

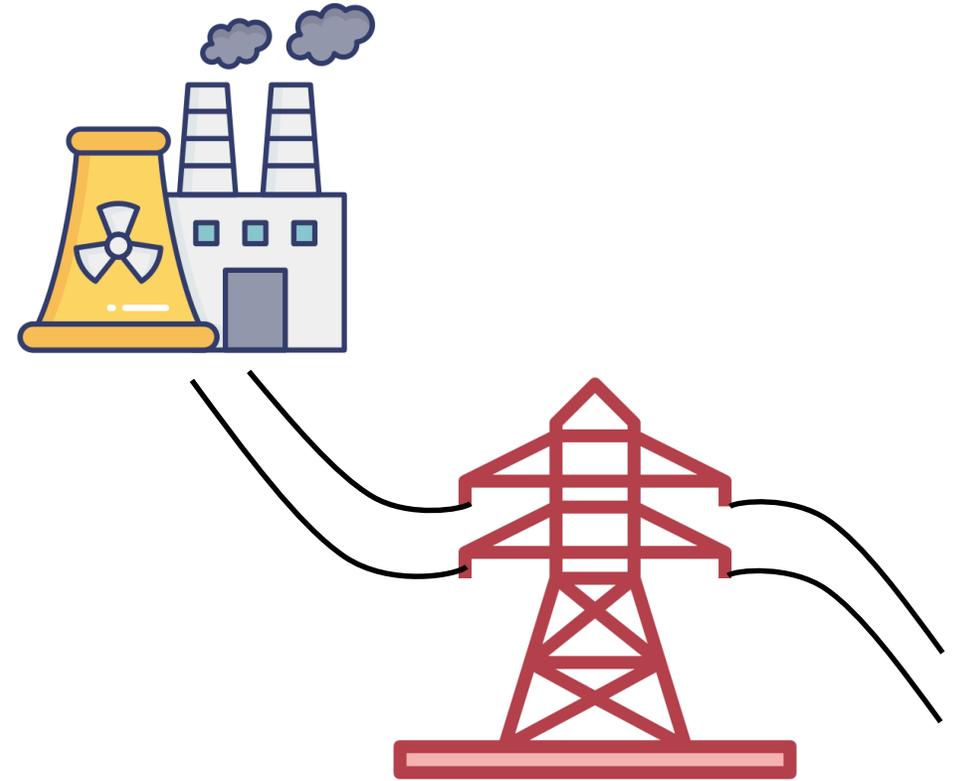
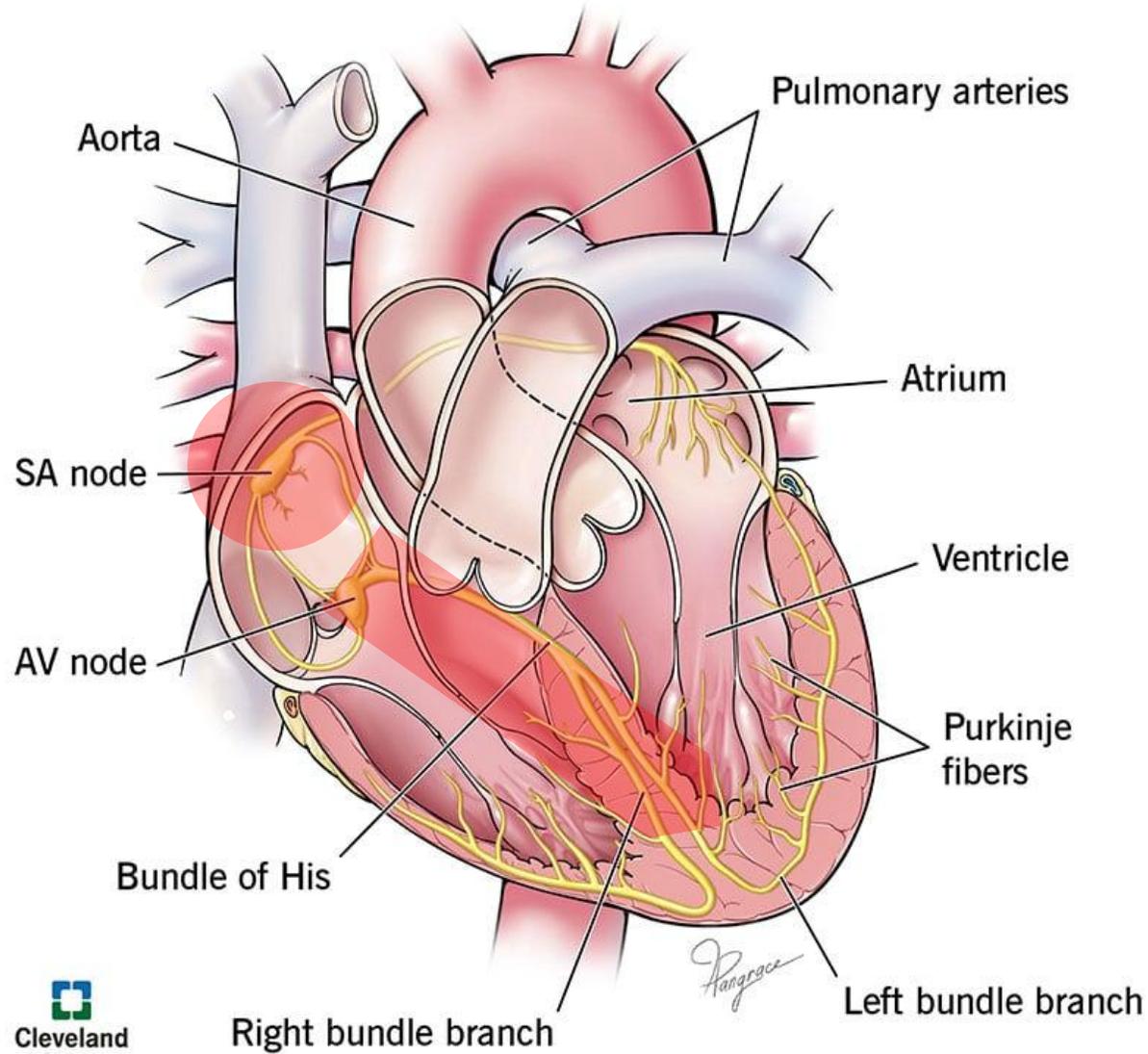
서 맥

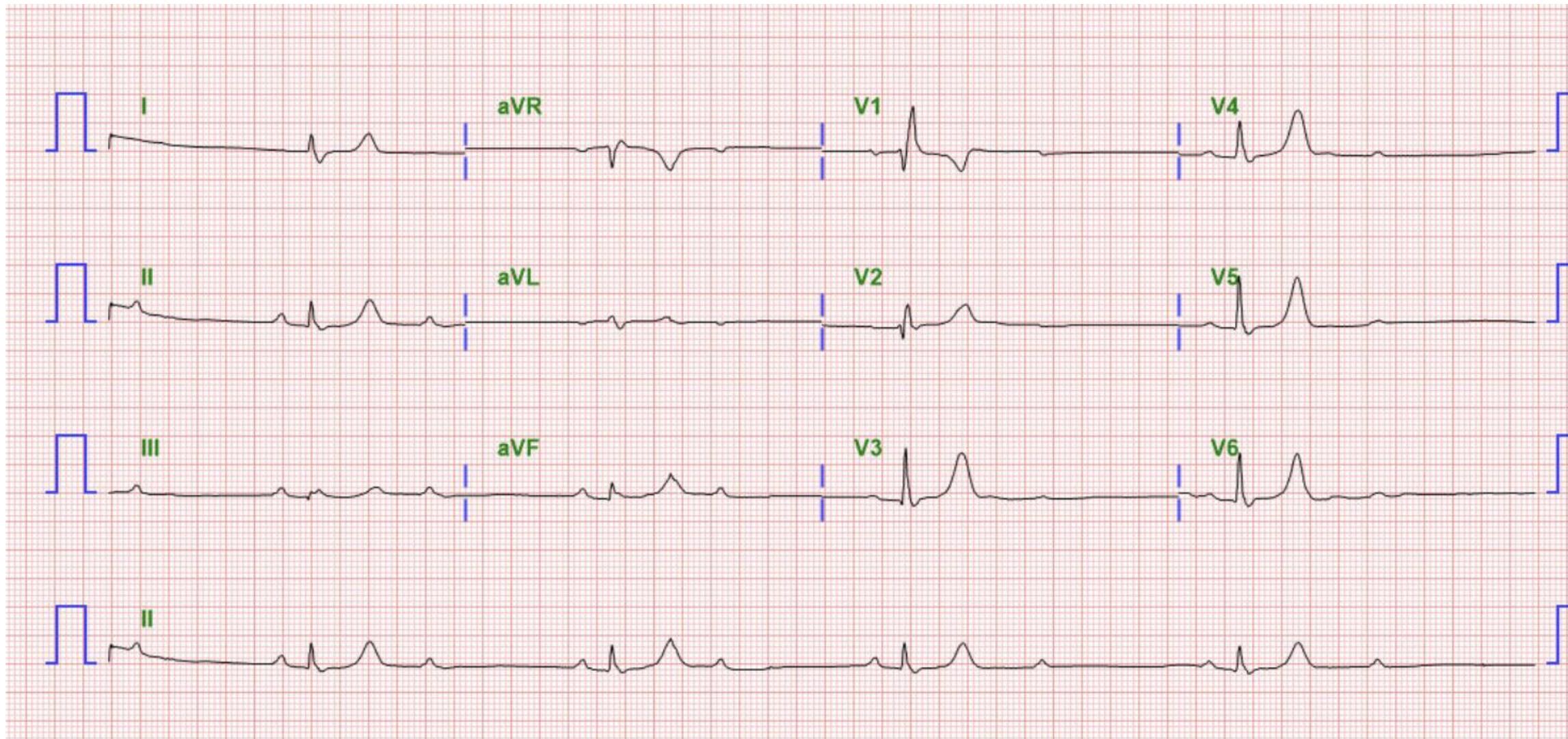
여의도성모병원 김화중

徐 脈

- 안정시 정상 맥박수는 분당 60~100회
- 보통의 경우 분당 50회 정도까지도 정상으로 간주
- 맥박이 느려져 분당 50회 미만으로 저하되면 **서맥**이라고 한다.

심장의 전도체계



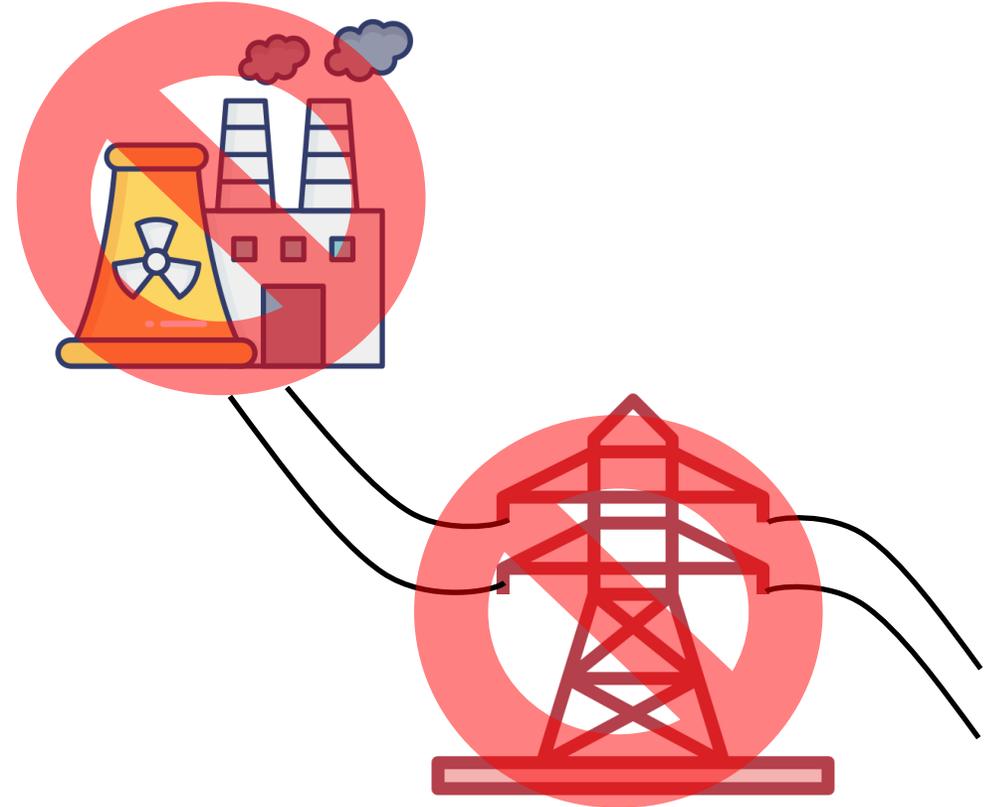


서맥의 원인

동기능능 부전

VS

방실 전도 장애



서맥의 원인

동기능능 부전

VS

방실 전도 장애

P파 없거나/느리거나/불규칙하거나

VS

P파 정상적으로 관찰

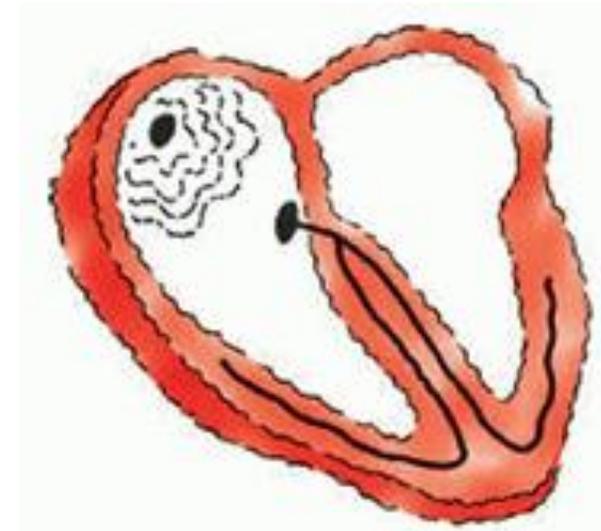
동기능 부전

- Sick sinus node + Symptom/Sign

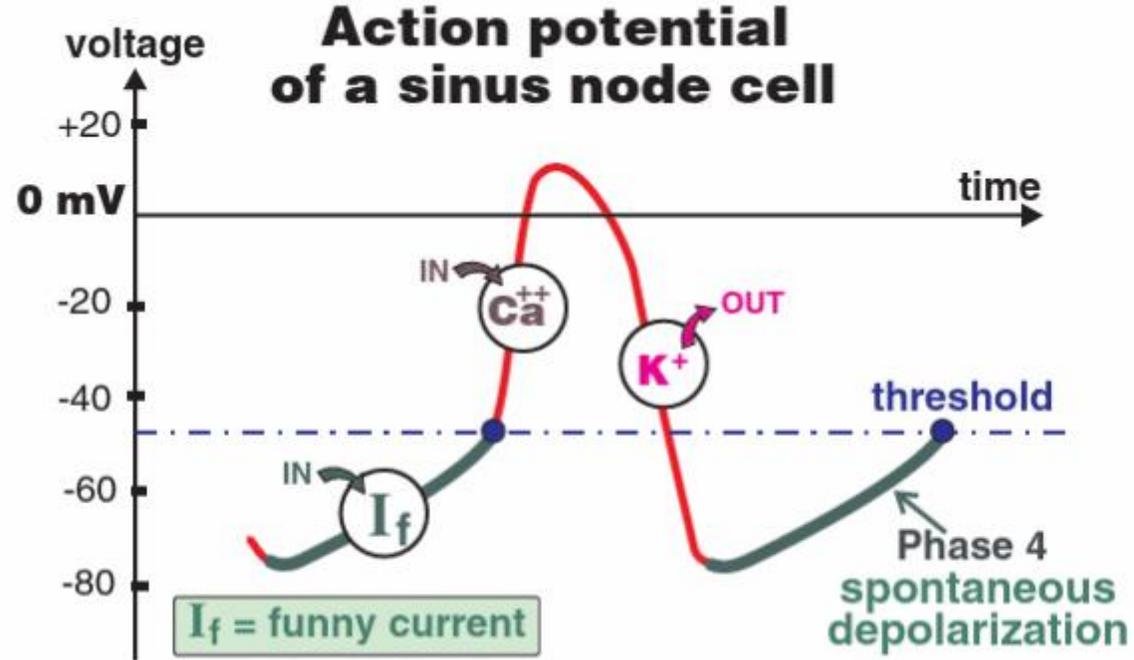


Sick sinus syndrome

- Evidence of sick sinus node
 - Sinus bradycardia
 - Sinus pause / arrest
 - SA block
 - Tachycardia – Bradycardia syndrome



