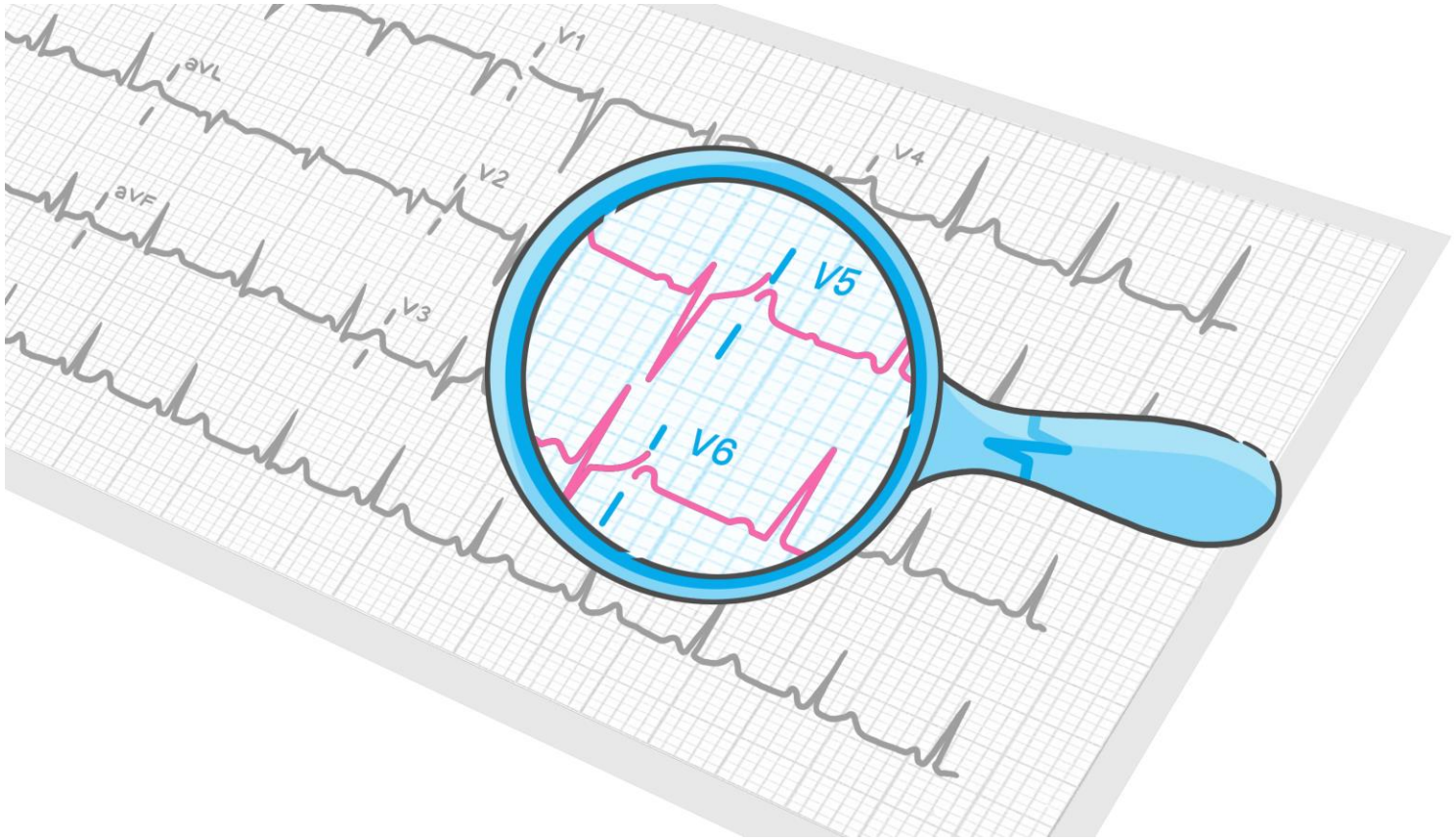
The 12 Lead ECG & ACS



12 Lead ECG Workbook

12 Lead ECG in Acute Coronary Syndromes:

Practical Steps to Priority Actions

1. **Baseline**
   - –begin with a focused history and assessment
   - –*fully* interpret the ECG *rhythm – is the QRS wide? BBB?*
   - –collect prior 12 lead ECG(s) and current lab values (no delay)
2. **Search** for ST, T, Q changes
3. **Rule out Rule in**
   - –rule out imposters
   - –rule in acute coronary syndromes
   - –rule in those who require rapid reperfusion

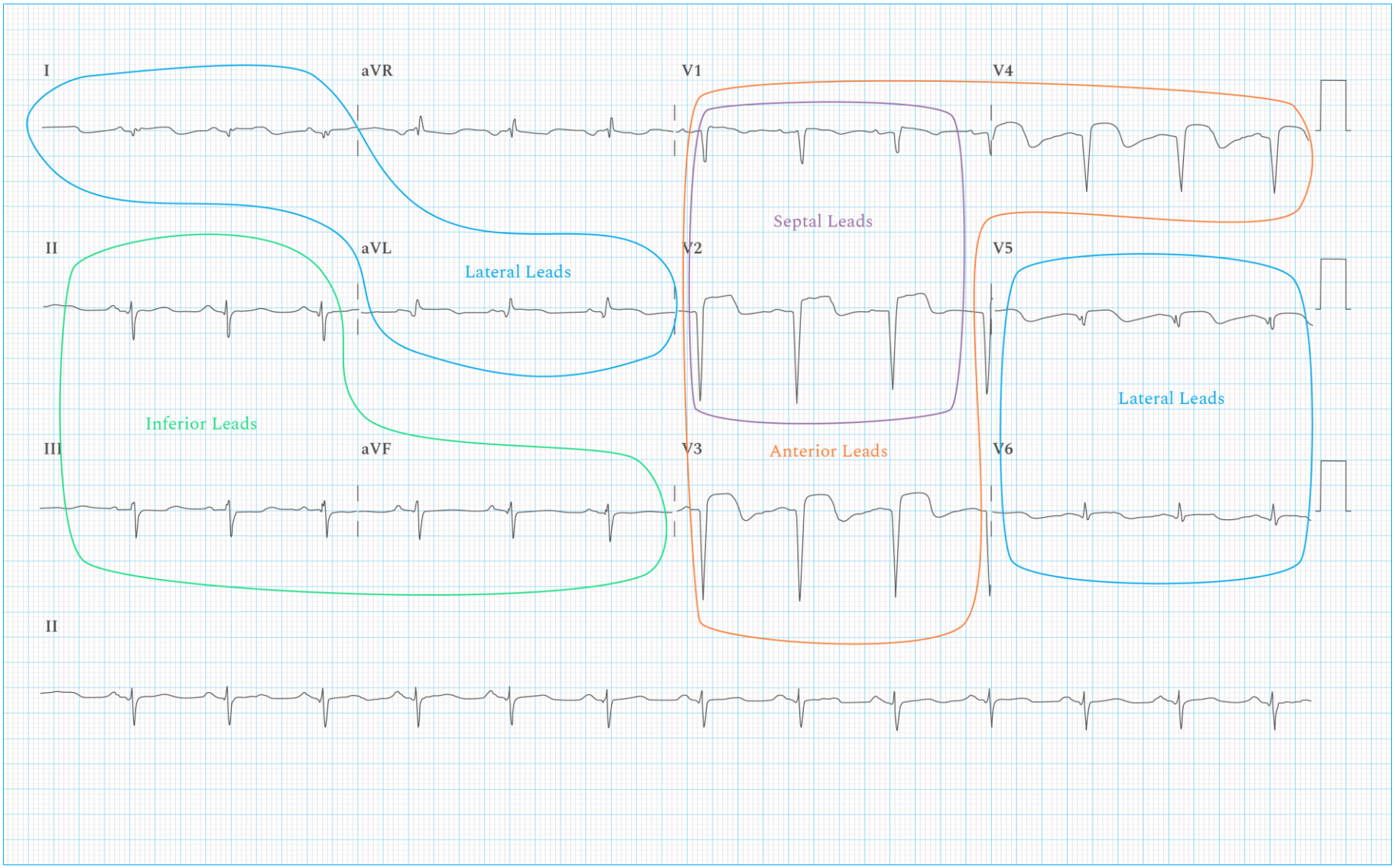
Possible Imposters

- Early repolarization (diffuse ST elevation)
- Pericarditis (diffuse ST elevation)
- Brugada syndrome (coved ST elevation in V1 & V2)
- Subarachnoid hemorrhage (ST elevation or depression)
- Hypokalemia (mild ST depression and T wave inversion)
- Left ventricular hypertrophy (strain pattern of ST depression)
- Digoxin dip (ST depression)
- Tension pneumothorax
- Pulmonary Embolus
- And more…

Consider a 15/18 lead ECG when faced with ST depression only, an inferior MI or an inconclusive 12 lead ECG (when coupled with suspicious signs and symptoms of ischemia and infarction).

