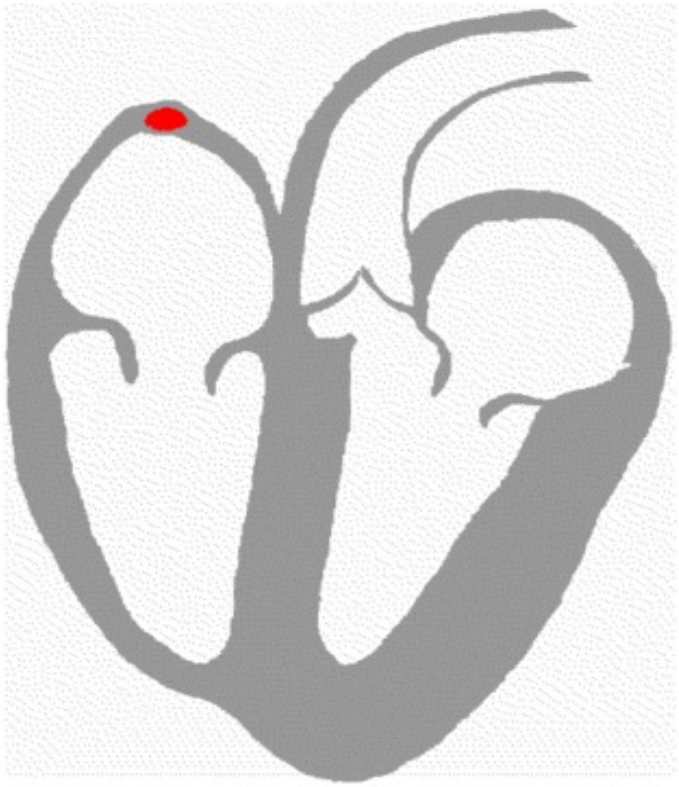
Rythmologie

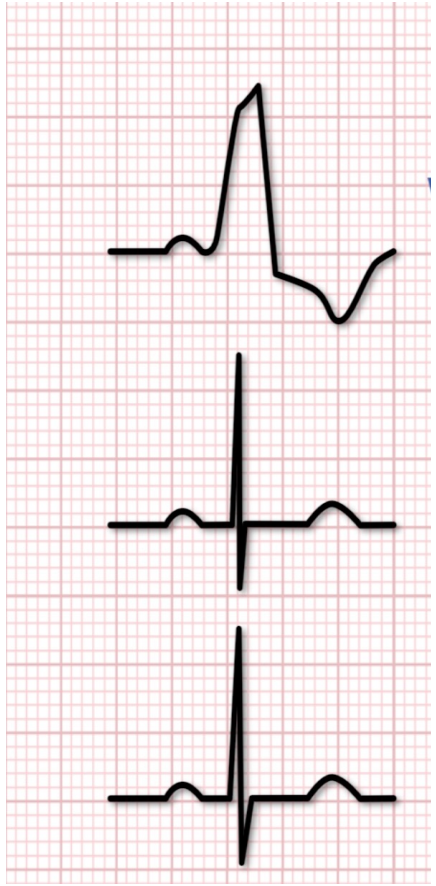
Philippe Chevalier

- ✓Syncopes/Troubles de la conduction
- ✓Palpitations/Tachycardies

Novembre 2022

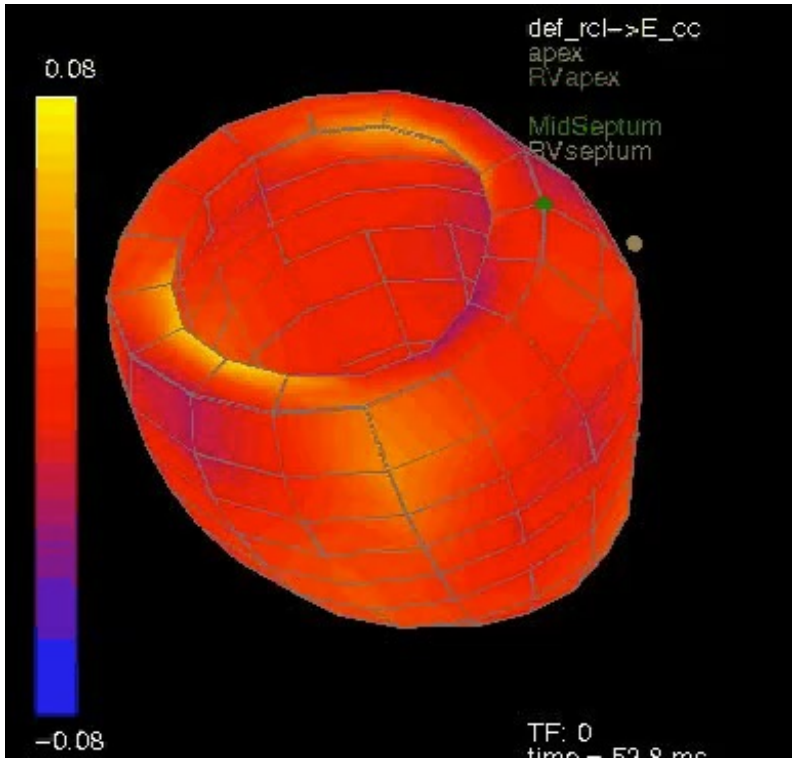
Le signal ECG

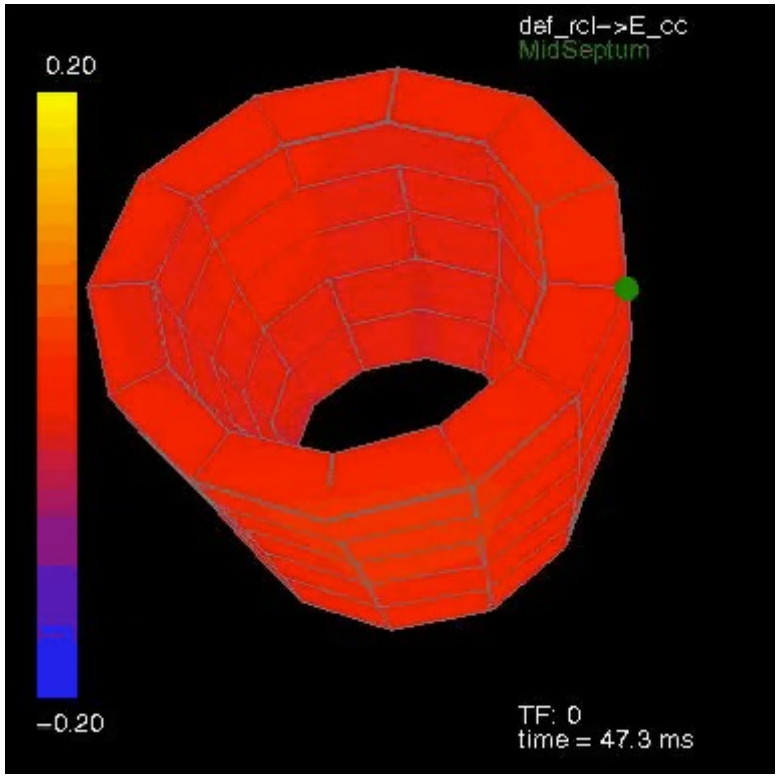




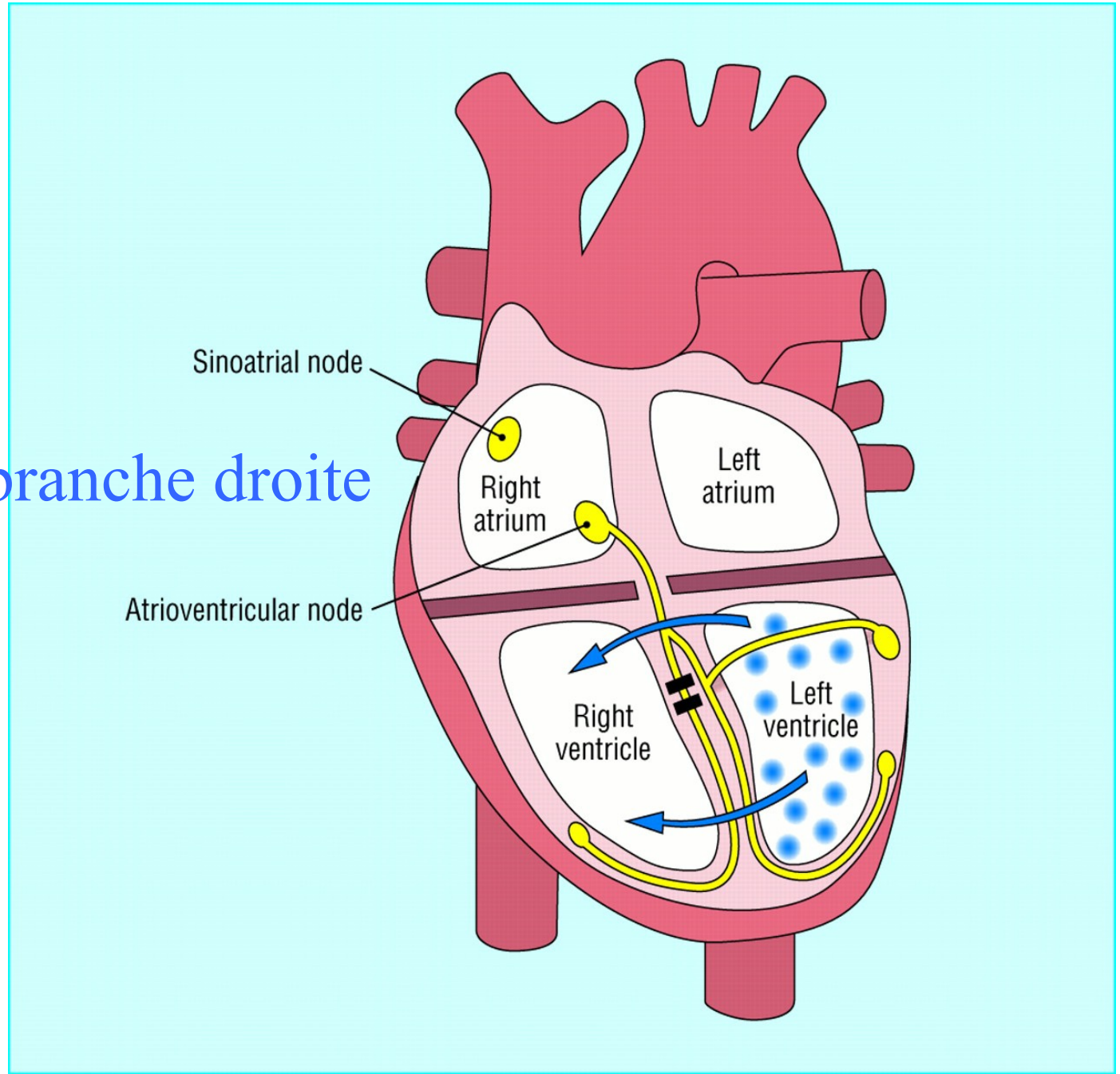
- QRS larges
- QRS étroits, très fins
- QRS normaux