자동능

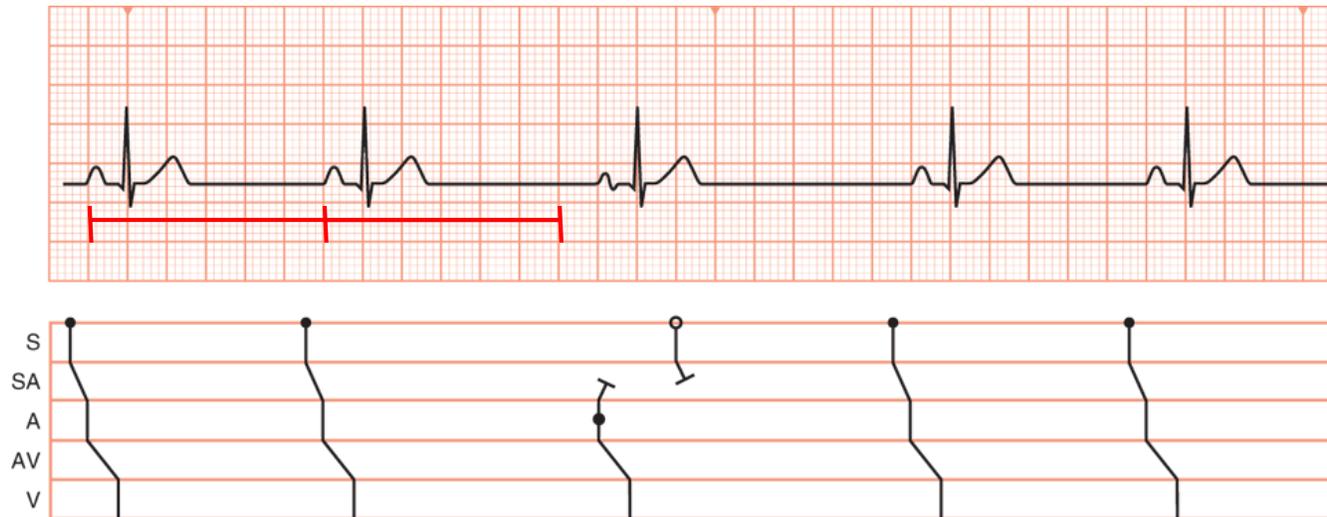


- 외부에서 자극을 주지 않아도 스스로 스위치를 켜는 (탈분극) 능력
- Physiologic : SA node, AV junction, His bundle, Bundle branch, Purkinje fiber
- Pathologic : Atrial / Ventricular myocardial cell

이탈 박동 (Escape beat)

- 심방 이탈 박동 **Atrial escape beat**

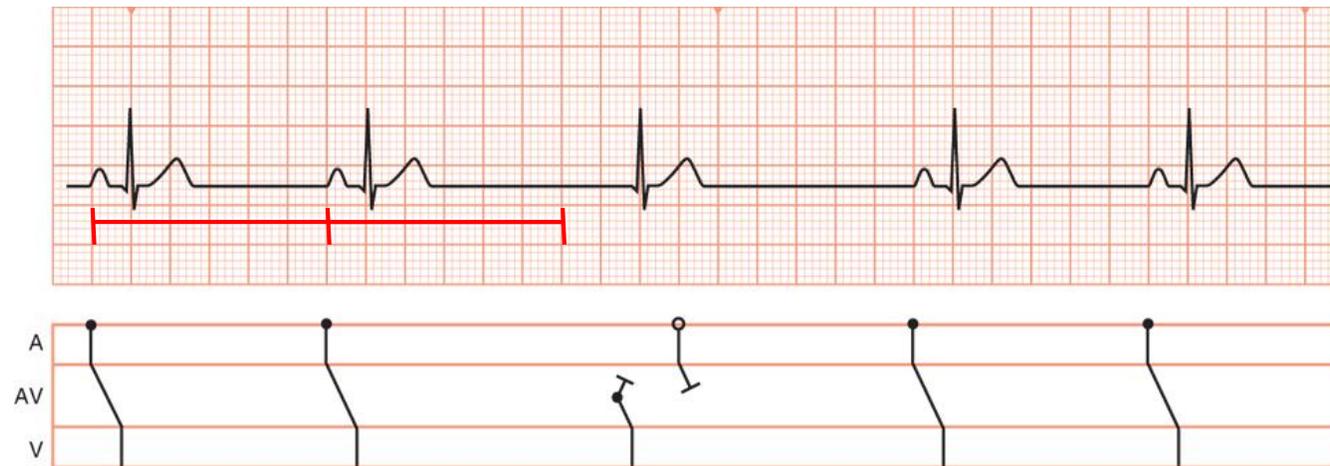
P' 선형 (Sinus P wave 와 모양이 다름)



Source: Franklin H. Zimmerman
ECG Core Curriculum
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이탈 박동 (Escape beat)

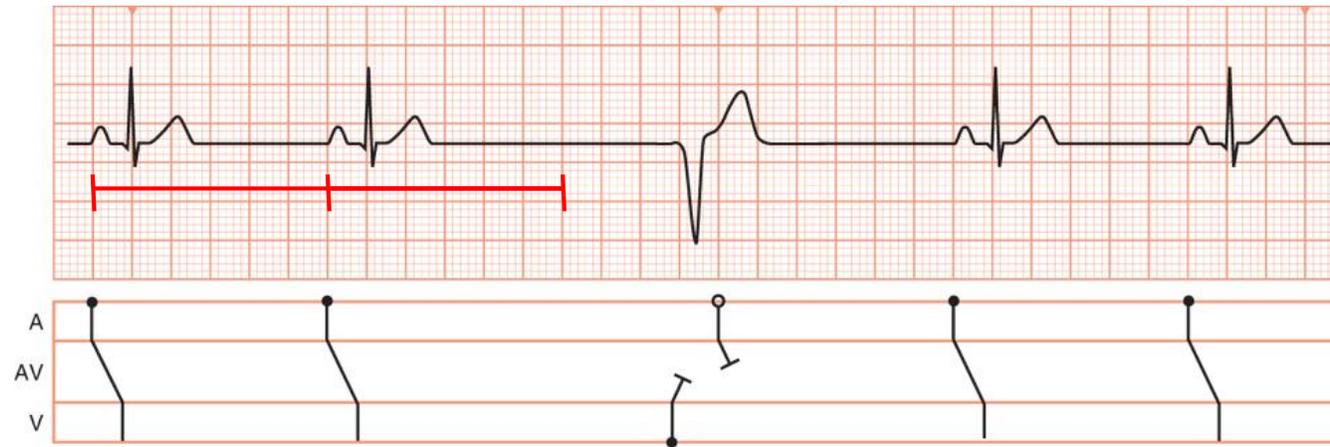
- 방실접합부 이탈 박동 **Junctional escape beat**
P' 없음, QRS 비교적 narrow



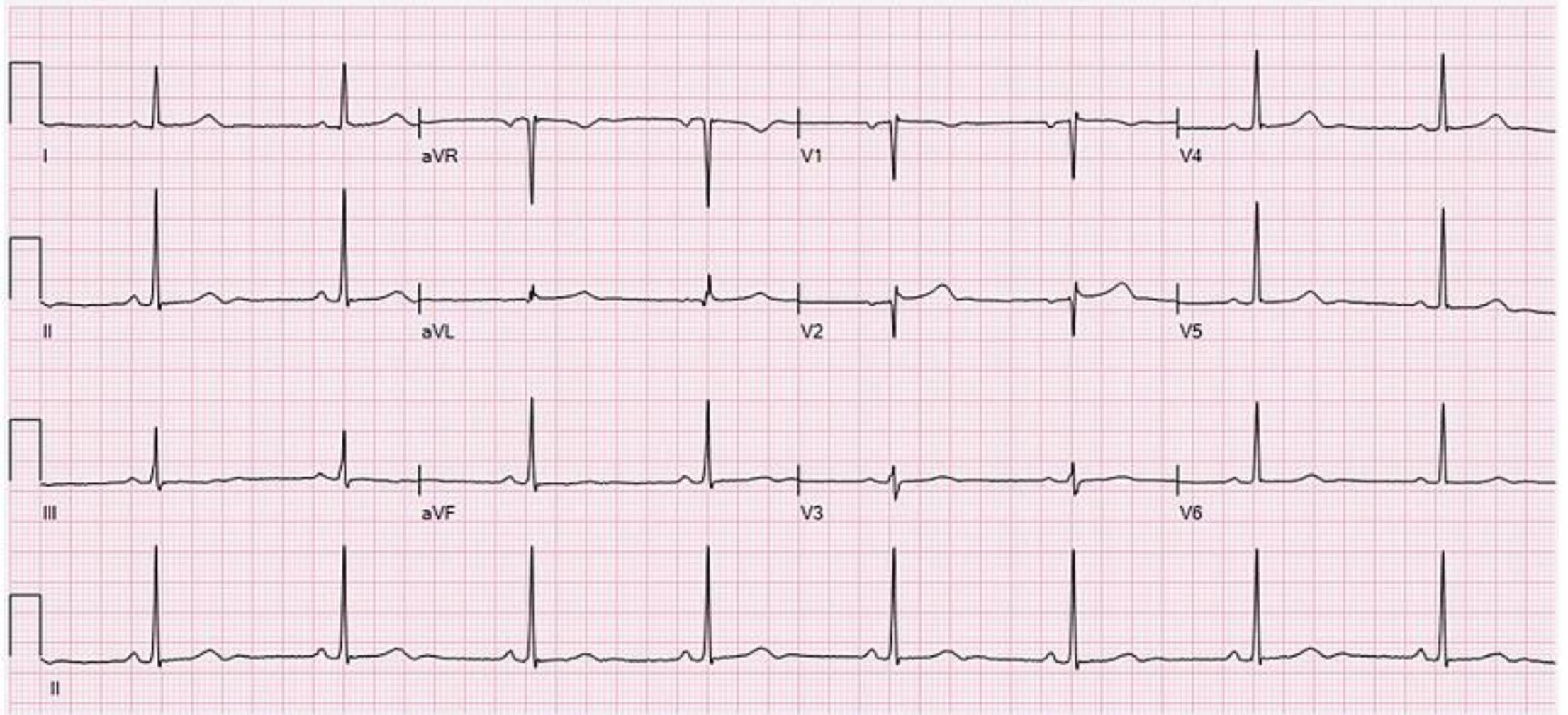
Source: Franklin H. Zimmerman
ECG Core Curriculum
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이탈 박동 (Escape beat)

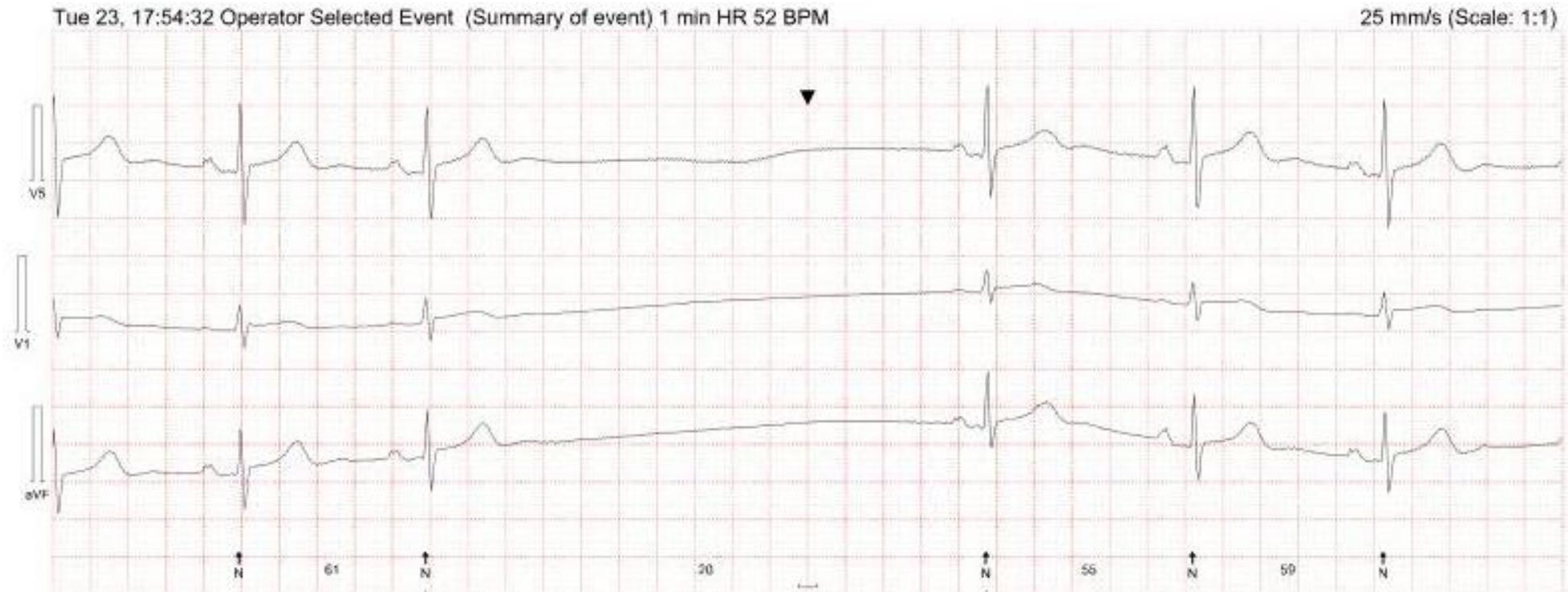
- 심실 이탈 박동 **Ventricular escape beat**
P' 없음, QRS 비교적 Wide