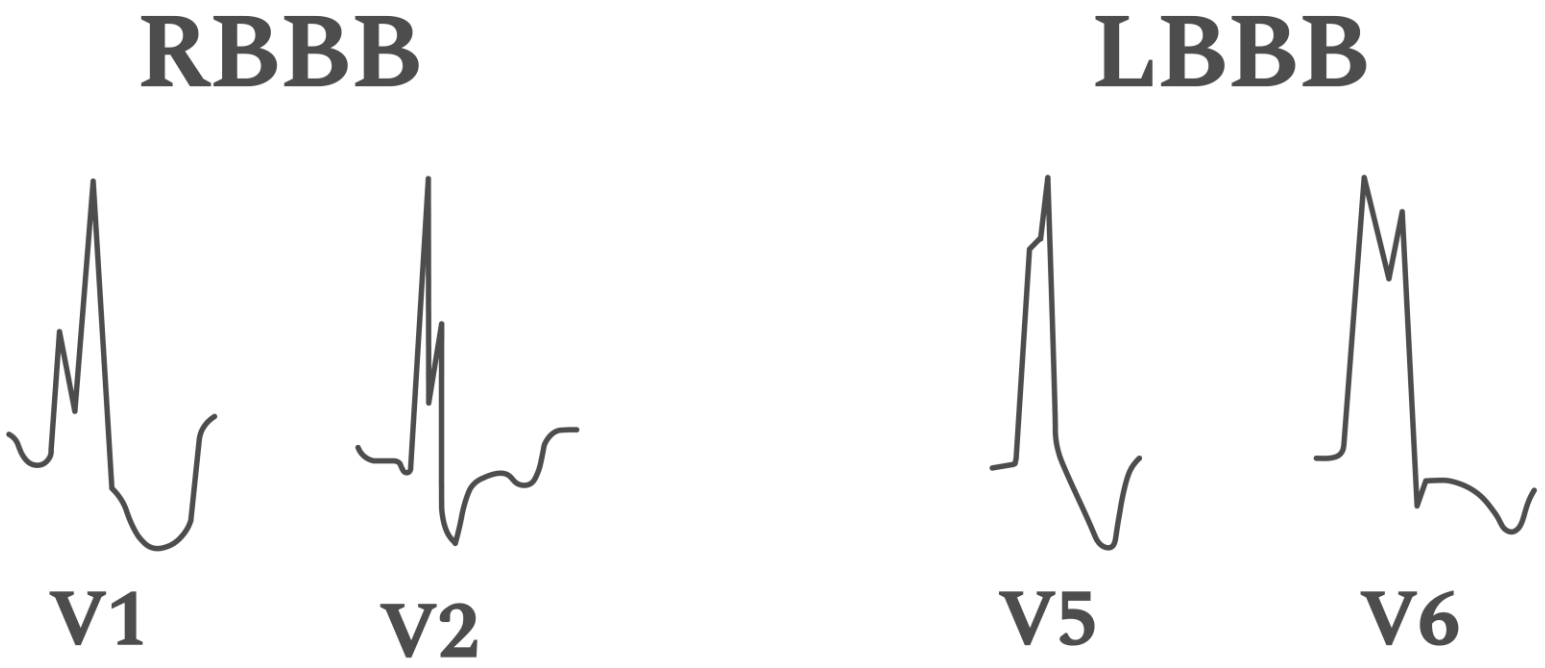
Lead View Summary

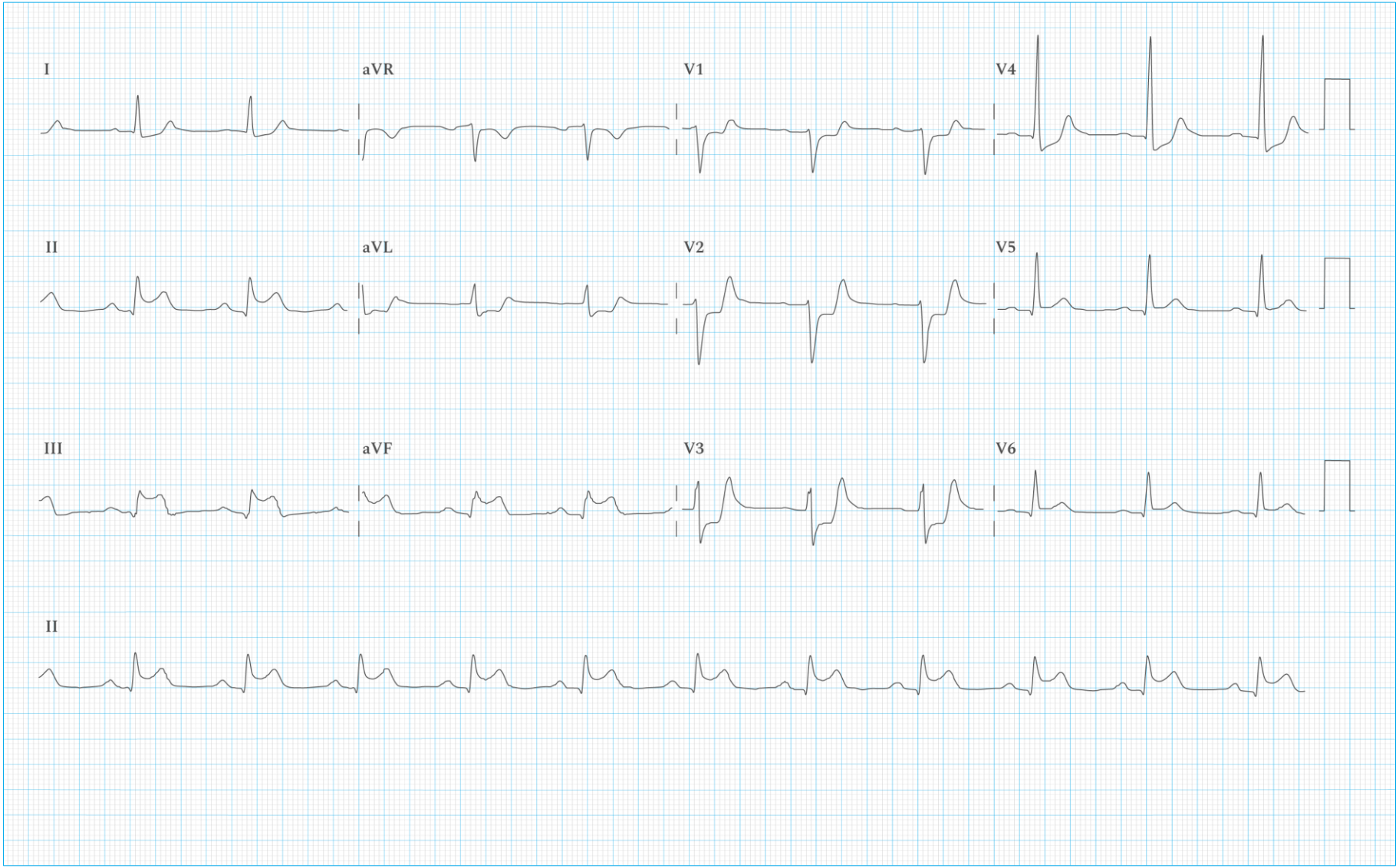
Lead	View
V1,V2	**S**eptal
V3,V4	**A**nterior
I,aVL,V5,V6	**L**ateral
II,III,aVF	Inferior
V4-6R	Right
V7-9	Posterior


I
aVR
V1
V4
Septal Leads
II
aVL
Lateral Leads
V2
V5
Lateral Leads
Inferior Leads
III
aVF
V3
Anterior Leads
V6
II

Right and Left BBB

- **RBBB**: QRS 3 mm or more with notching of QRS in **V1,V2**
- **LBBB**: QRS 3 mm or more with notching of QRS in **V5,V6**