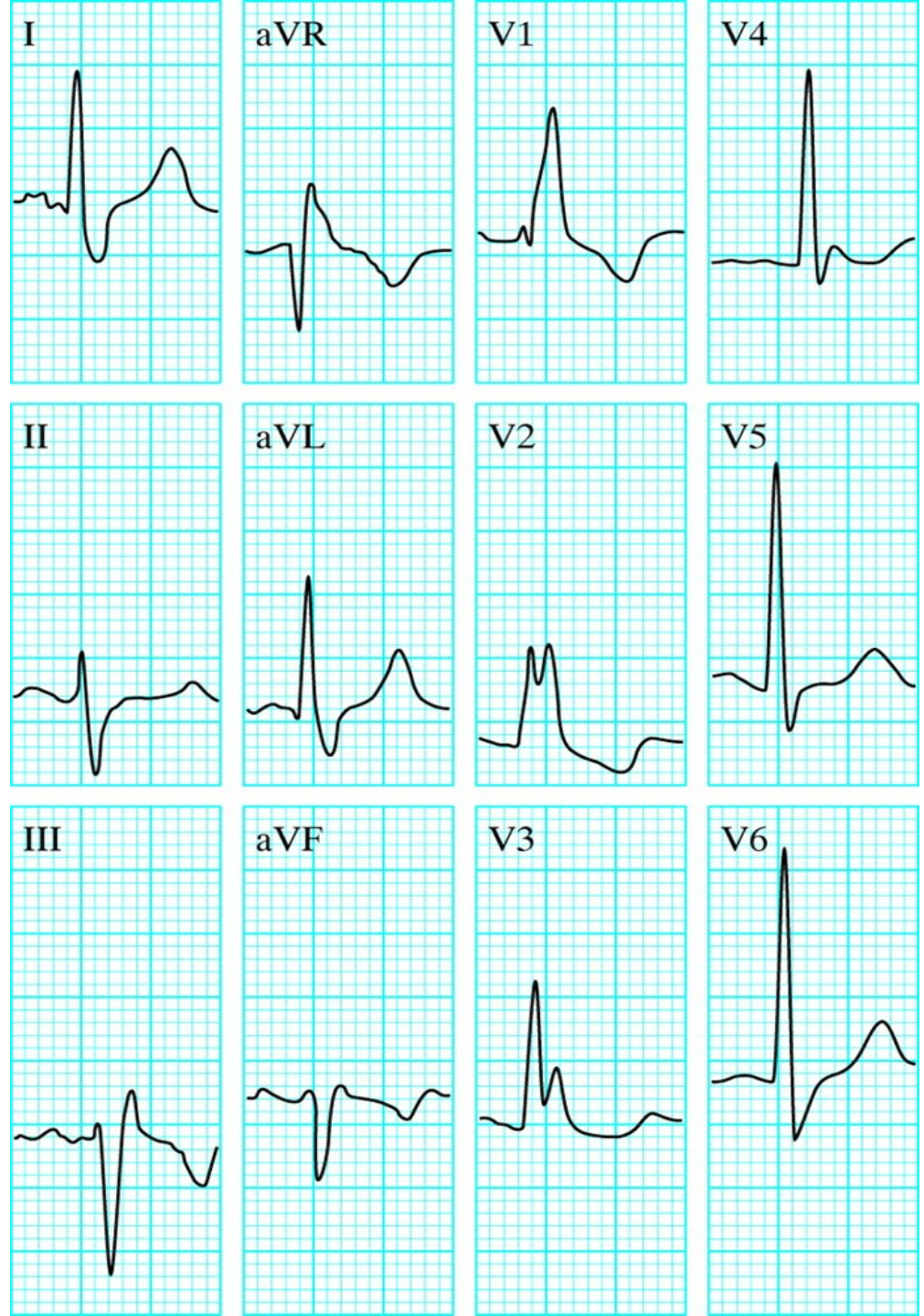
Blocs de branche
Asynchronisme interventriculaire