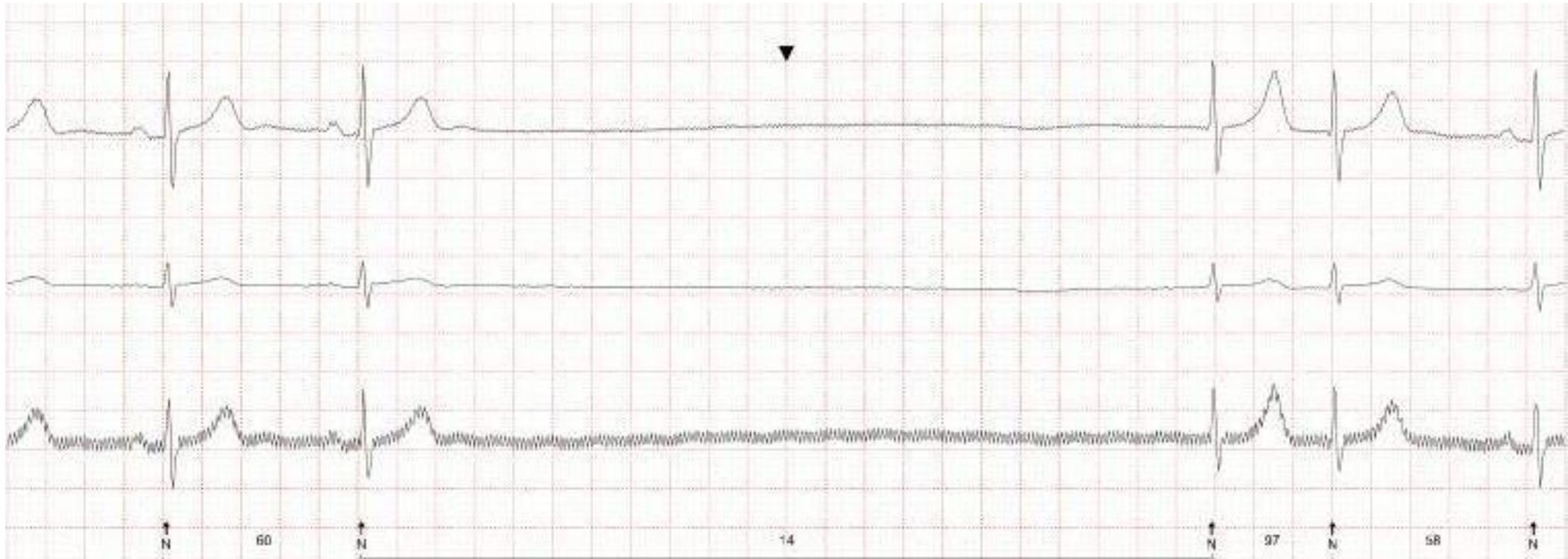
Source: Franklin H. Zimmerman
ECG Core Curriculum
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Sinus bradycardia

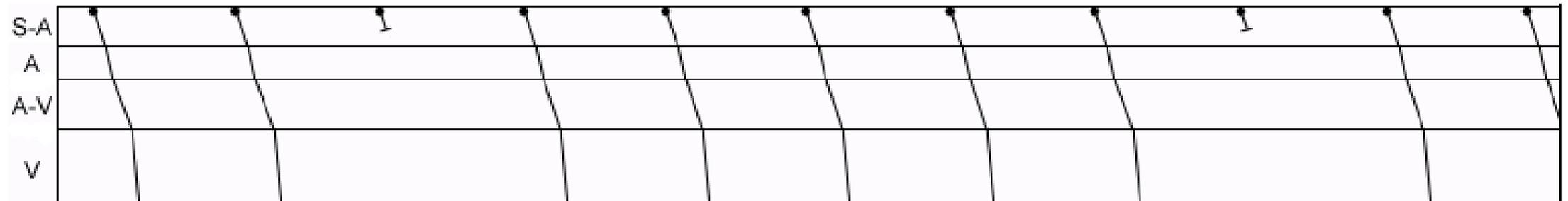
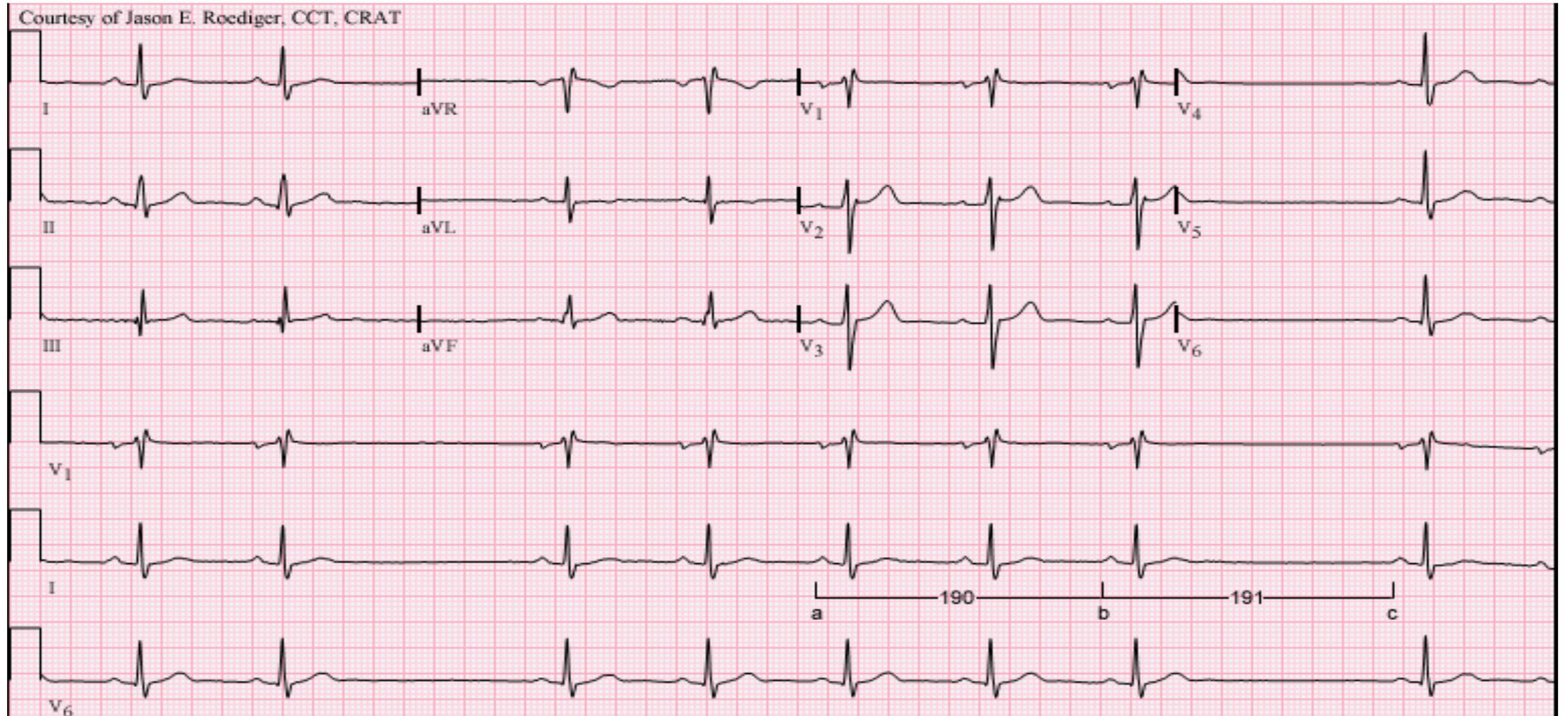


Sinus pause/arrest

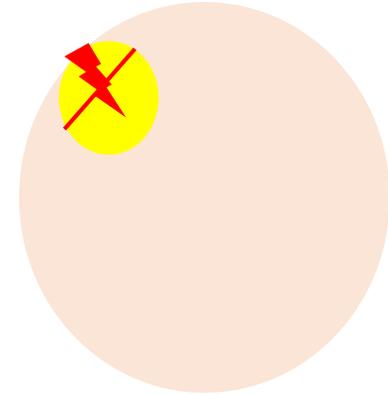
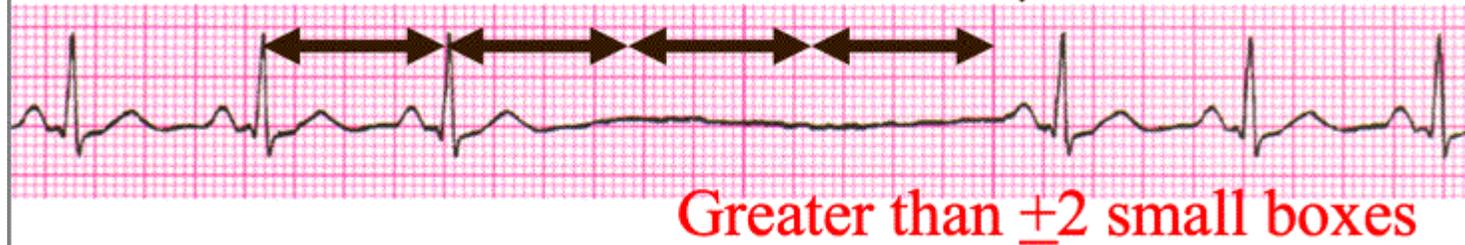


Sinus pause/arrest with junctional escape beat

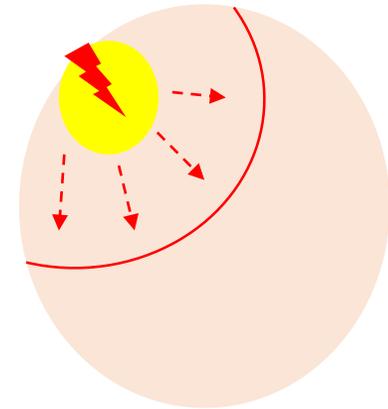
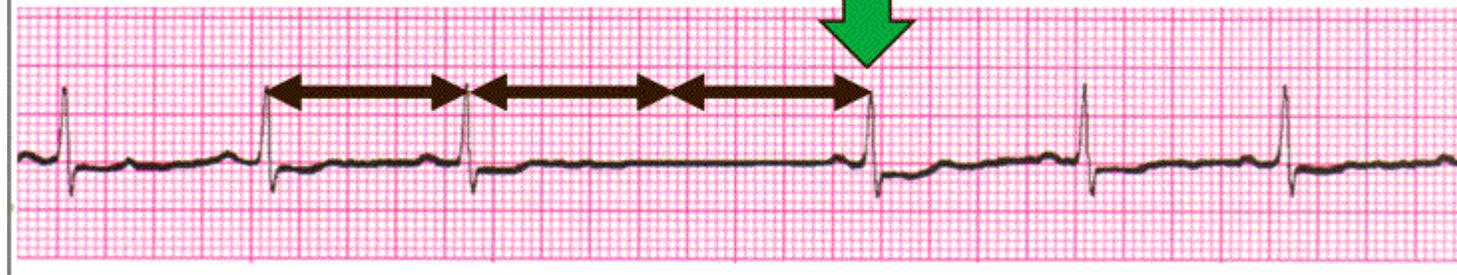
Courtesy of Jason E. Roediger, CCT, CRAT