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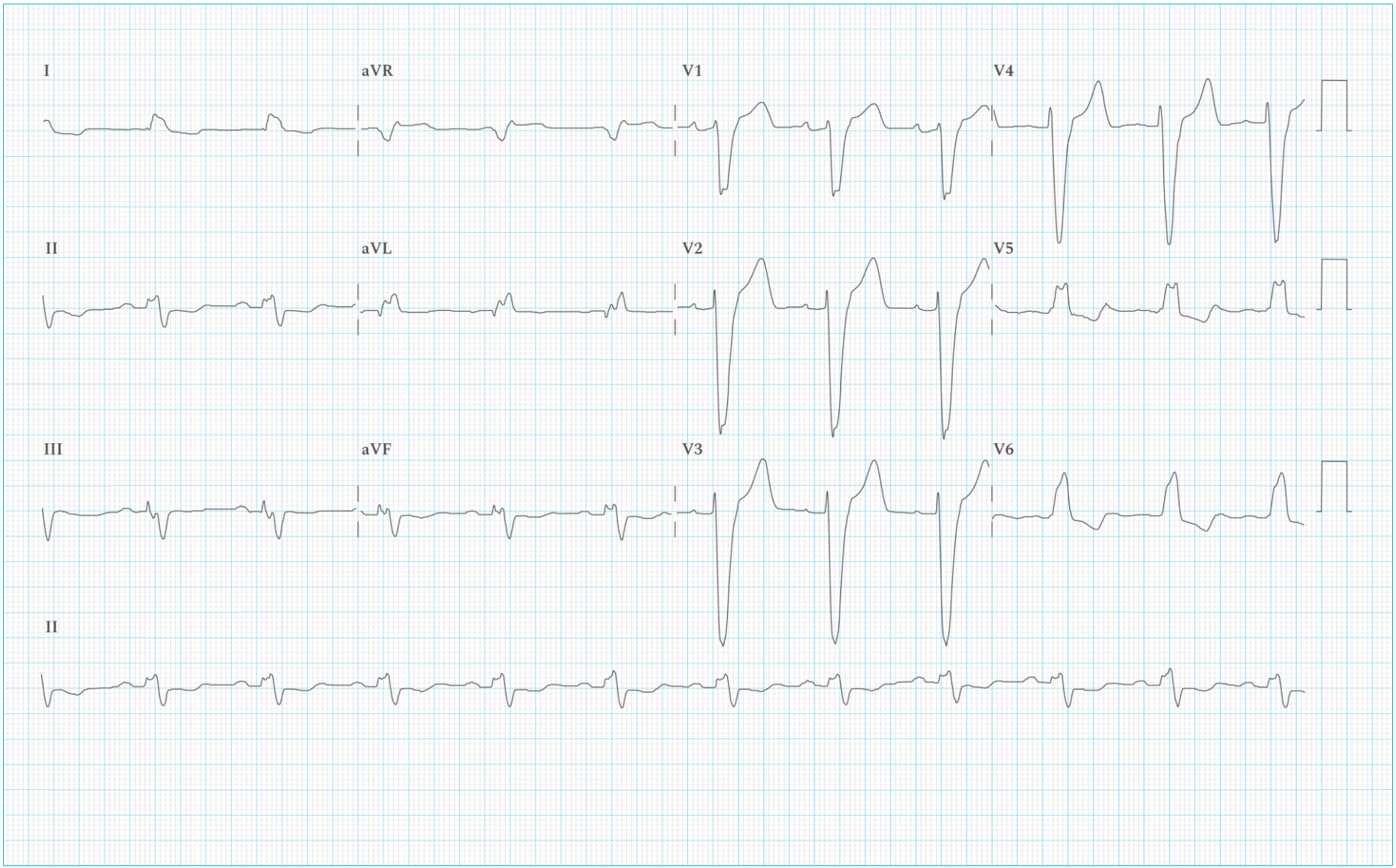
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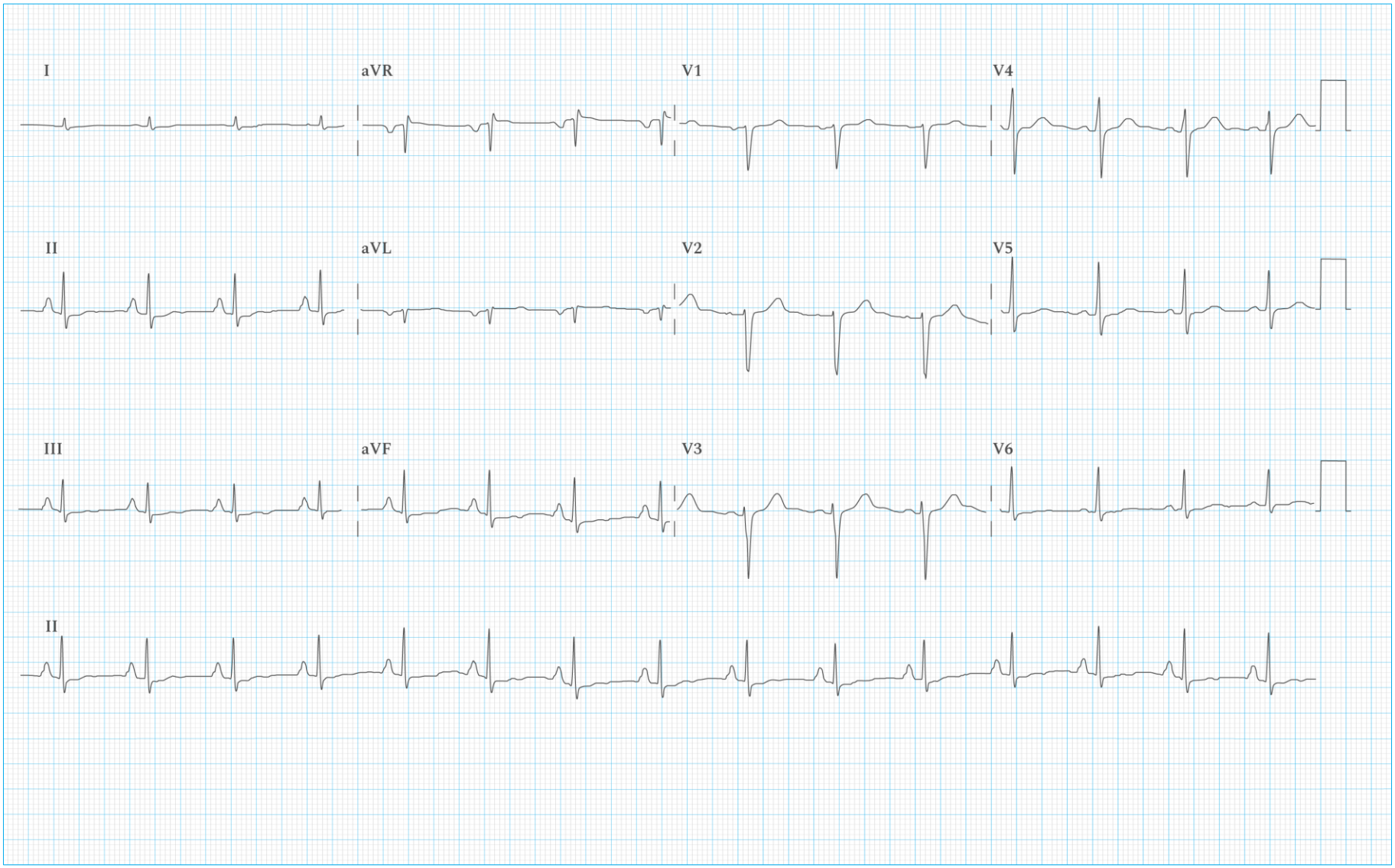
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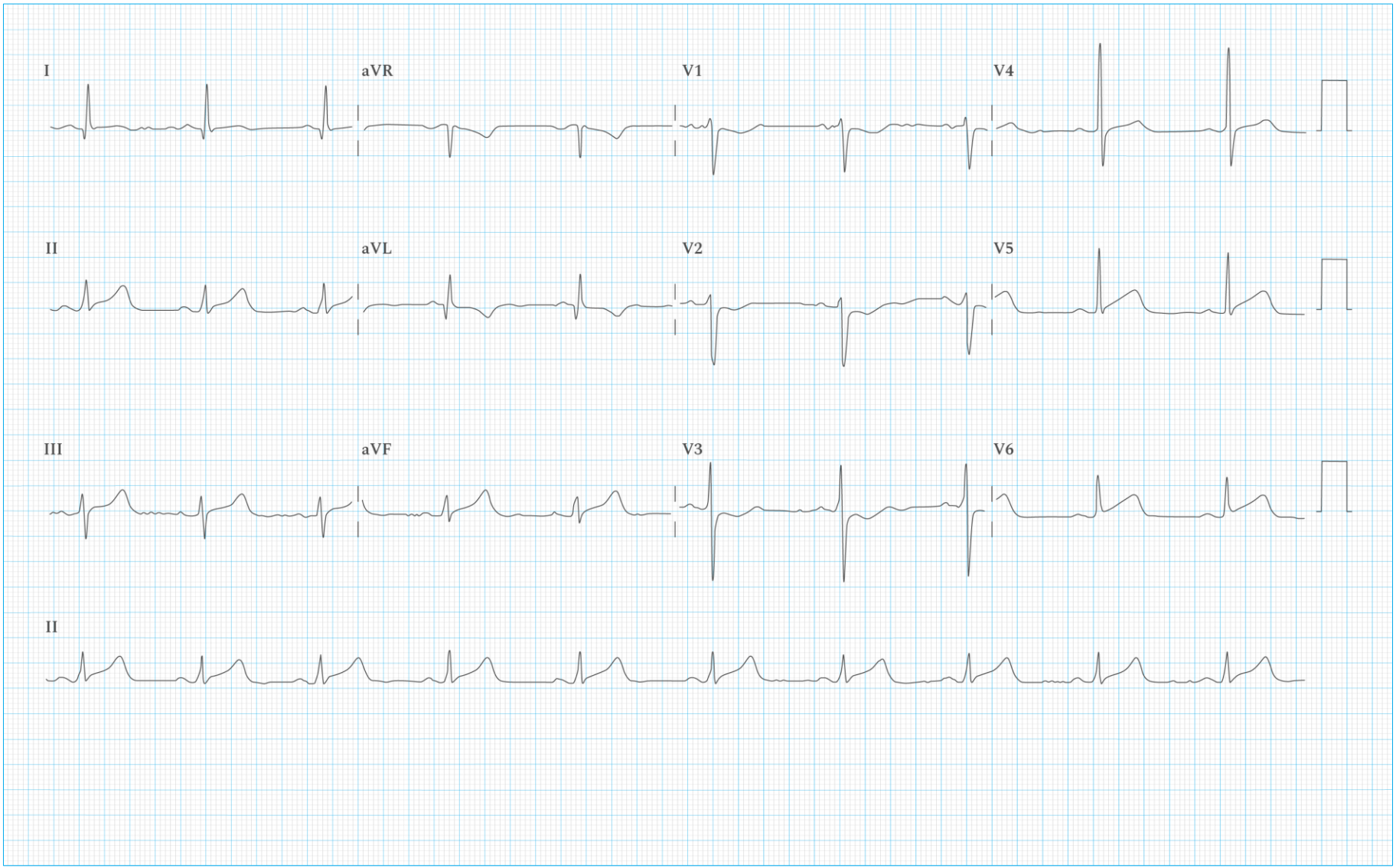
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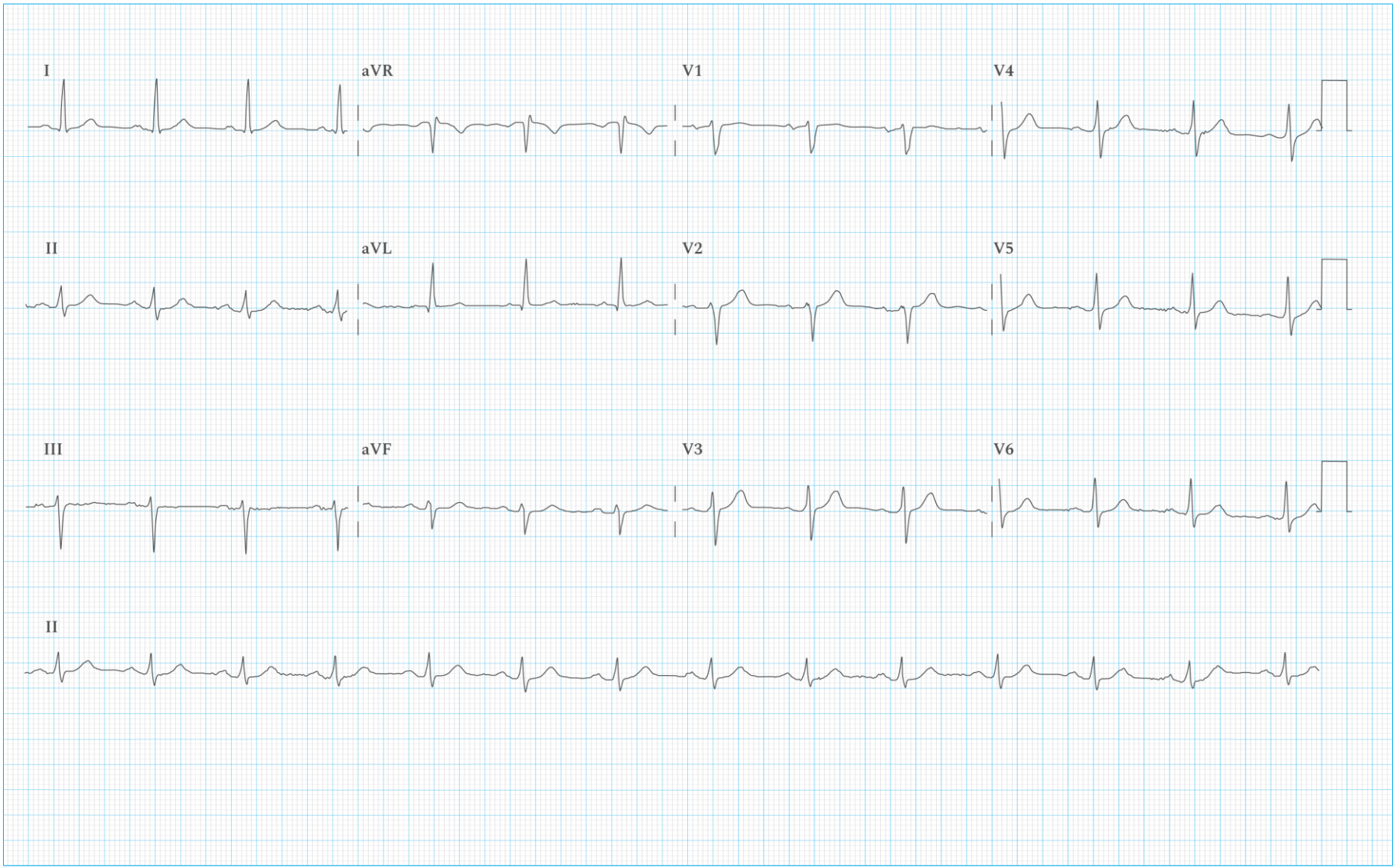
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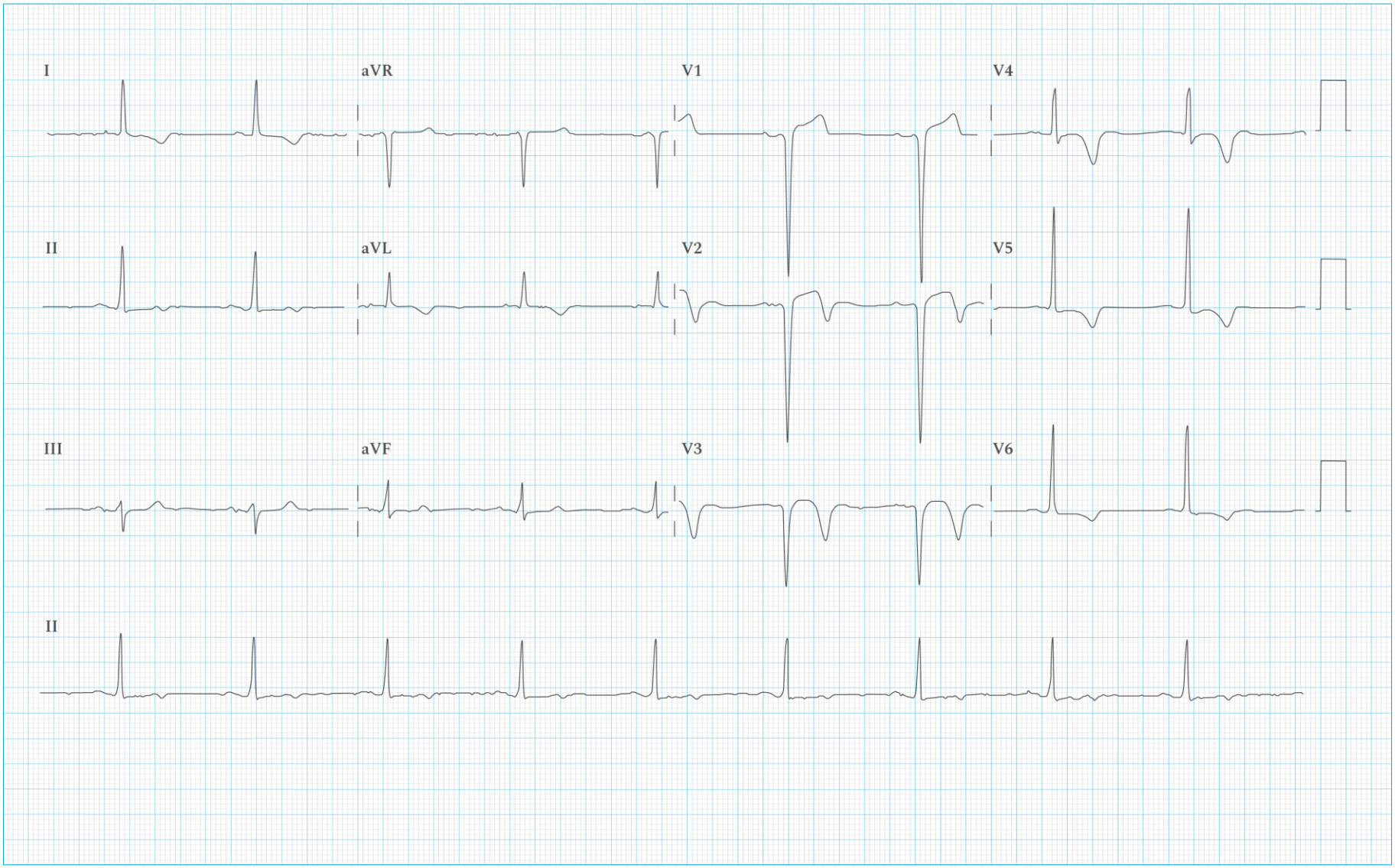