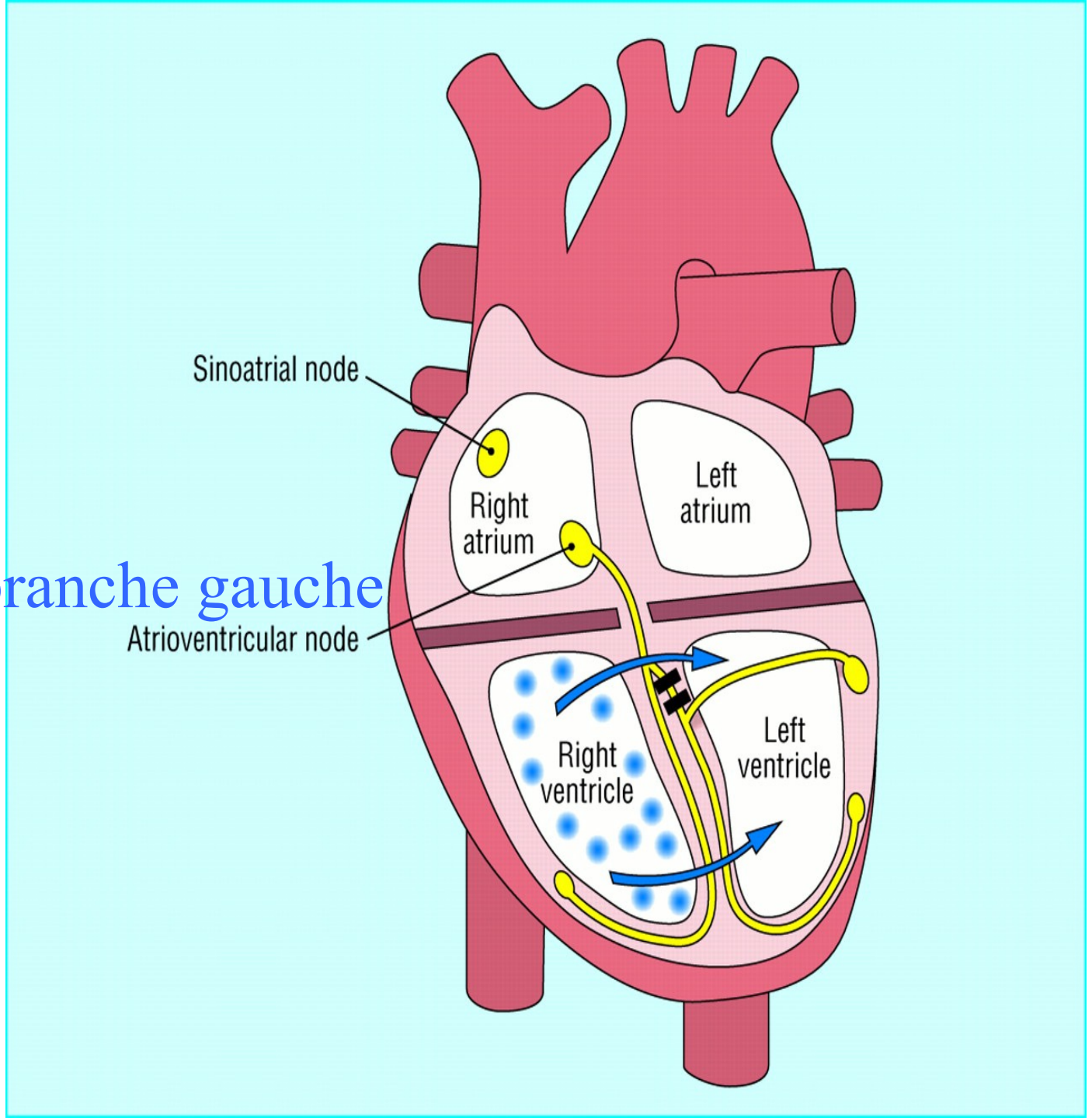


Bloc de branche droite

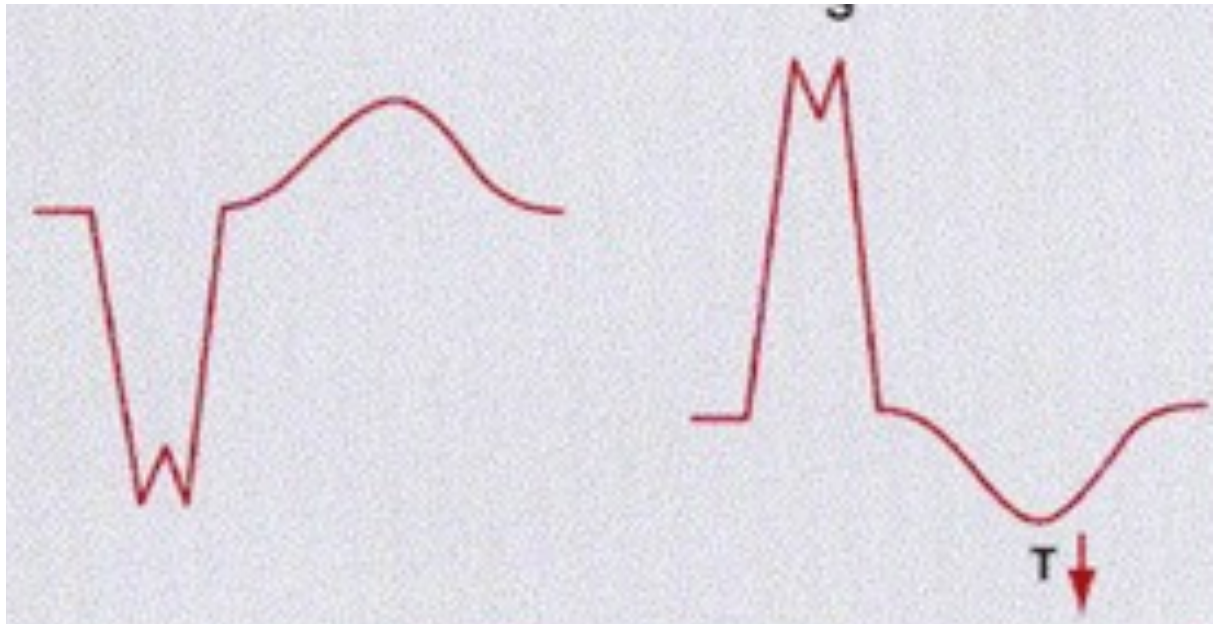



I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6

Bloc de branche gauche

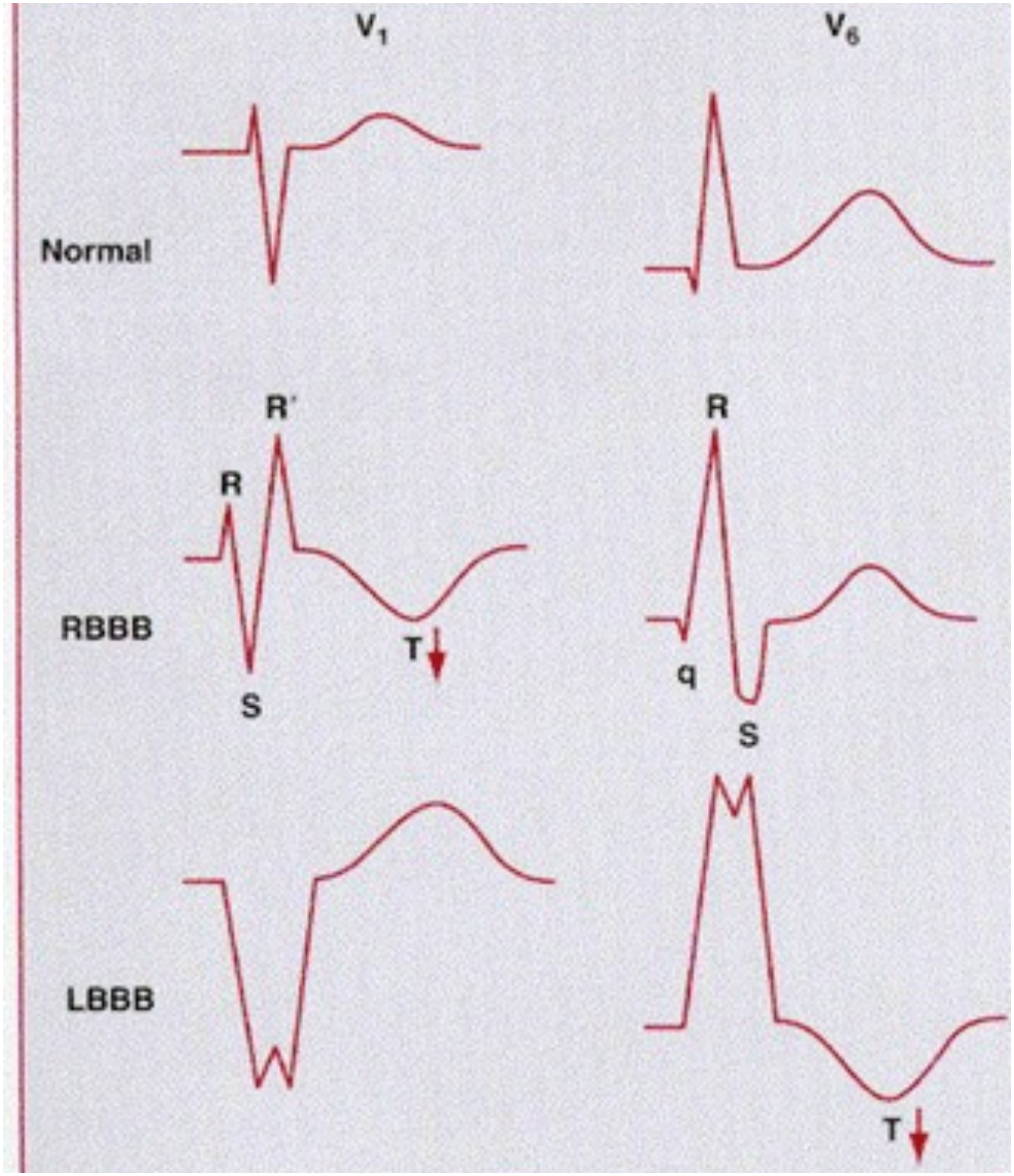


BBG



V1

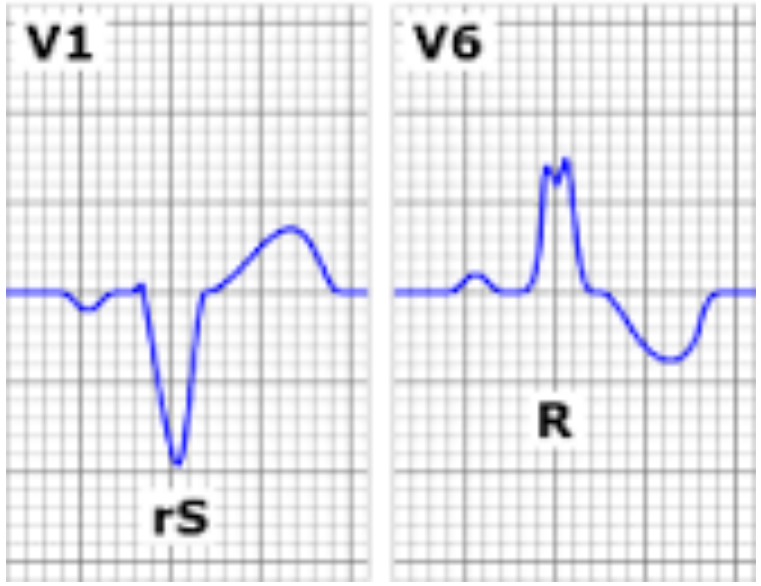
V6

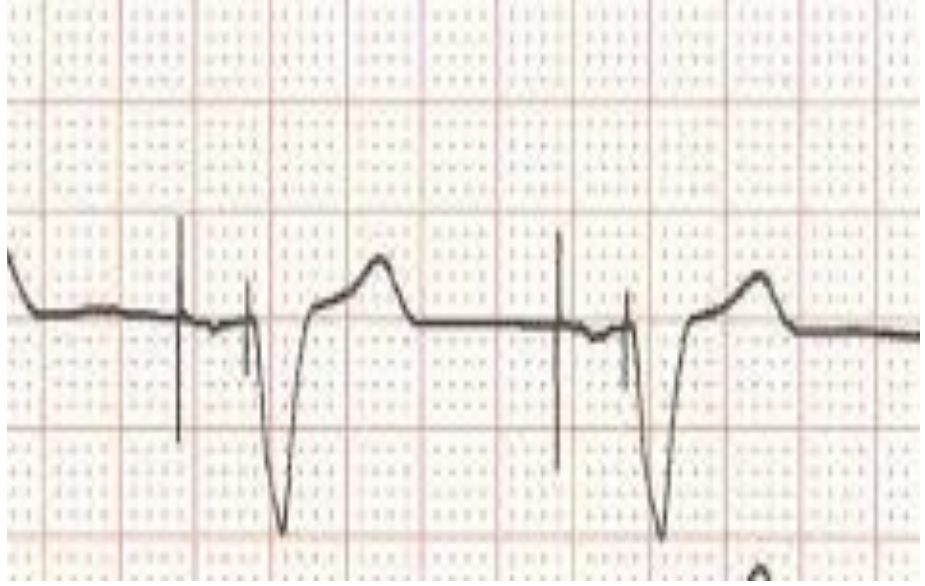


Normal

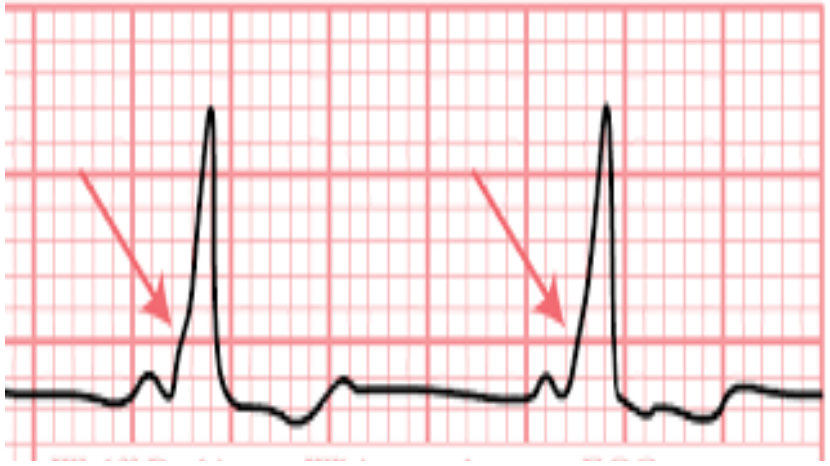
BBD

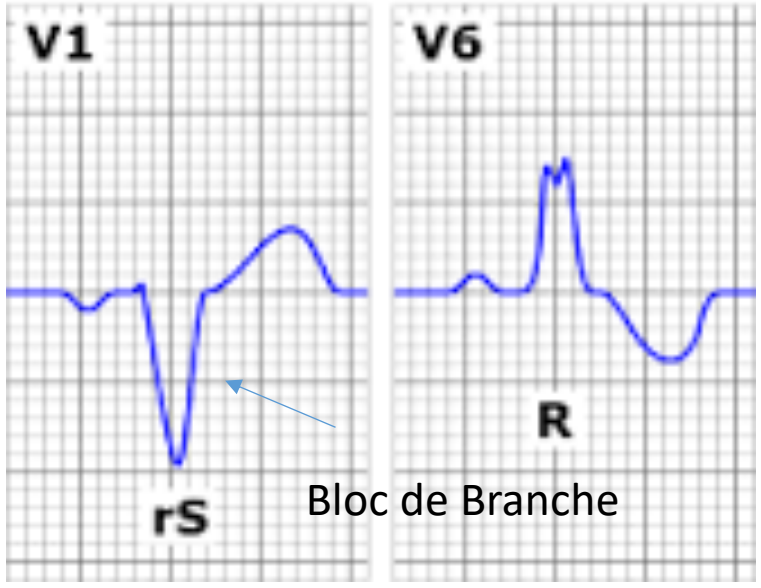
BBG

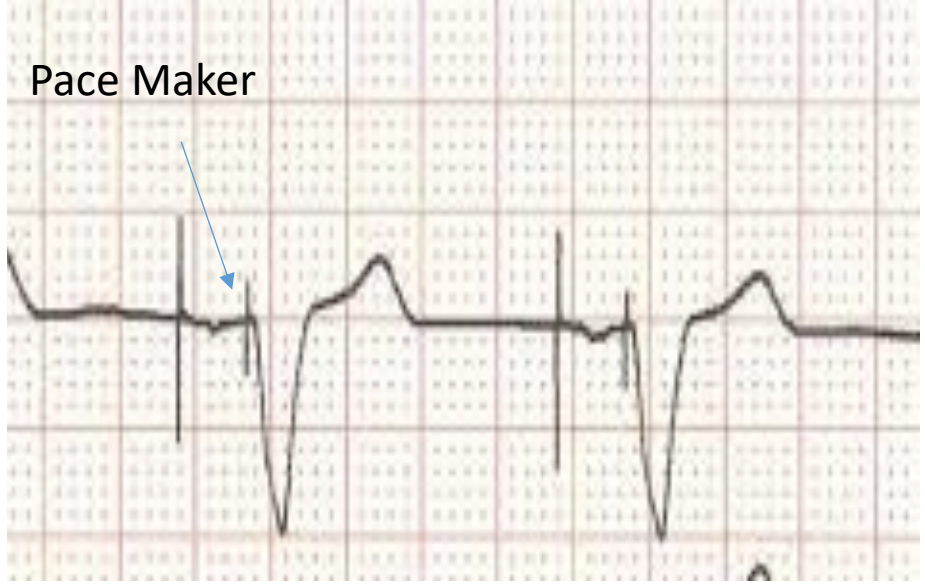




QRS larges?

