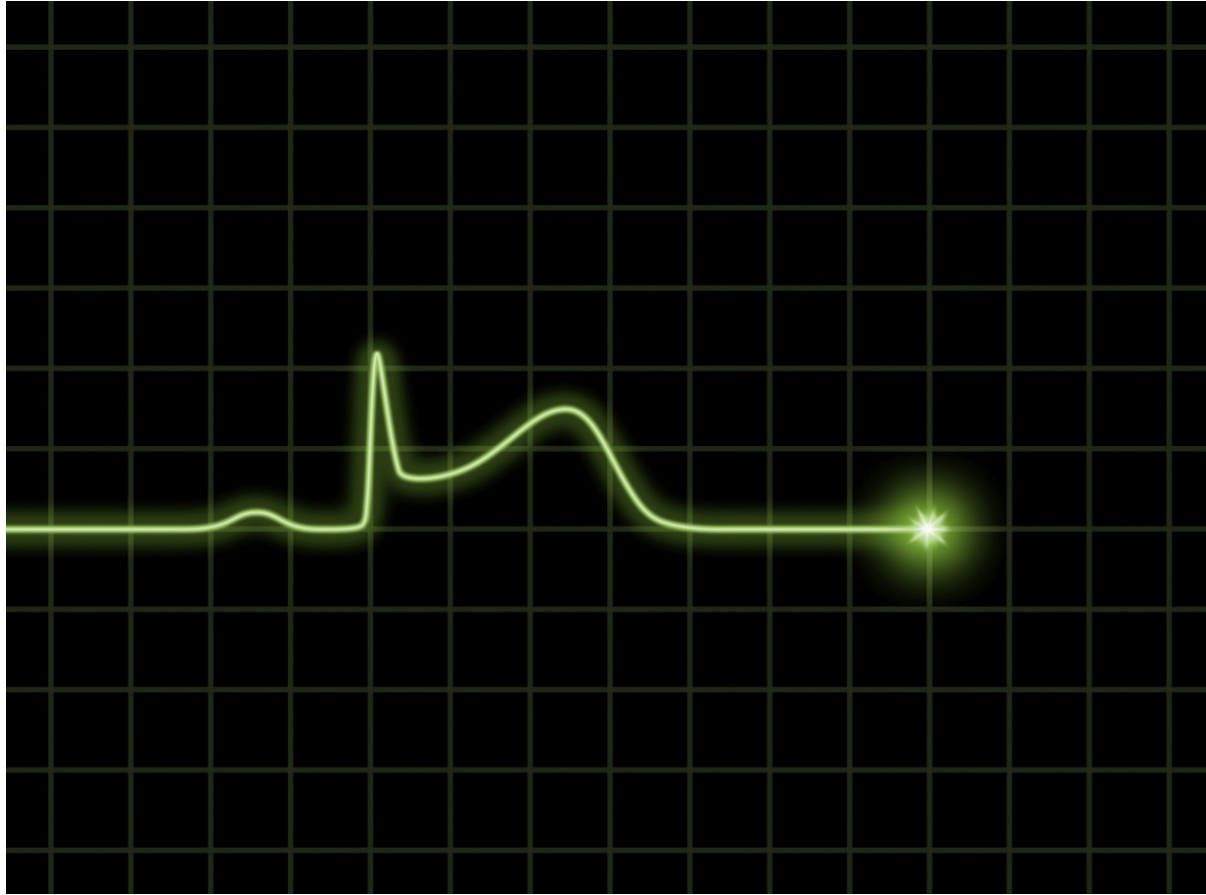
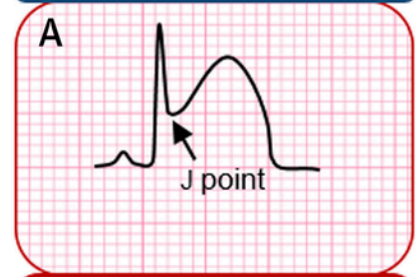


Diagram illustrating the criteria for Q wave depth (V2 or V3) based on age and gender. The diagram shows icons for a child and an adult for each age group, and a female icon for the 'All Ages' group. Arrows point to the Q wave in the ECG tracing.

	<40 yo	>40 yo	All Ages
V2 -or- V3	>2.5 mm	>2 mm	>1.5 mm
ALL other Leads	>1 mm	>1 mm	>1 mm

Conventional STEMI



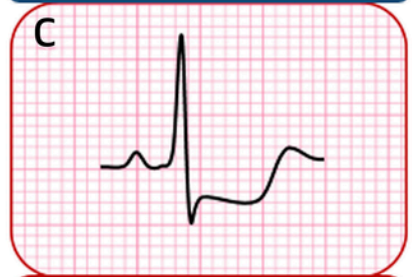
Elevation of ST segment at (or 40-60 ms after) the J point

De Winter syndrome



J-point depression and upsloping ST depression in V1-V6 that continues into tall, positive symmetrical T-waves, often with 1-2 mm ST elevation in aVR

Posterior STEMI



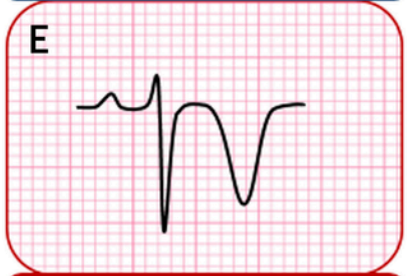
ST depression ≥ 0.05 mV (horizontal or downsloping and concave) in V1-V3 (or V4) especially if there is a tall R in V1/V2 with R/S ratio >1 in V2

Wellens sign A



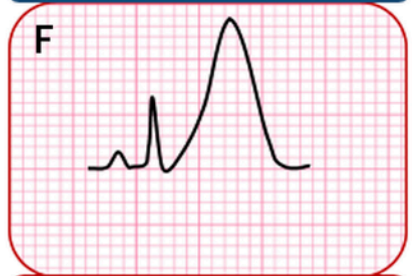
Biphasic anterior T waves, not always accompanied by chest pain

Wellens sign B



Deeply inverted anterior T waves, not always accompanied by chest pain

Hyperacute T wave



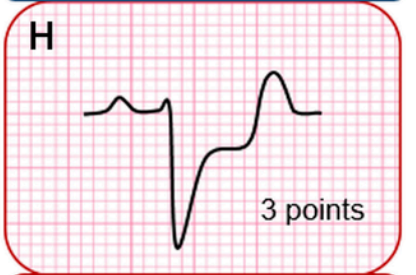
Tall, often asymmetrical, broad-based anterior T-waves often associated with reciprocal ST depression

Sgarbossa criterion 1



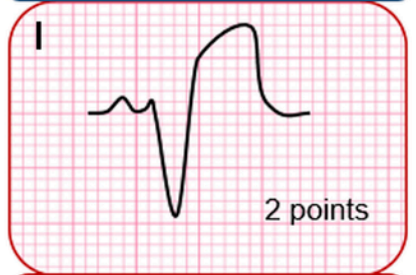
ST elevation ≥ 0.1 mV concordant to the QRS in any of the leads I, aVL, V4 to V6. 5 points

Sgarbossa criterion 2



ST depression ≥ 0.1 mV concordant to the QRS in any of the leads V1 to V3. 3 points

Sgarbossa criterion 3^{modified}



ST elevation with amplitude $>25\%$ of the depth of the preceding S-wave with discordant QRS complex (leads V1 to V3) 2 points

“Shark fin”



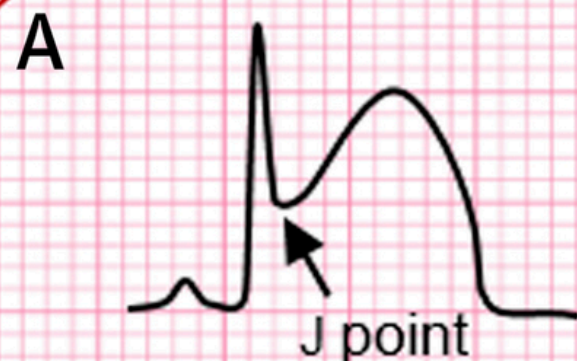
J-point transitioning in a convex ST-segment (T wave indistinguishable from ST-segment due to extreme ST deviation)

Acute ischemia in LVH



ST elevation $>25\%$ of QRS amplitude AND (ST elevation in 3 contiguous leads, or T-wave inversions in the anterior leads)

Conventional STEMI



Elevation of ST segment at (or 40-60 ms after) the J point

De Winter syndrome



J-point depression and upsloping ST depression in V1-V6 that continues into tall, positive symmetrical T-waves, often with 1-2 mm ST elevation in aVR

Posterior STEMI



ST depression ≥ 0.05 mV (horizontal or downsloping and concave) in V1-V3 (or V4) especially if there is a tall R in V1/V2 with R/S ratio >1 in V2

Wellens sign A



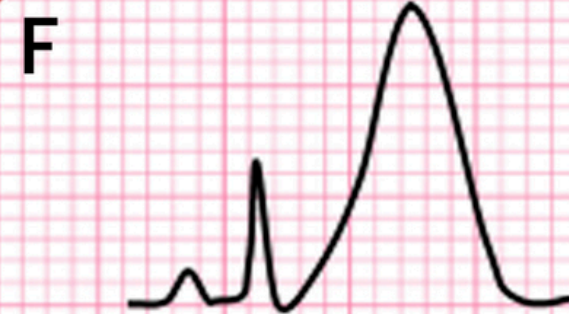
Biphasic anterior T waves, not always accompanied by chest pain

Wellens sign B



Deeply inverted anterior T waves, not always accompanied by chest pain

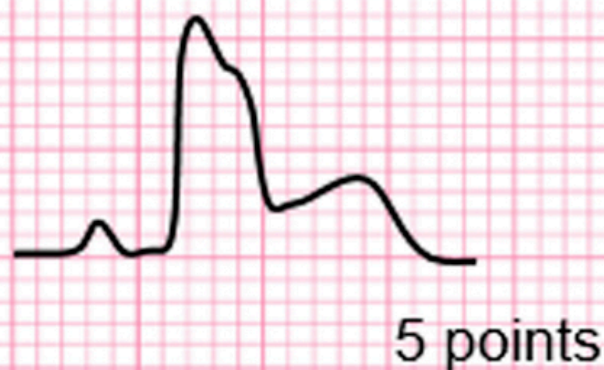
Hyperacute T wave



Tall, often asymmetrical, broad-based anterior T-waves often associated with reciprocal ST depression

Sgarbossa criterion 1

G



ST elevation ≥ 0.1 mV concordant to the QRS in any of the leads I, aVL, V4 to V6.

Sgarbossa criterion 2

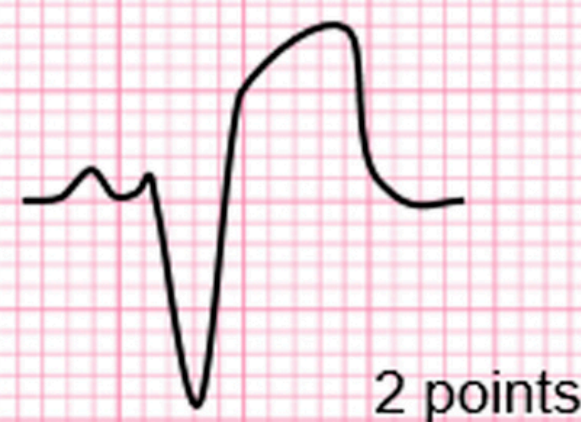
H



ST depression ≥ 0.1 mV concordant to the QRS in any of the leads V1 to V3.

Sgarbossa criterion 3^{modified}

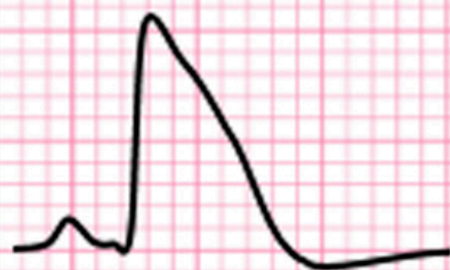
I



ST elevation with amplitude $>25\%$ of the depth of the preceding S-wave with discordant QRS complex (leads V1 to V3)

“Shark fin”

J



J-point transitioning in a convex ST-segment (T wave indistinguishable from ST-segment due to extreme ST deviation)

Acute ischemia in LVH

K



ST elevation $>25\%$ of QRS amplitude AND (ST elevation in 3 contiguous leads, or T-wave inversions in the anterior leads)

ECG Patterns of Occlusion Myocardial Infarction: A Narrative Review



Fabrizio Ricci, MD, PhD*; Chiara Martini, MD; Davide Maria Scordo, MD; Davide Rossi, MD; Sabina Gallina, MD; Artur Fedorowski, MD, PhD; Luigi Sciarra, MD; C. Anwar A. Chahal, MD, PhD; H. Pendell Meyers, MD; Robert Herman, MD; Stephen W. Smith, MD

*Corresponding Author. E-mail: fabrizio.ricci@unich.it.

The traditional management of acute coronary syndrome has relied on the identification of ST-segment elevation myocardial infarction (STEMI) as a proxy of acute coronary occlusion. This conflation of STEMI with acute coronary occlusion has historically overshadowed non-ST-segment elevation myocardial infarction (NSTEMI), despite evidence suggesting 25% to 34% of NSTEMI cases may also include acute coronary occlusion. Current limitations in the STEMI/NSTEMI binary framework underscore the need for a revised approach to chest pain and acute coronary syndrome management. The emerging paradigm distinguishing occlusion myocardial infarction from nonocclusion myocardial infarction (NOMI) seeks to enhance diagnostic accuracy and prognostic effect in acute coronary syndrome care. This approach not only emphasizes the urgency of reperfusion therapy for high-risk ECG patterns not covered by current STEMI criteria, but also emphasizes the broader transition from viewing acute coronary syndrome as a disease defined by the ECG to a disease defined by its underlying pathology, for which the ECG is an important but insufficient surrogate test. This report outlines the emerging occlusion myocardial infarction paradigm, detailing specific ECG patterns linked to acute coronary occlusion, and proposes a new framework that could enhance triage accuracy and treatment strategies for acute coronary syndrome. Although further validation is required, the occlusion myocardial infarction pathway holds promise for earlier acute coronary occlusion detection, timely cath lab activation, and improved myocardial salvage—offering potentially significant implications for both clinical practice and future research in acute coronary syndrome management. [Ann Emerg Med. 2025;85:330-340.]

Keywords: Acute Coronary Syndrome, Acute Myocardial Infarction, OMI, STEMI, NSTEMI.

0196-0644/\$-see front matter

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<https://doi.org/10.1016/j.annemergmed.2024.11.019>

Bu makale, AKS yönetiminde devrim niteliğinde bir paradigma değişimini savunmaktadır.

Temel odak noktası:

Geleneksel STEMI/NSTEMI (ST yükselmeli/yükselmesiz MI) ayrımından,

daha patolojik bir temel olan **OMI/NOMI (Tıkanmalı/Tıkanmasız MI) modeline** geçiştir

Paradigma Deęiřimi: STEMI/NSTEMI'den OMI/NOMI'ye

Mevcut Sorun:

Mevcut STEMI kriterleri (milimetrik ST yükselmesi odaklı), akut koroner tıkanıklığı (ACO) olan hastaların **%25 ila %34'ünü gözden kaçırmaktadır.**

Bu hastalar "NSTEMI" olarak sınıflandırıldıkları için acil anjiyodan (reperfüzyon) mahrum kalmakta ve bir yıllık ölüm riskleri iki katına çıkmaktadır

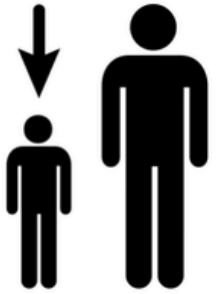


Yeni Yaklaşım:

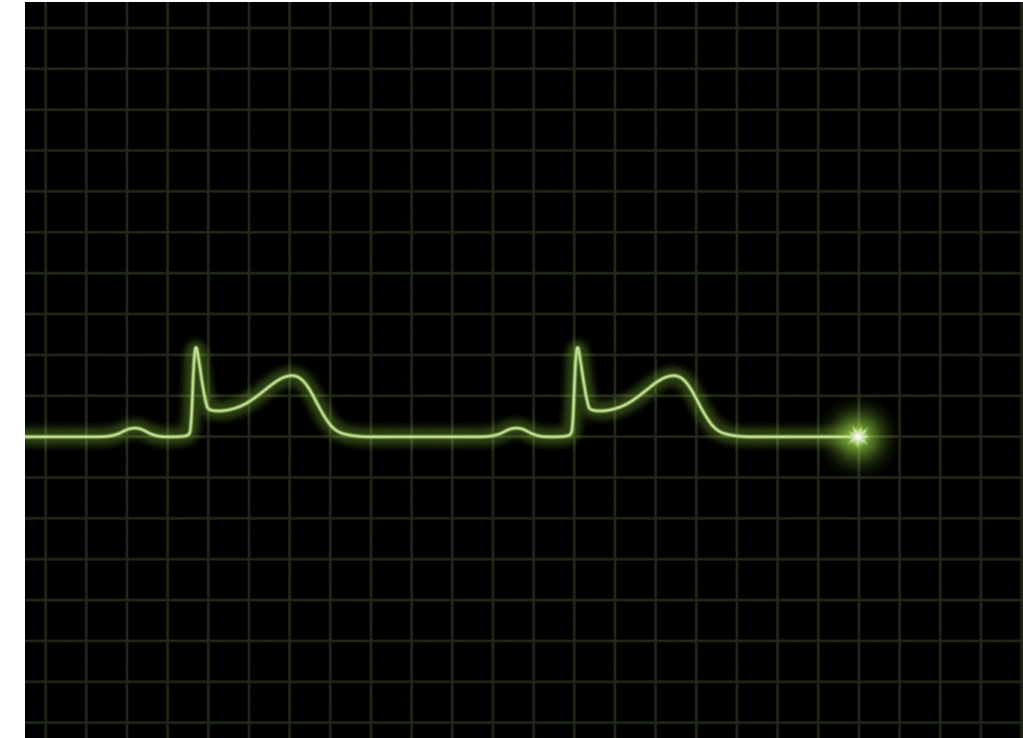
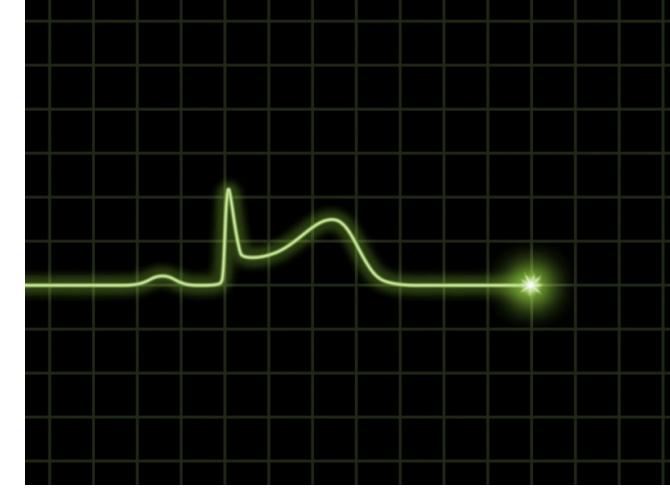
OMI (Tıkanmalı Miyokard İnfarktüsü) modeli, EKG'yi sadece milimetrik bir kural seti olarak değil, altta yatan damar tıkanıklığının bir göstergesi olarak okumayı önerir.

EKG Sınırları:

STEMI kriterlerinin duyarlılığı sadece %43.