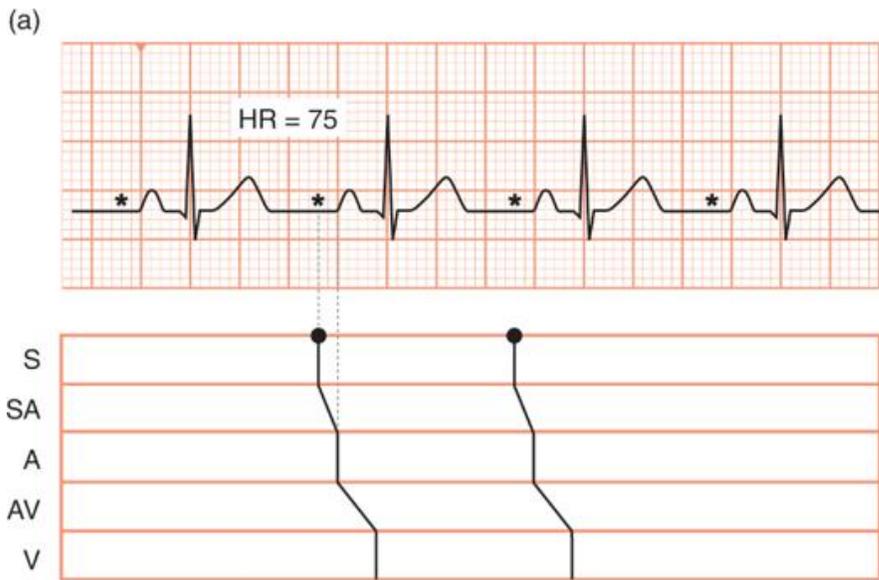


Sinus Arrest

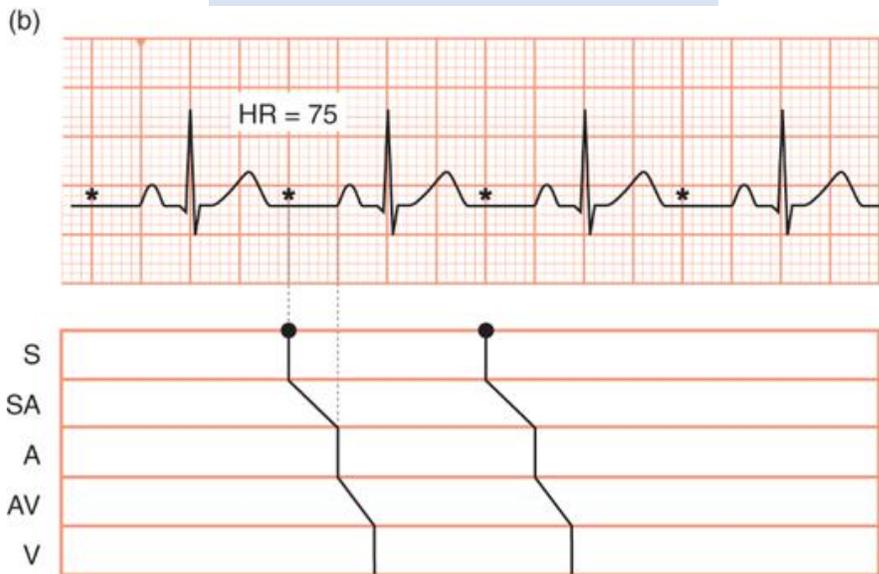


Sinus Block

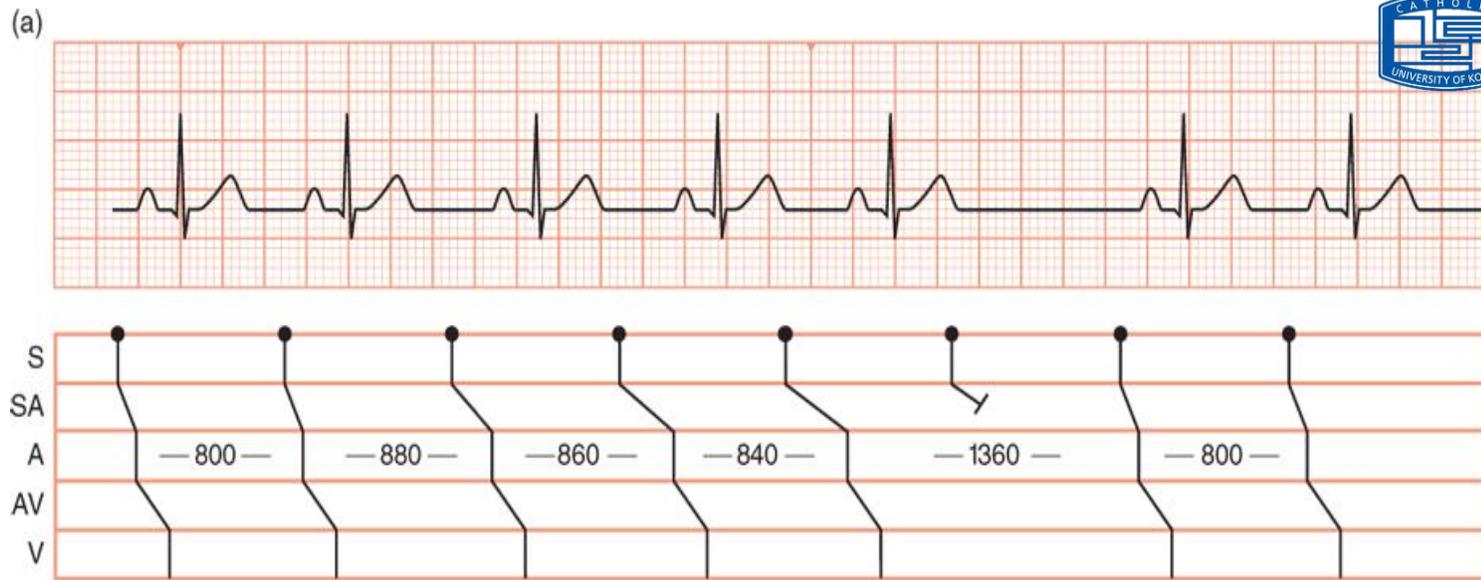




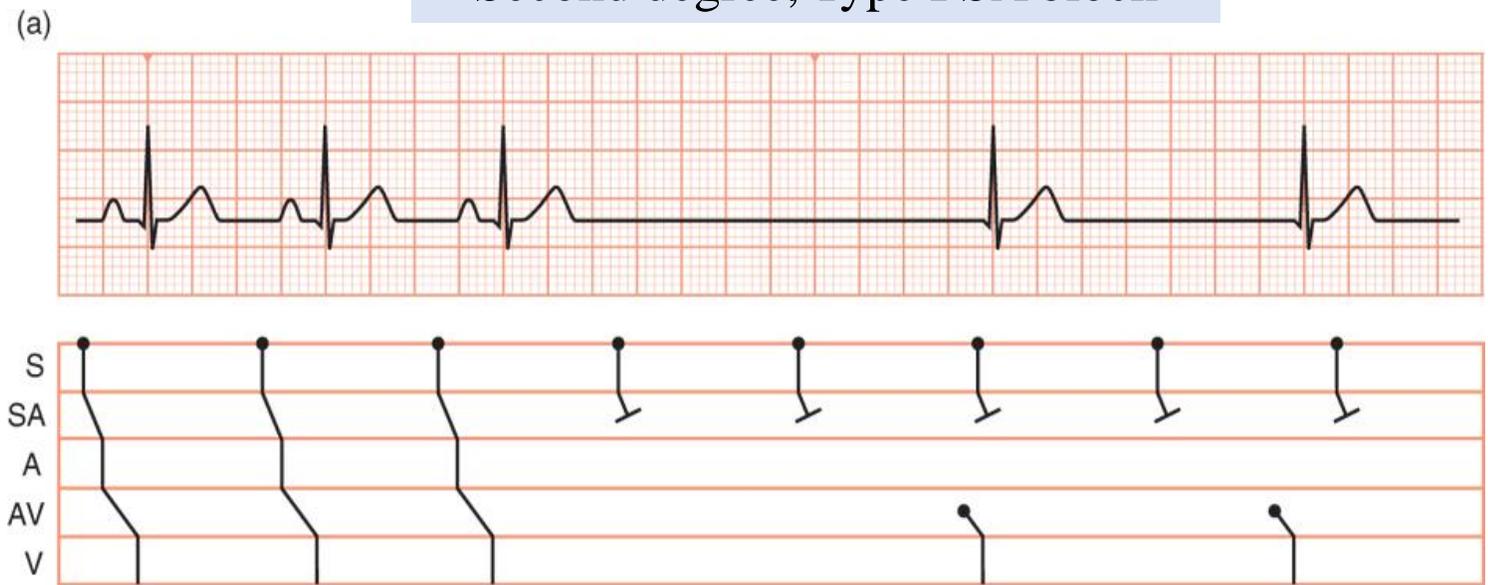
Normal sinus rhythm



First degree SA block



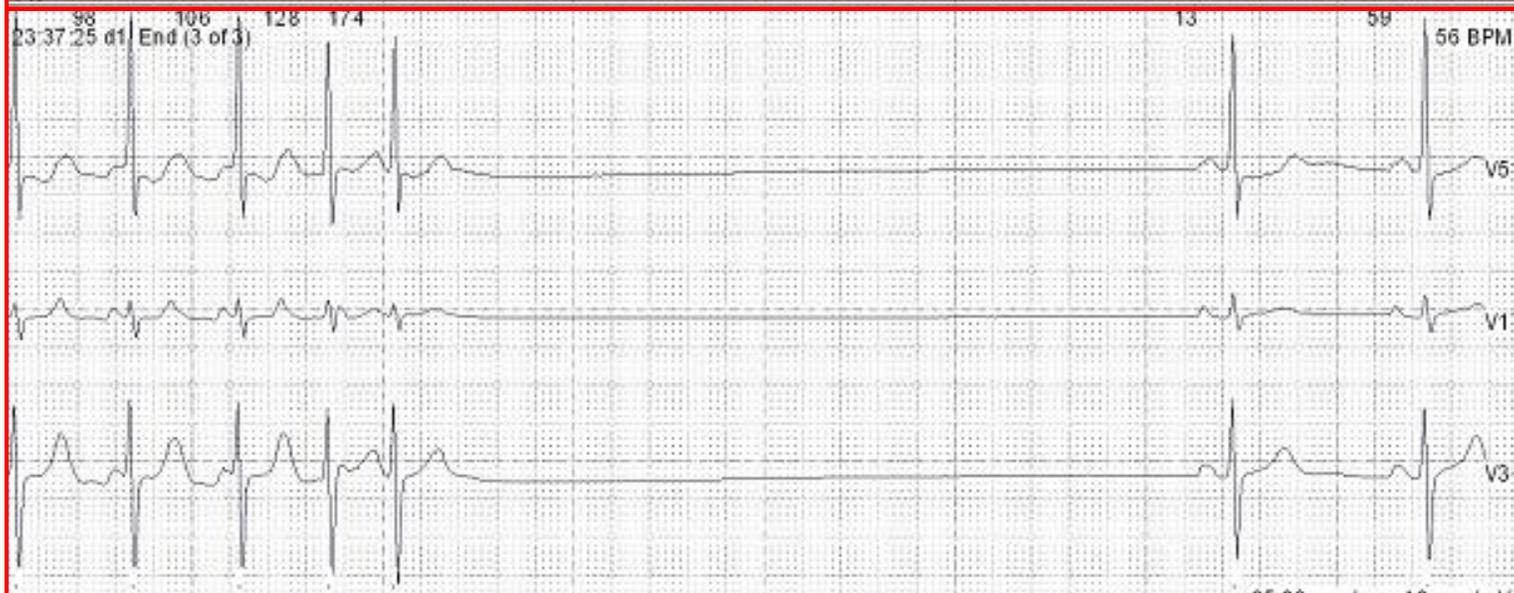
Second degree, Type I SA block



Third degree SA block

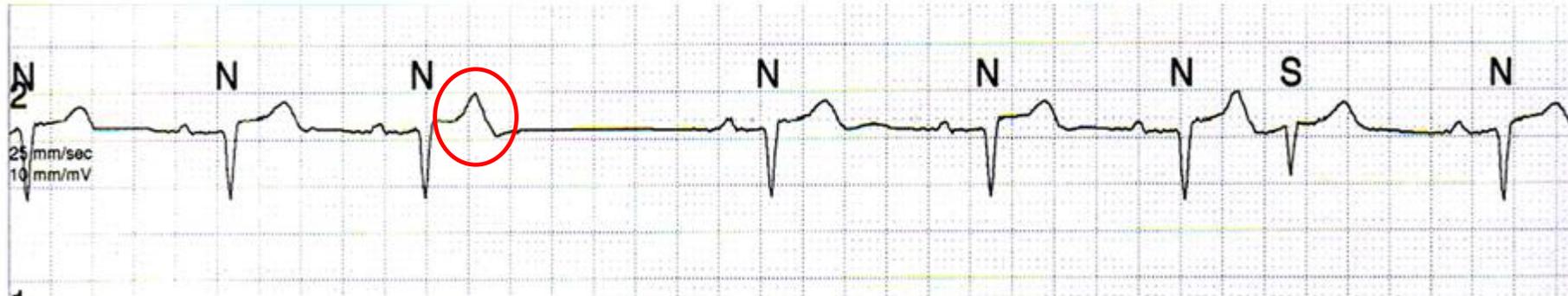


Tachycardia



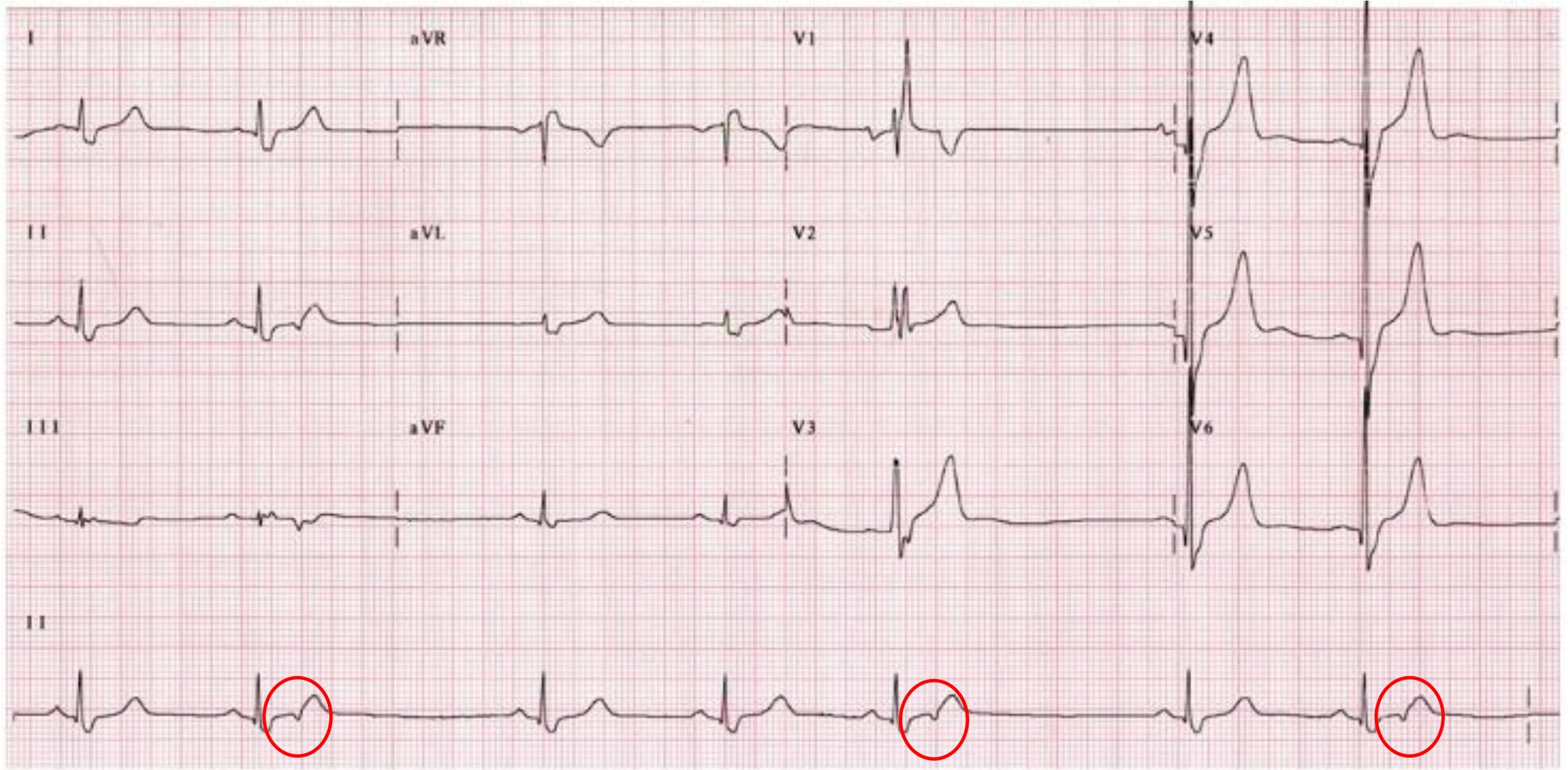
Bradycardia

Syndrome



Sinus pause/arrest (?)