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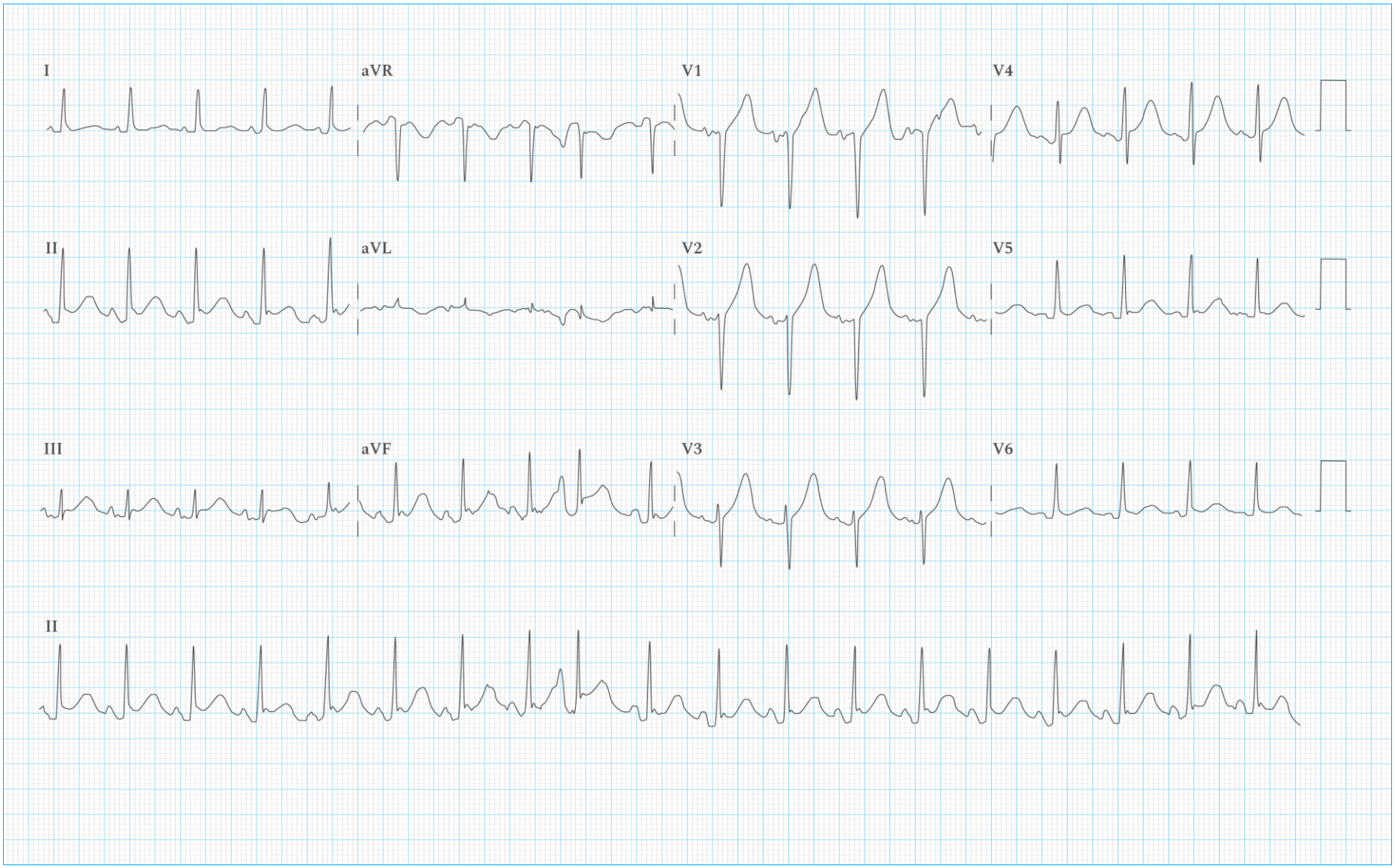
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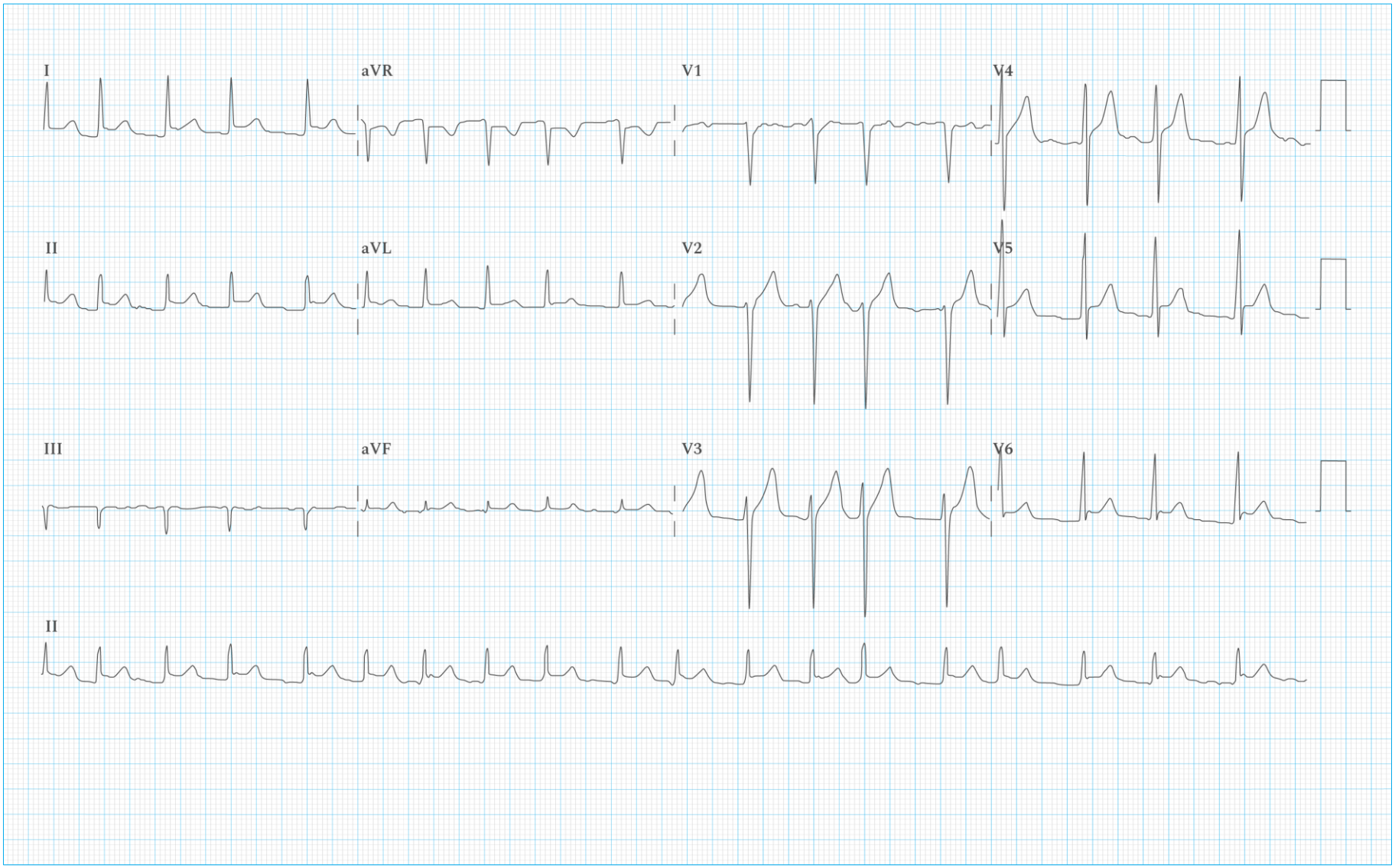
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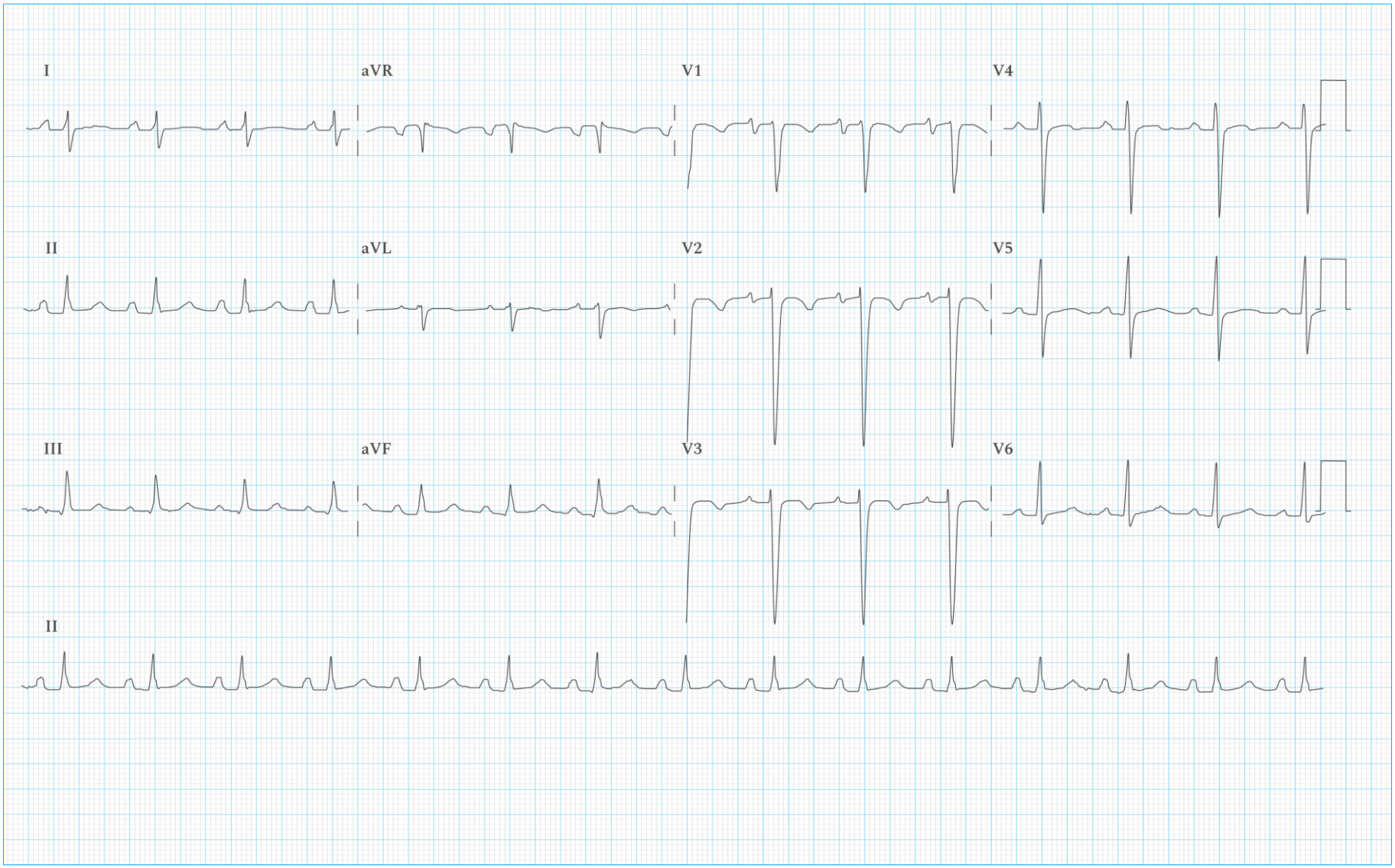
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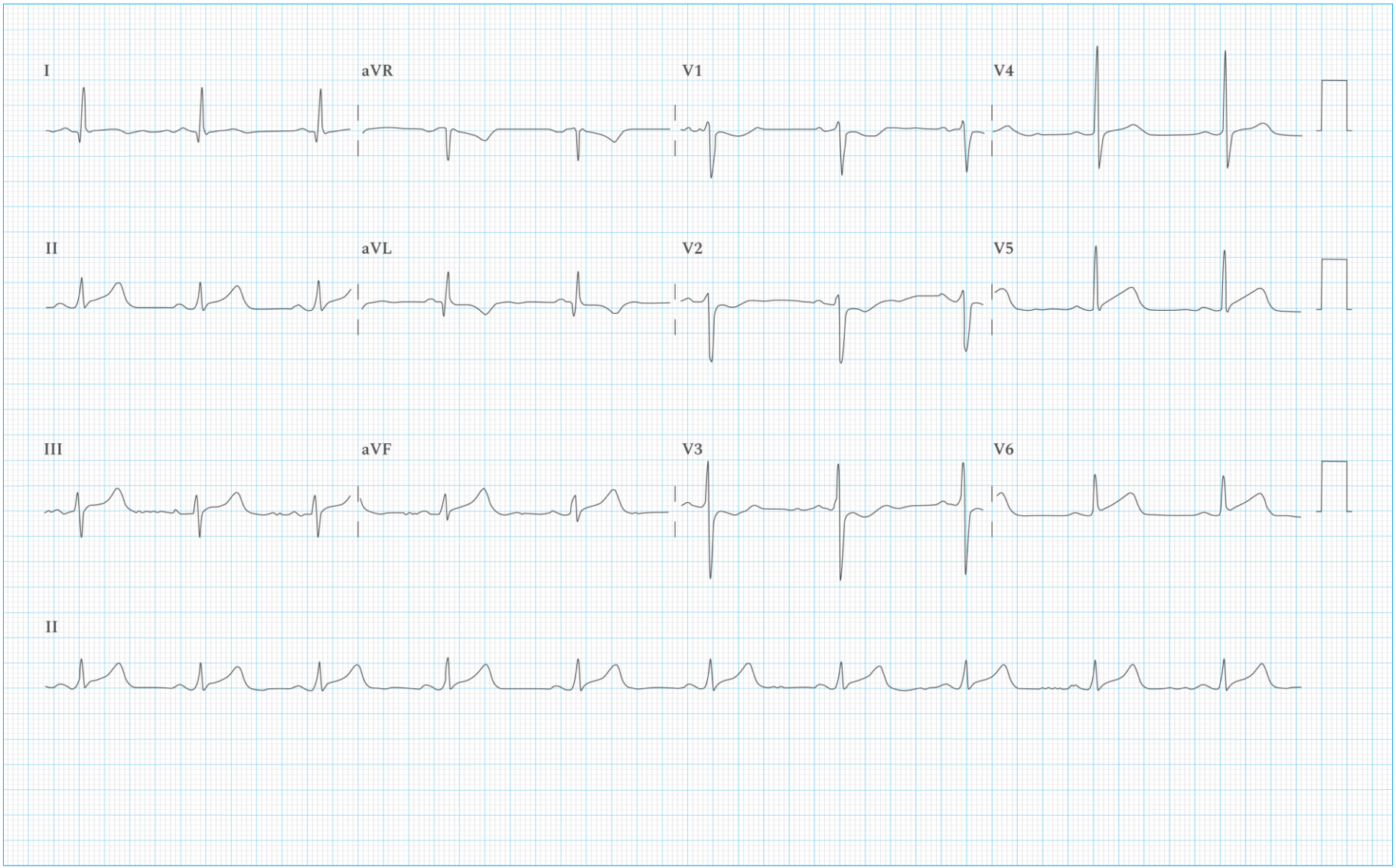