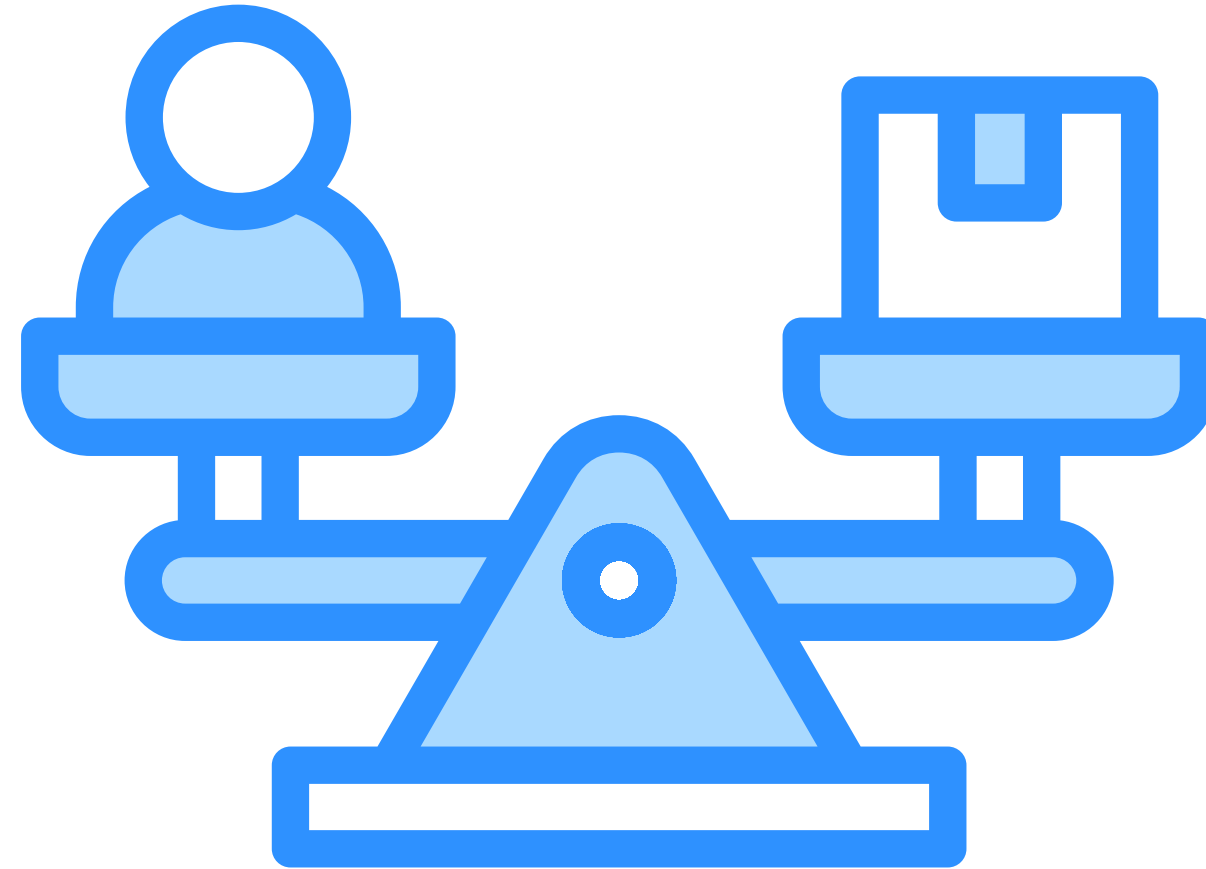
Tek bir EKG'ye güvenme; semptomların gelişimiyle birlikte seri EKG takibinin ve dinamik değerlendirme hayati!

	 <40 yo	 >40 yo	 All Ages
V2 -or- V3	>2.5 mm	>2 mm	>1.5 mm
ALL other Leads	>1 mm	>1 mm	>1 mm



STEMI Eşdeğerleri

(STEMI Equivalents)



Kritik EKG Paternleri (STEMI Eşdeğerleri)

- **Hiperakut T Dalgaları:** Tıkanıklığın en erken belirtisidir; QRS'e oranla geniş tabanlı ve hacimli T dalgaları görülür.
- **De Winter ve Wellens:** LAD arterindeki kritik darlıkları veya tıkanıklıkları gösteren spesifik ST-T değişiklikleridir.
- **Aslanger ve Northern OMI:** Özellikle çoklu damar hastalıklarında görülen, izole ST yükselmeleri veya yaygın ST depresyonları ile karakterize karmaşık paternlerdir.
- **Sgarbossa ve Smith Modifikasyonu:** Sol dal bloğu (LBBB) veya pacemaker olan hastalarda tıkanıklığı tanımak için milimetrik kriterler yerine oran-tabanlı (ST/S oranı) yaklaşımı önerir.
- **Terminal QRS Distorsiyonu:** V2-V3 derivasyonlarında S ve J dalgalarının kaybı, akut tıkanıklık için yüksek özgüllüğe sahiptir.

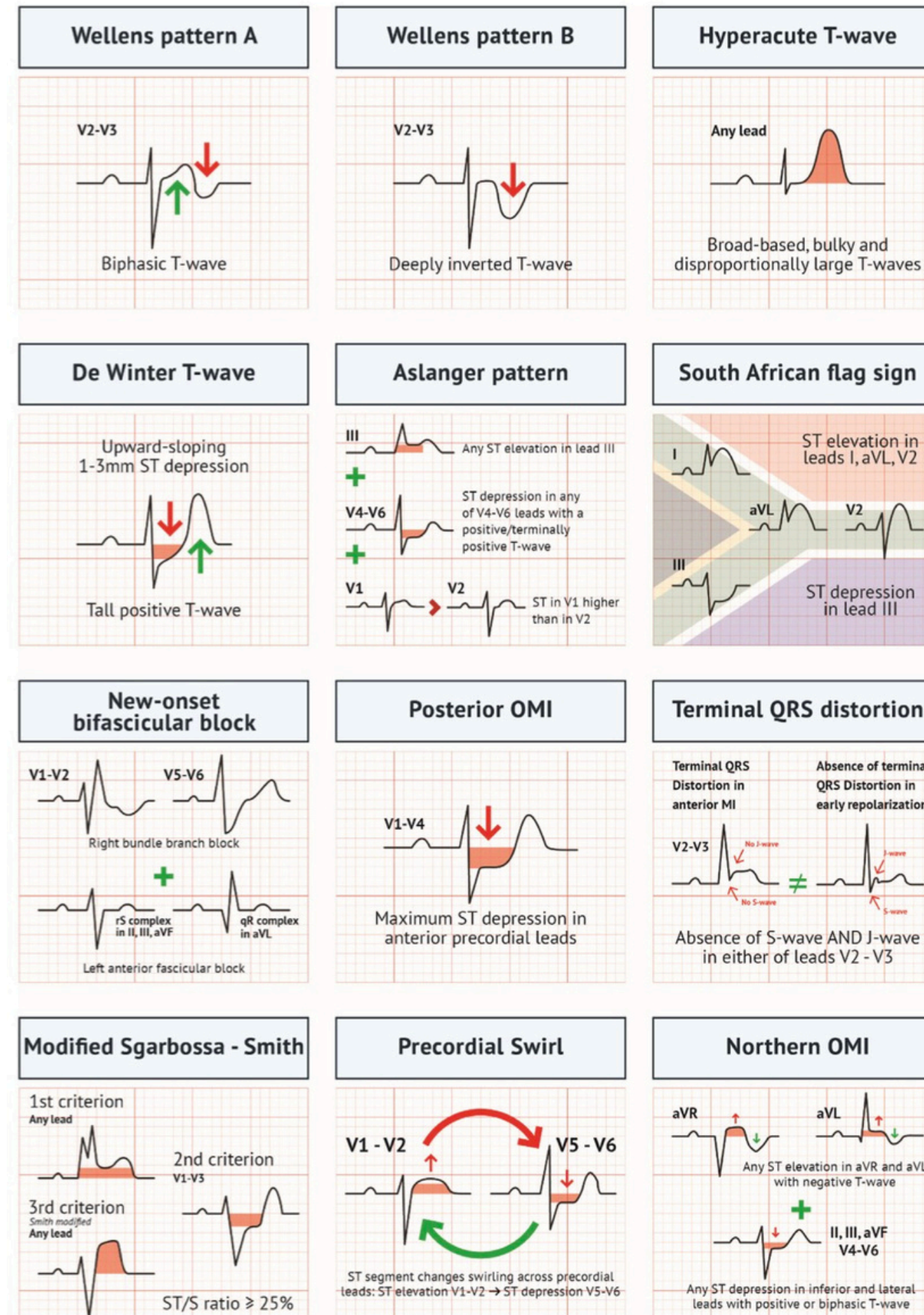
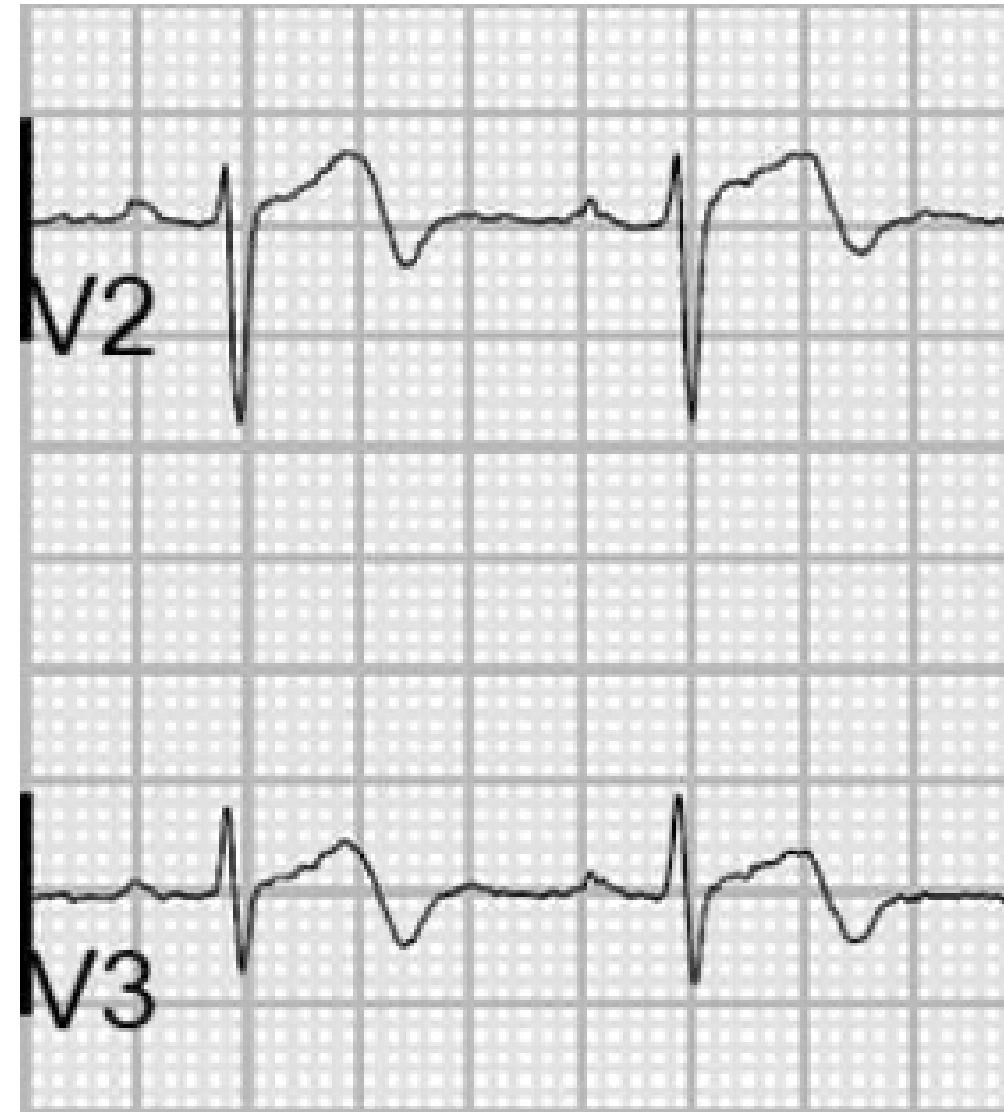
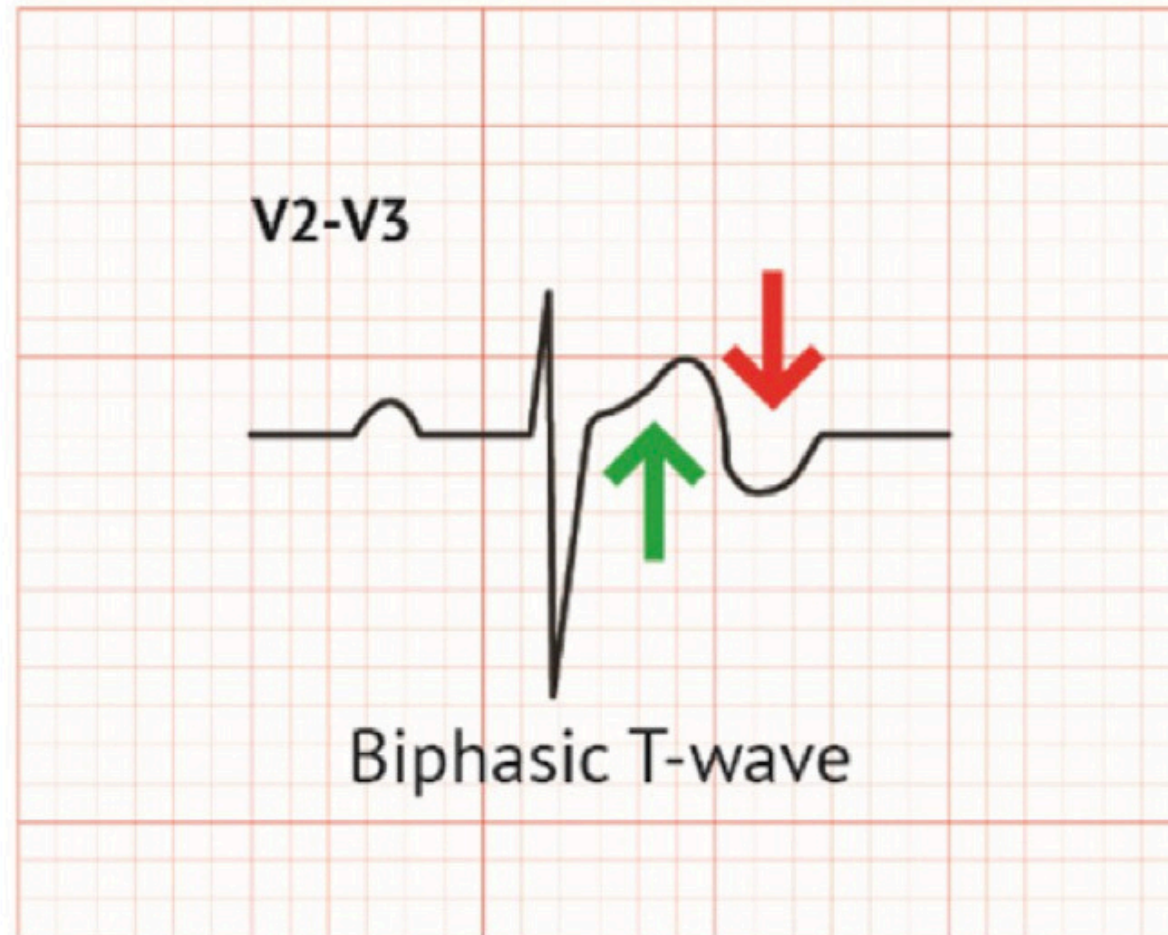


Figure 1. Electrocardiographic occlusion myocardial infarction (OMI) patterns.

Wellens Sendromu, V2–V3 derivasyonlarında bifazik ya da derin ters T dalgaları ile karakterize edilen ve yakın zamanda göğüs ağrısı öyküsü olup ağrısı şu anda geçmiş olan hastalarda görülen bir klinik sendromdur.

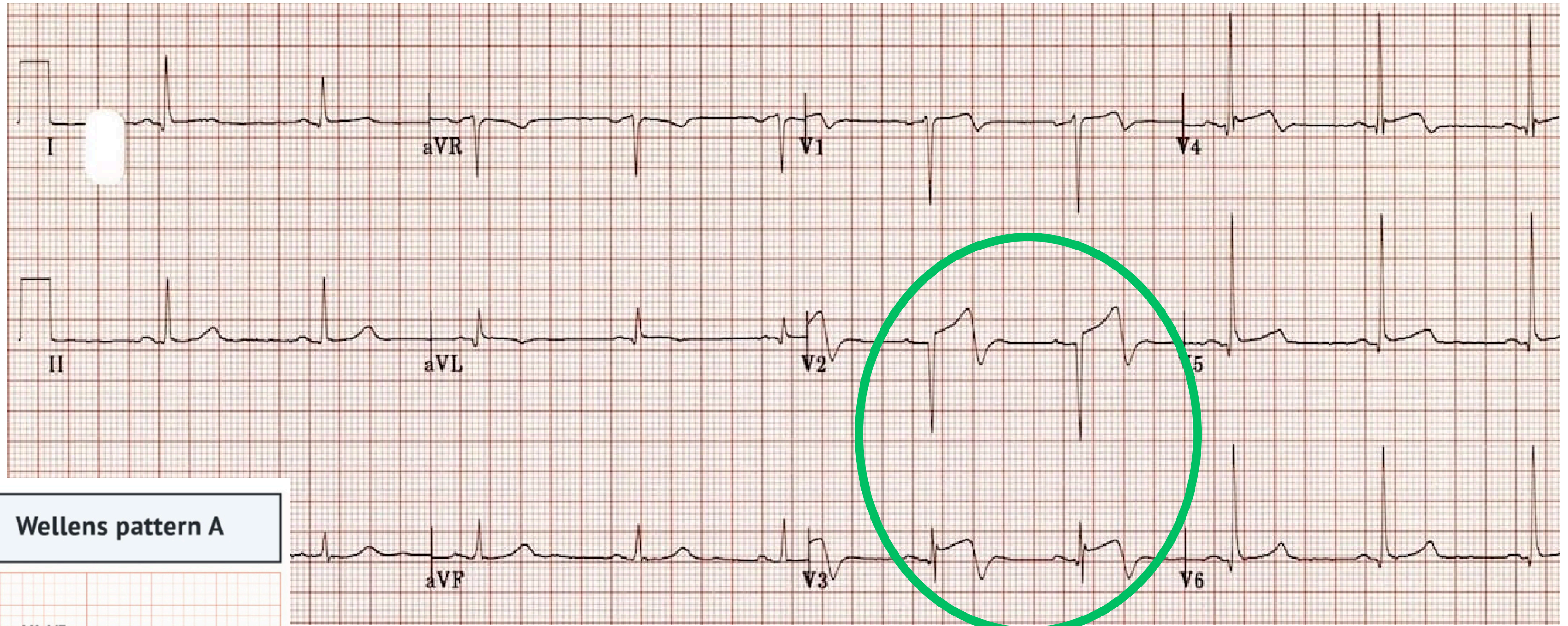
Sol ön inen arterin (LAD) kritik darlığı için yüksek derecede özgüdür.