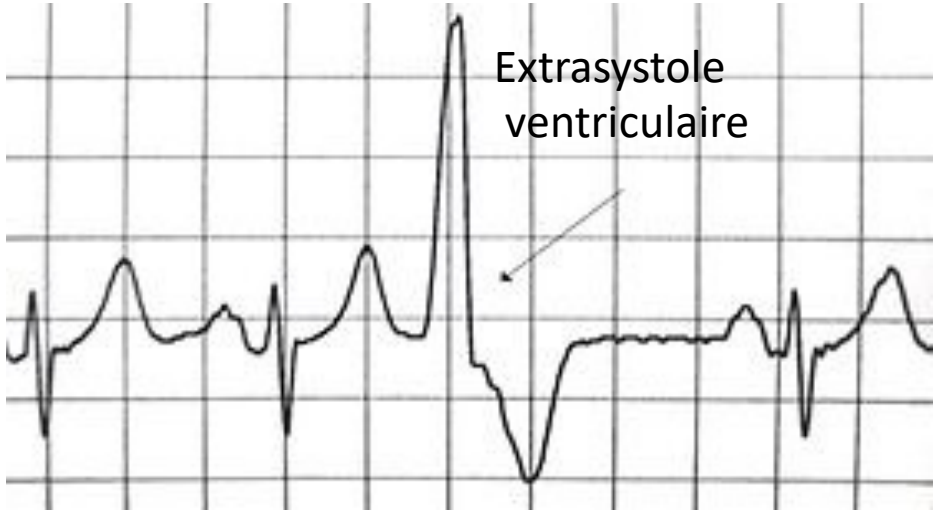



V1
V6
R
rS
Bloc de Branche


Pace Maker

QRS larges?

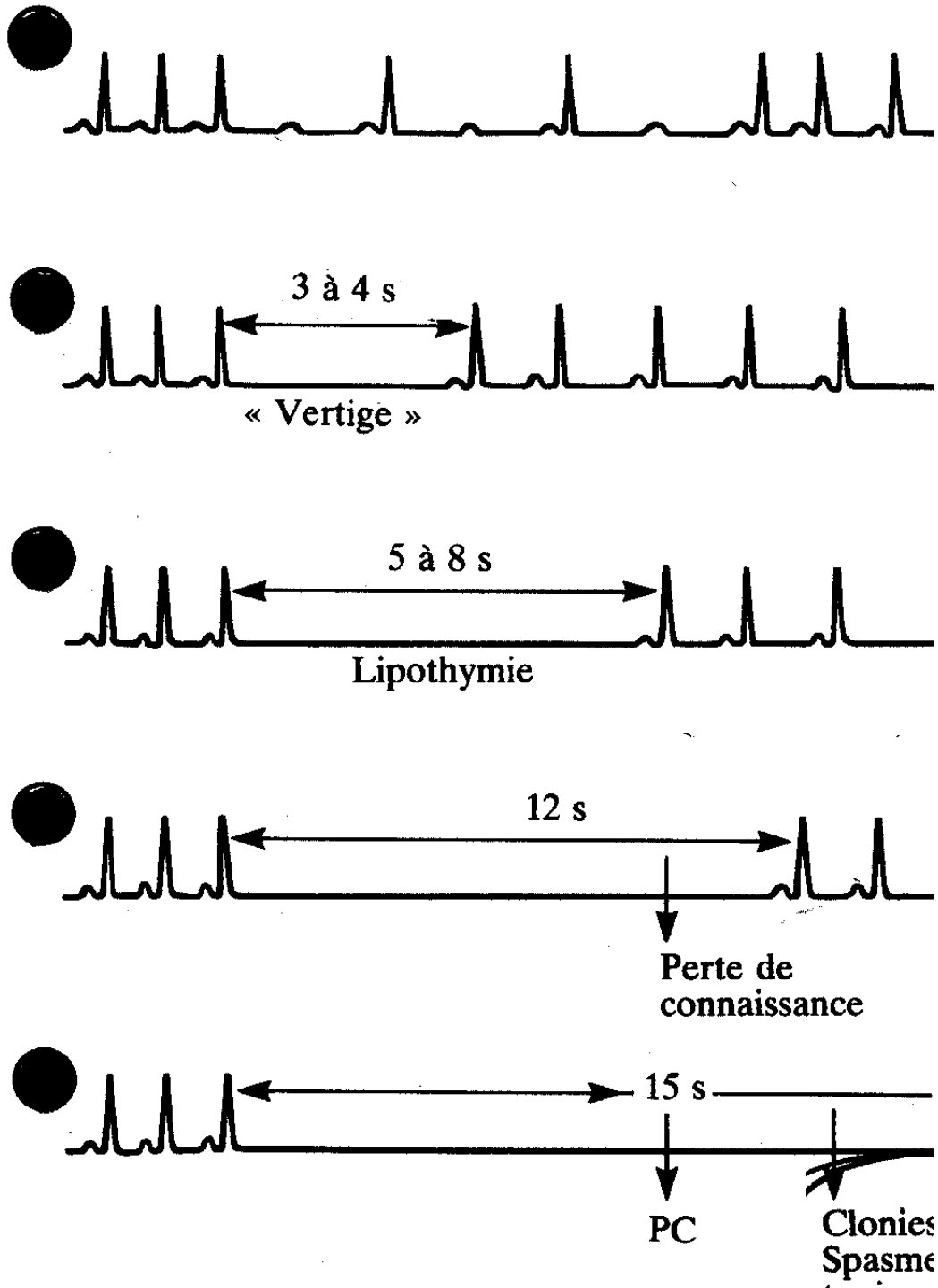

WPW


Extrasystole
ventriculaire

Rythmologie

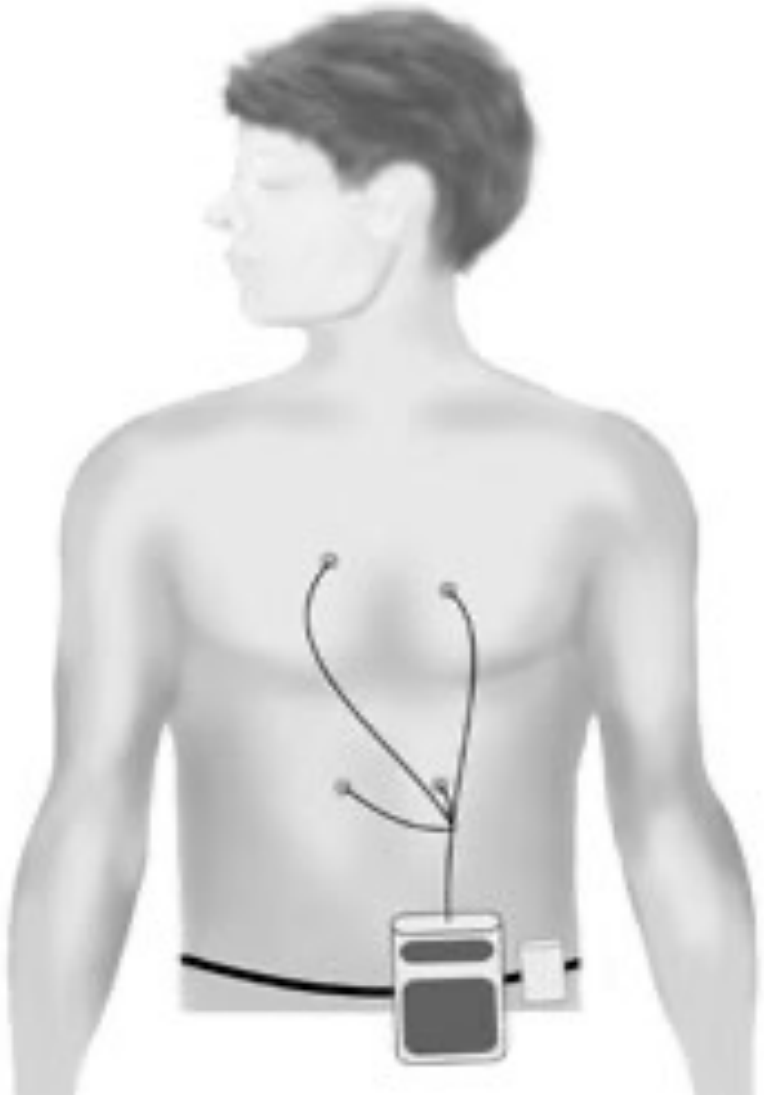
✓Syncopes/Troubles de la conduction

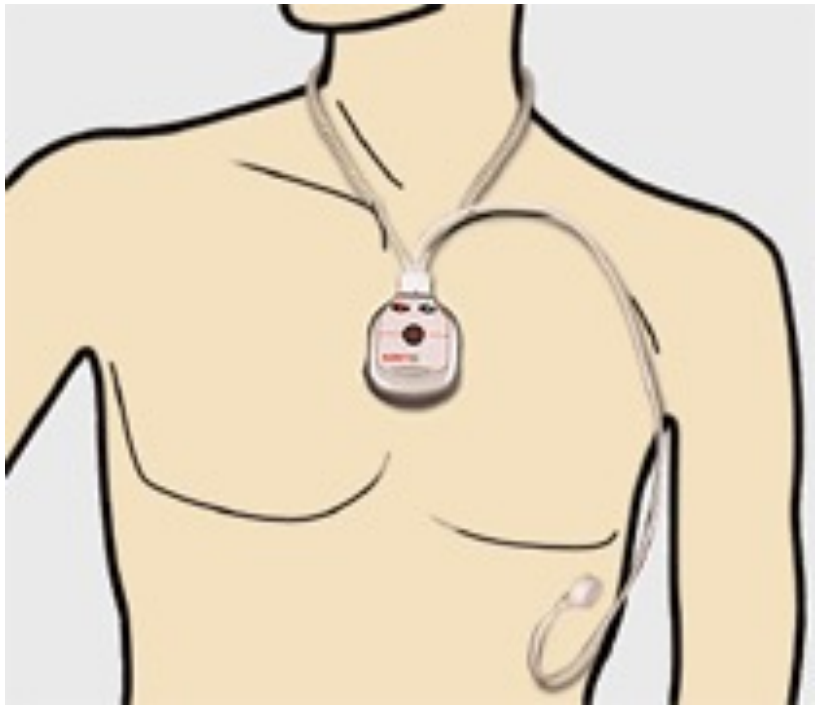
✓Palpitations/Fibrillation atriale/Tachycardies