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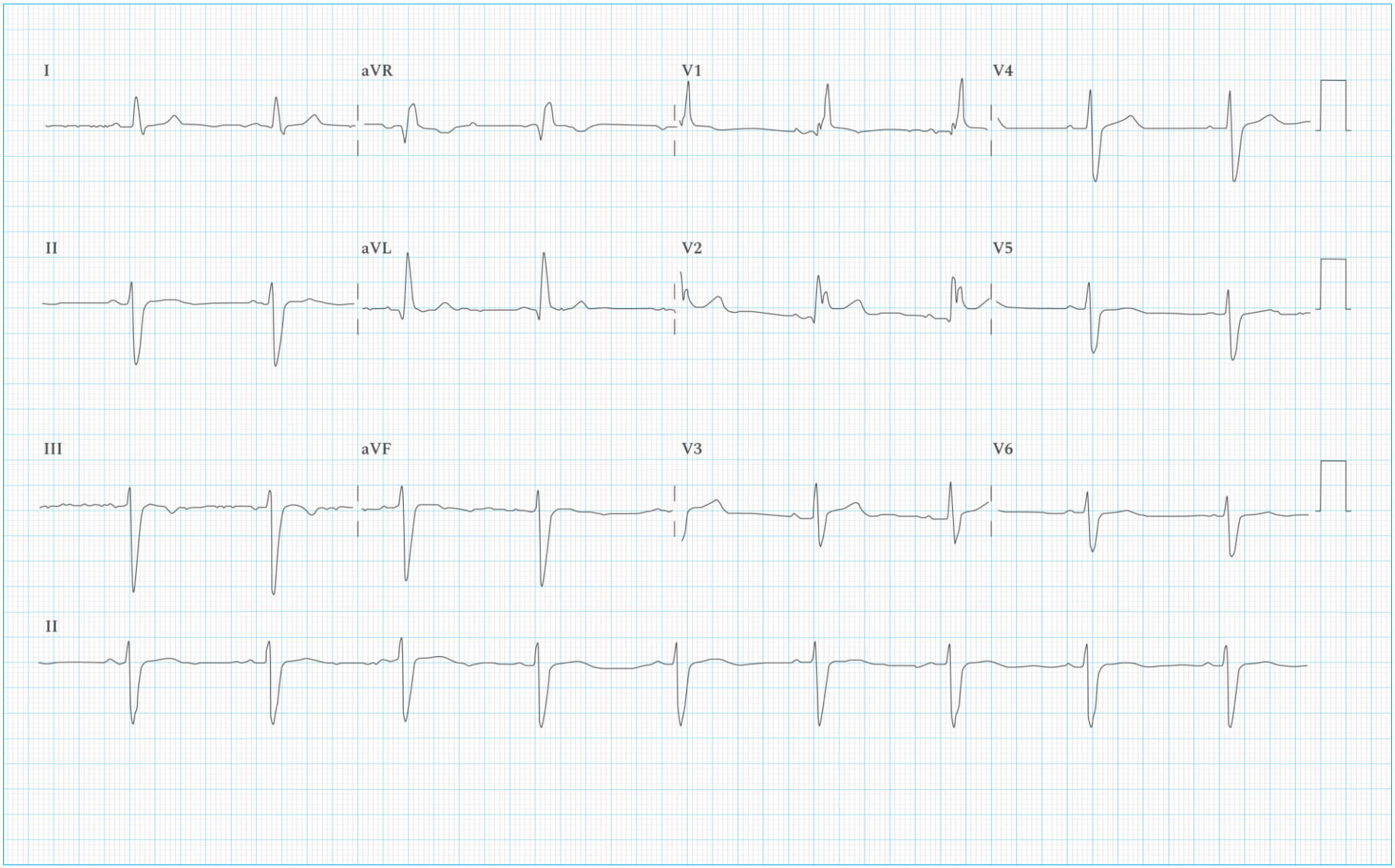
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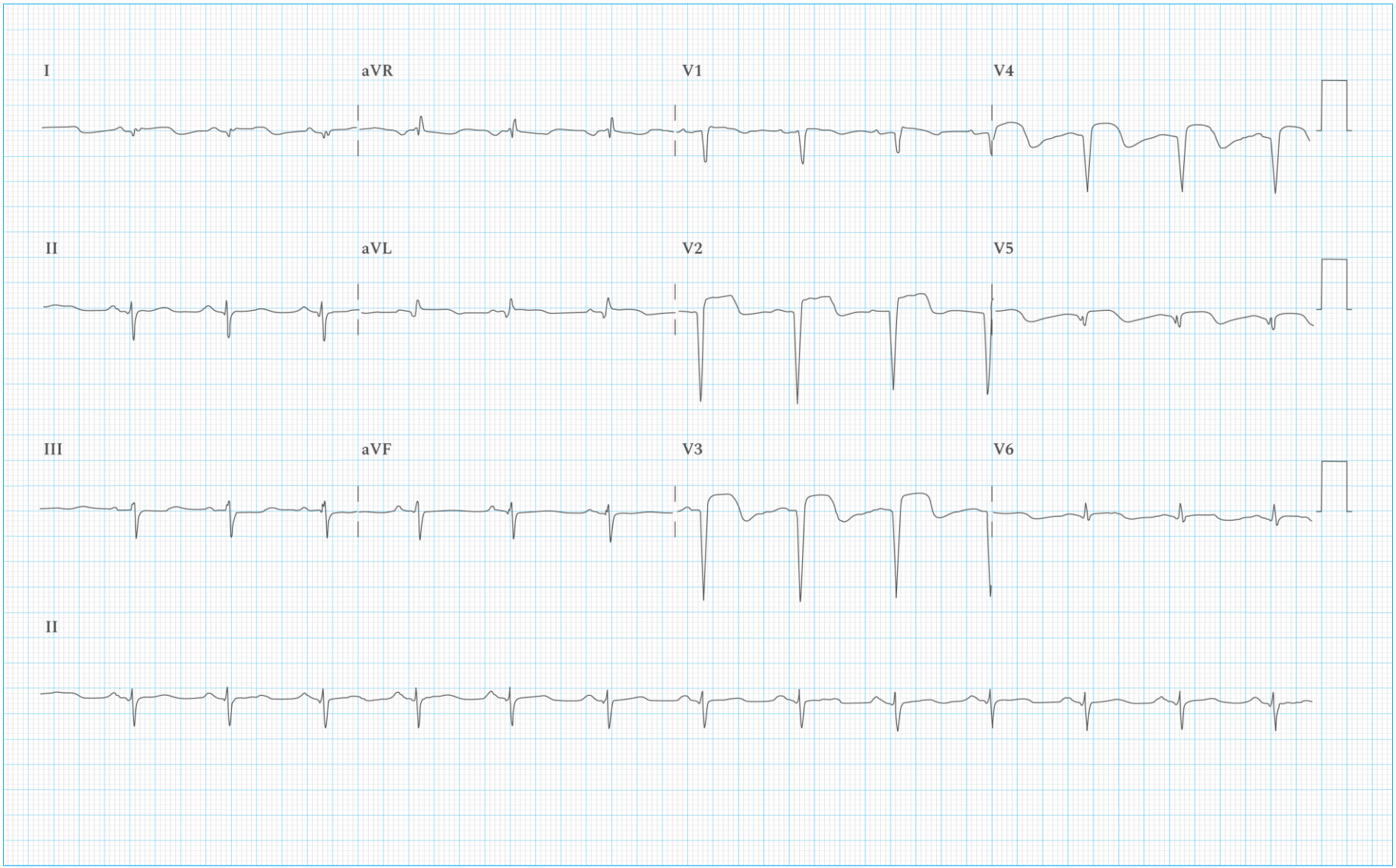
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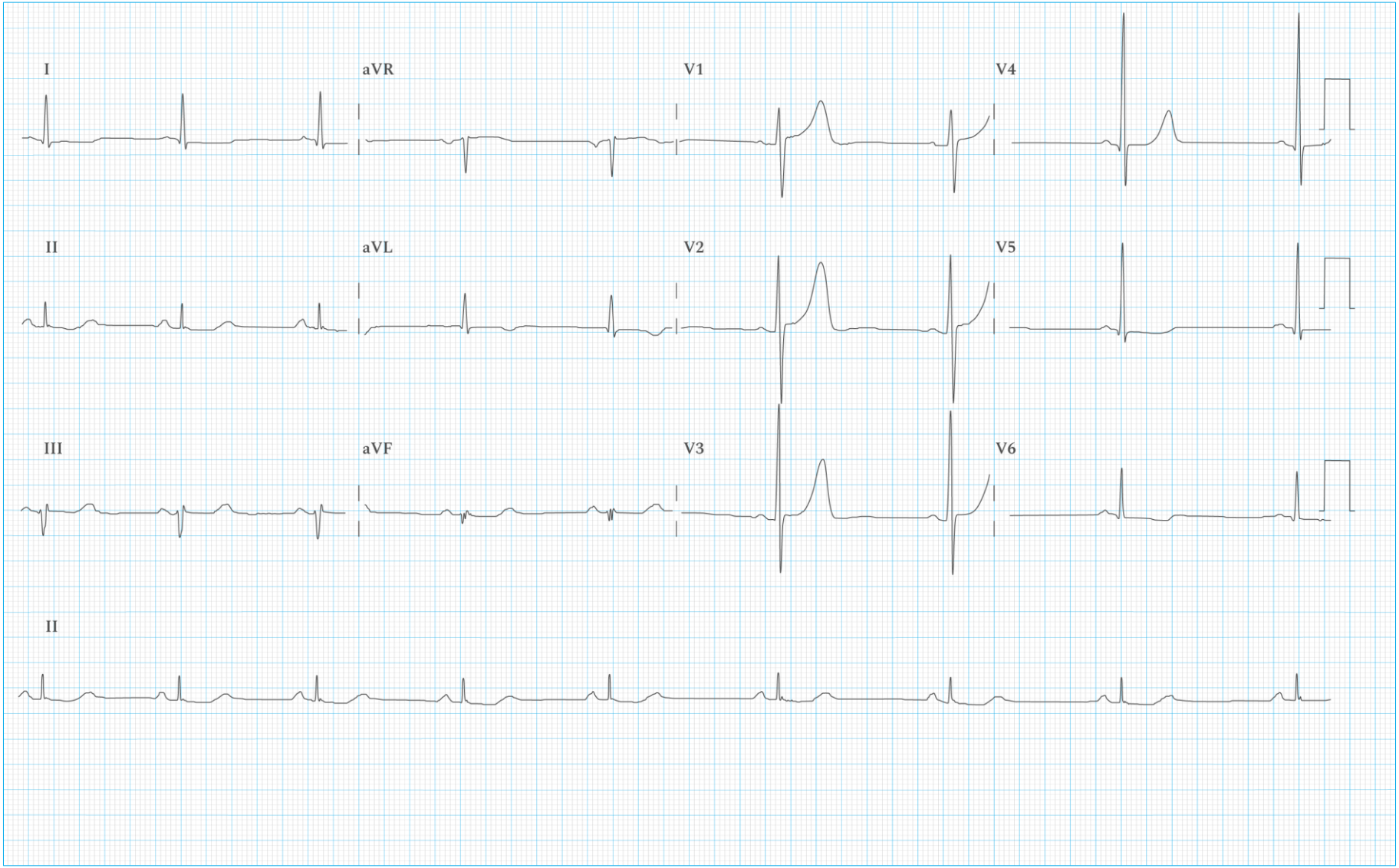
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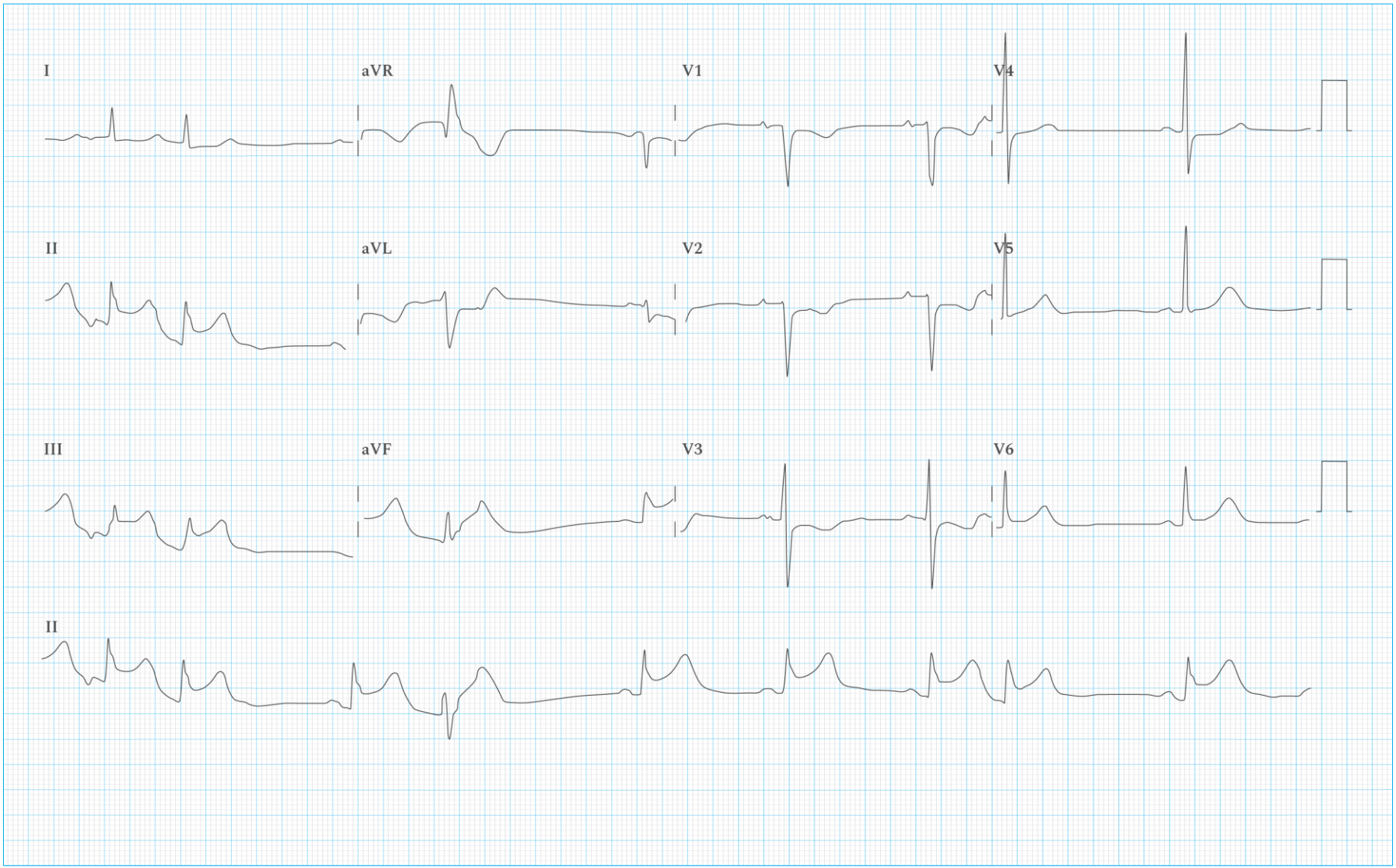
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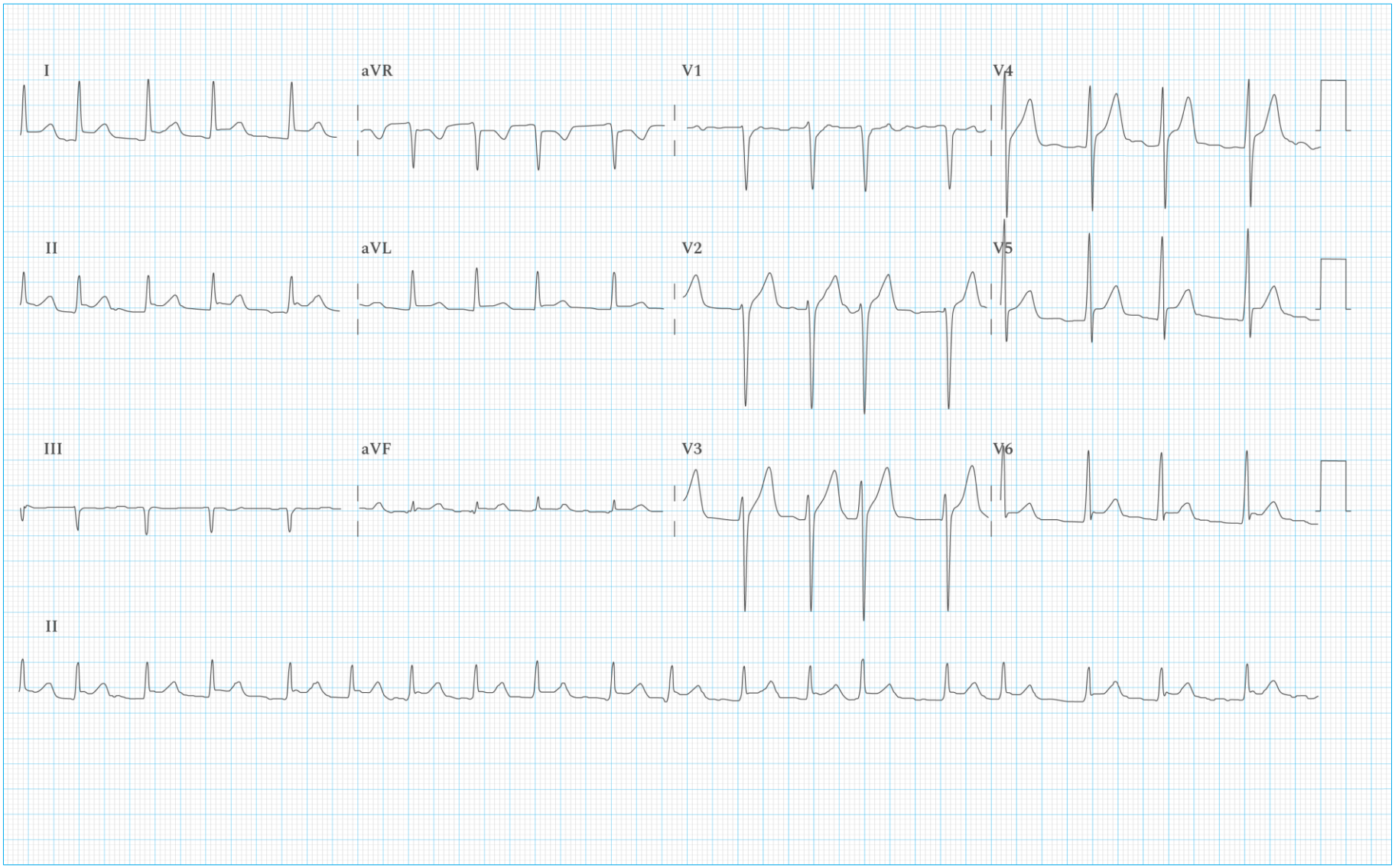