Wellens pattern A

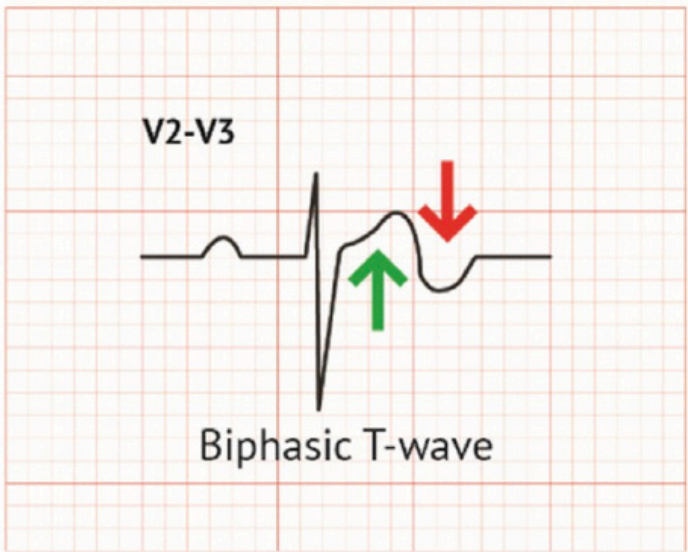


ÖRNEK 23

Wellens Sendromu (Tip A Paterni)

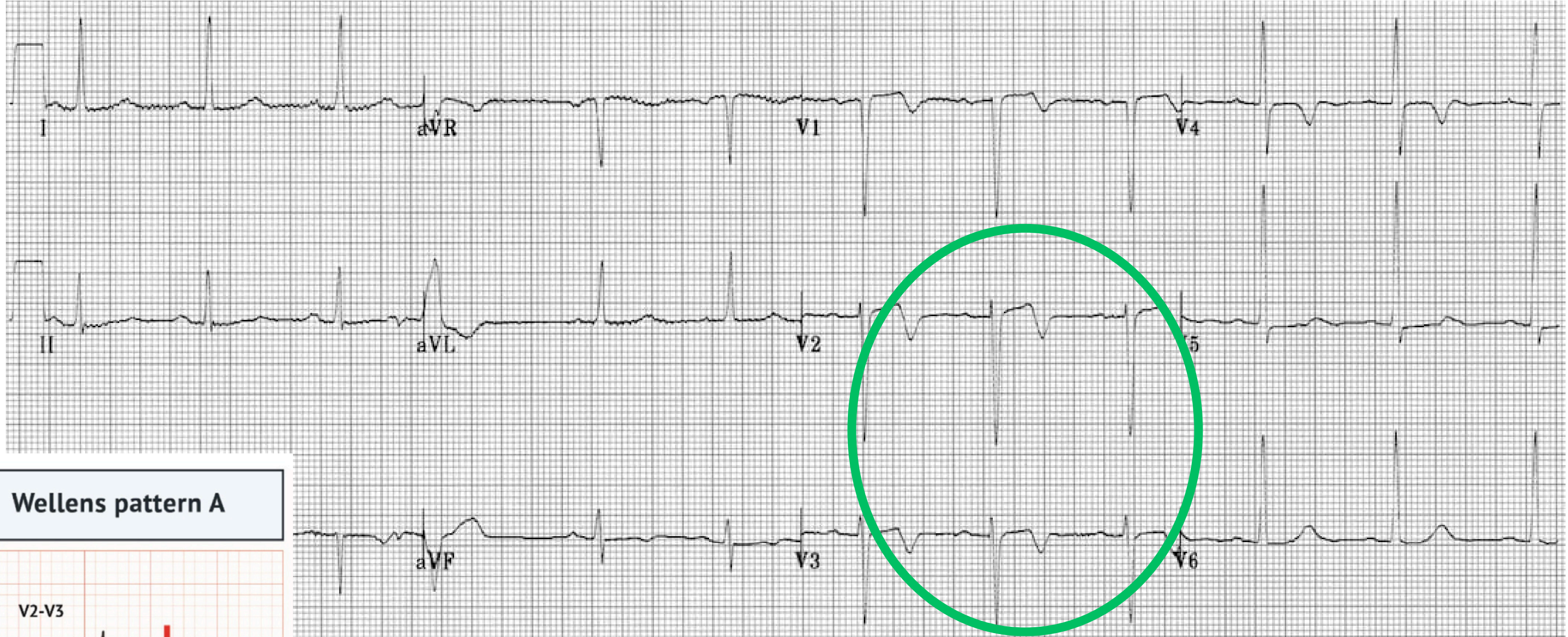


Wellens pattern A

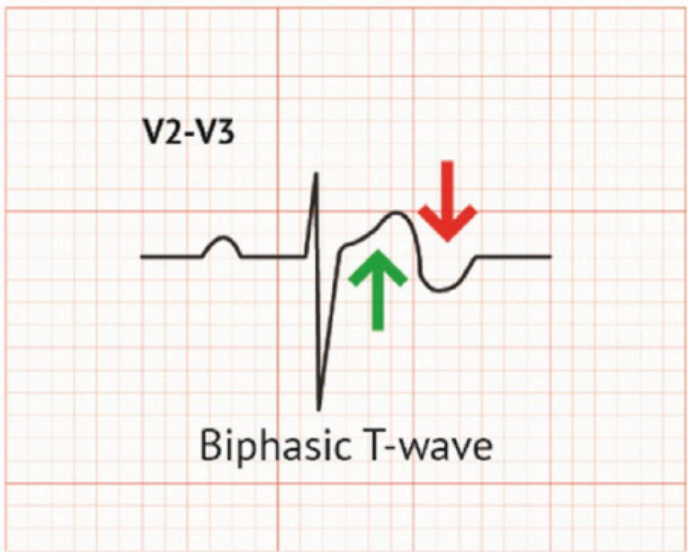


ÖRNEK 24

Wellens Sendromu (Tip A Paterni)

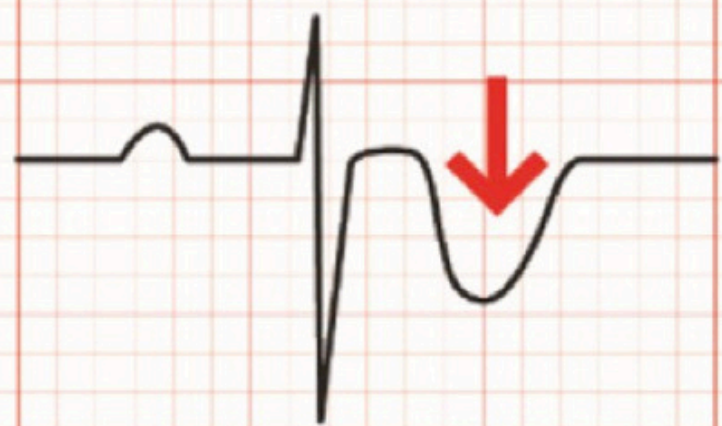


Wellens pattern A



Wellens pattern B

V2-V3

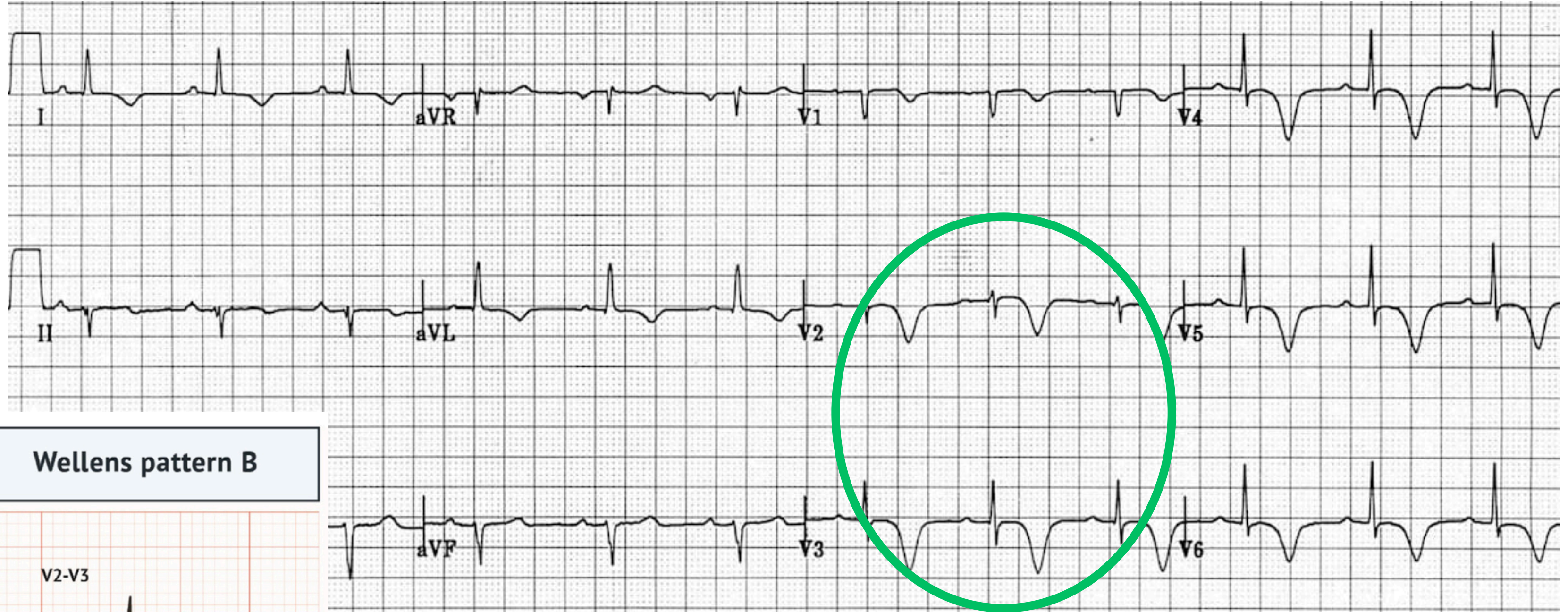


Deeply inverted T-wave



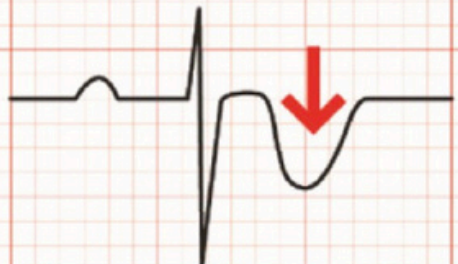
ÖRNEK 25

Wellens Sendromu (Tip B Paterni)



Wellens pattern B

V2-V3



Deeply inverted T-wave

Hyperacute T-wave

Any lead



Broad-based, bulky and
disproportionally large T-waves

**Herhangi bir derivasyonda
geniş tabanlı, dolgun (şişkin)
ve orantısız derecede büyük T dalgaları
(HATW)**

Öncesindeki R dalgalarına kıyasla orantısız derecede büyük T dalgaları, özellikle ST elevasyonu ve/veya resiprokal değişiklikler eşliğinde görüldüğünde, OMI (oklüzyon miyokard enfarktüsü) ve yaklaşan klasik ST elevasyonu değişiklikleri açısından şüphe uyandırmalıdır.

De Winter T-wave

Upward-sloping
1-3mm ST depression



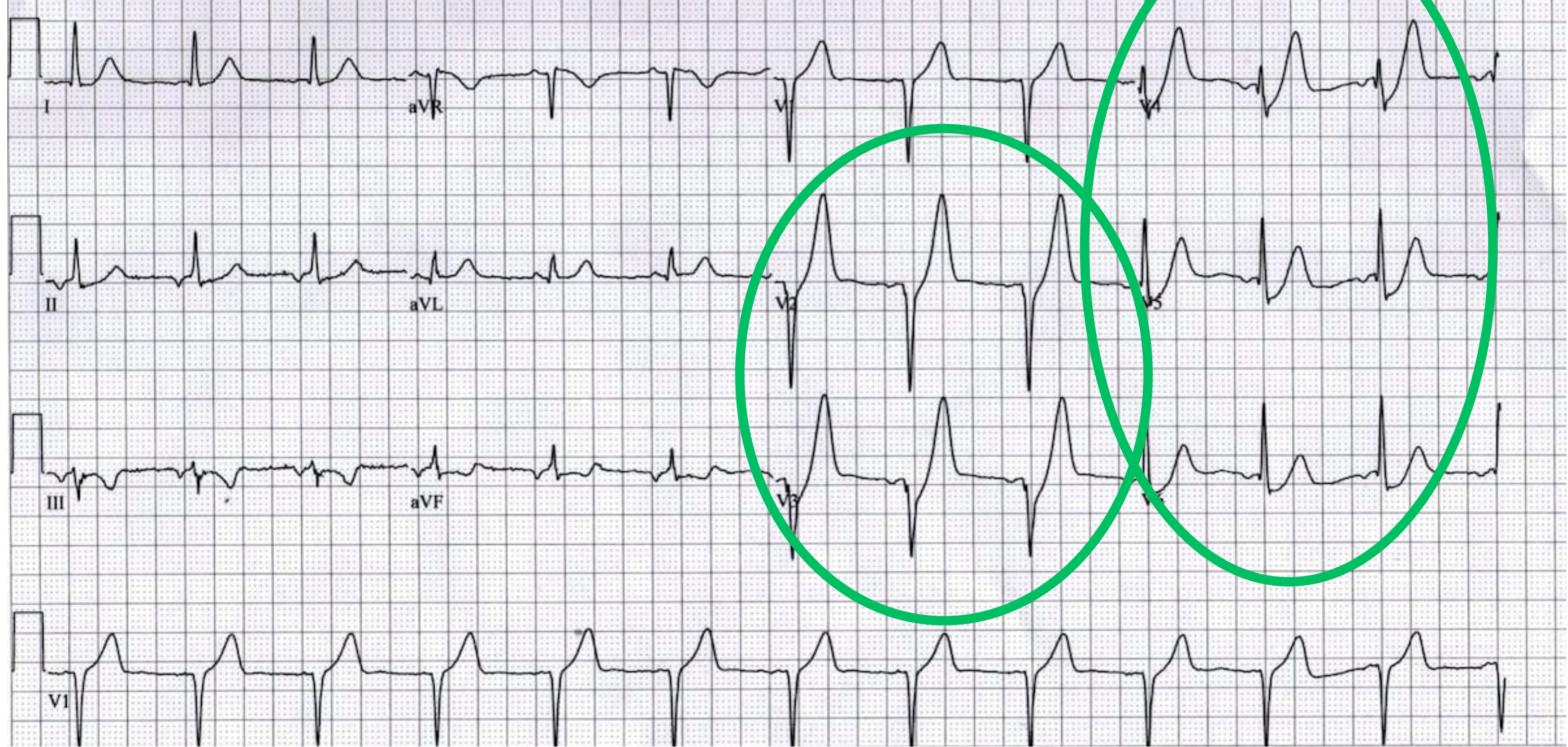
Tall positive T-wave

Yukarı eğimli 1–3 mm ST depresyonu
Uzun (yüksek amplitüdü) pozitif T dalgası



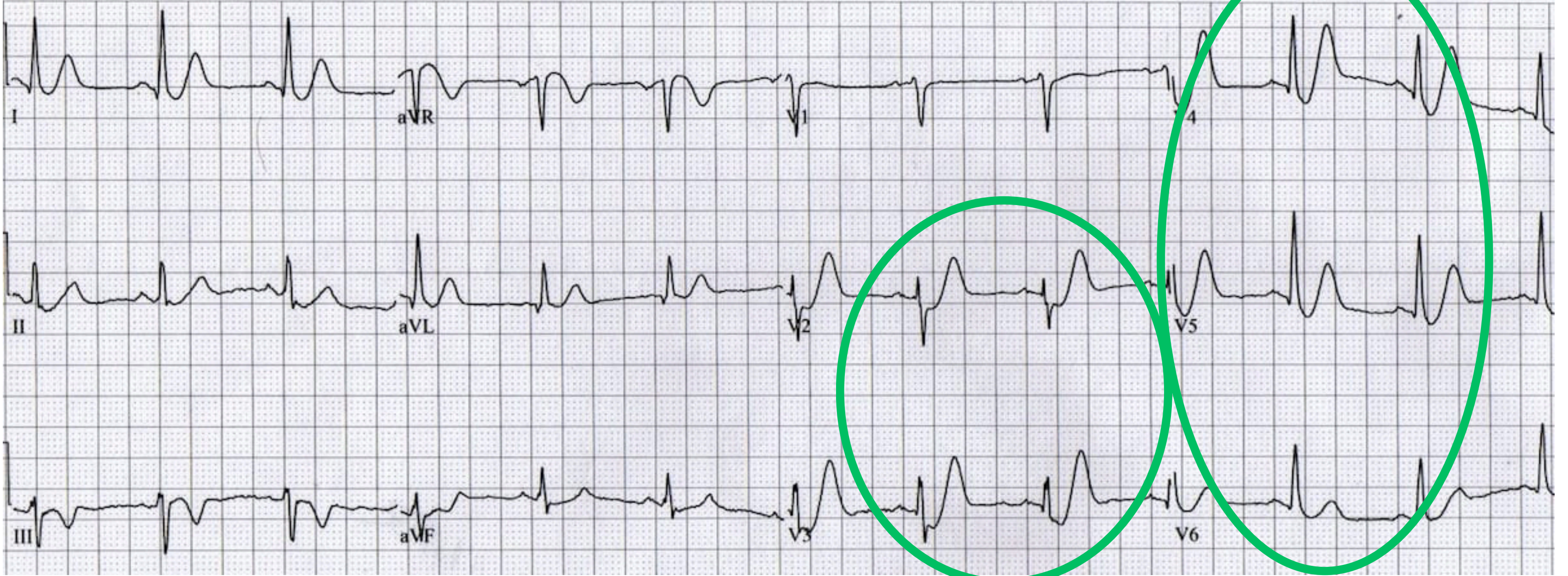
ÖRNEK 26

De Winter T dalgaları

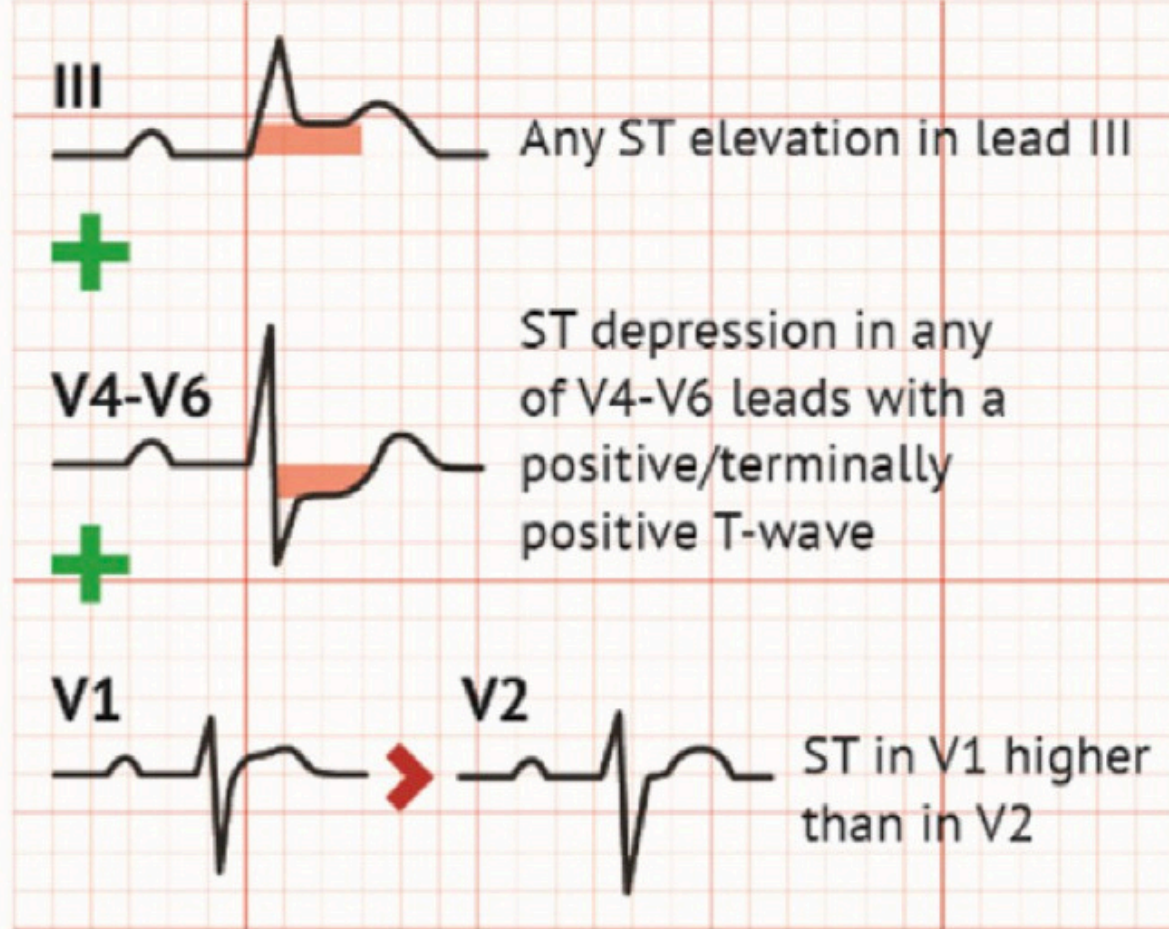


ÖRNEK 27

De Winter T dalgaları



Aslanger pattern



Nisan 2020'de Aslanger ve arkadaşları, çoklu damar hastalığı bulunan hastalarda akut inferior oklüzyon MI (OMI) açısından uyarıcı olan, ancak bitişik ST-segment elevasyonu göstermeyen ve STEMI kriterlerini karşılamayan özgül bir EKG paternini tanımlamıştır.

(1000 NSTEMI, 1000 kontrol) hastanın EKG ve anjiyografi bulguları.

Aslanger paterni, NSTEMI hastalarının %6,3'ünde saptanmış olup, daha büyük infarkt alanı ve daha yüksek mortalite için bir öngördürücü olarak bulunmuştur.