3 à 4 s
« Vertige »
5 à 8 s
Lipothymie
12 s
Perte de
connaissance
15 s
PC
Clonies
Spasme

Syncope : Les outils diagnostiques

Examen Holter



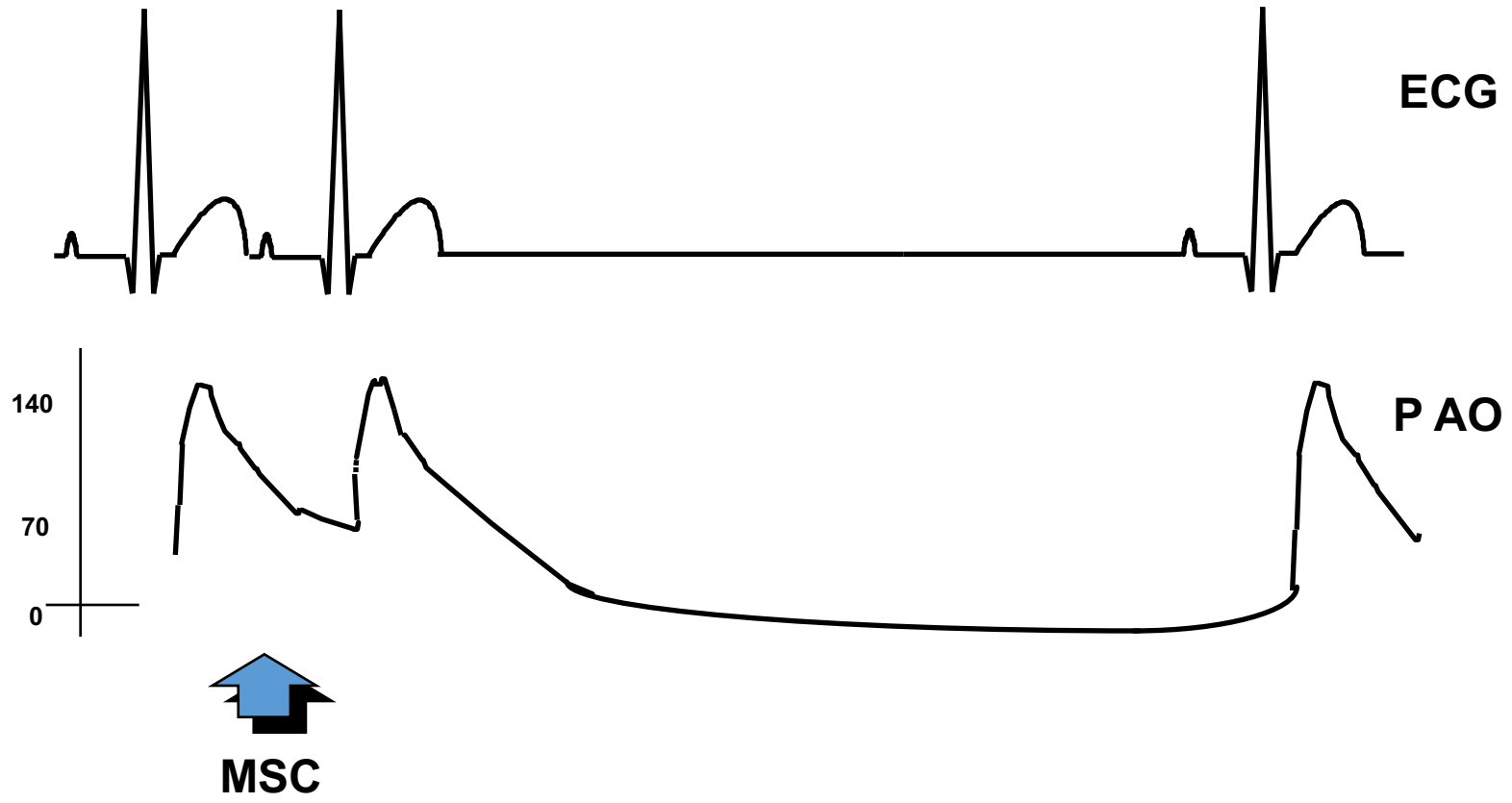



Reveal

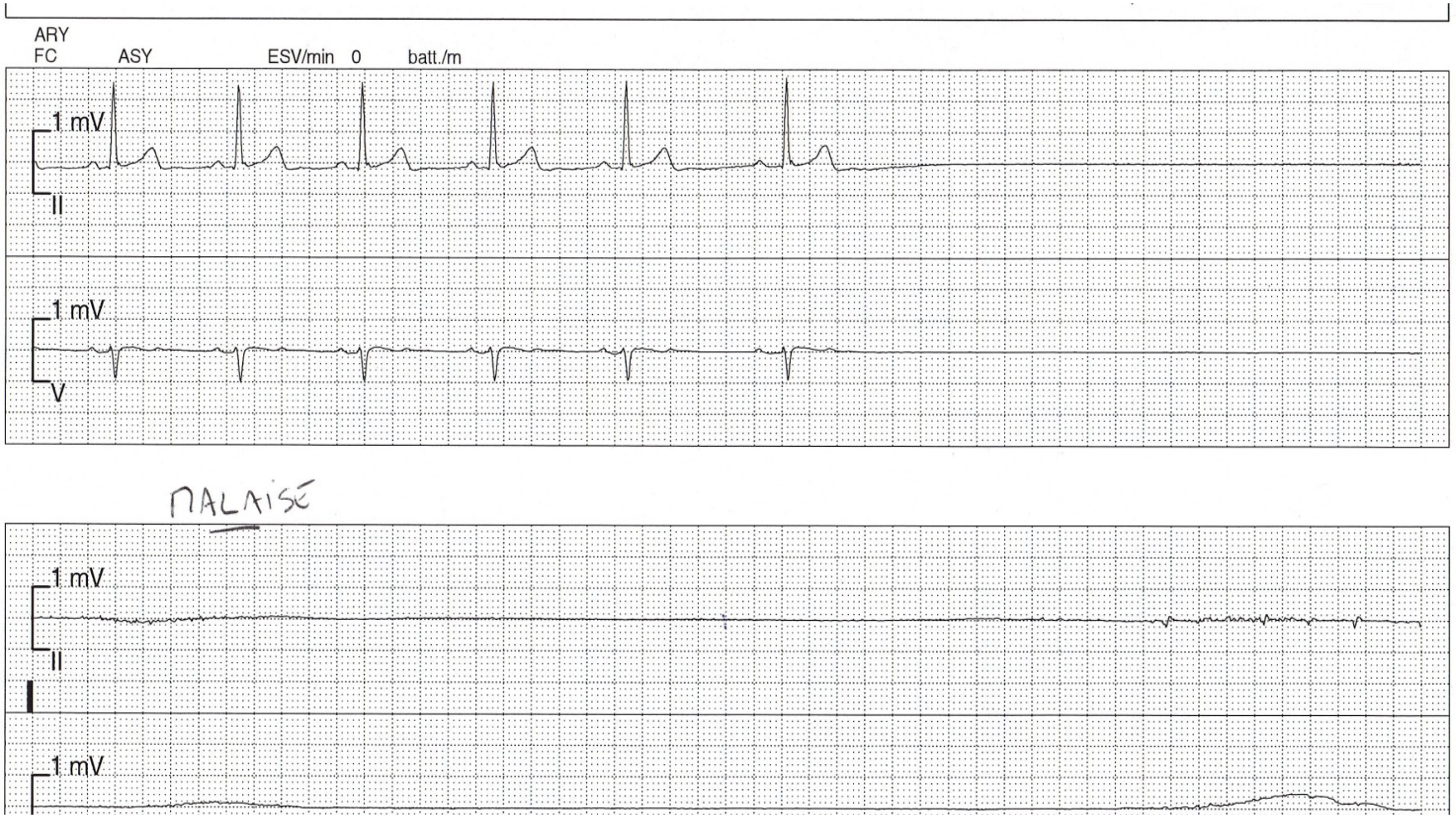
Dysfonction sinusale

- Bradycardie <50 /min?
- Syndrome brady-tachycardie++++
- E*preuve d'effort+++++*