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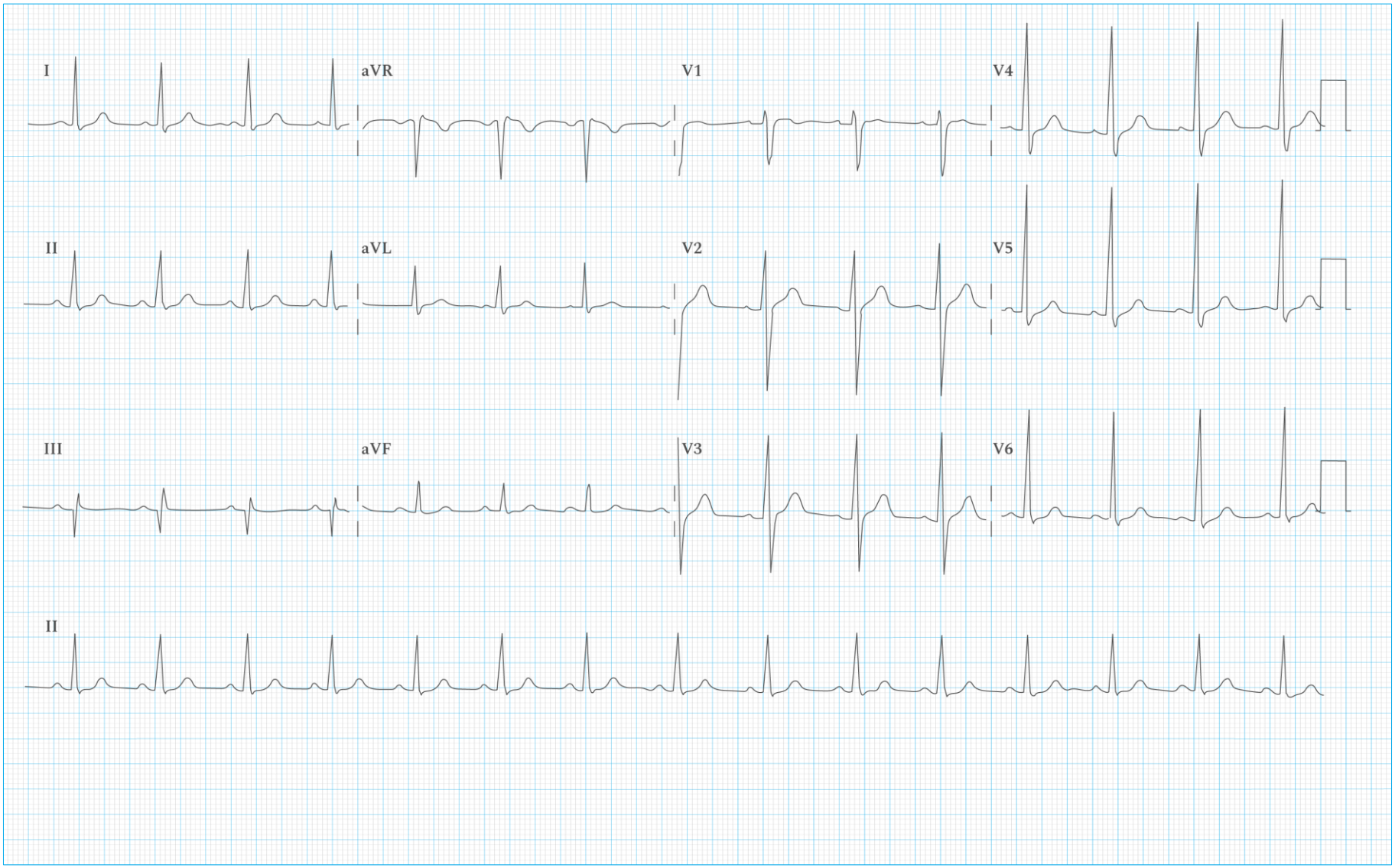
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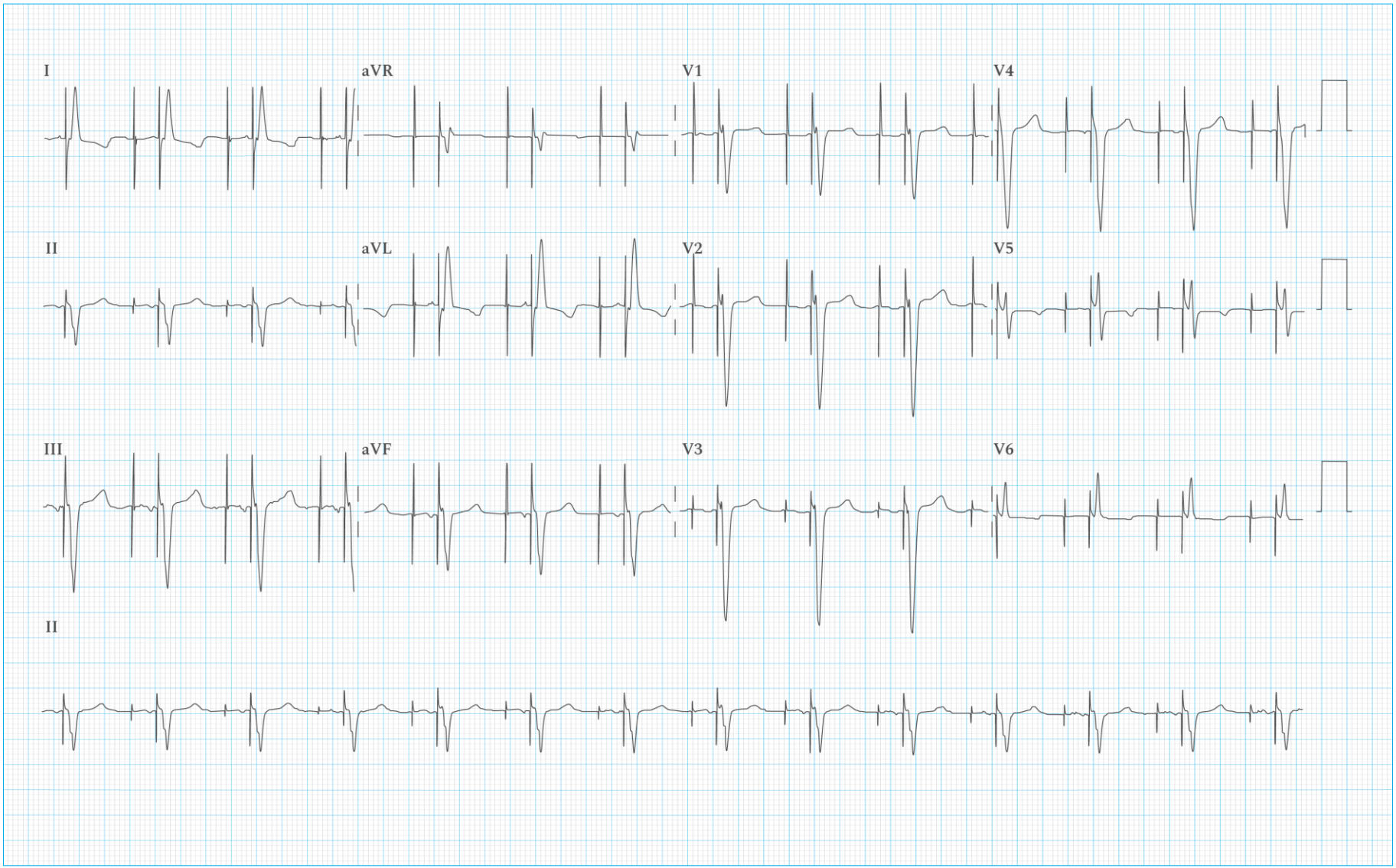
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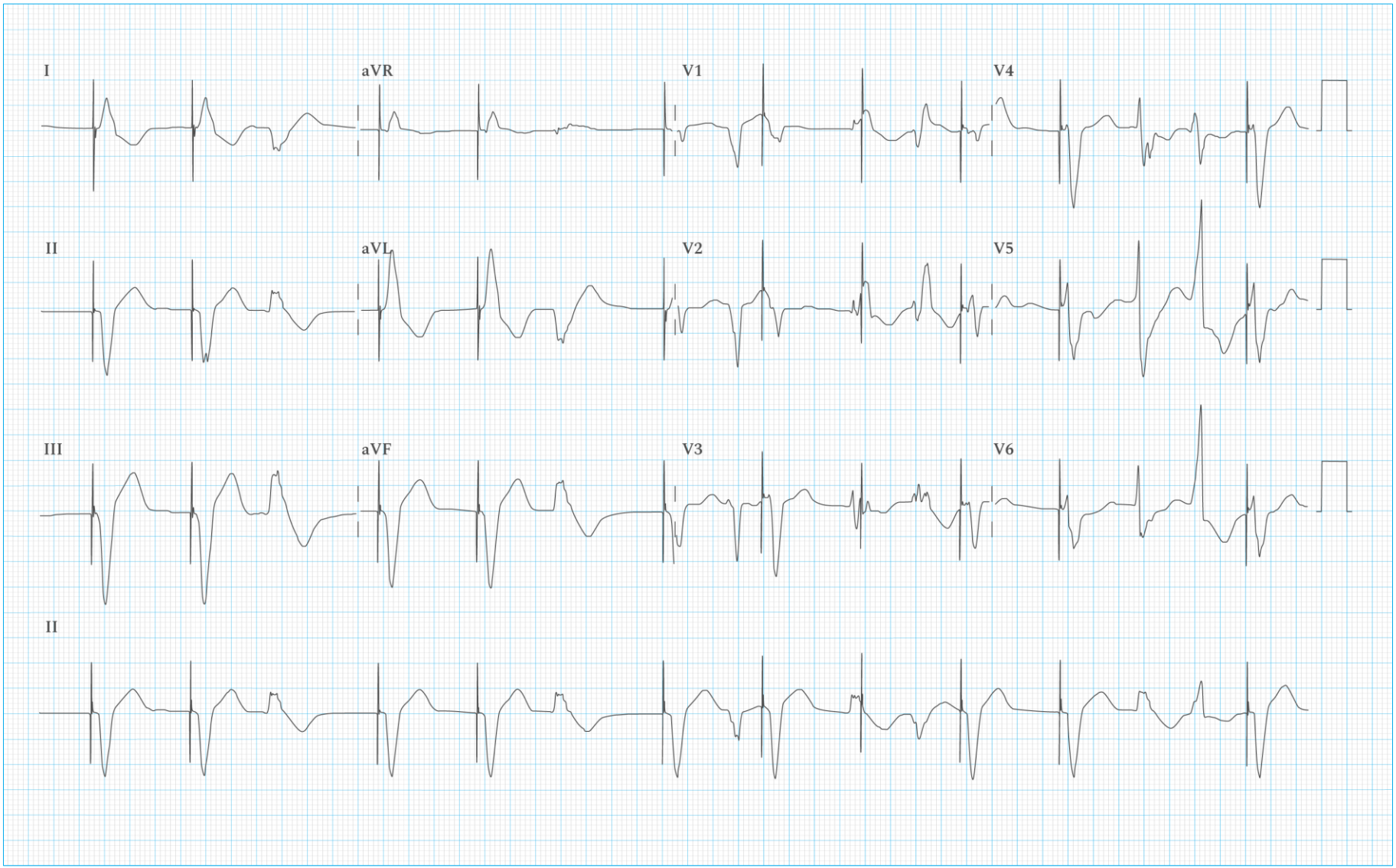
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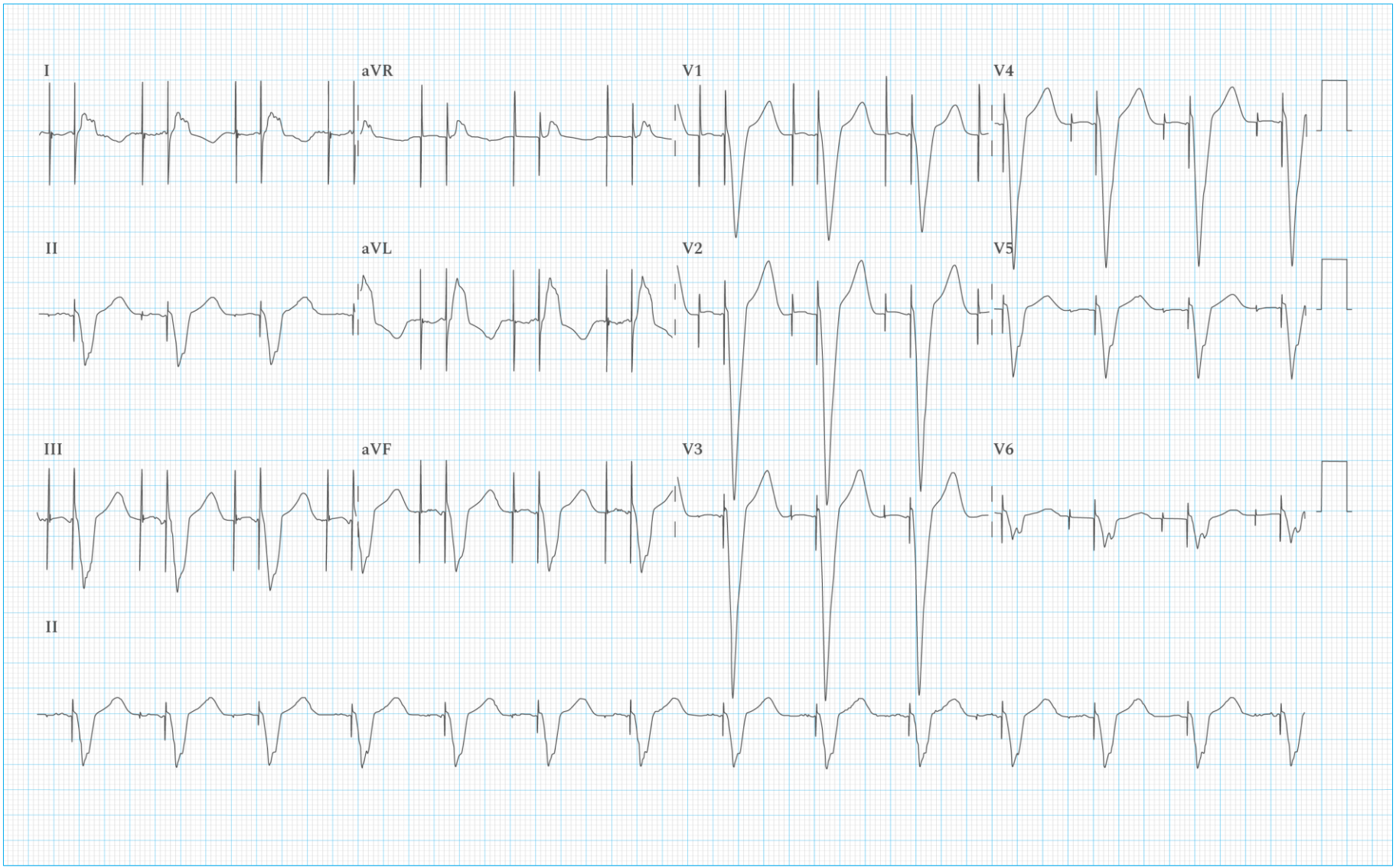
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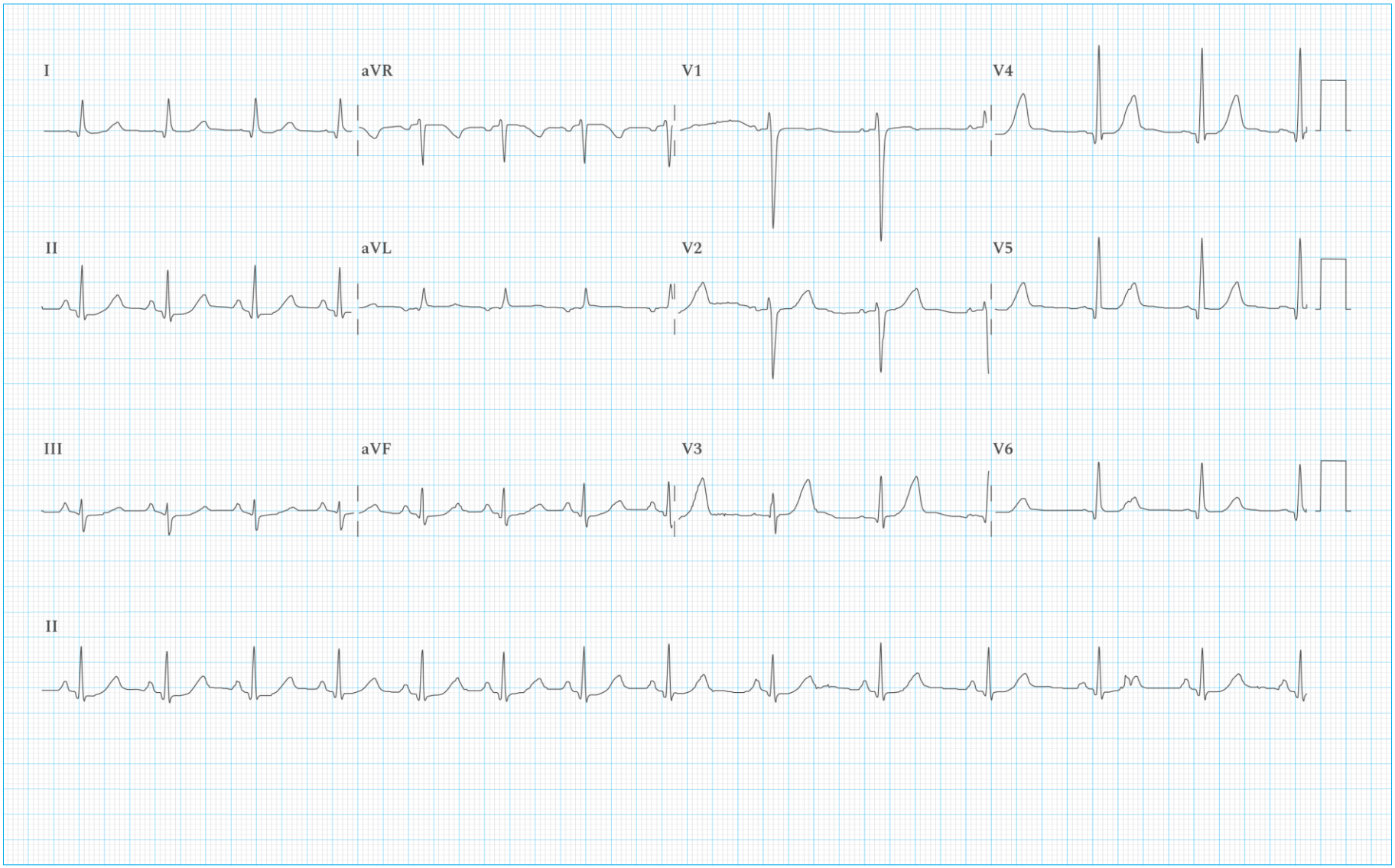
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V6
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12 Lead ECG Answers

Pg 4: Anterolateral STEMI v1

Pg 6: Inferior STEMI v1

Pg 7: NSTEMI Imposter LBBB v2

Pg 8: NSTEMI Inferior v1

Pg 9: Posterior STEMI v1a

Pg 10: Normal v1

Pg 11: Anterior STEMI v1

Pg 12: Inferolateral STEMI v1

Pg: 13 STEMI Imposter Early Repolarization v1

Pg 14: NSTEMI Imposter Ventricular Hypertrophy v1

Pg 15: Posterior STEMI v2

Pg 16: NSTEMI Imposter RBBB v1

Pg 17: Anterolateral STEMI v1

Pg 18: Normal v3

Pg 19: Inferior STEMI v2

Pg 20: Inferolateral STEMI v2

Pg 21: Normal v2

Pg 22: Pacemaker (AV Sequential) v2

Pg 23: Pacemaker (Vent Paced) v3a

Pg 24: Pacemaker (AV Sequential) v1

Pg 25: Normal v4

What's Next

- **Practice, Practice, Practice**
  - ECG monitor, 12 leads
  - Six Second ECG Simulator