EKG Kriterleri

1. Lead III'e izole inferior ST elevasyonu
2. V4–V6 derivasyonlarının herhangi birinde eşlik eden ST depresyonu ve pozitif / terminalde pozitif T dalgası
3. V1'de ST segmentinin V2'ye göre daha yüksek olması

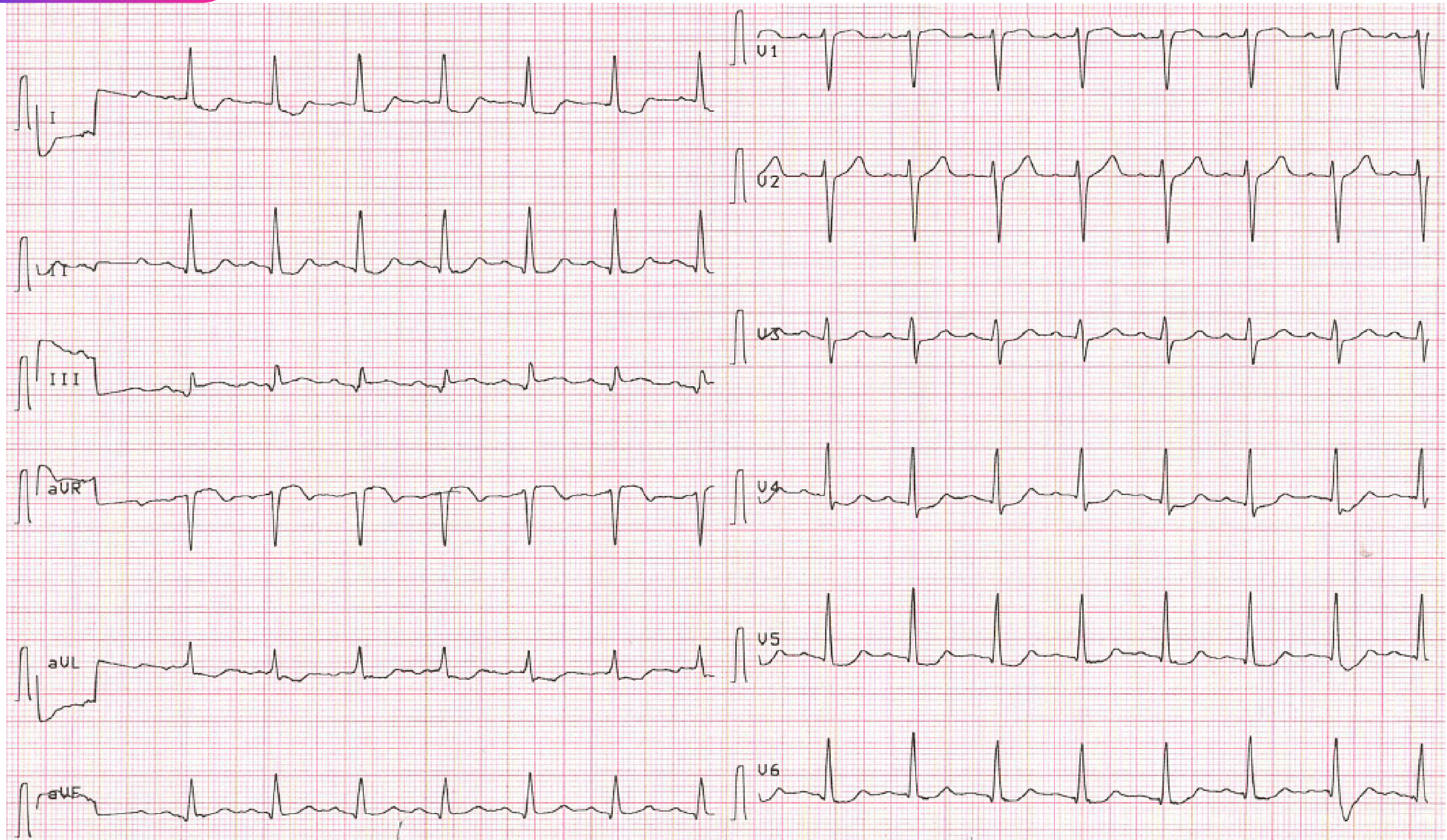
İnferior miyokard enfarktüslerinin %13,3'ü Aslanger paterni ile prezente olabilir ve NSTEMI olarak yanlış sınıflandırıldıkları için acil revaskülarizasyon tedavisinden mahrum kalabilirler.

Aslanger 2020

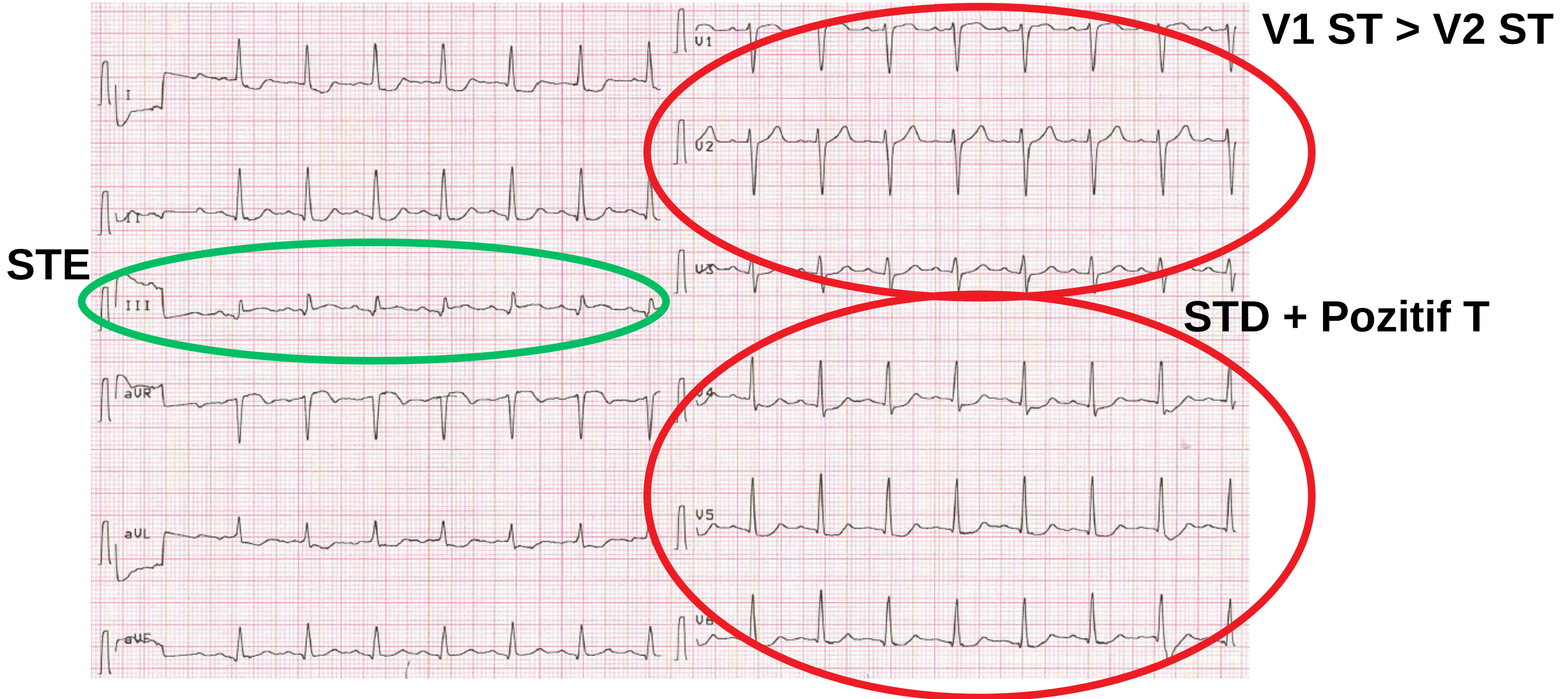
Associated Persons

- [Emre Aslanger](#); Yeditepe University Hospital, Department of Cardiology, Istanbul, Turkey

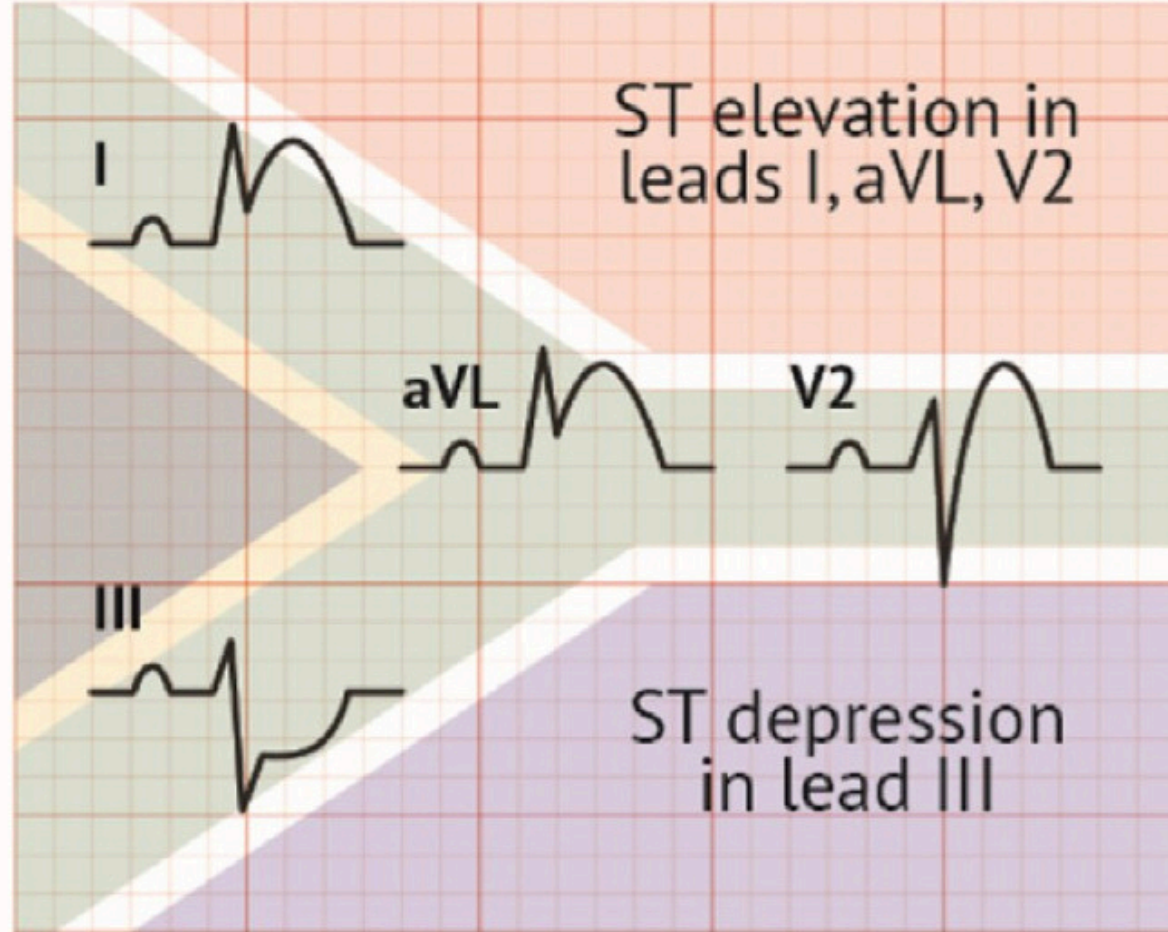
ÖRNEK 28



Aslanger pattern 2020



South African flag sign



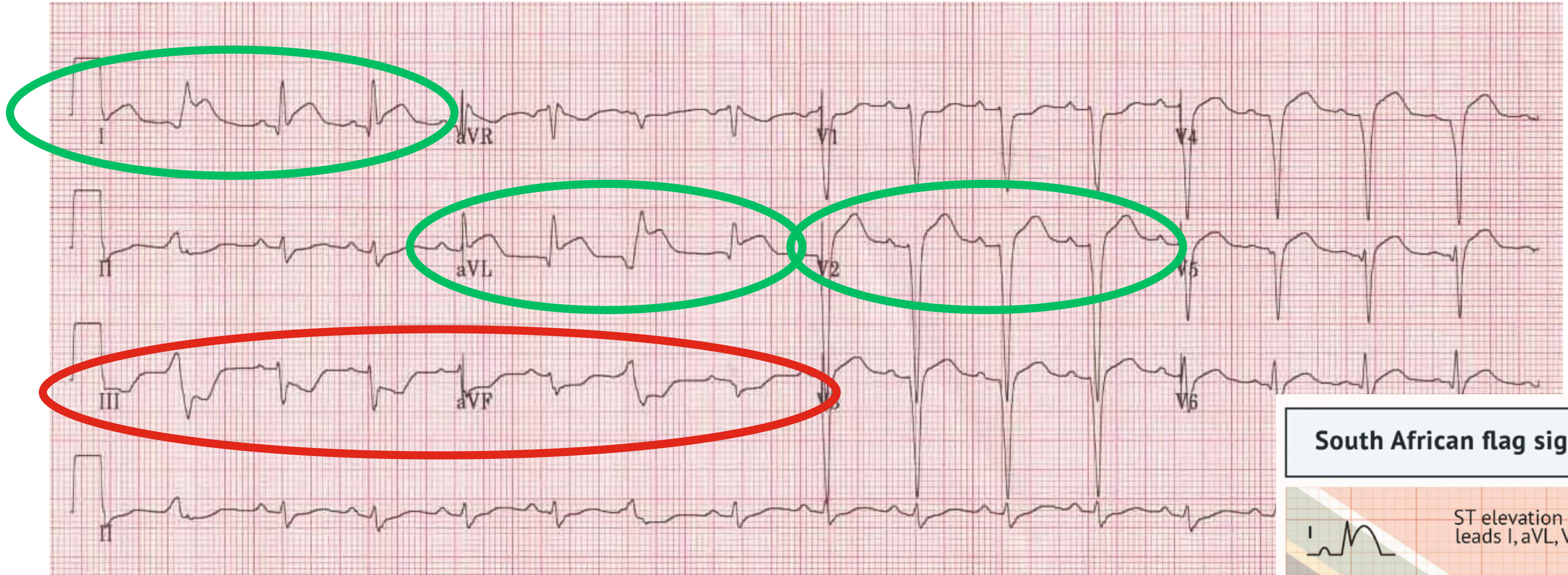
Yüksek Lateral STEMI

EKG Özellikleri

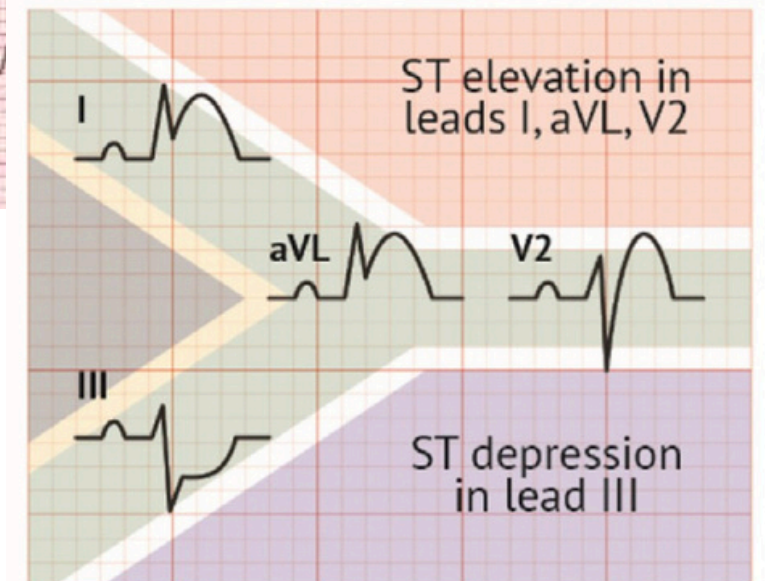
- ST elevasyonu esas olarak I, aVL ± V2 derivasyonlarında lokalizedir.
- İnferior derivasyonlarda (en belirgin olarak DIII'de) resiprokal ST depresyonu ve/veya T dalga inversiyonu izlenir.

ÖRNEK 29

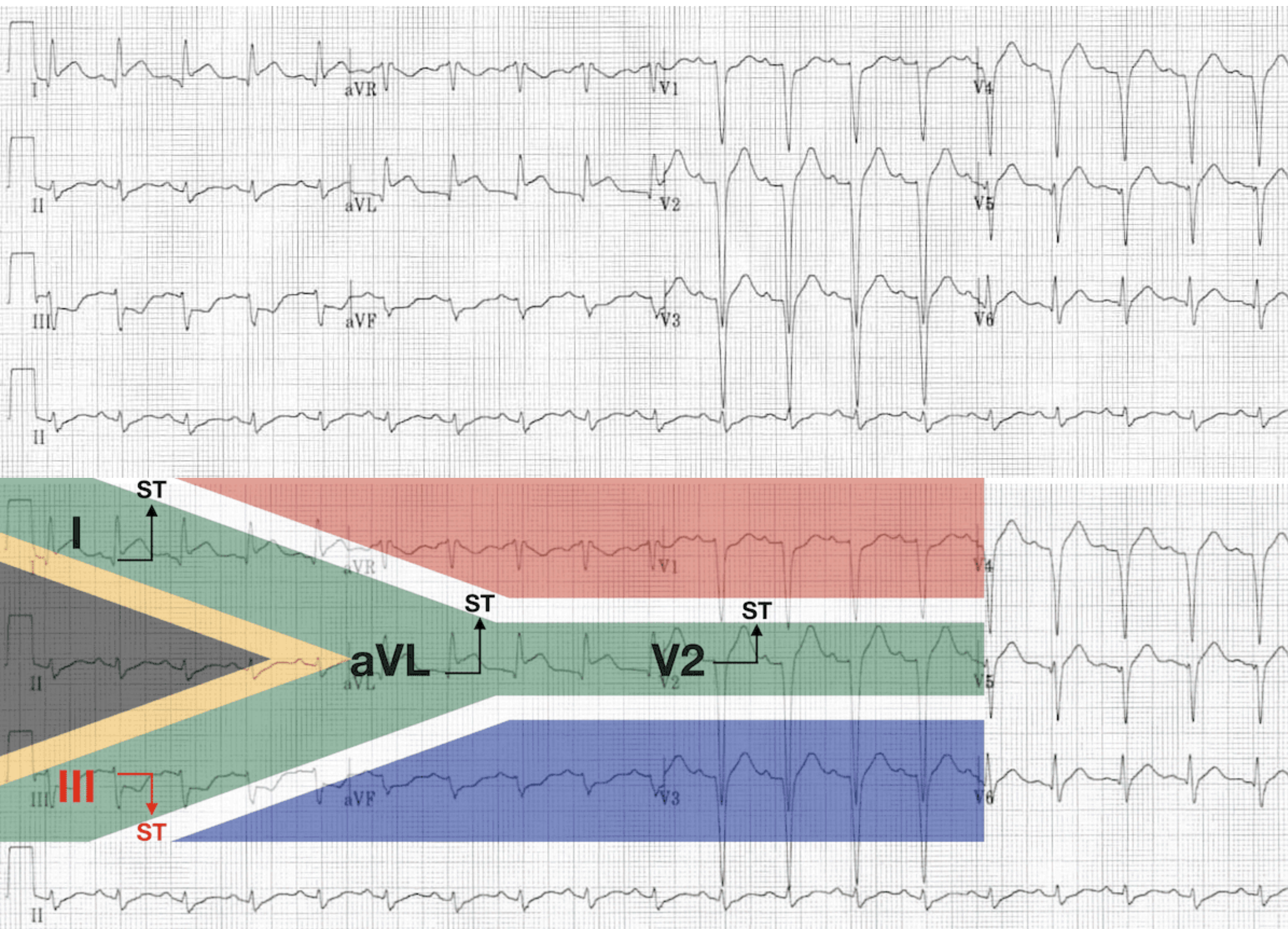
South Africa Flag sign: High Lateral STEMI