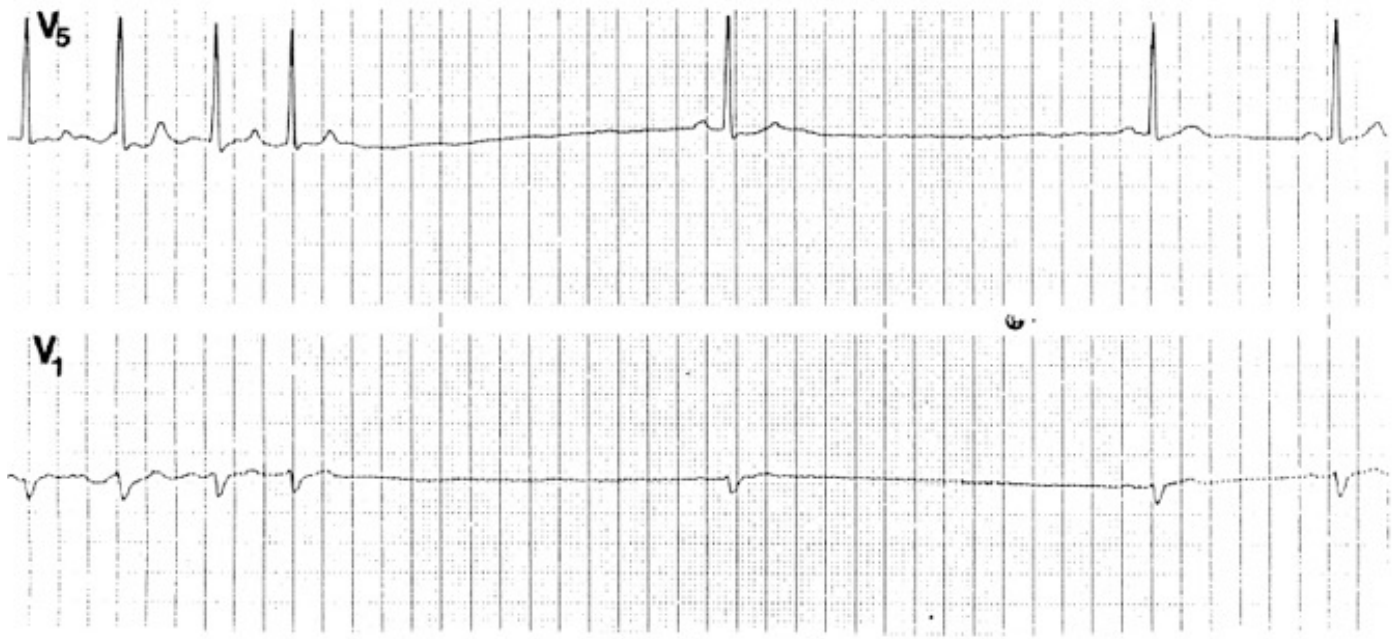
Syndrome Sino-Carotidien



Lipothymies



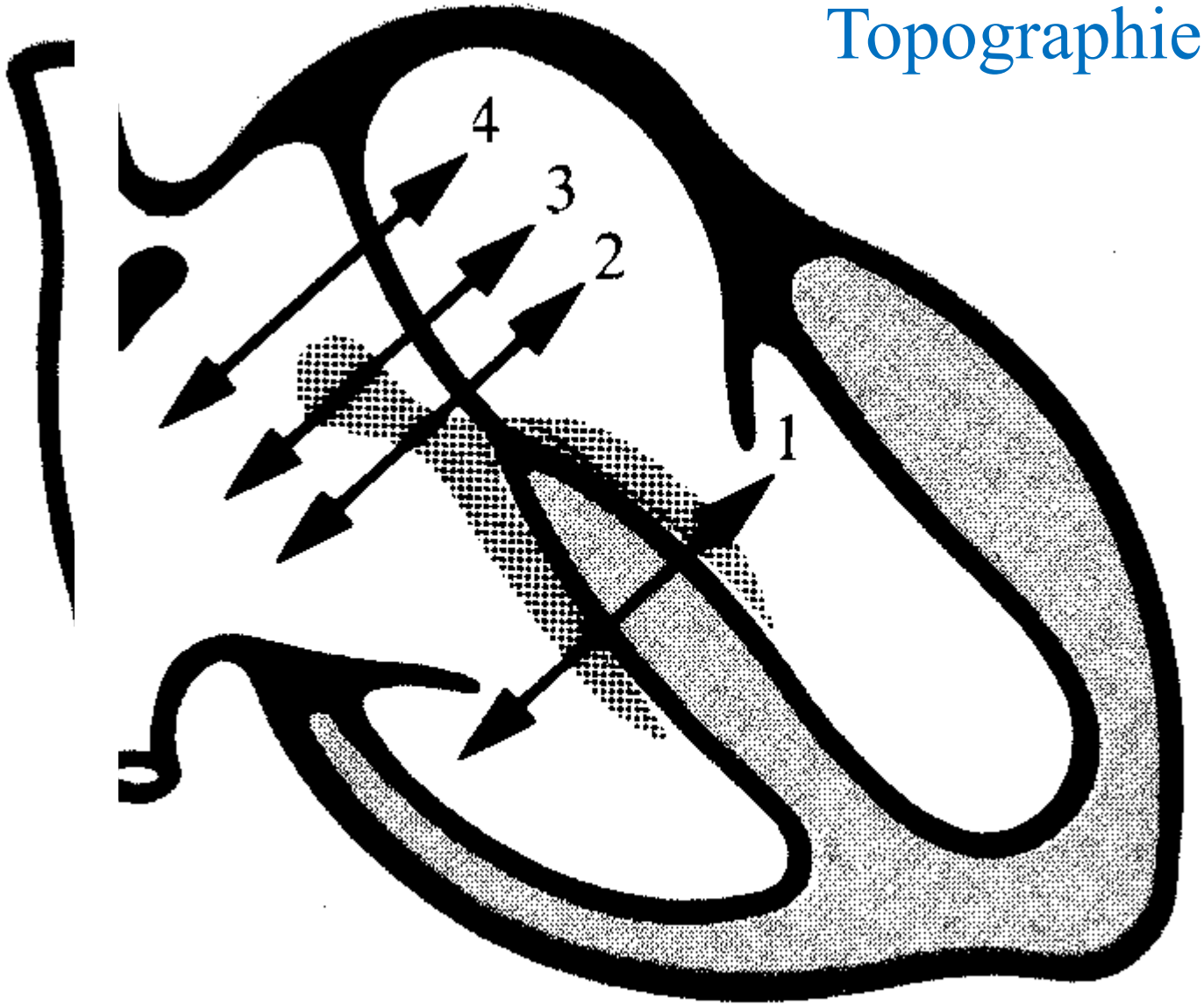
Maladie de l’oreillette



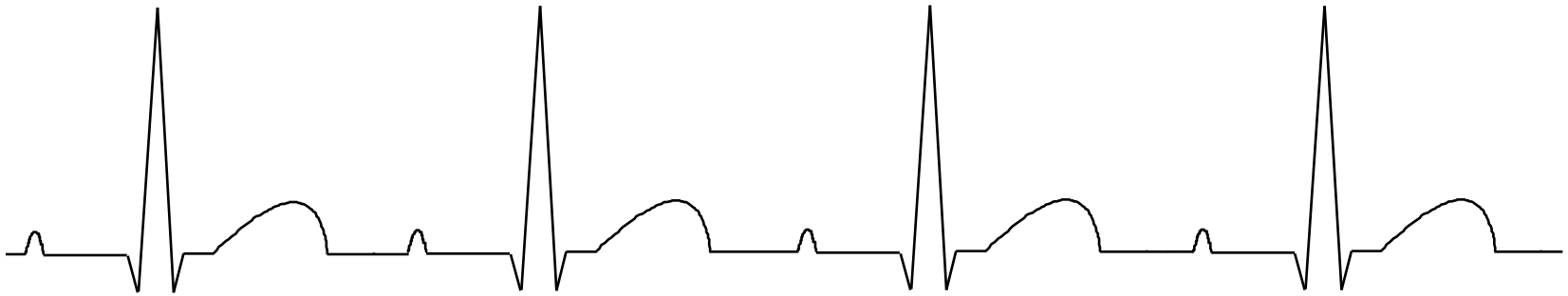
Blocs atrio-ventriculaires

- Retard ou absence de conduction dans la jonction Atrio ventriculaire