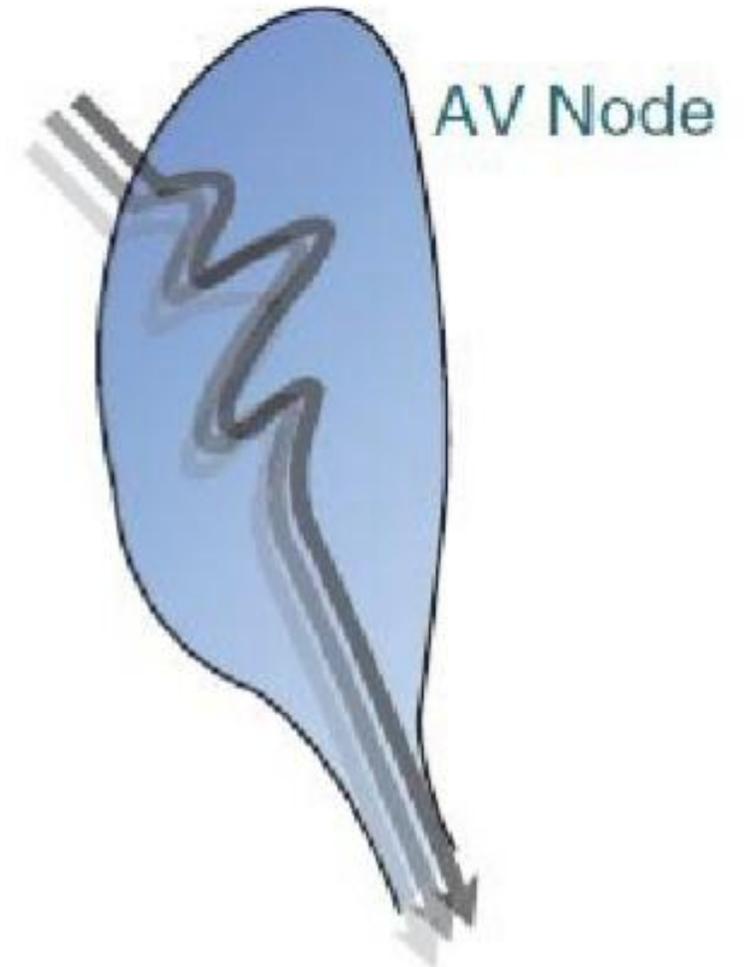
Non-conducted PAC

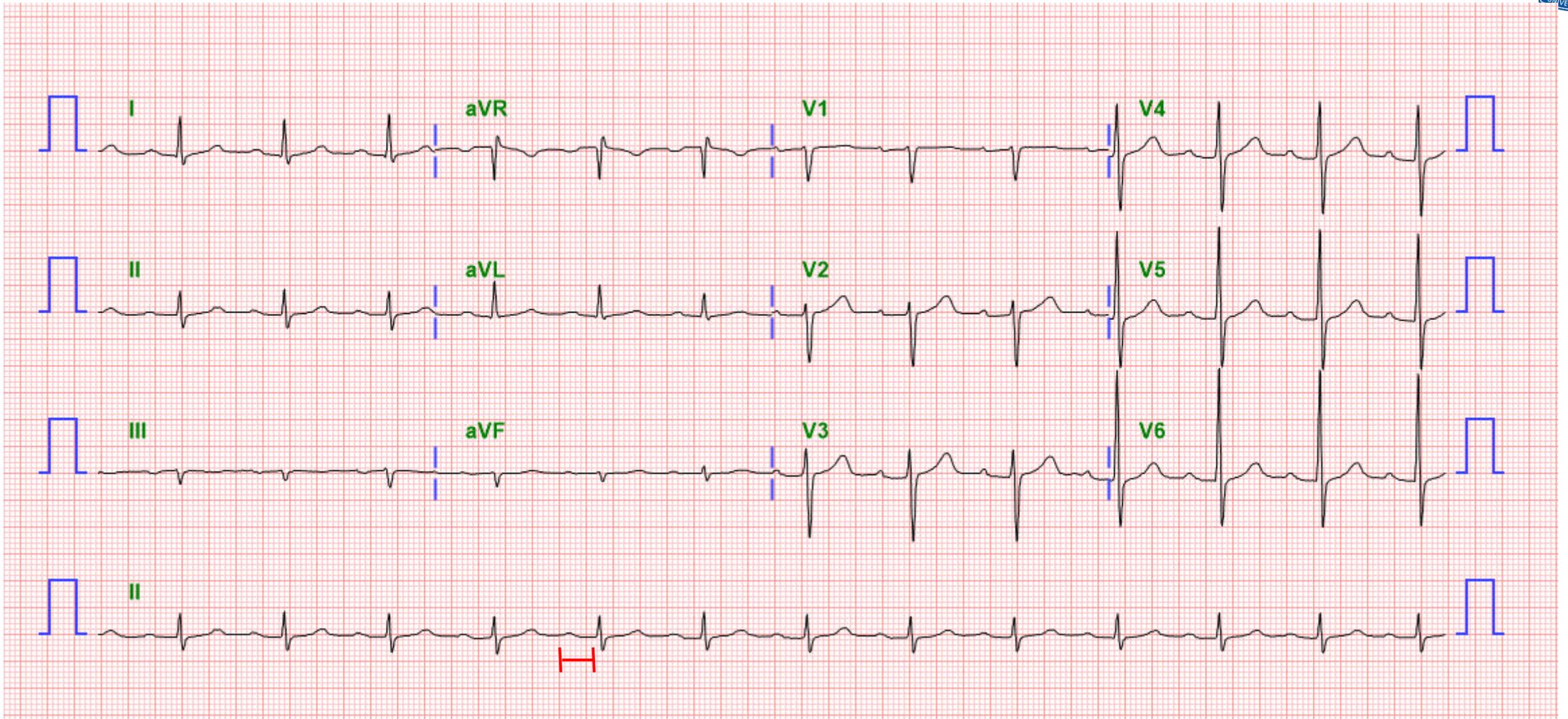


Non-conducted PAC

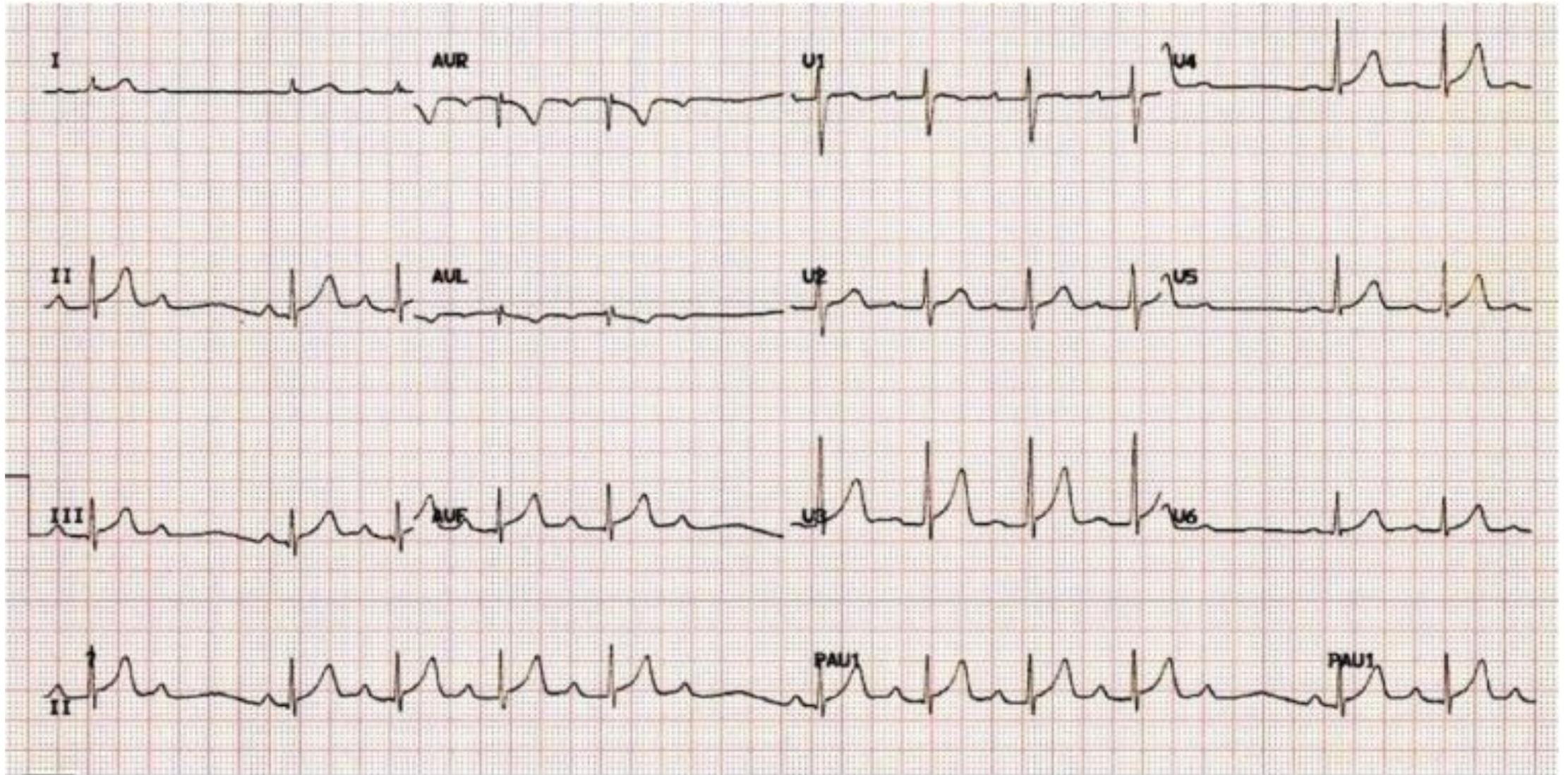
방실 전도 장애

- 1도 방실차단 : 방실 전도 지연
 - 모비츠 1형
 - 모비츠 2형
- 2도 방실차단 : 방실 전도 간헐적인 차단
- 3도 (완전) 방실차단 : 방실 전도 완전히 차단