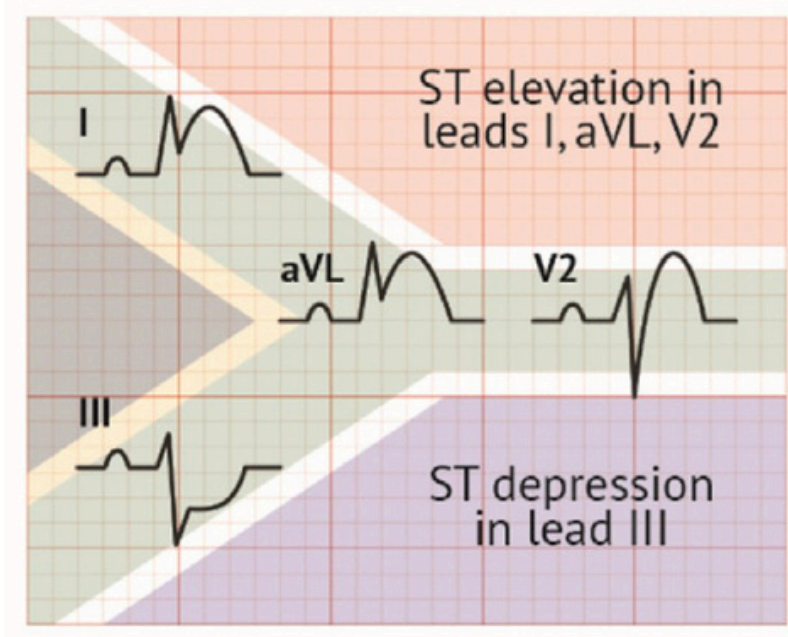
South African flag sign



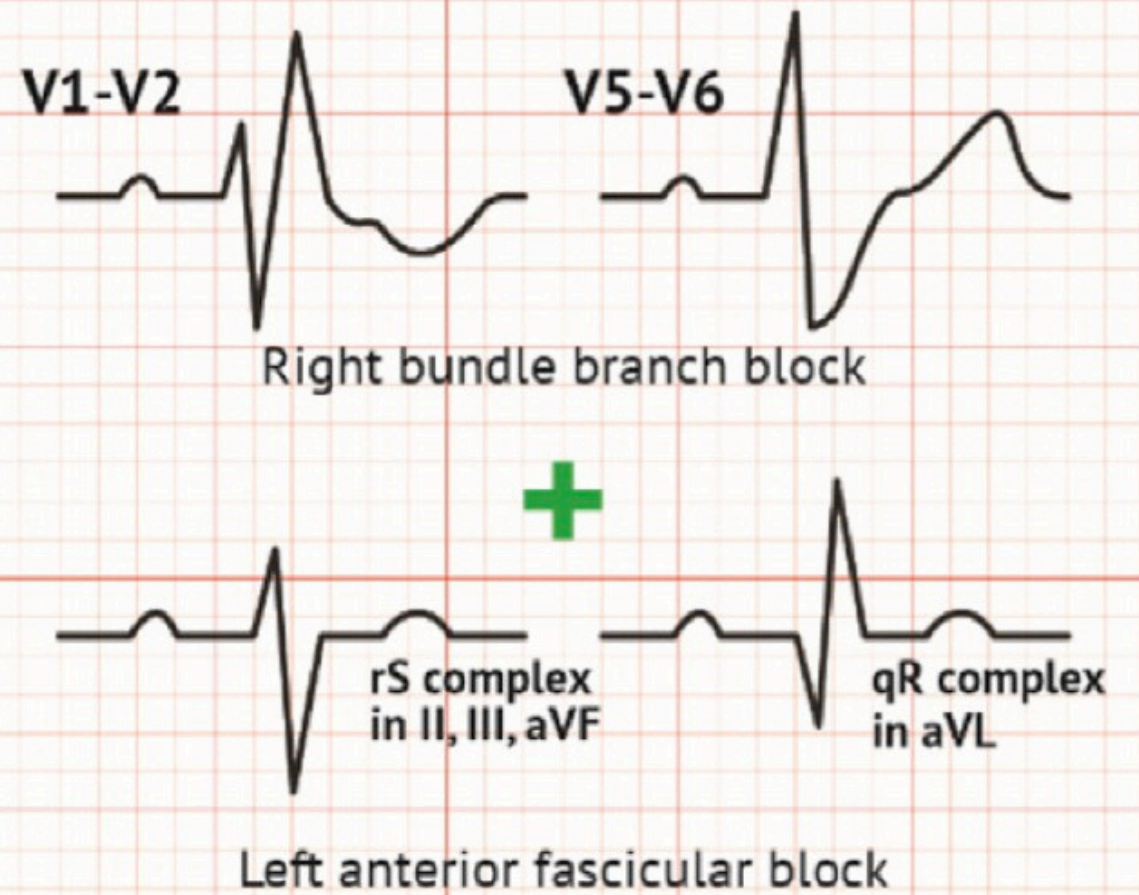
ÖRNEK 30



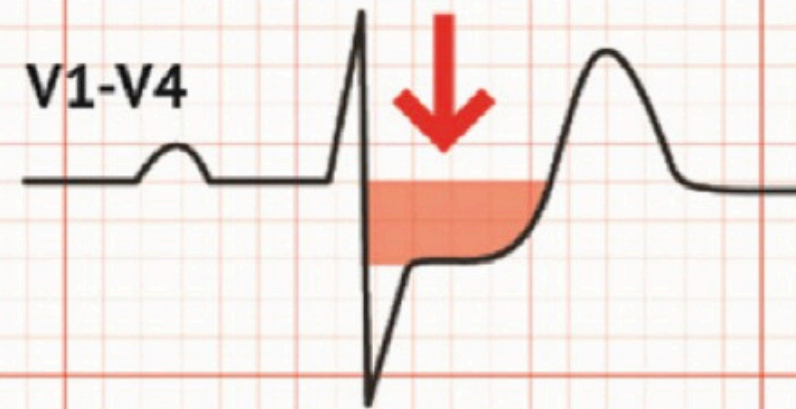
South African flag sign



New-onset bifascicular block



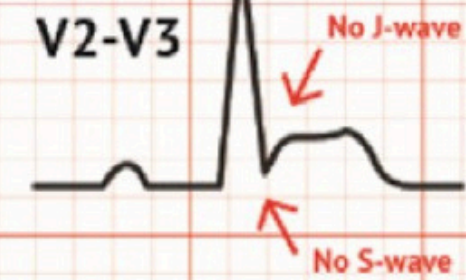
Posterior OMI



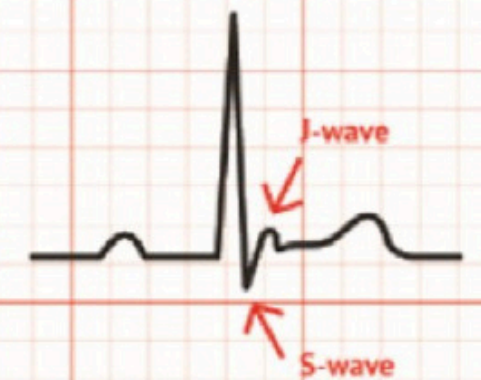
Maximum ST depression in anterior precordial leads

Terminal QRS distortion

Terminal QRS Distortion in anterior MI

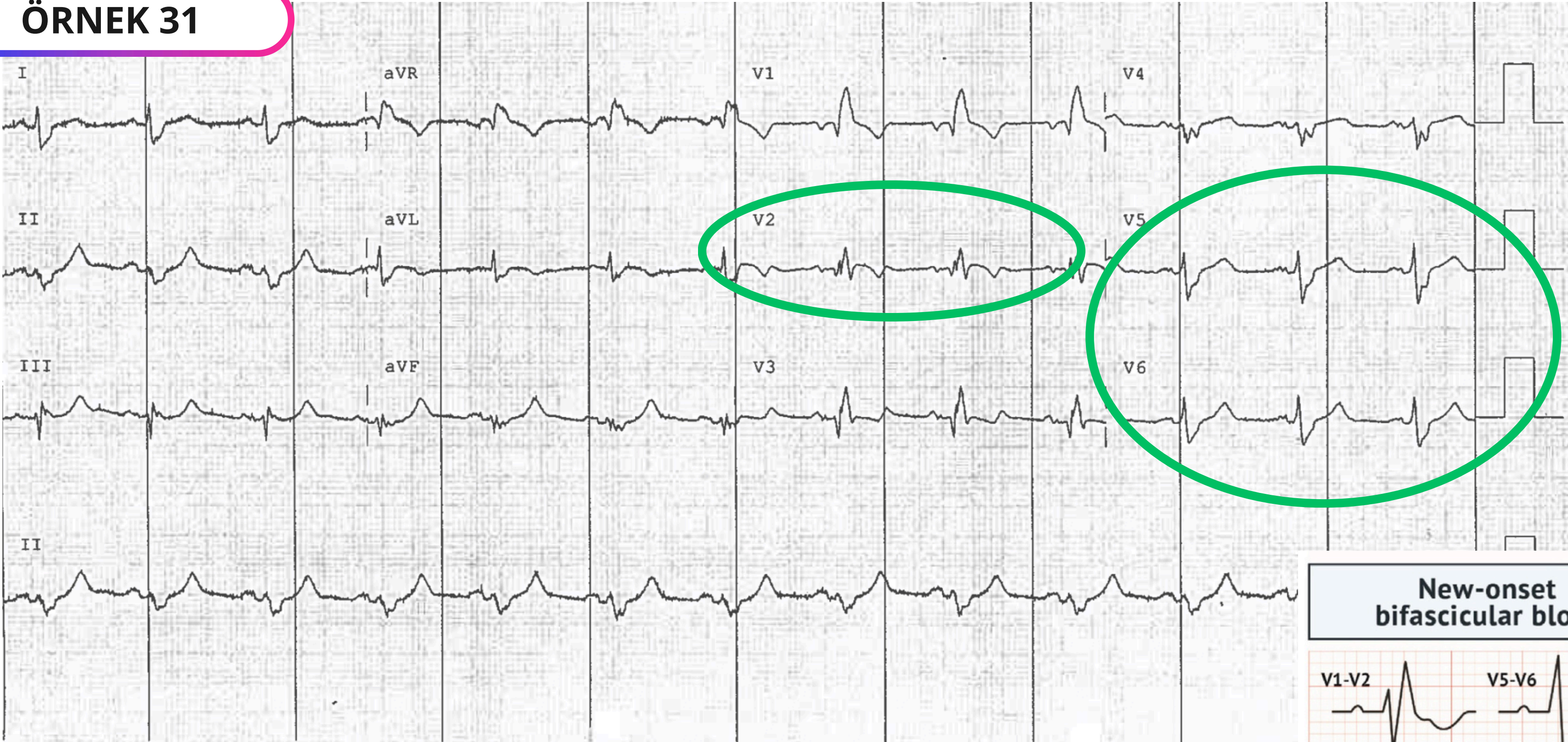


Absence of terminal QRS Distortion in early repolarization



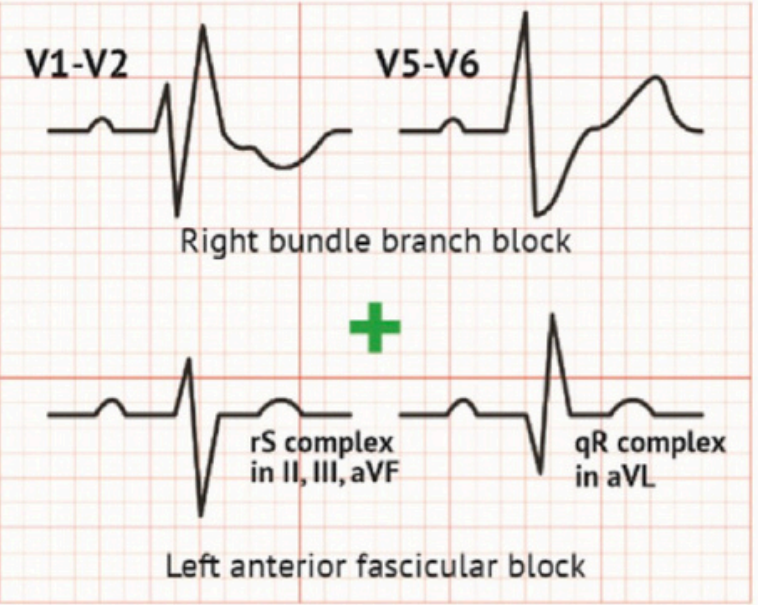
Absence of S-wave AND J-wave in either of leads V2 - V3

ÖRNEK 31

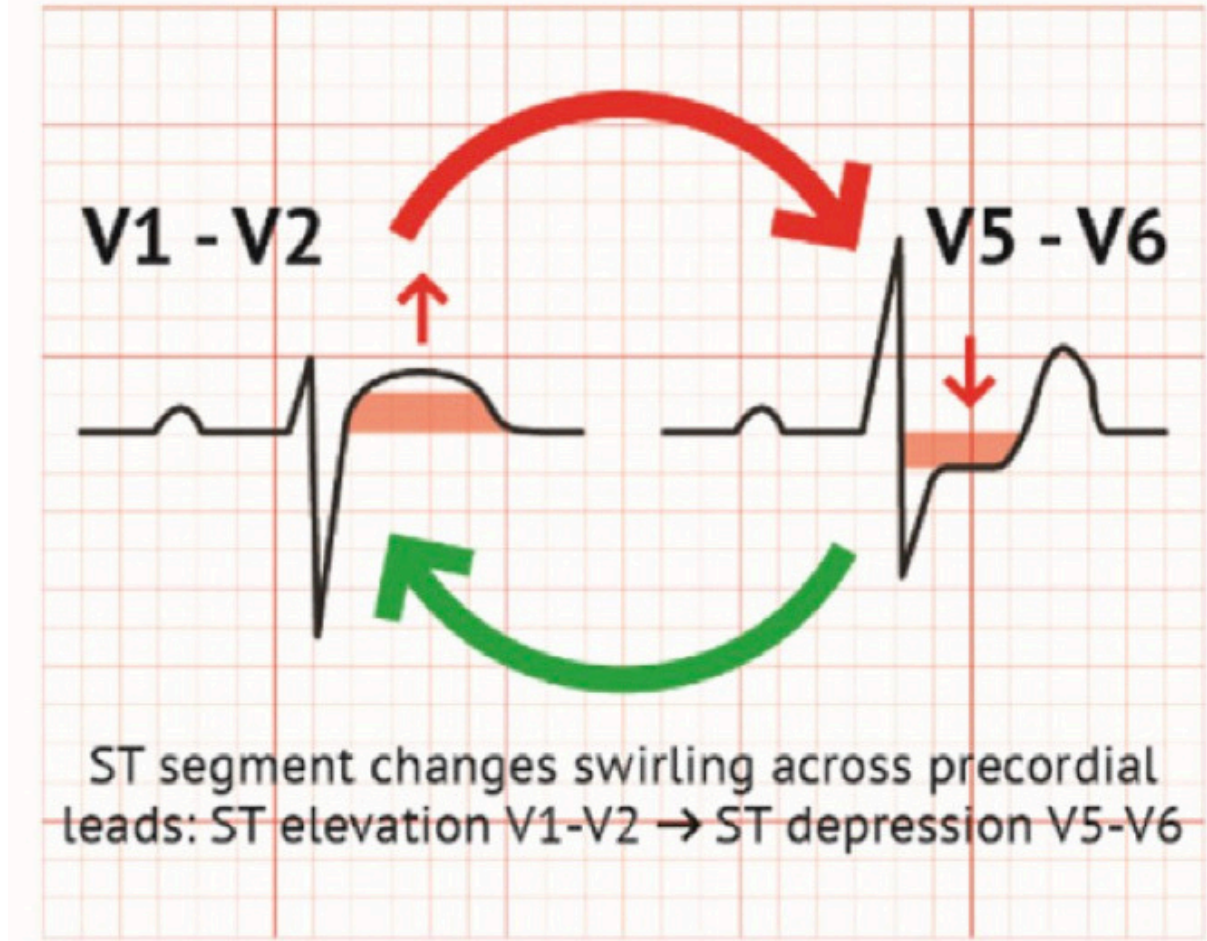


Device: MX-027 Speed: 25 mm/sec Limb: 10 mm/mV Chest: 10 mm/mV 50~ 0.05-150

New-onset bifascicular block



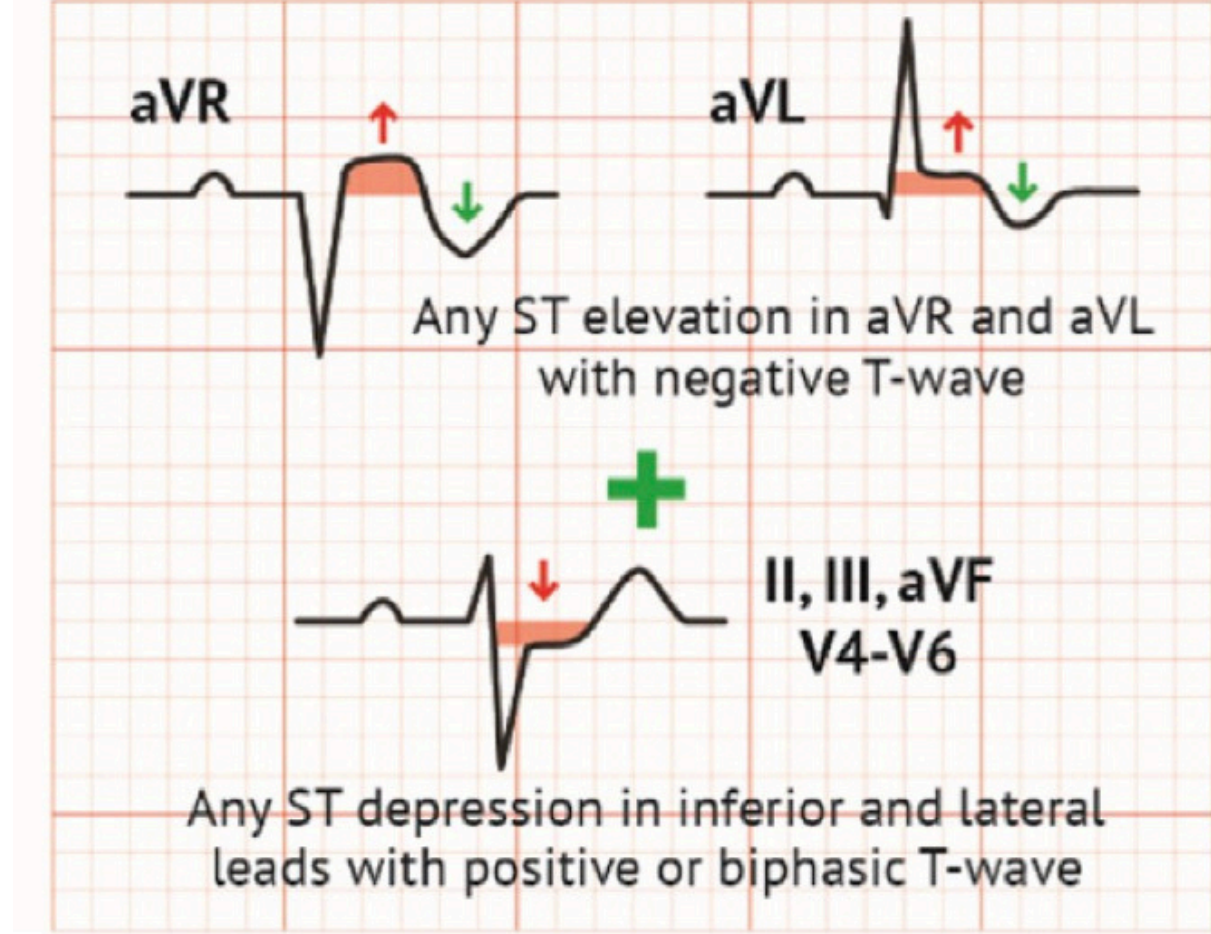
Precordial Swirl



Prekordiyal girdap (swirl) paterni

ST segment deęişikliklerinin prekordiyal derivasyonlar boyunca girdap şeklinde ilerlemesi:
V1-V2'de ST elevasyonu → V5-V6'da ST depresyonu