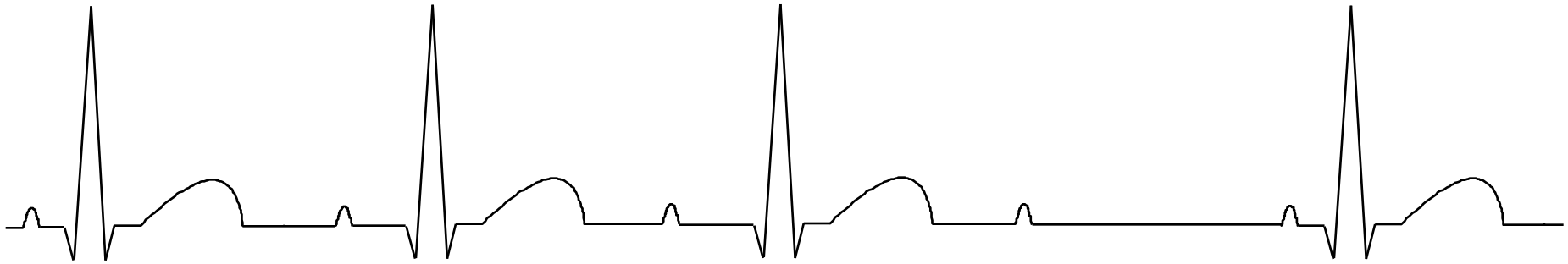
Bloc atrio-ventriculaires: Topographie



Bloc AV 1°

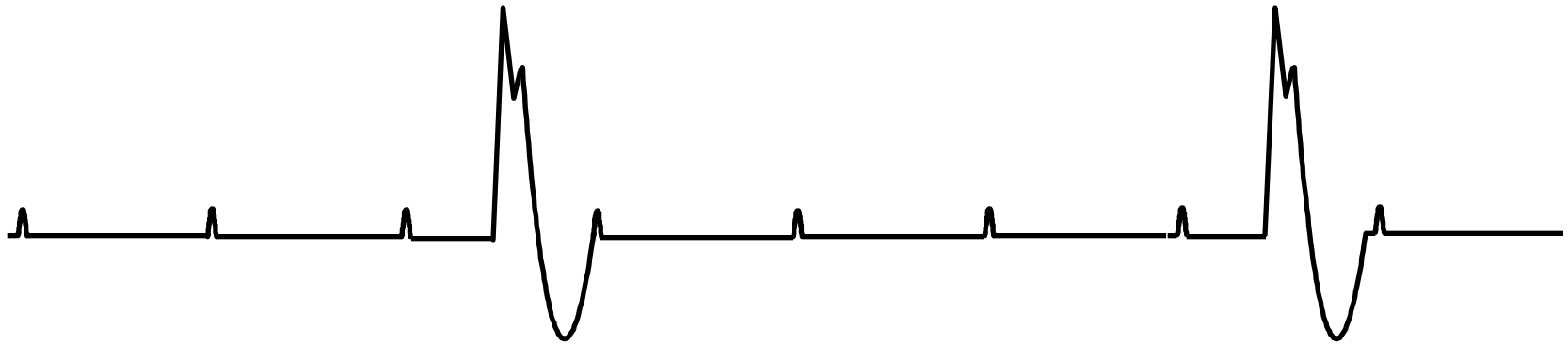


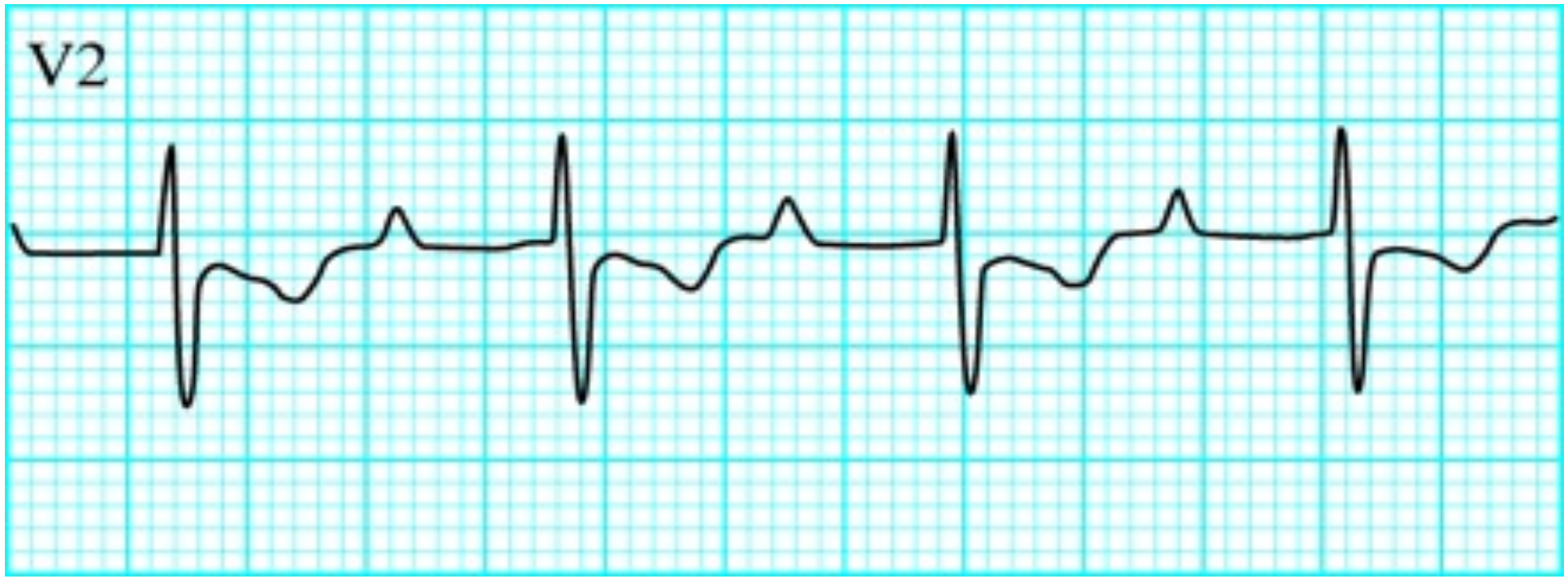
BAV 2°
Luciani Wenckebach

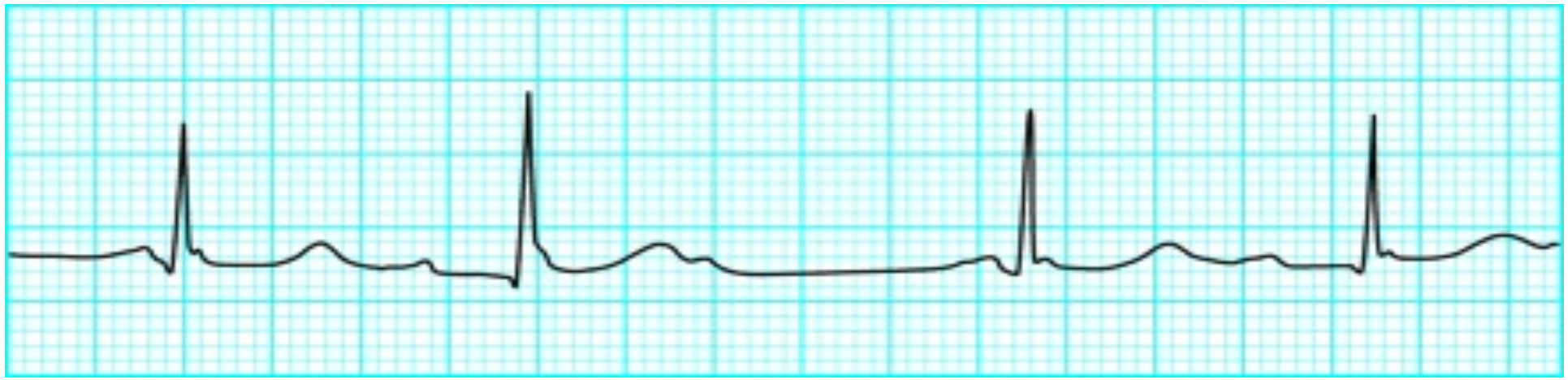


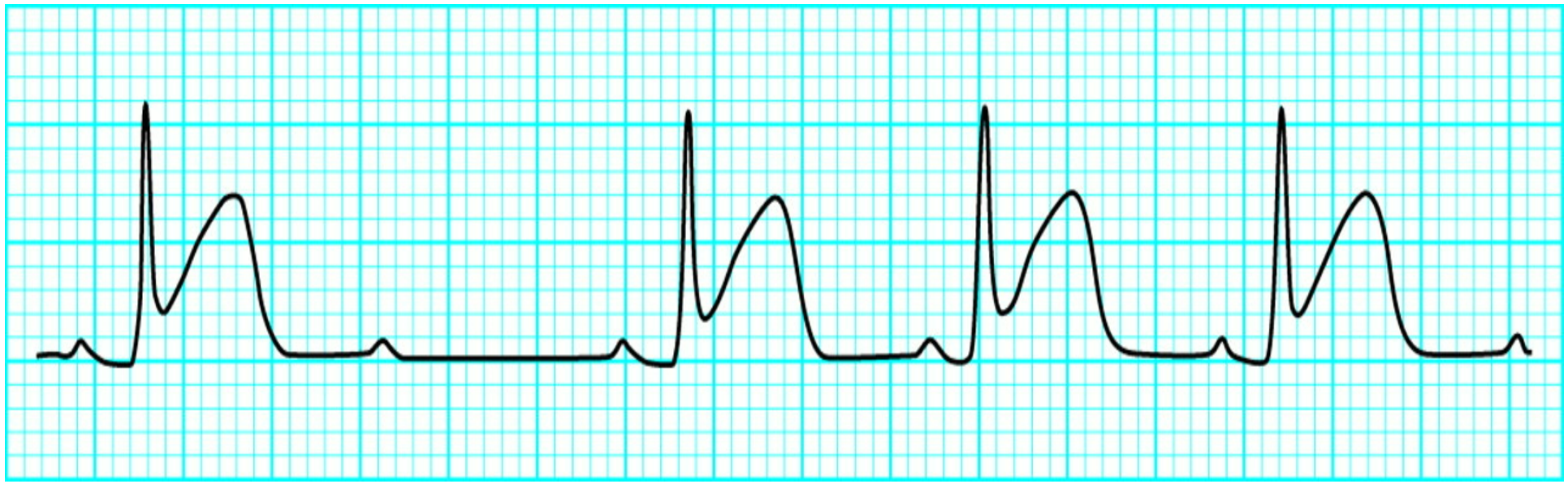