First-degree AV block

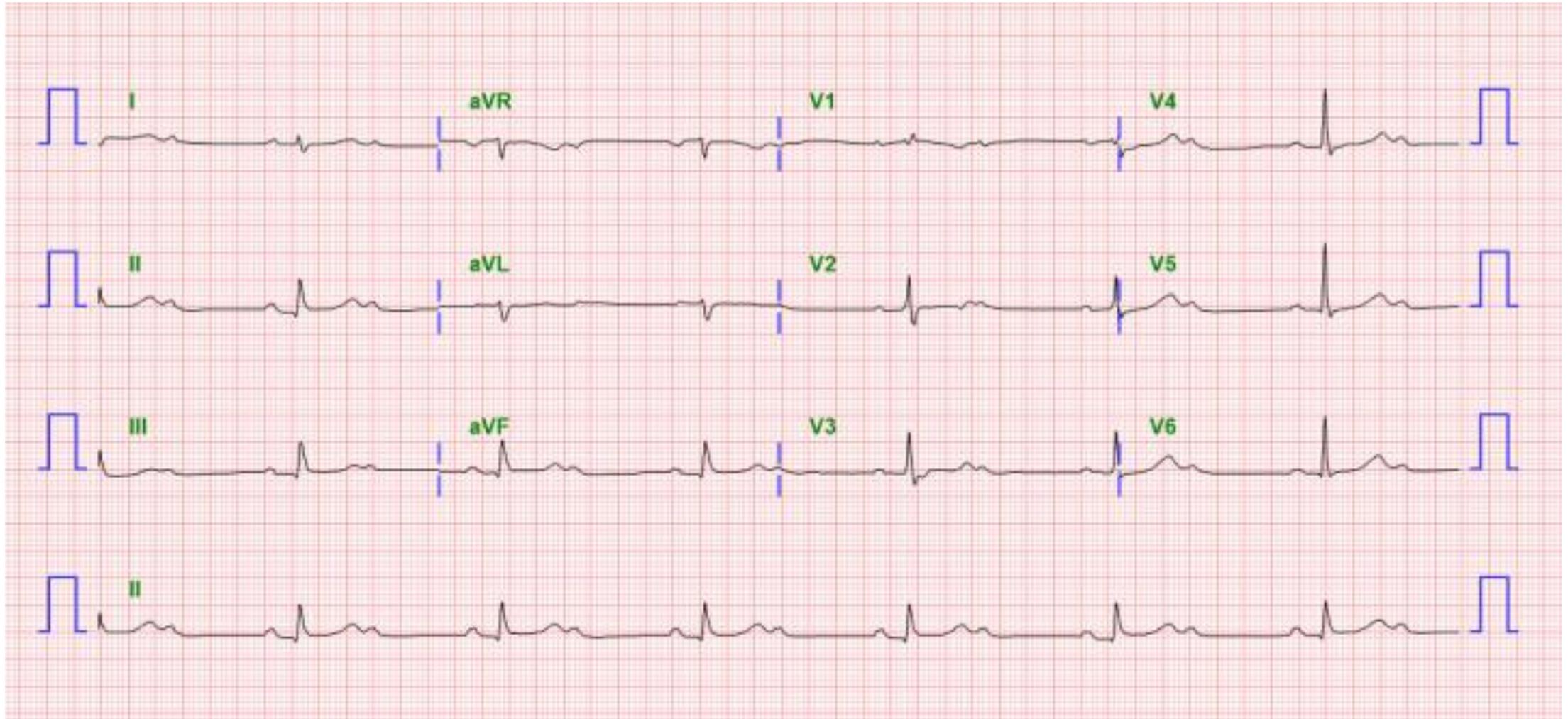


Second-degree, Mobitz I AV block

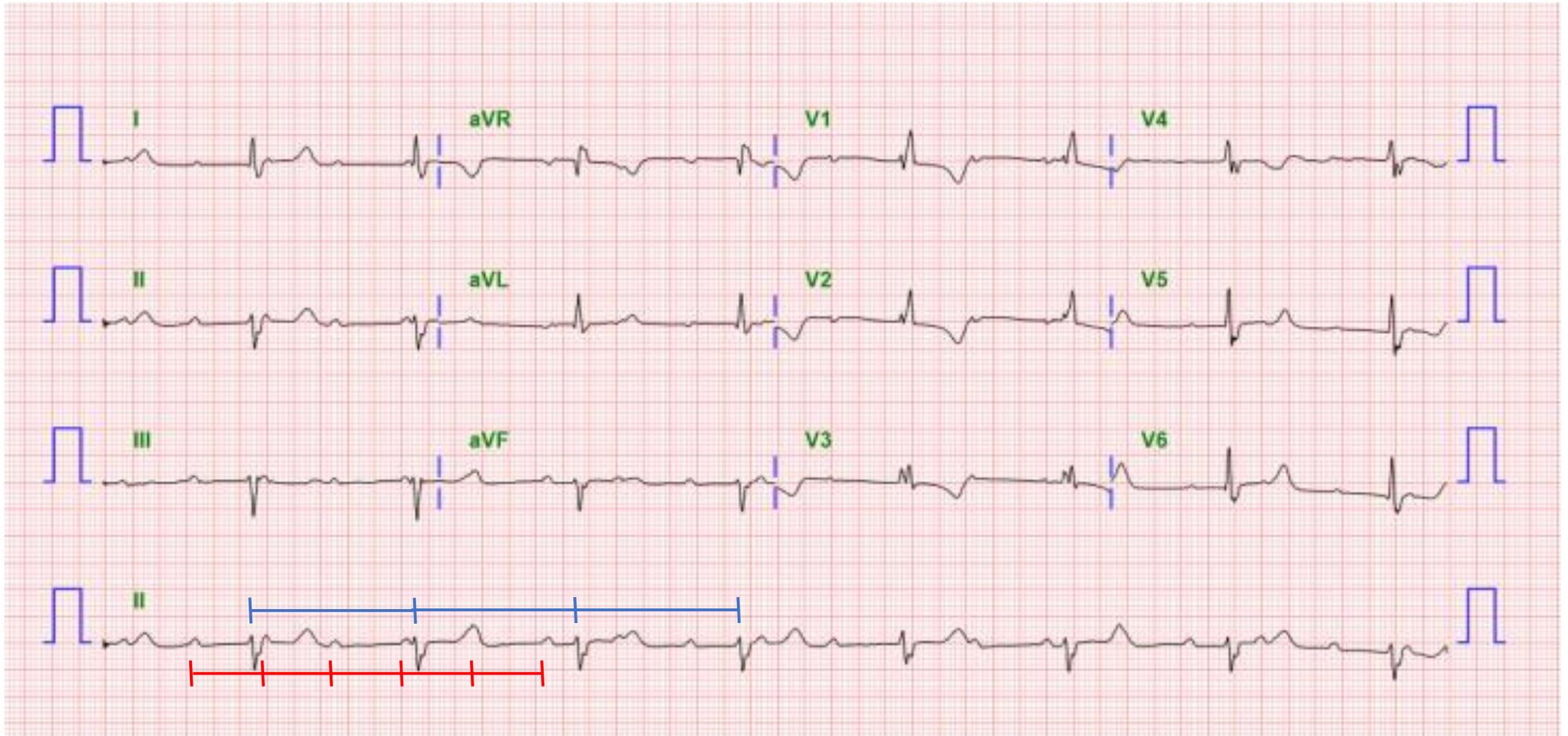
09:29:45



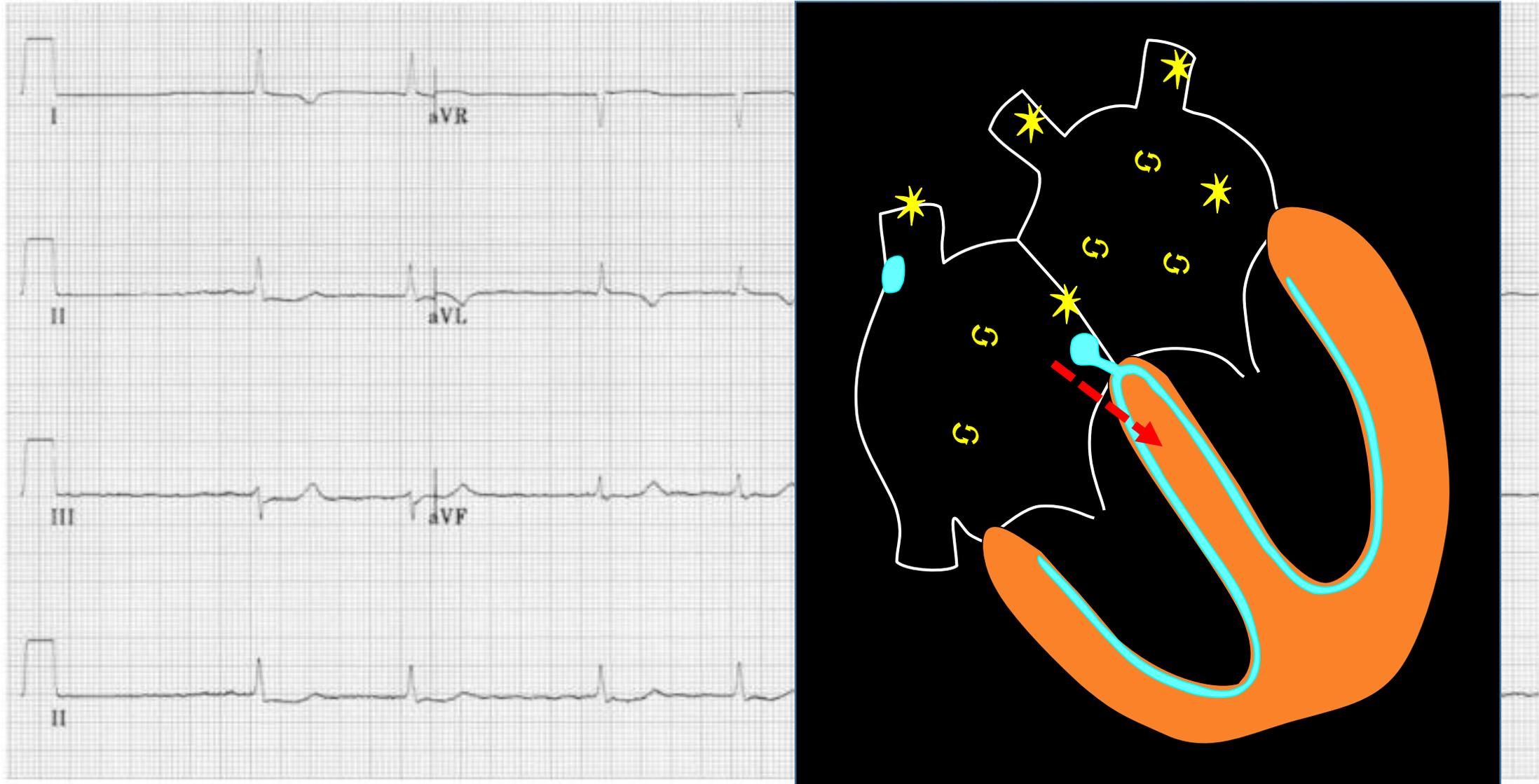
Second-degree, Mobitz II AV block



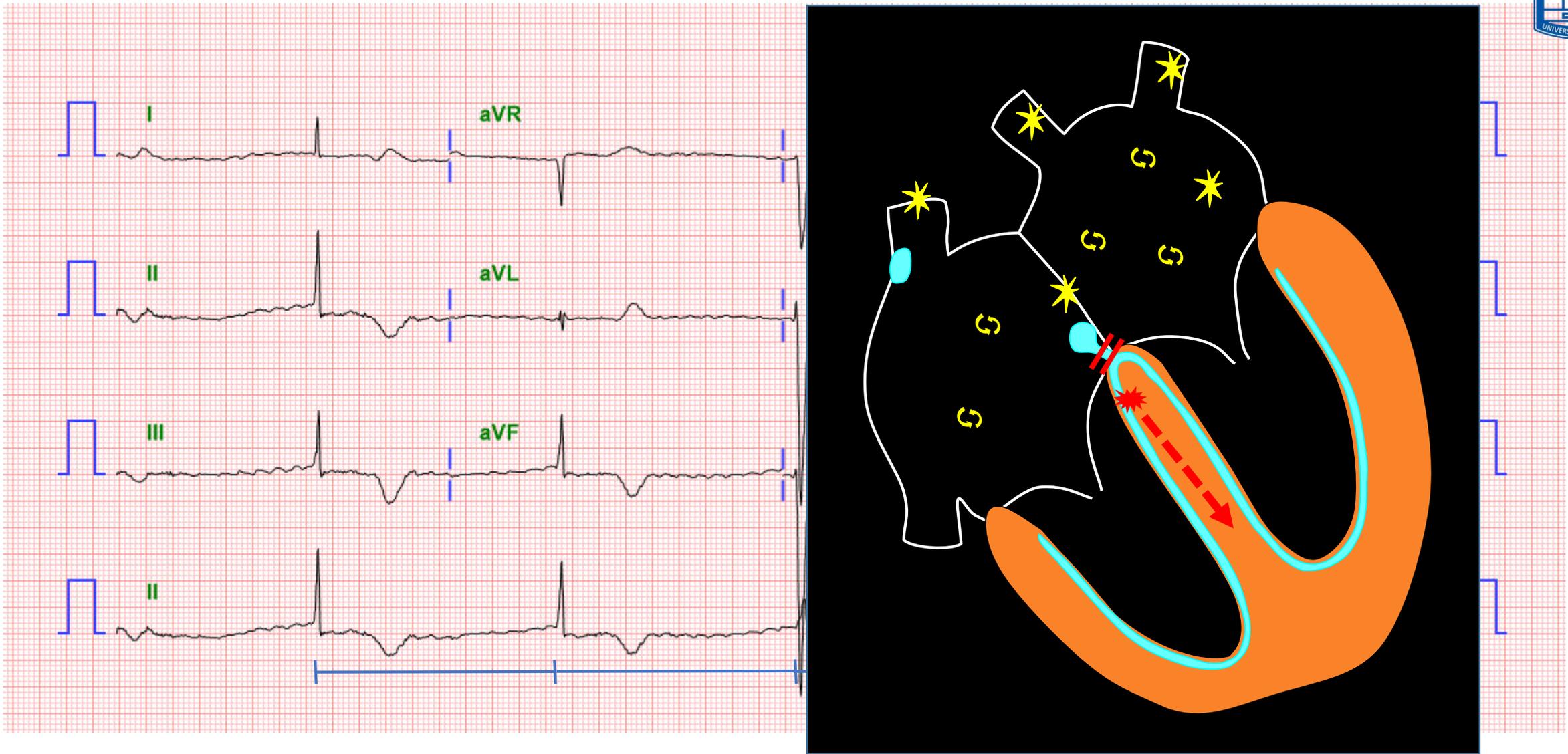
2:1 AV block



Complete AV block



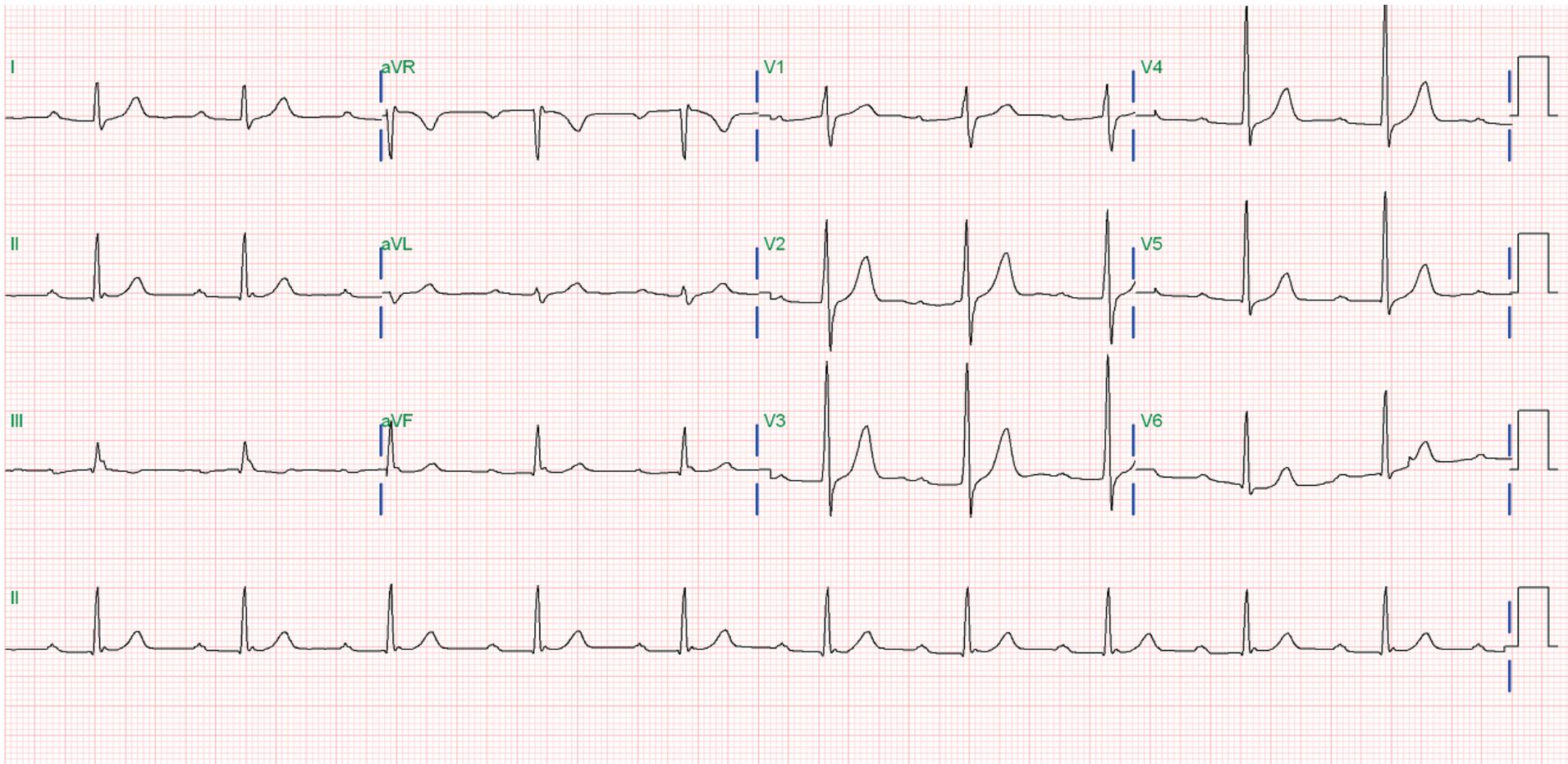
Atrial fibrillation with slow ventricular response



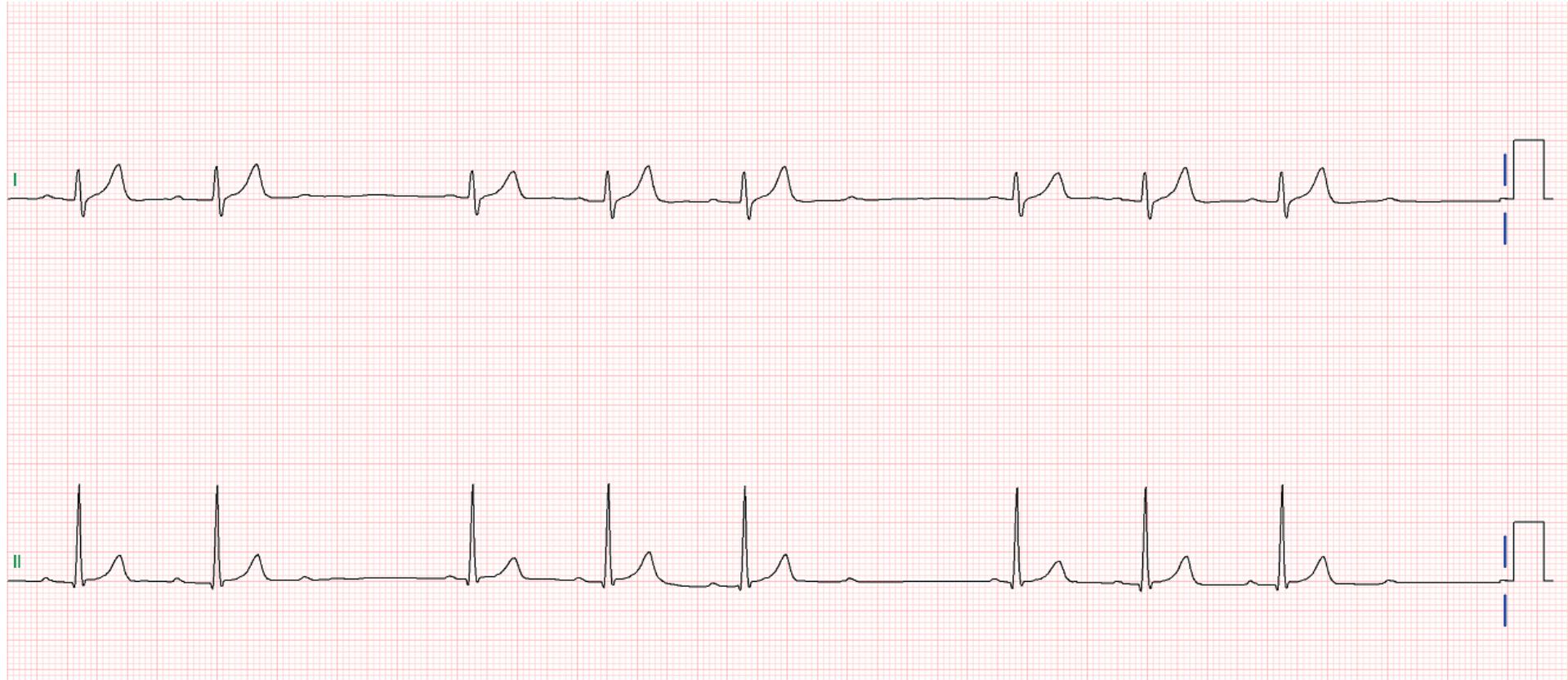
Atrial fibrillation with complete AV block

Quiz

65/M, 건강검진 심전도

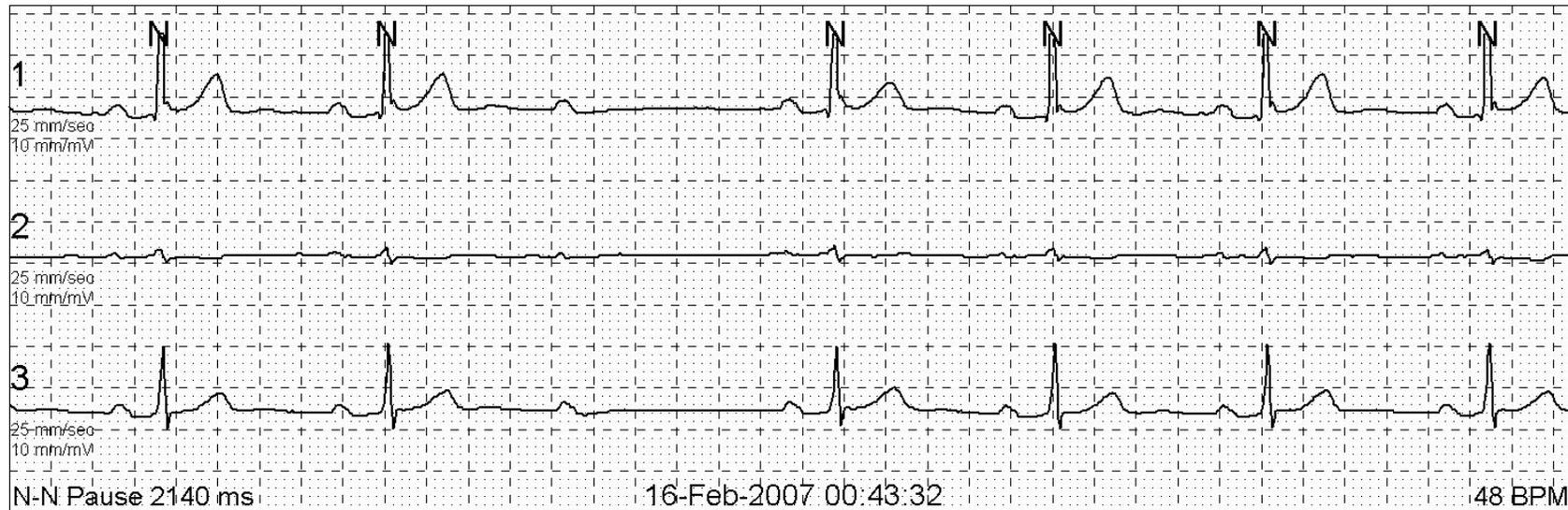


38/F, 수술 전 심전도 모니터링, 증상 (-)