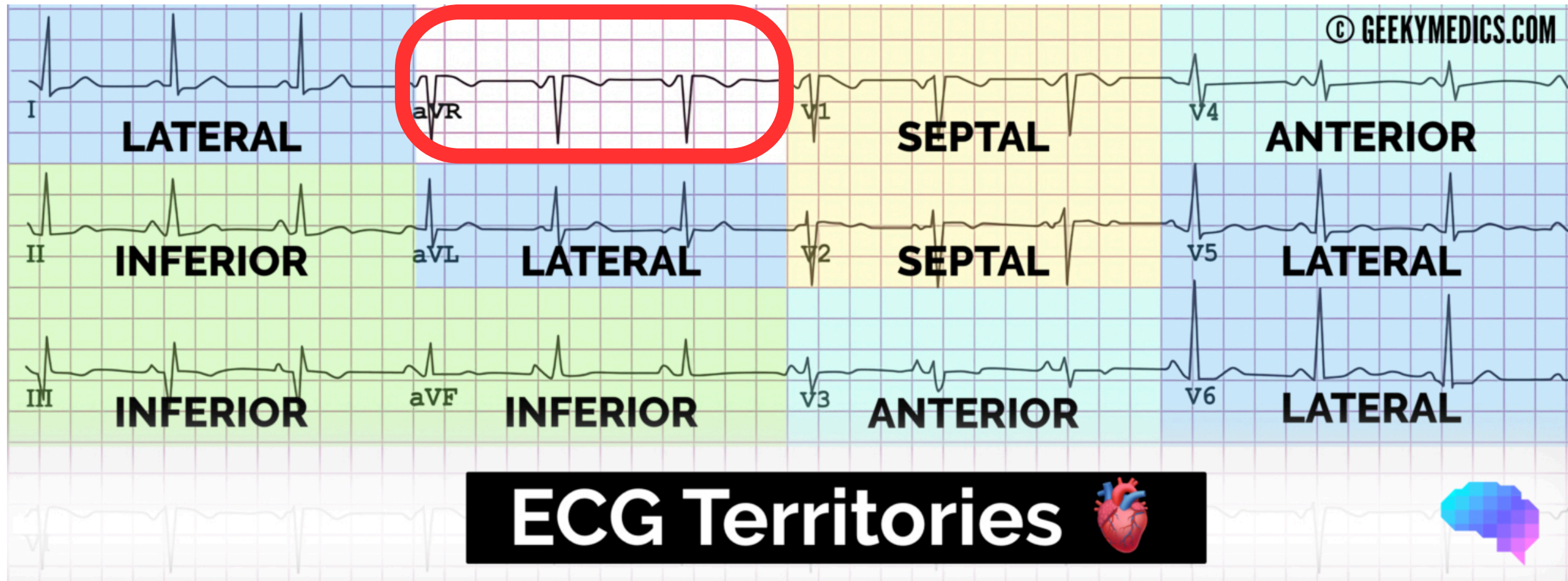
Northern OMI



Kuzey OMI (Northern OMI) paterni

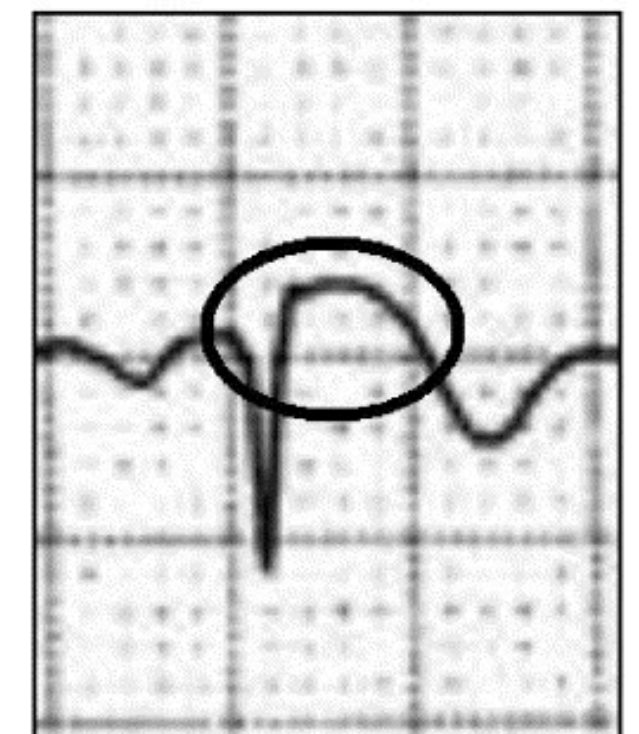
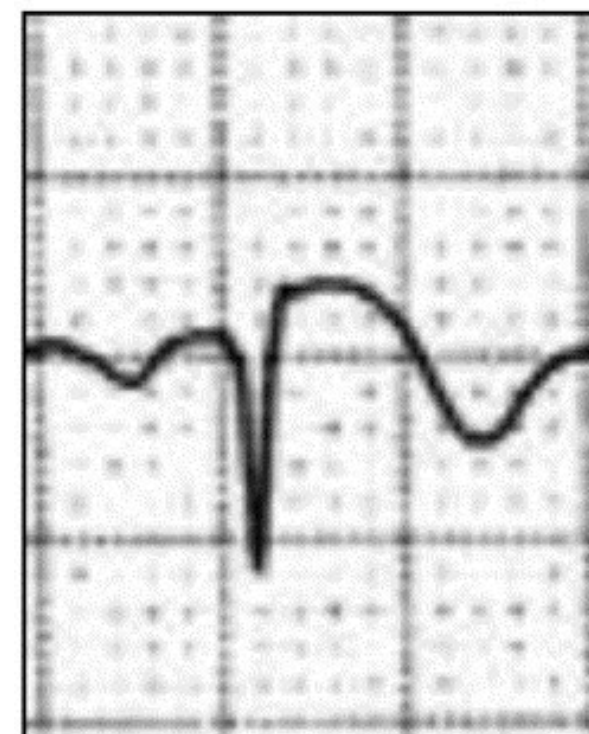
aVR ve aVL'de negatif T dalgası ile birlikte herhangi bir ST elevasyonu

İnferior ve lateral derivasyonlarda pozitif veya bifazik T dalgası ile birlikte herhangi bir ST depresyonu



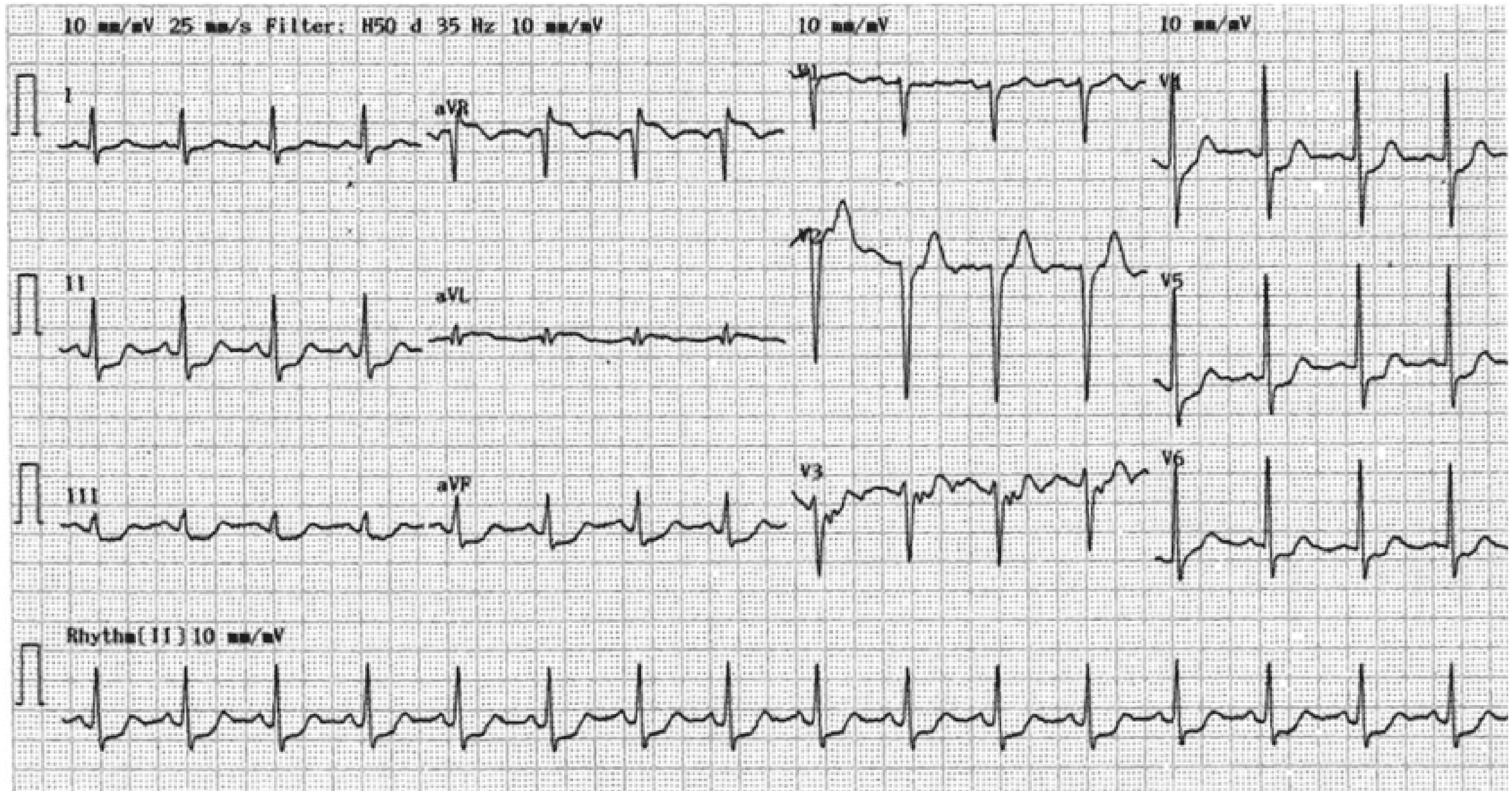
aVR

A
ST Segment Elevation in Lead aVr
 Suggestive of Left Main Coronary Artery Obstruction

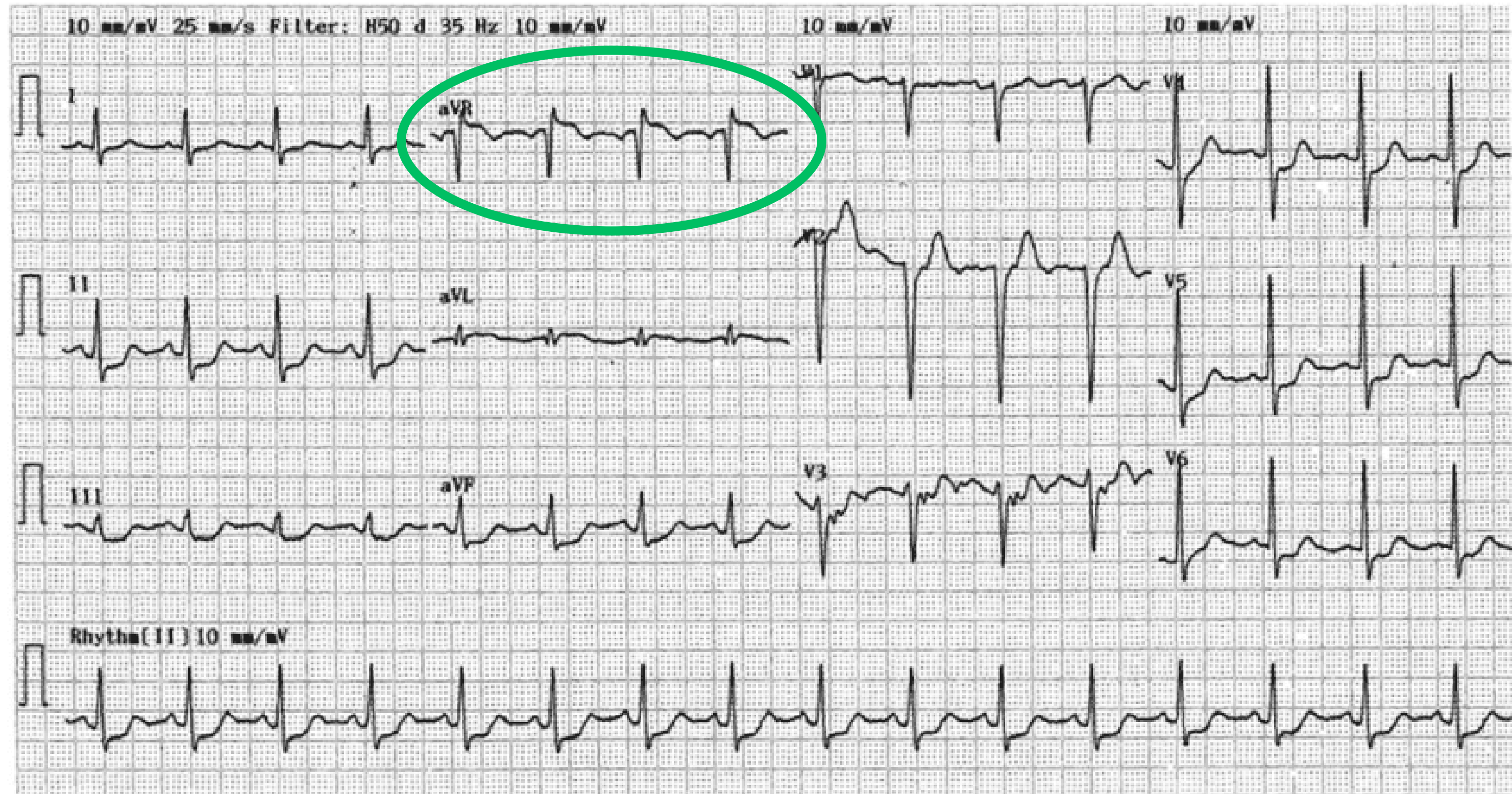


ÖRNEK 32

Diffuse ST depression with coexistent ST elevation in aVR → NOMI

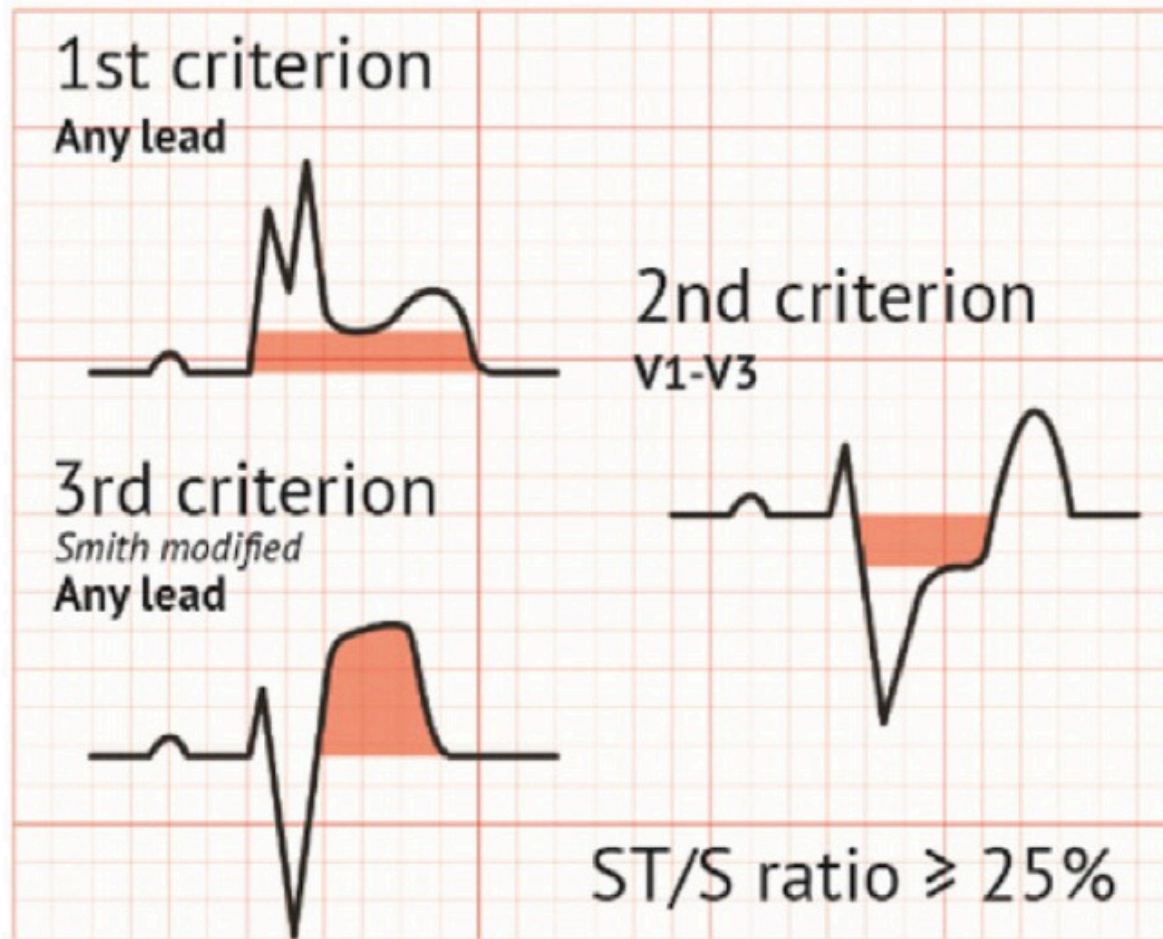


Diffuse ST depression with coexistent ST elevation in aVR → NОMI



Sol ana ya da proksimal LAD yetersizliđi = Ciddi istemi

Modified Sgarbossa - Smith



COMING SOON

**Acil Servis Asistan Hekimlerinde EKG'de Sol Dal Bloęu (LBBB) Zemininde
Akut İskemi Tanısında Sgarbossa ve Modifiye Smith Kriterlerinin
Bilinme ve Uygulanma Düzeylerinin Deęerlendirilmesi**



ÖN TEST



Sol Dal Bloğunda Miyokard Enfarktüsü Tanısı: Sgarbossa Kriterleri

ORİJİNAL SGARBOSSA KRİTERLERİ (Puanlama Sistemi)

CRITERION



Konkordan ST Elevasyonu (≥ 1 mm) = 5 Puan

Pozitif QRS kompleksi olan derivasyonlarda aynı yönlü ST yükselmesi.

5

CRITERION

3

V1-V3'te Konkordan ST Çökmesi (≥ 1 mm) = 3 Puan

V1, V2 veya V3 derivasyonlarında en az 1 mm'lik ST çökmesi.



CRITERION



Aşırı Diskordan ST Elevasyonu (≥ 5 mm) = 2 Puan

Negatif QRS kompleksi olan derivasyonlarda 5 mm'den fazla ST yükselmesi.

2


KEY FINDING

≥ 3 Puan = %90 Özgüllükle Tanı

Toplam 3 veya daha fazla puan, miyokard enfarktüsü tanısını yüksek özgüllükle destekler.

MODİFİYE SGARBOSSA KRİTERLERİ ('Evet/Hayır' Sistemi)

CRITERION



Kural 1: Konkordan ST Yükselmesi (≥ 1 mm)

Herhangi bir derivasyonda QRS ile aynı yönde en az 1 mm ST yükselmesi.


EVET

CRITERION


EVET

Kural 2: V1-V3'te Konkordan ST Çökmesi (≥ 1 mm)

V1, V2 veya V3 derivasyonlarında en az 1 mm ST çökmesi.



CRITERION



Kural 3: Orantısız Diskordanlık (STE/S Oranı $\geq 0,25$)

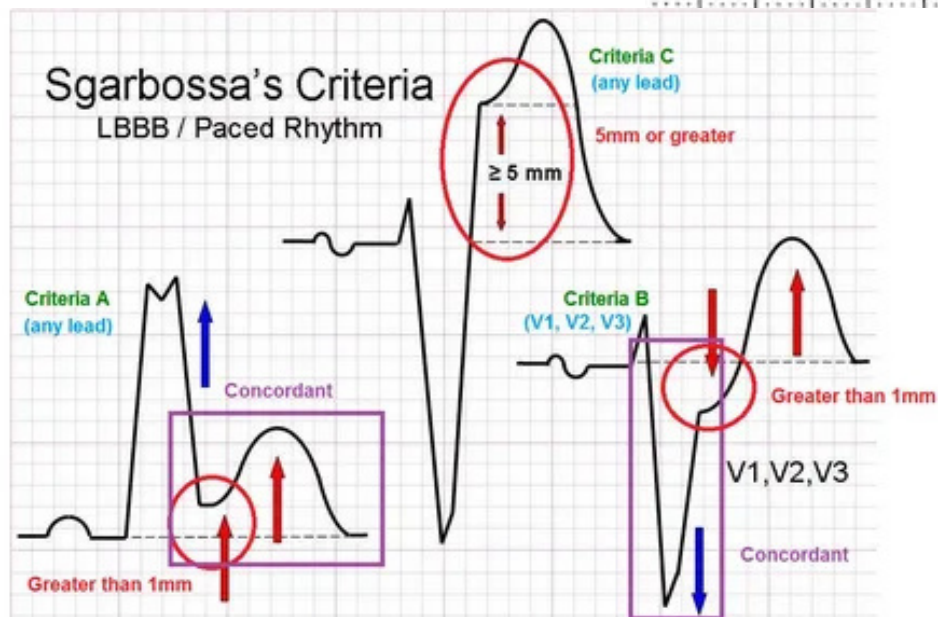
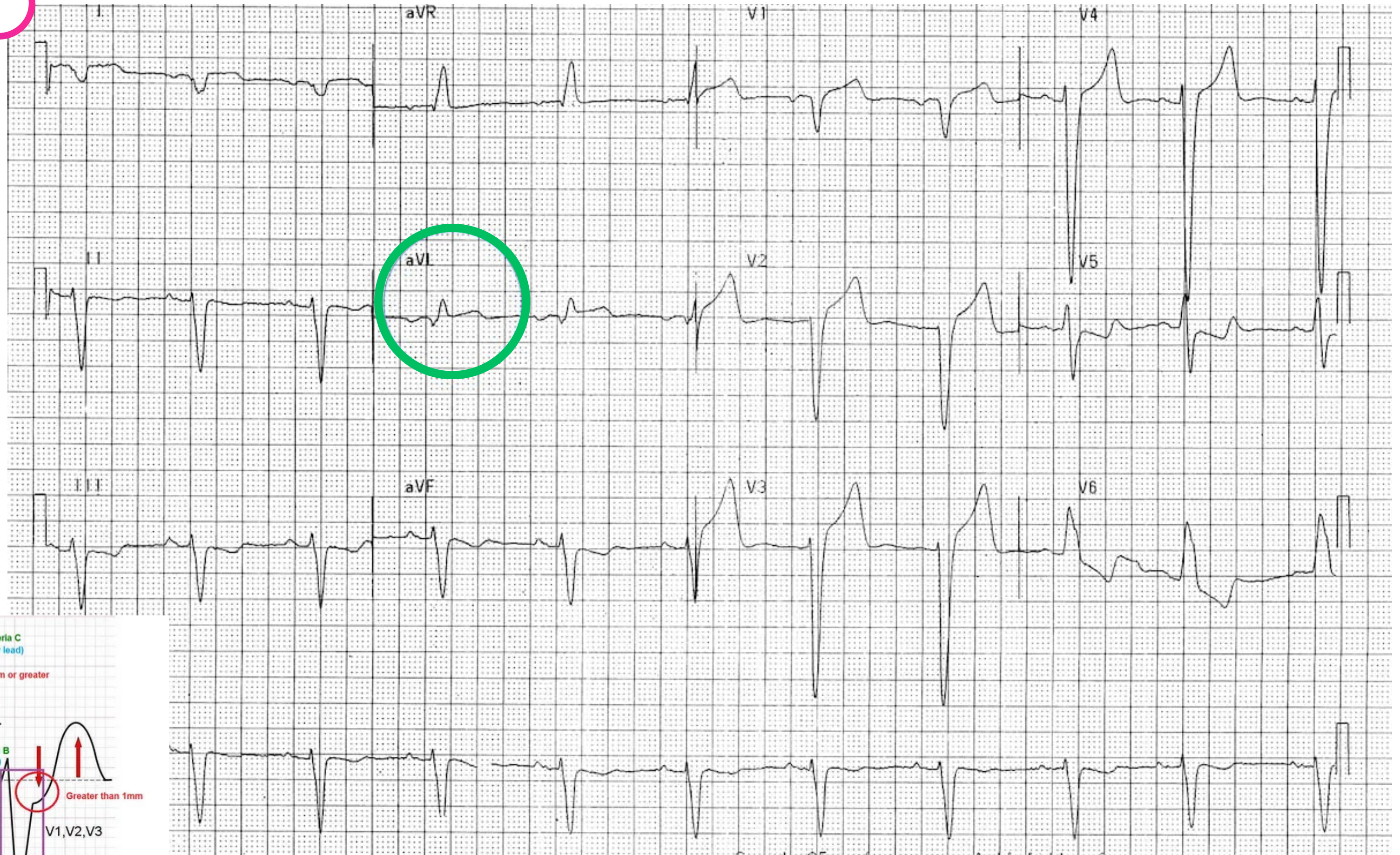
J noktasındaki ST yükselmesinin, S dalgasının derinliğine oranı $\geq 0,25$ olmalı.

KEY FINDING

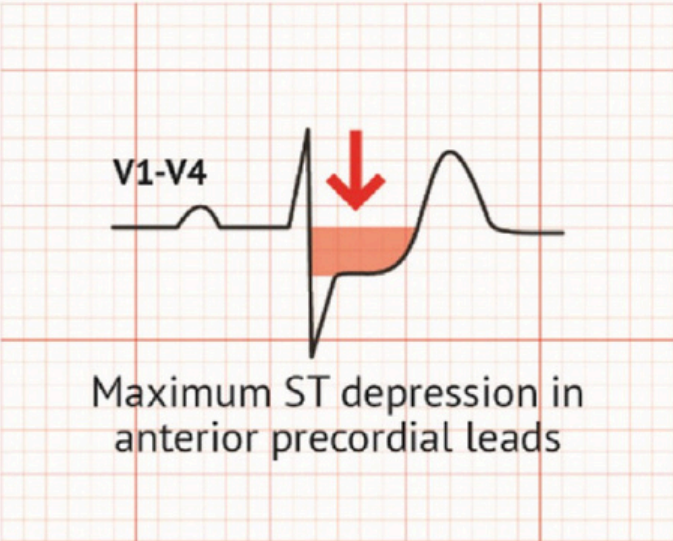
Tek Bir 'Evet' Yeterli: %80 Duyarlı, %99 Spesifik

Bu kriterlerden sadece birinin pozitif olması, akut MI tanısı için yeterlidir.

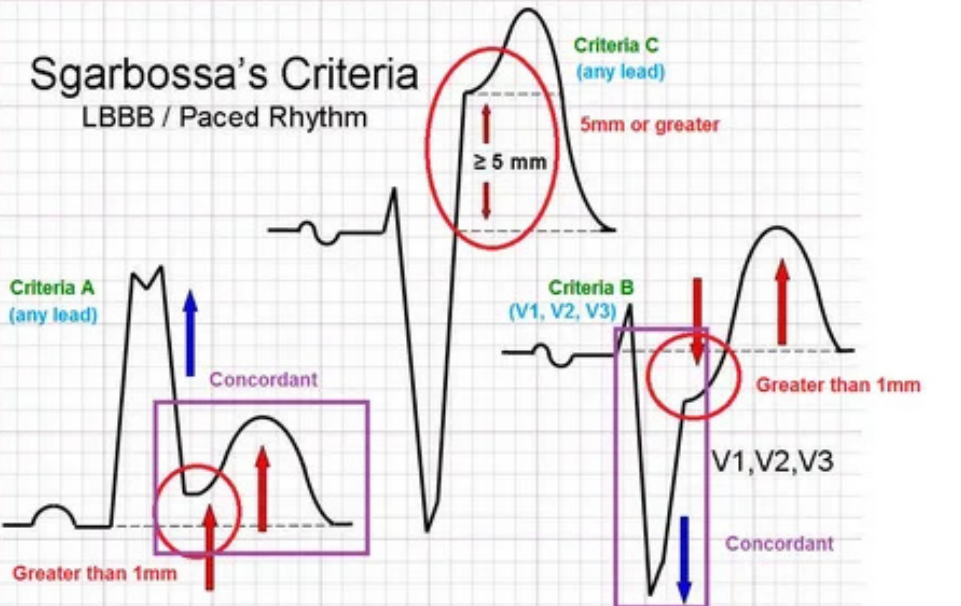
ÖRNEK 33



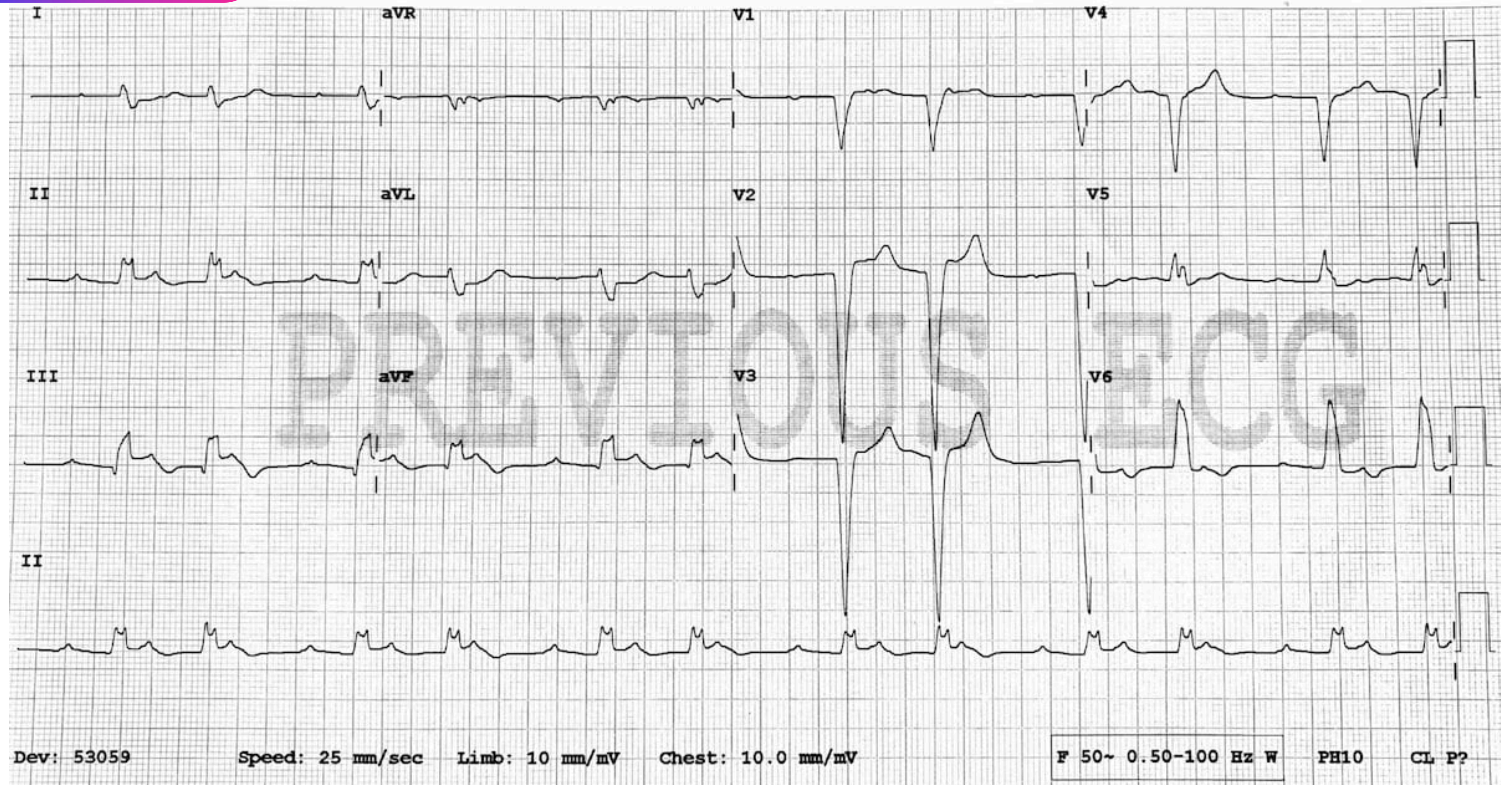
Posterior OMI

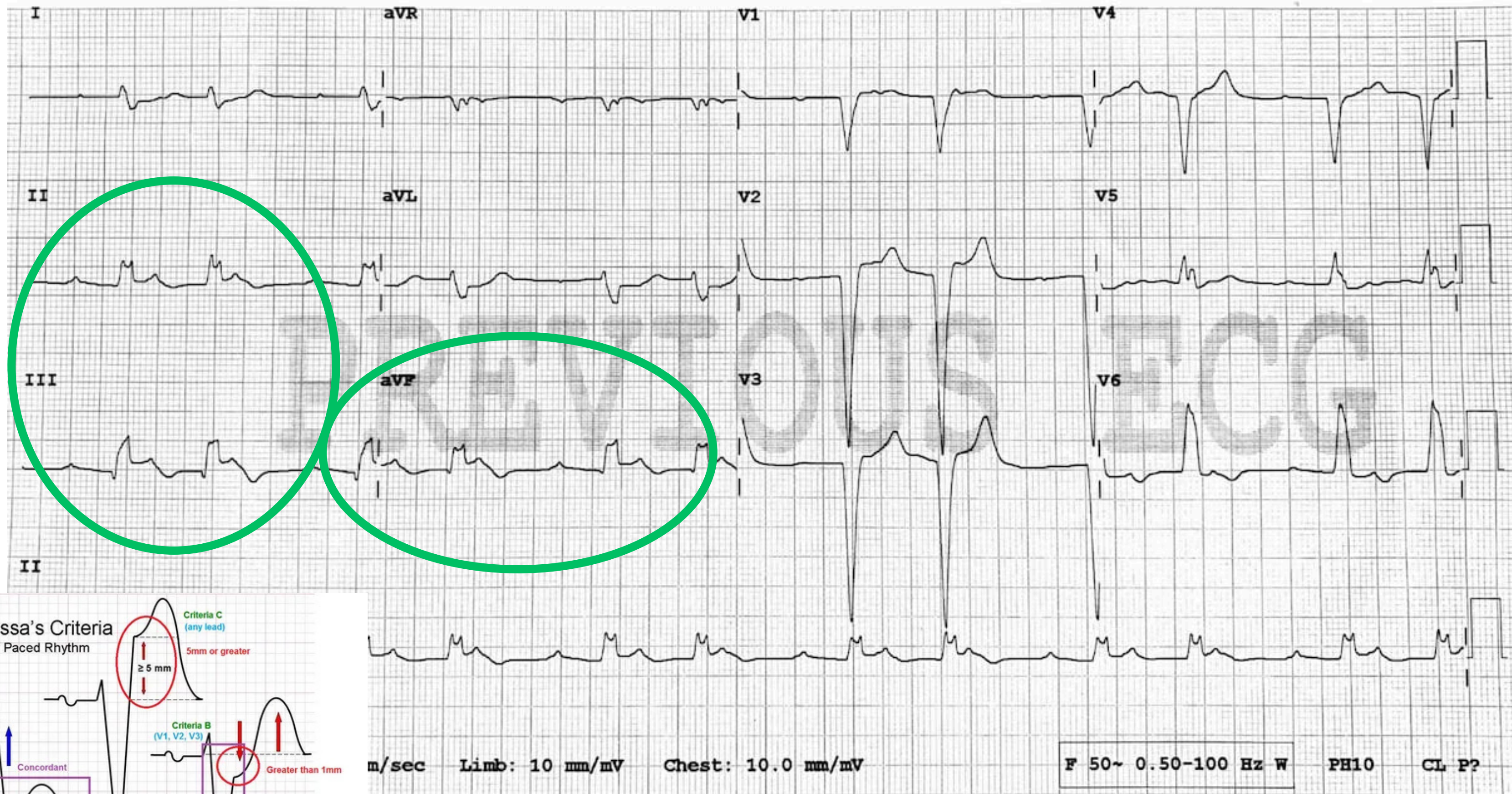


ECG tracing showing leads: aVR, V1, V4, aVL, V2, V5, III, aVF, V3, V6. Lead V2 is circled in green. Lead III has a pink arrow pointing to its ST segment.