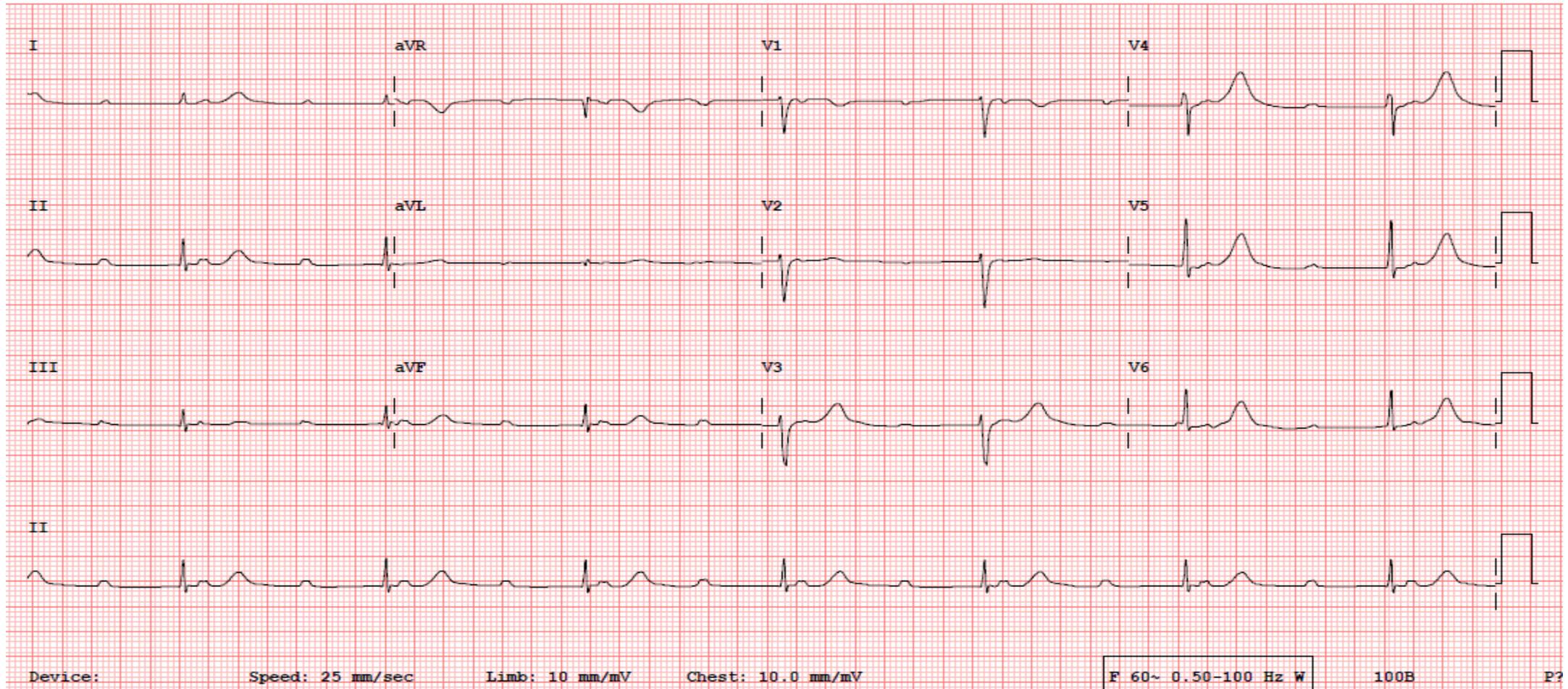


72/F, 간헐적인 어지러움으로 내원

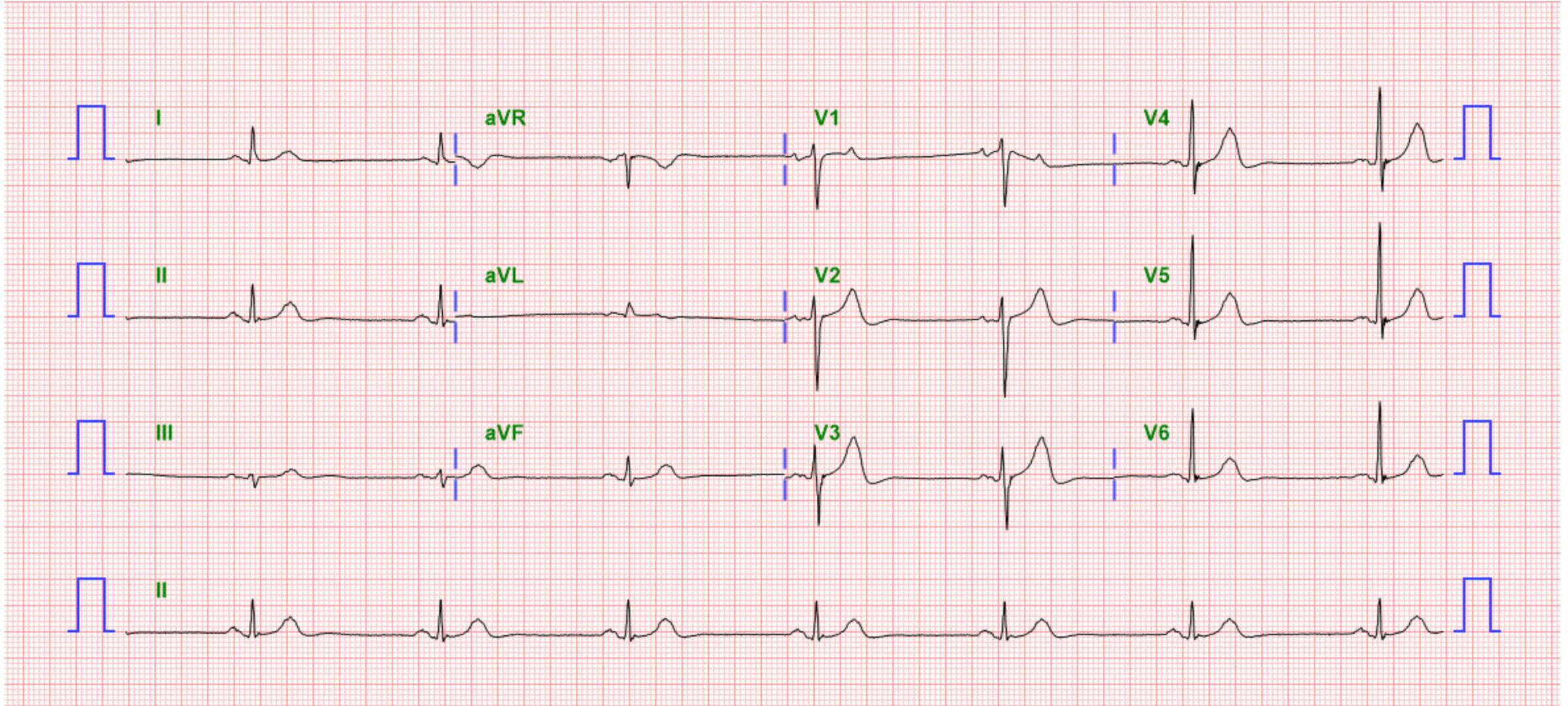
Min Heart Rate



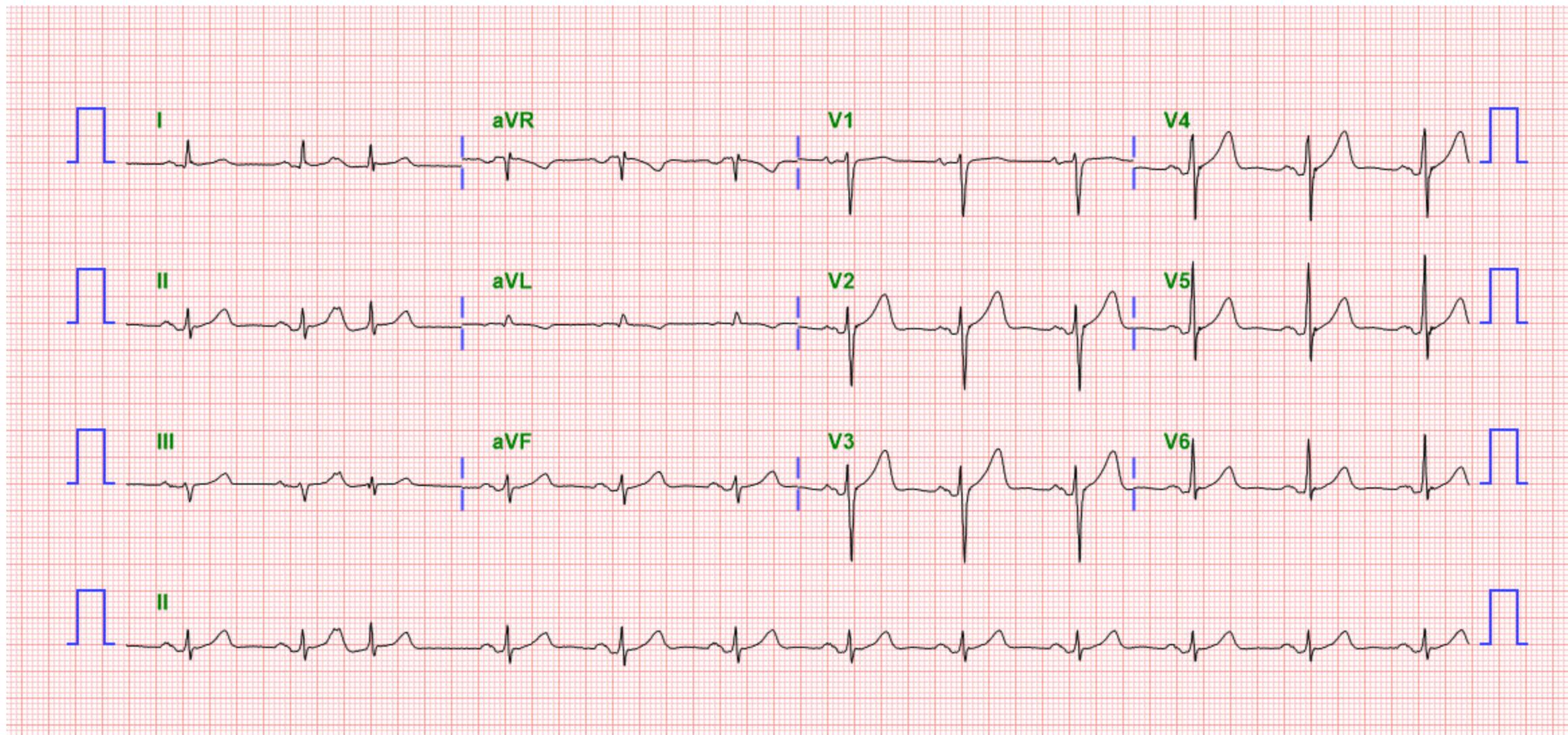
81/M, 지속되는 호흡곤란으로 응급실 내원



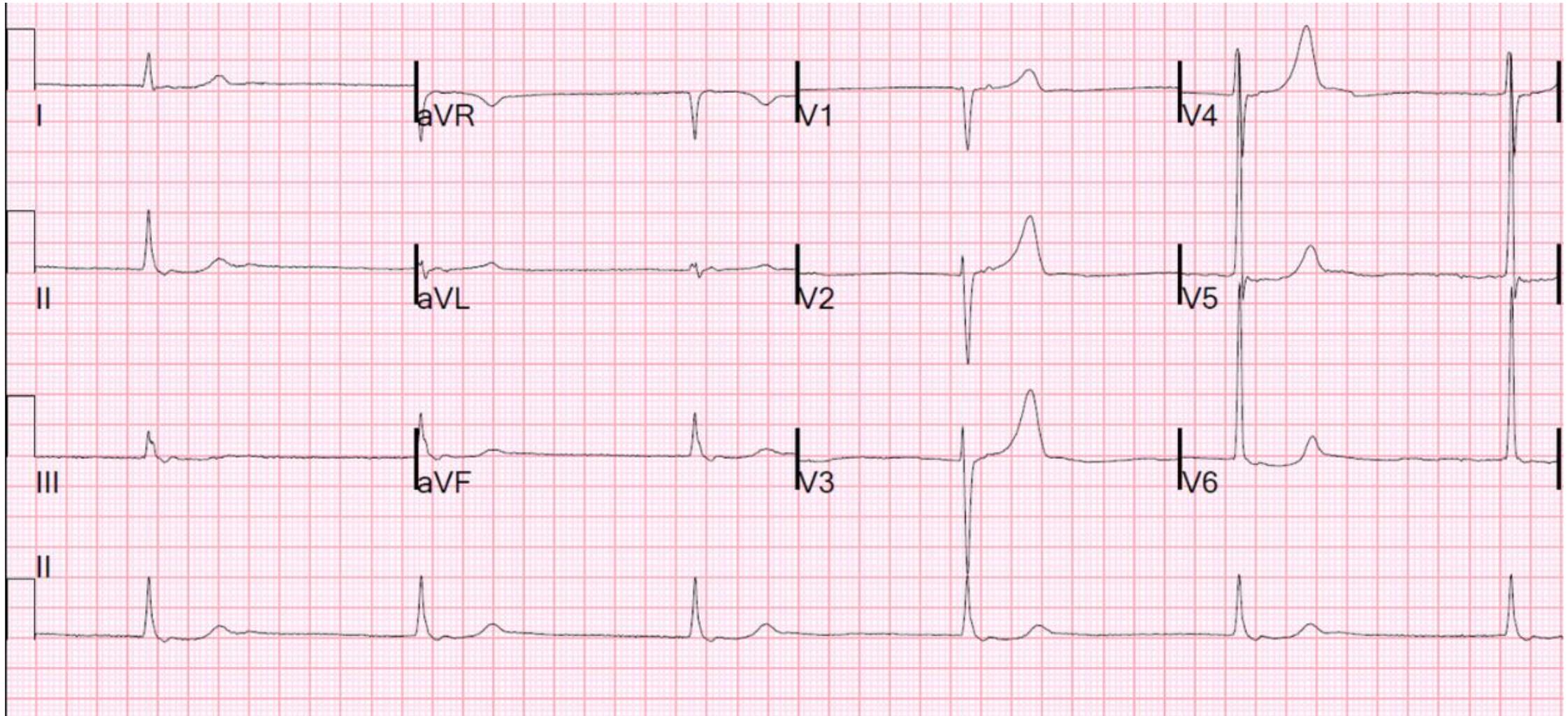
70/M, 서맥으로 협진의뢰됨.