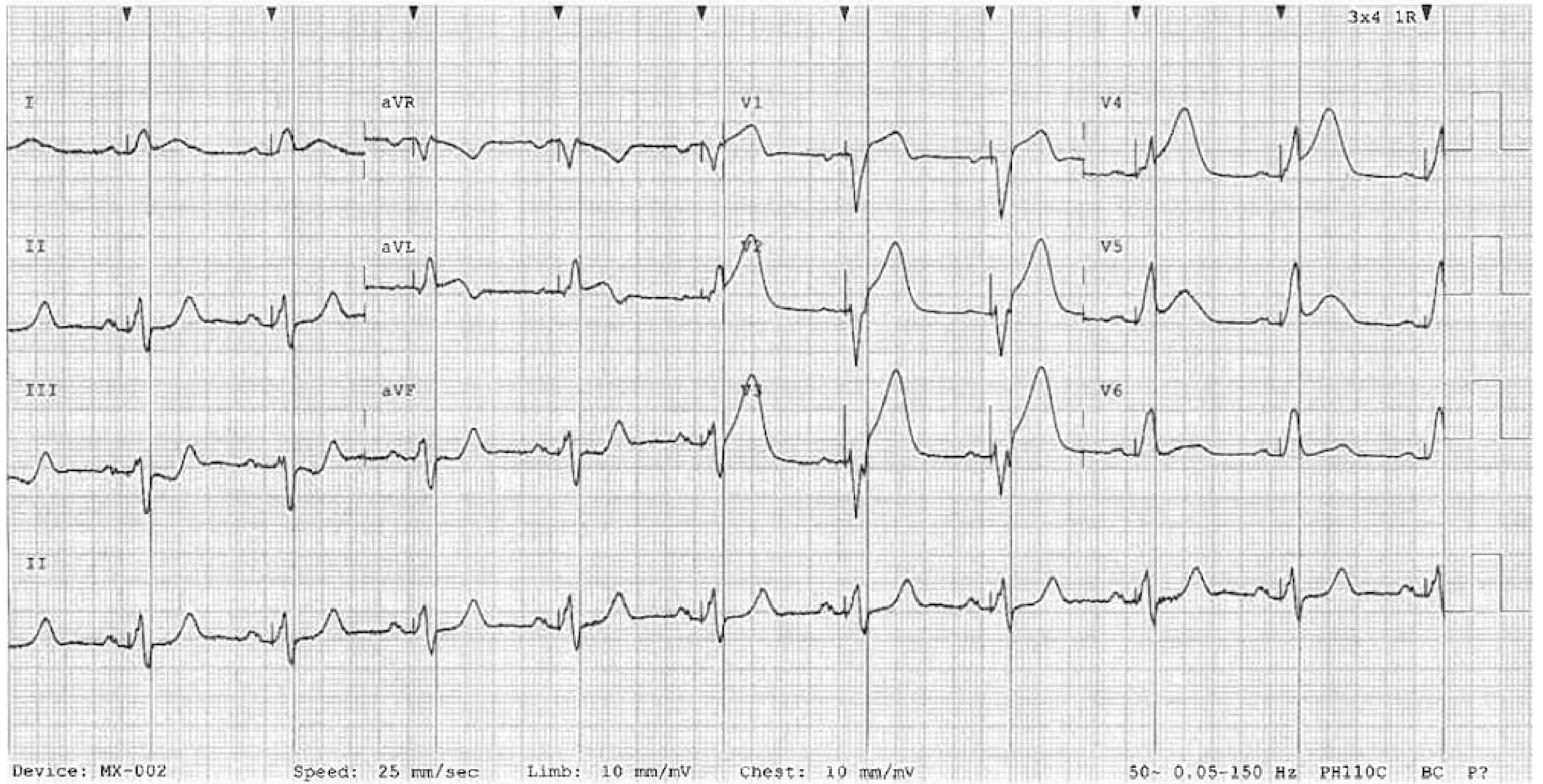


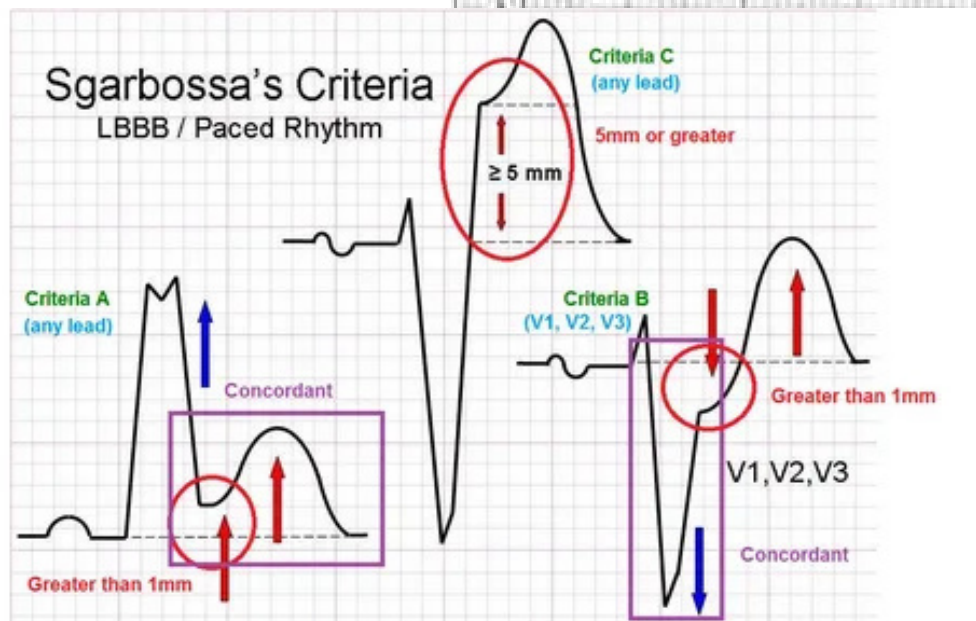
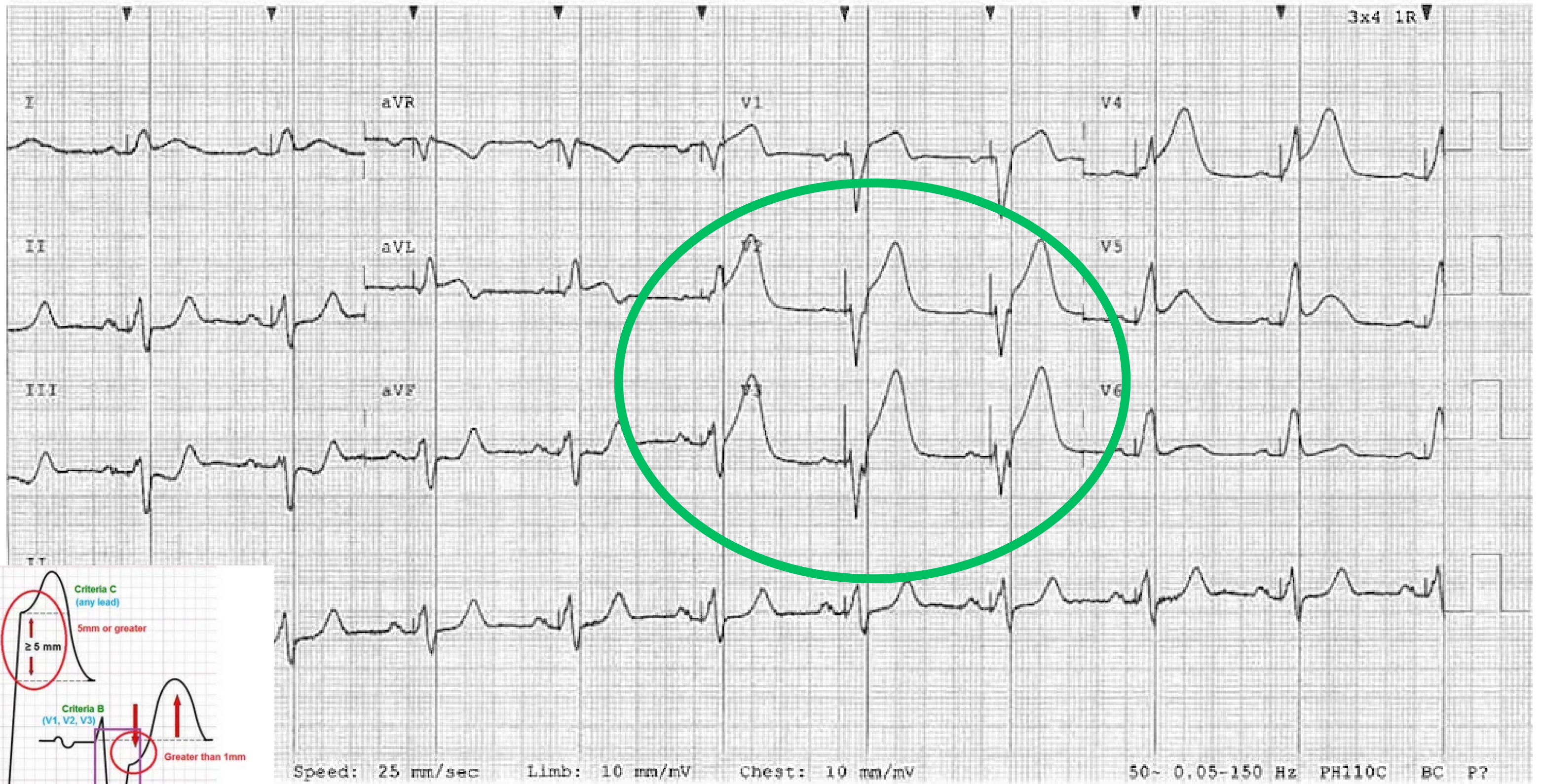
ÖRNEK 34



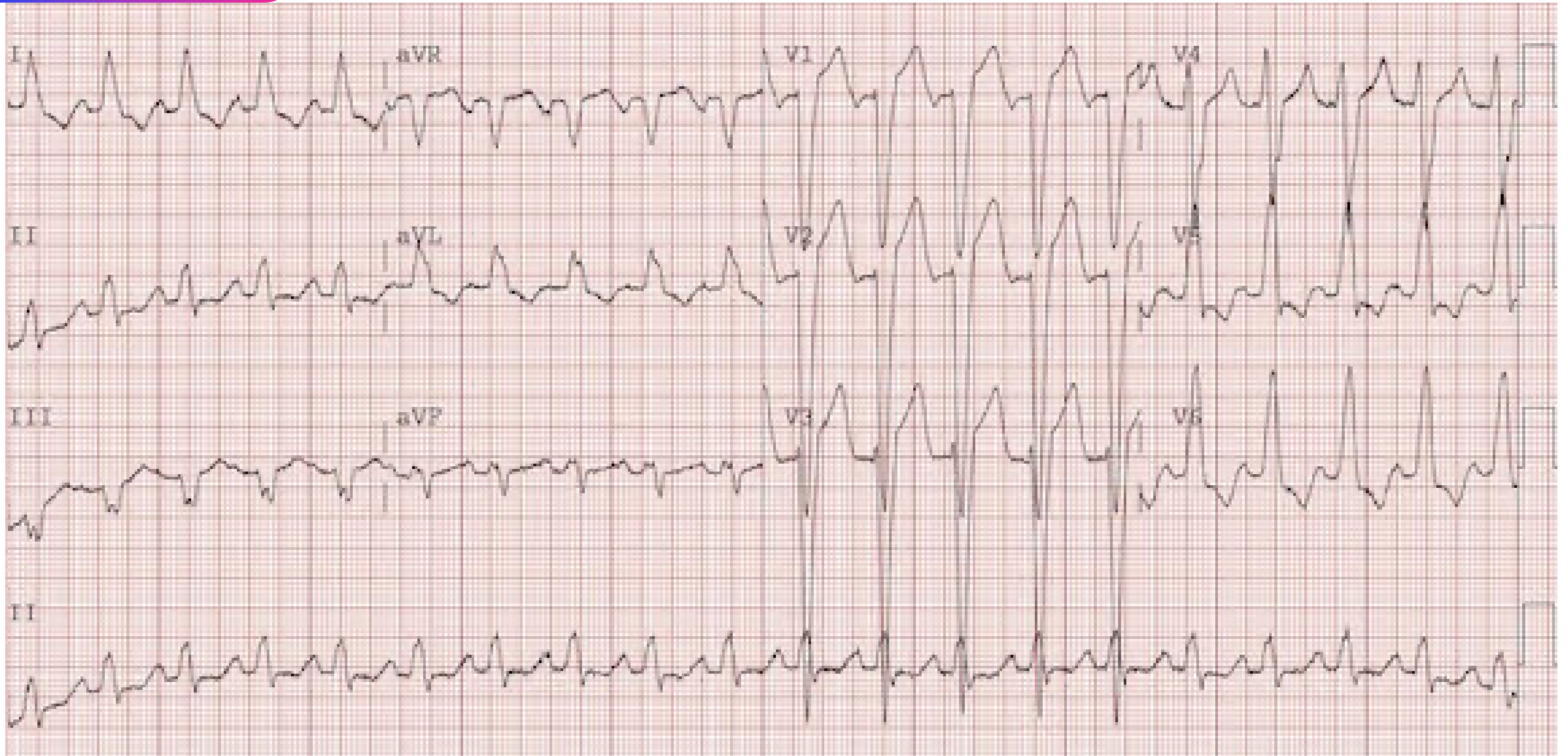


ÖRNEK 35





ÖRNEK 36

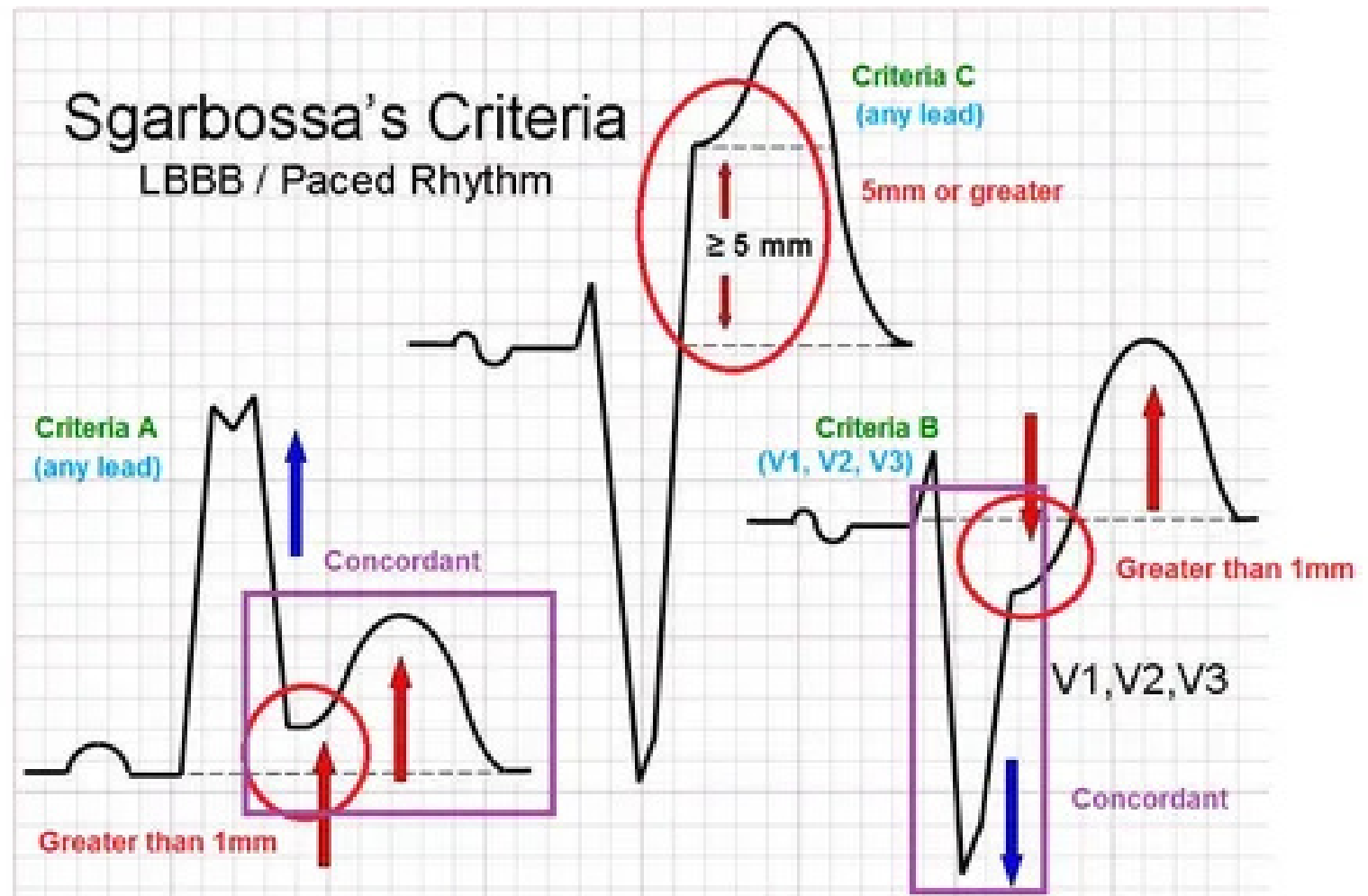




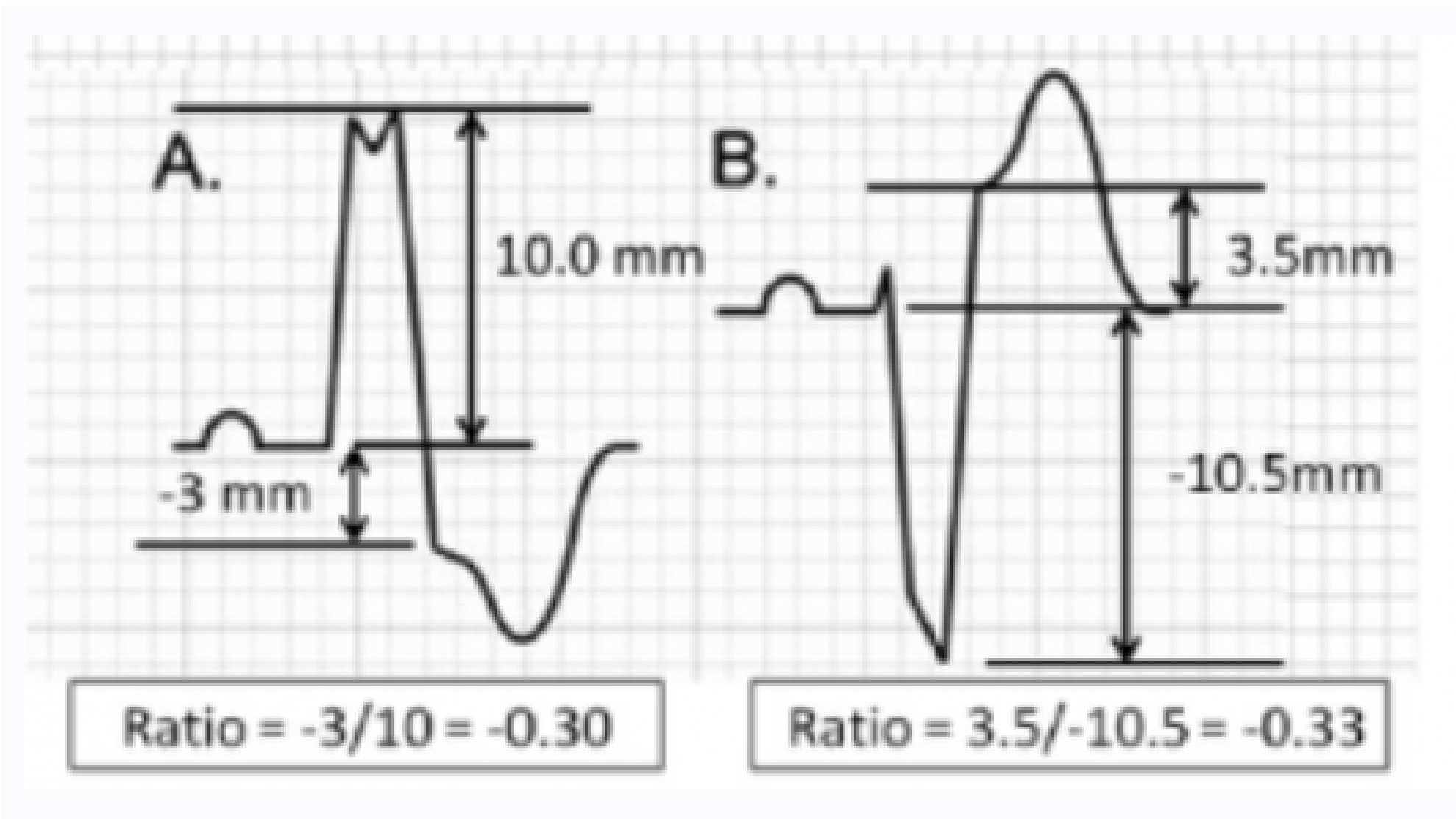
Sinüs taşikardisi ve LBBB

V2 derivasyonunda 5 mm diskordant ST elevasyonu var

Ancak S = 40 mm ; oran 5/40, yani 0,125'tir ve bu normal!



ema12lead.blogspot.com. Added info by: myfileasaparamedicstudent.blogspot.com | Paramedic Student Central



**Acil Servis Asistan Hekimlerinde EKG'de Sol Dal Bloęu (LBBB) Zemininde
Akut İskemi Tanısında Sgarbossa ve Modifiye Smith Kriterlerinin
Bilinme ve Uygulanma Düzeylerinin Deęerlendirilmesi**



SON TEST



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2023 ESC Guidelines for the management of acute coronary syndromes

ESC Clinical Practice Guidelines

25 Aug 2023

The present guideline has been developed to support healthcare professionals in the diagnosis and management of patients presenting with acute coronary syndrome (ACS). The conditions of ST-elevation myocardial infarction (STEMI) and non-ST-elevation ACS (NSTEMI-ACS) have been covered separately in previous European Guidelines. For the first time, the present guideline presents recommendations for management of patients across the entire spectrum of ACS in one document. The previous guidelines on STEMI were published in 2017 and the previous guidelines on NSTEMI-ACS were published in 2020. There have been numerous developments in the diagnosis and treatment of patients with ACS in the intervening years, which are reflected in this up-to-date guideline. The current guideline provides a comprehensive overview of the management of patients presenting with ACS, from the point of diagnosis and risk stratification at initial presentation, through to longterm management after the initial hospitalisation period. Particular focus is given to the importance of anti-thrombotic therapy, invasive assessment and revascularisation. This guideline also highlights the importance of providing patient-centred care throughout the patient's ACS journey.

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REVIEW ARTICLE | Originally Published 27 February 2025 | Check for updates

2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

Sunil V. Rao, MD, FACC, FSCAI, Michelle L. O'Donoghue, MD, MPH, FACC, FAHA, Marc Ruel, MD, MPH, FACC, FAHA, Tanveer Rab, MD, FACC, MSCAI, Jaqueline E. Tamis-Holland, MD, FACC, FAHA, FSCAI, John H. Alexander, MD, MHS, FACC, FAHA, Usman Baber, MD, MS, FACC, FSCAI, ... SHOW ALL ... and Marlene S. Williams, MD, FACC | AUTHOR INFO & AFFILIATIONS

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CARDIOLOGY/REVIEW ARTICLE

ECG Patterns of Occlusion Myocardial Infarction: A Narrative Review

Fabrizio Ricci, MD, PhD*; Chiara Martini, MD; Davide Maria Scordo, MD; Davide Rossi, MD; Sabina Gallina, MD; Artur Fedorowski, MD, PhD; Luigi Sciarra, MD; C. Anwar A. Chahal, MD, PhD; H. Pendell Meyers, MD; Robert Herman, MD; Stephen W. Smith, MD

*Corresponding Author. E-mail: fabrizio.ricci@unich.it.

The traditional management of acute coronary syndrome has relied on the identification of ST-segment elevation myocardial infarction (STEMI) as a proxy of acute coronary occlusion. This conflation of STEMI with acute coronary occlusion has historically overshadowed non-ST-segment elevation myocardial infarction (NSTEMI), despite evidence suggesting 25% to 34% of NSTEMI cases may also include acute coronary occlusion. Current limitations in the STEMI/NSTEMI binary framework underscore the need for a revised approach to chest pain and acute coronary syndrome management. The emerging paradigm distinguishing occlusion myocardial infarction from nonocclusion myocardial infarction (NOMI) seeks to enhance diagnostic accuracy and prognostic effect in acute coronary syndrome care. This approach not only emphasizes the urgency of reperfusion therapy for high-risk ECG patterns not covered by current STEMI criteria, but also emphasizes the broader transition from viewing acute coronary syndrome as a disease defined by the ECG to a disease defined by its underlying pathology, for which the ECG is an important but insufficient surrogate test. This report outlines the emerging occlusion myocardial infarction paradigm, detailing specific ECG patterns linked to acute coronary occlusion, and proposes a new framework that could enhance triage accuracy and treatment strategies for acute coronary syndrome. Although further validation is required, the occlusion myocardial infarction pathway holds promise for earlier acute coronary occlusion detection, timely cath lab activation, and improved myocardial salvage—offering potentially significant implications for both clinical practice and future research in acute coronary syndrome management. [Ann Emerg Med. 2025;85:330-340.]

Keywords: Acute Coronary Syndrome, Acute Myocardial Infarction, OMI, STEMI, NSTEMI.

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<https://doi.org/10.1016/j.annemergmed.2024.11.019>

Akut Koroner Sendromda EKG Bulguları

UZM.DR.YASİN YILDIZ

Soru, katkı?

Kalbinize iyi bakın.