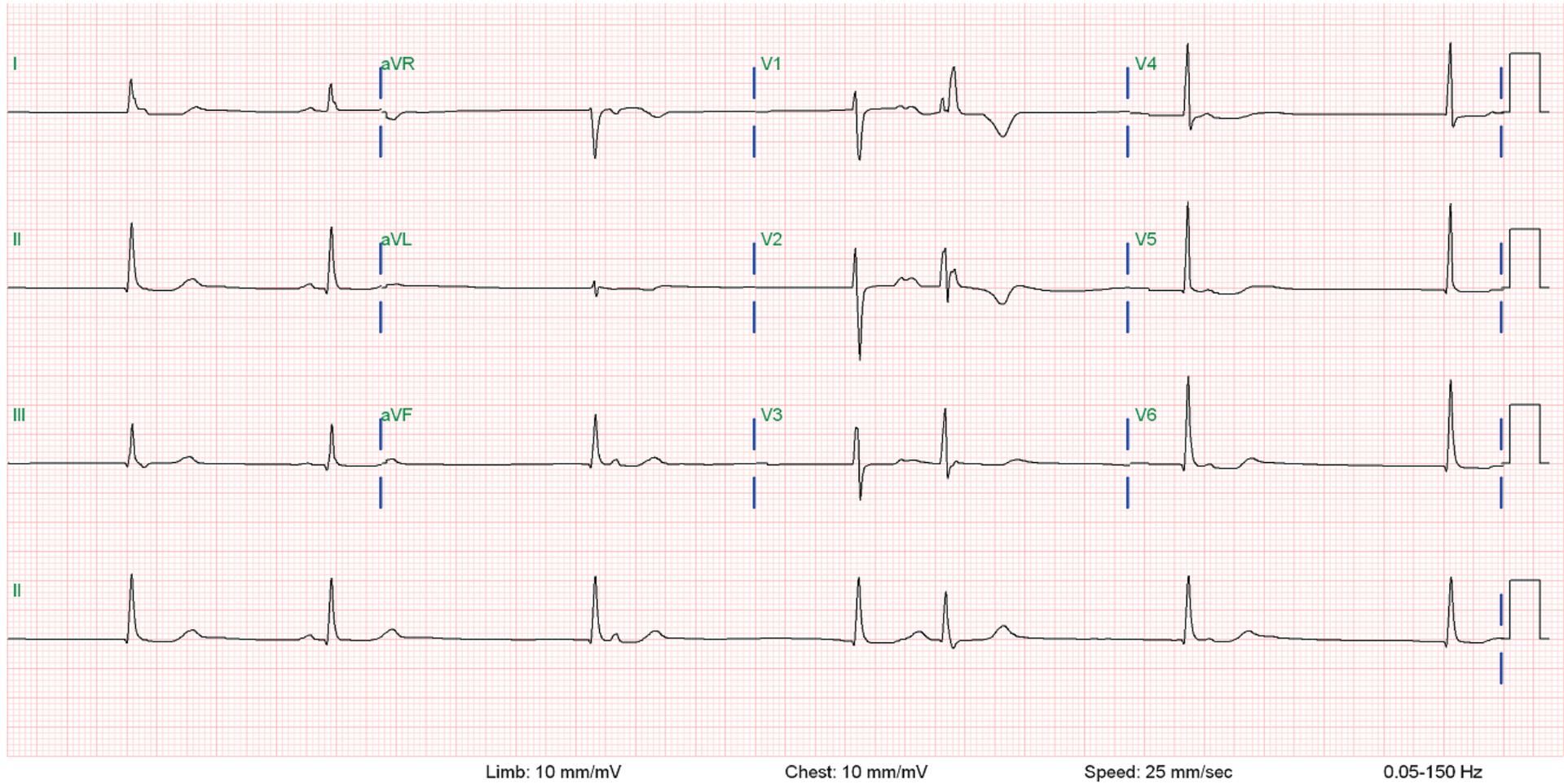
위 환자의 평소 심전도



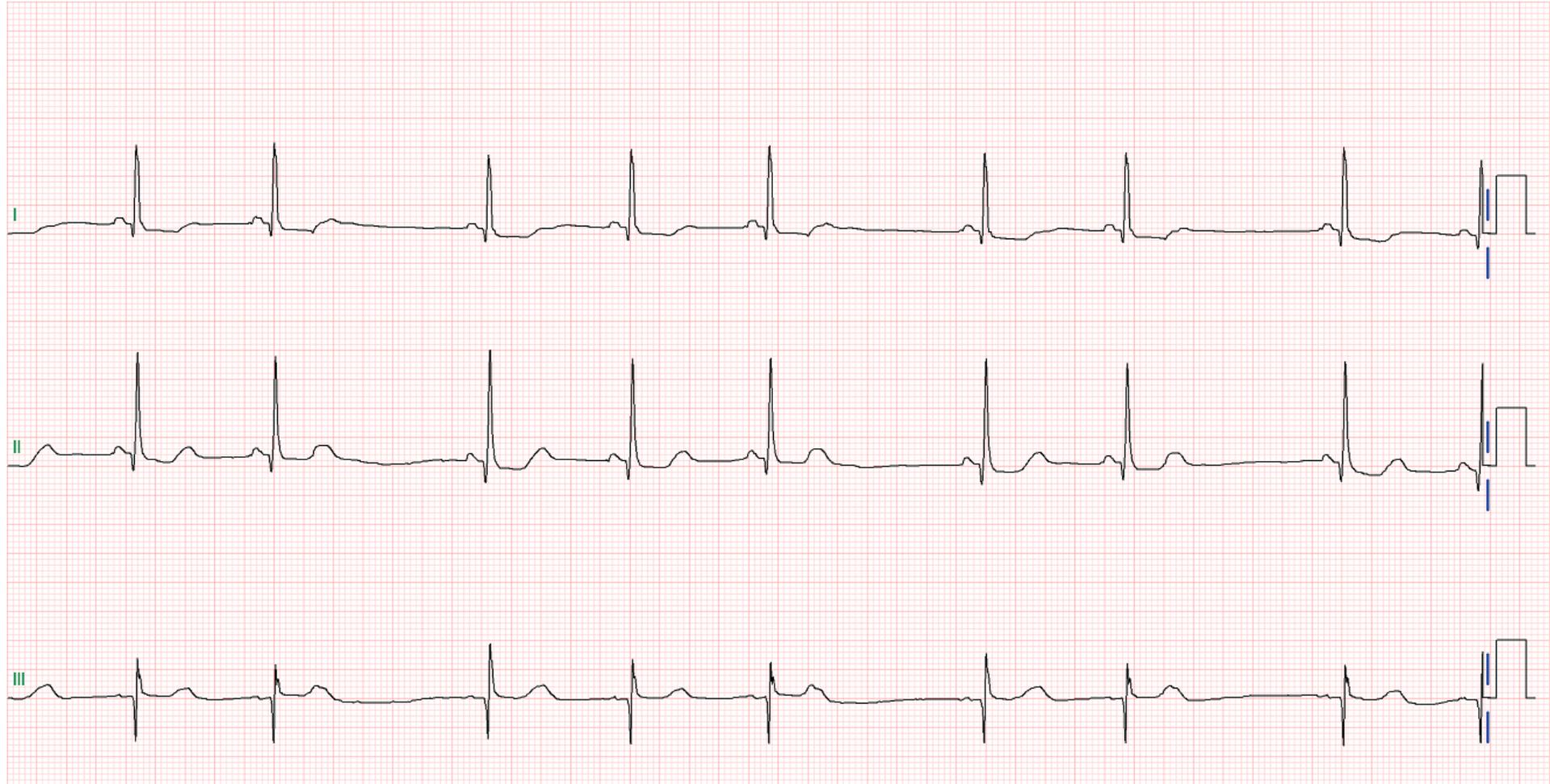
76/F, 실신을 주소로 내원



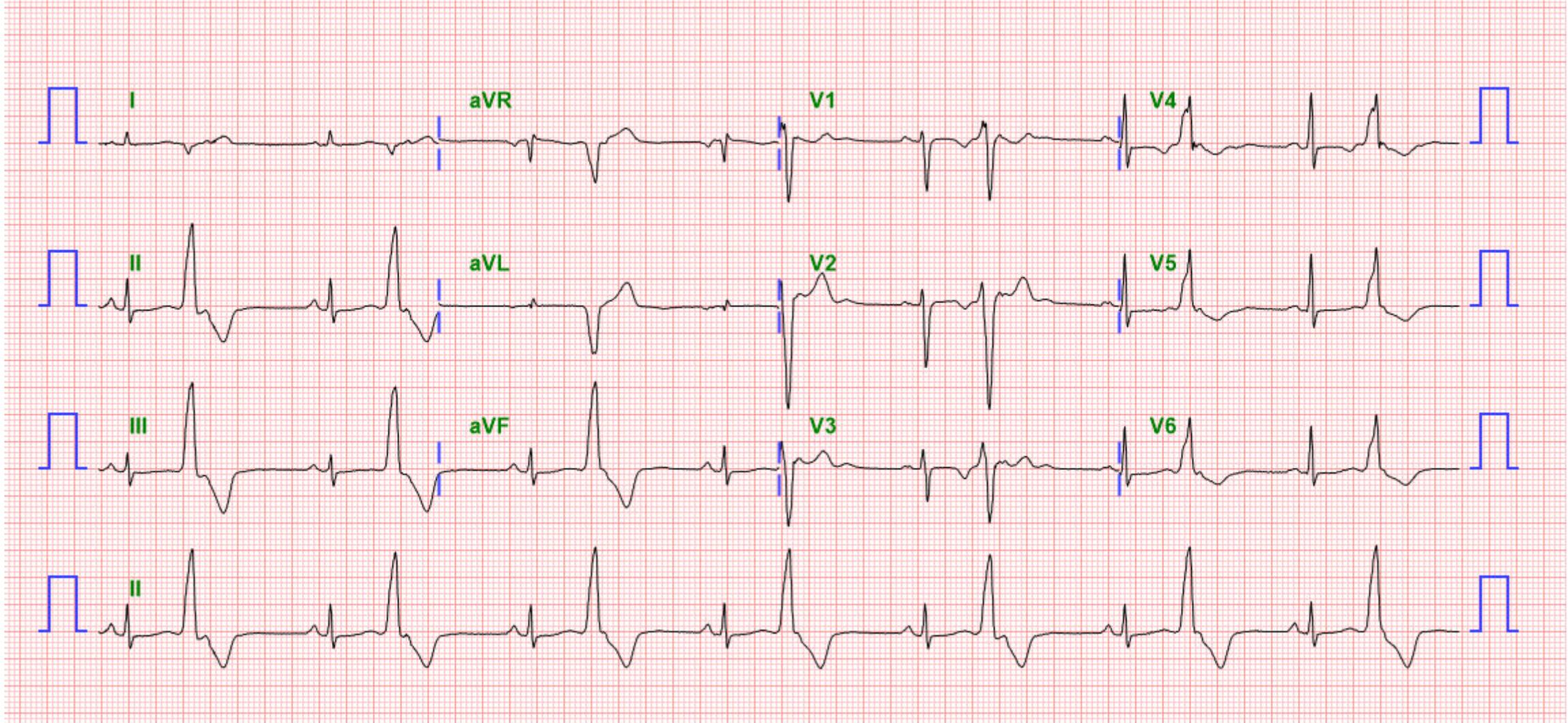
62/F, 간헐적인 어지러움 (+)



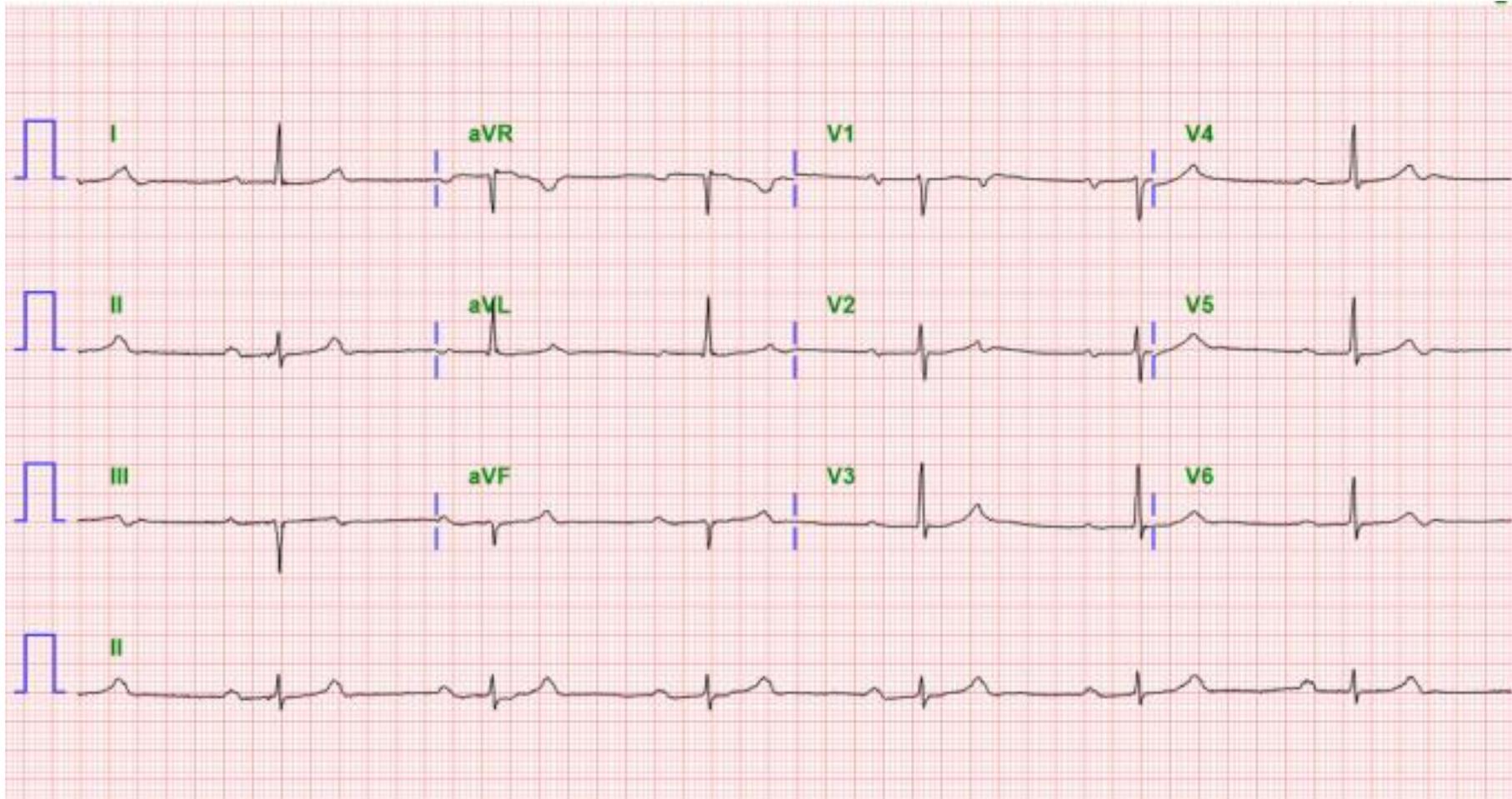
82/F, SSS으로 협진의뢰됨, 증상 (-)



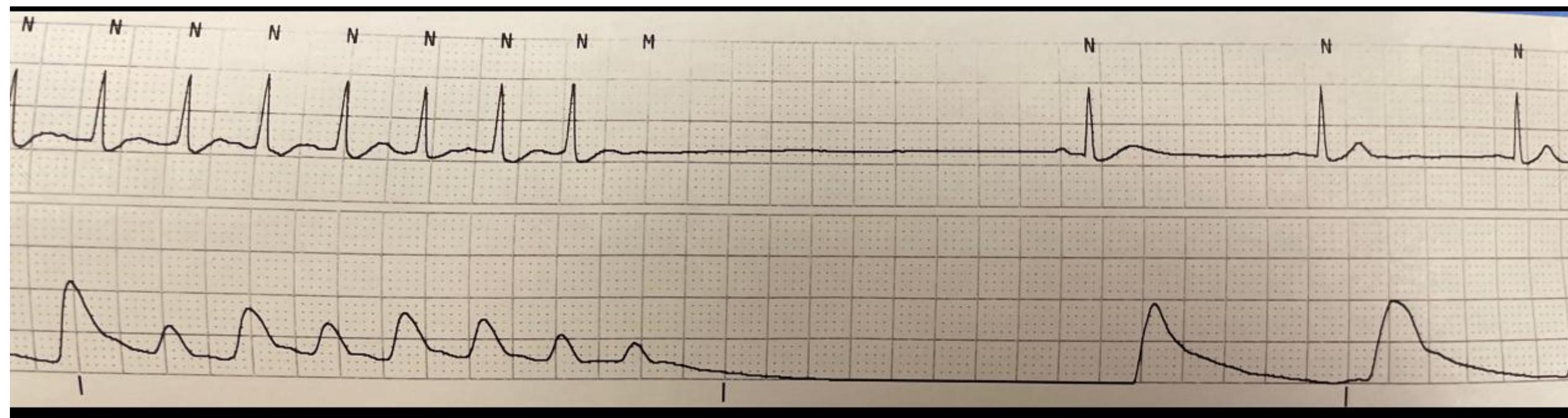
35/F, 입원 중 서맥으로 협진의뢰됨



42/M, VSD Op (+), 어지러움으로 내원



77/M, 중환자실 모니터링 상 심전도 이상으로 의뢰됨



감사합니다