BAV 2°
Mobitz II

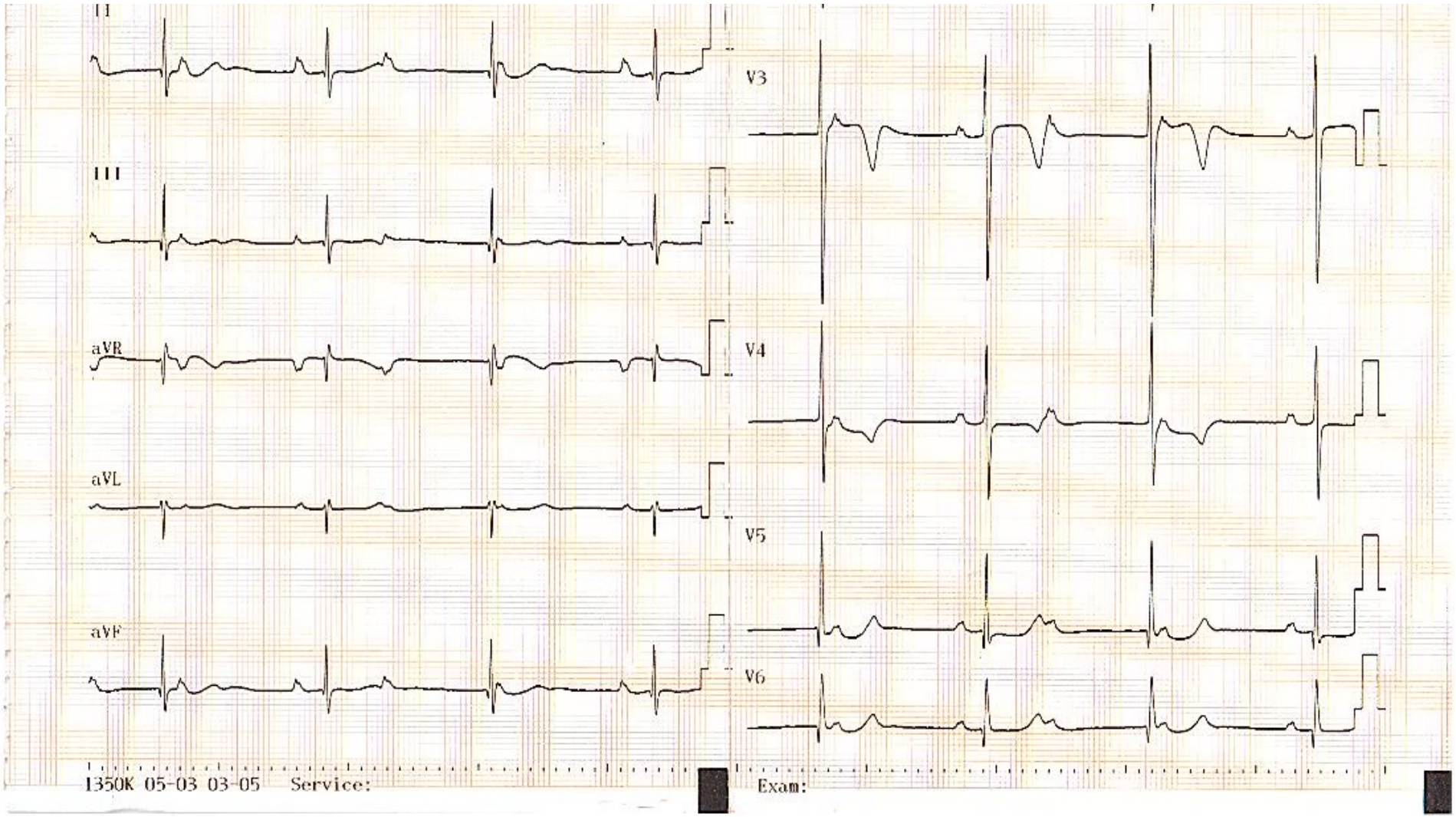
BAV 3°
bloc complet

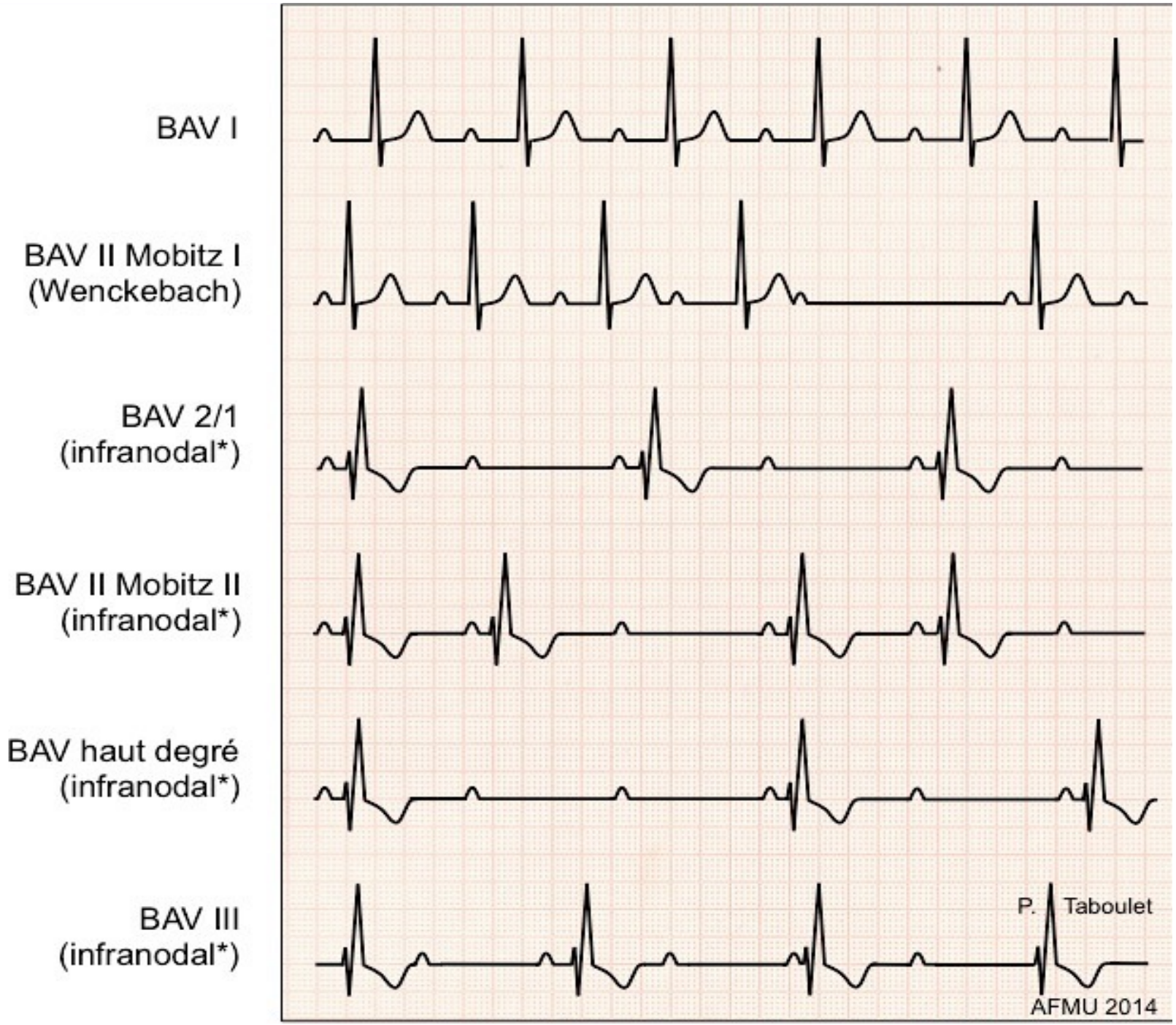


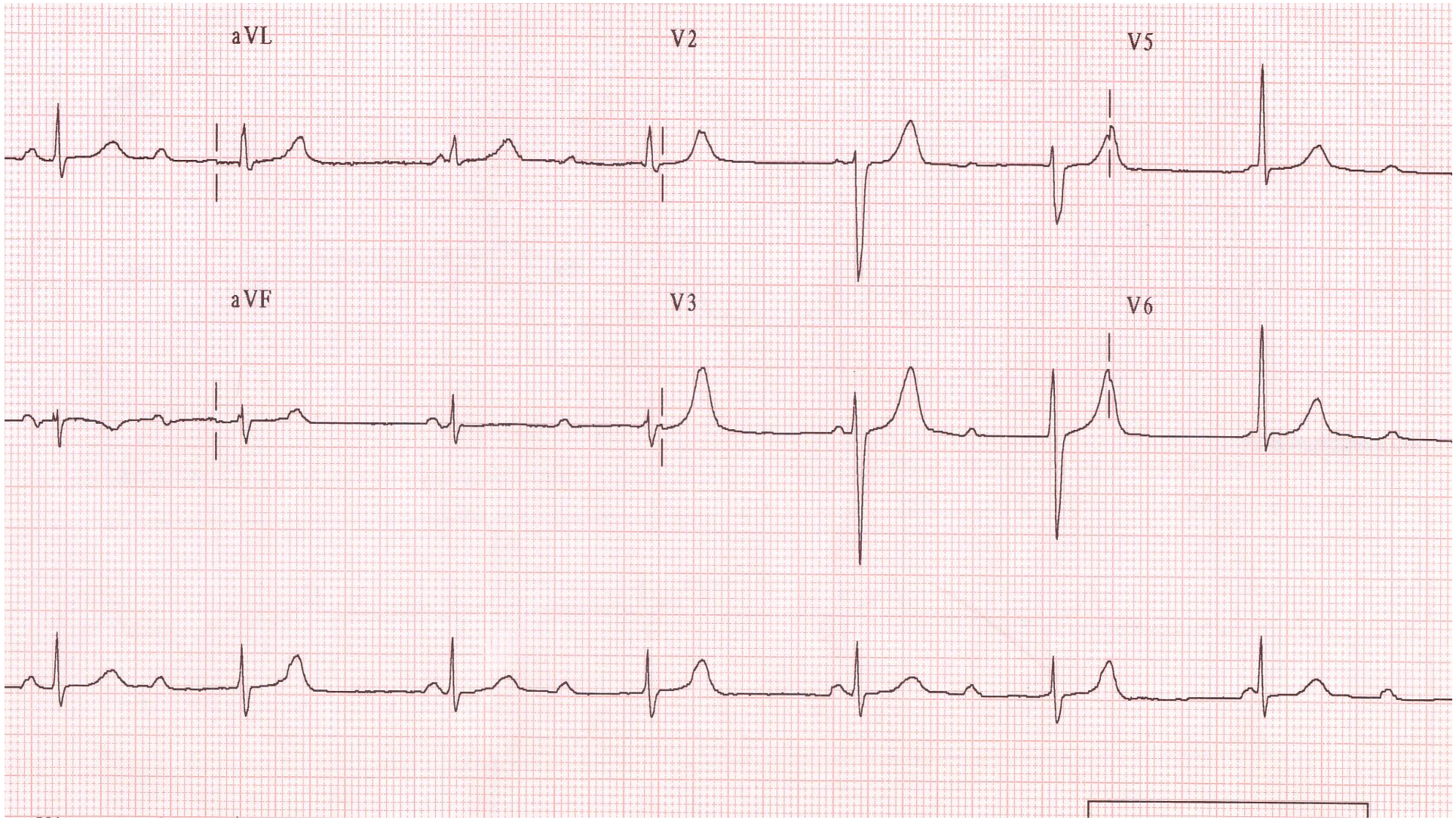

V2



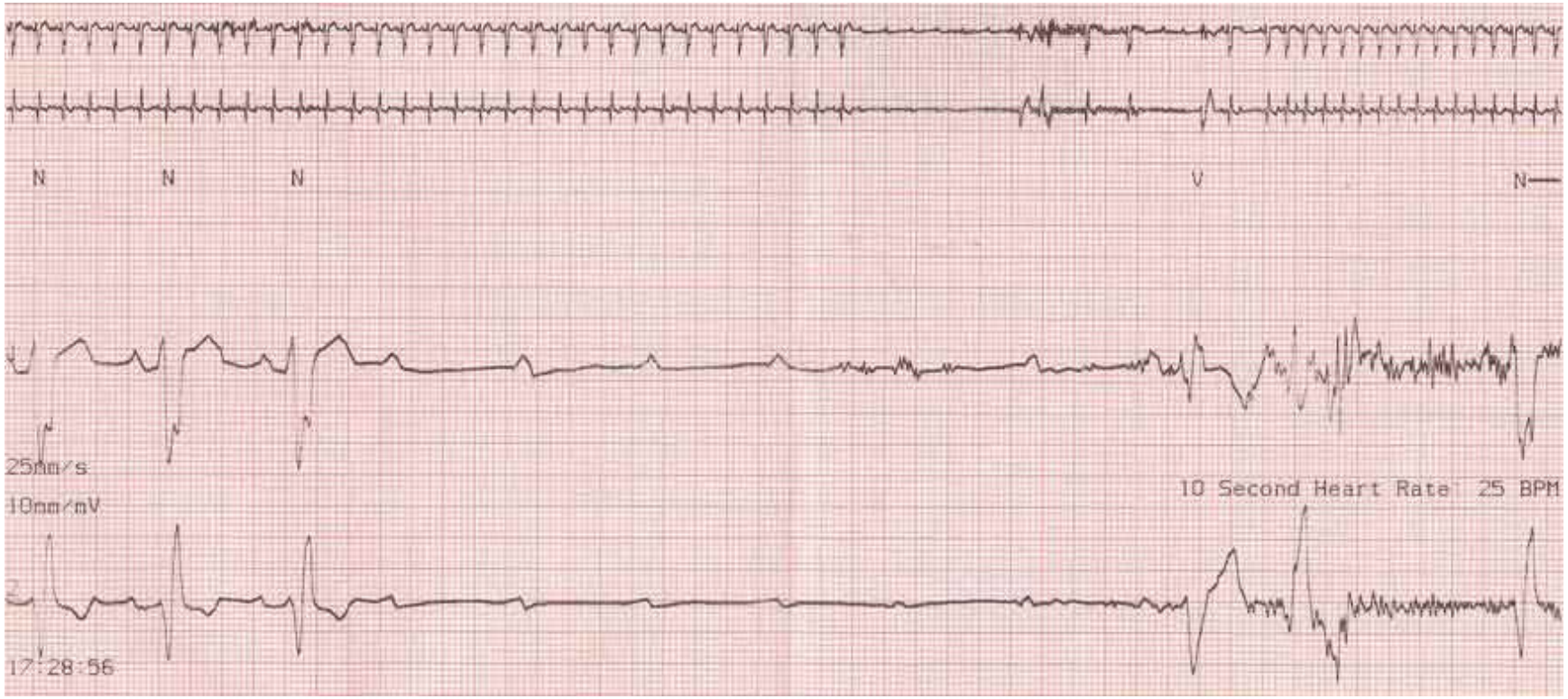



II
III
aVR
aVL
aVF
V3
V4
V5
V6
1350K 05-03 03-05 Service:
Exam:

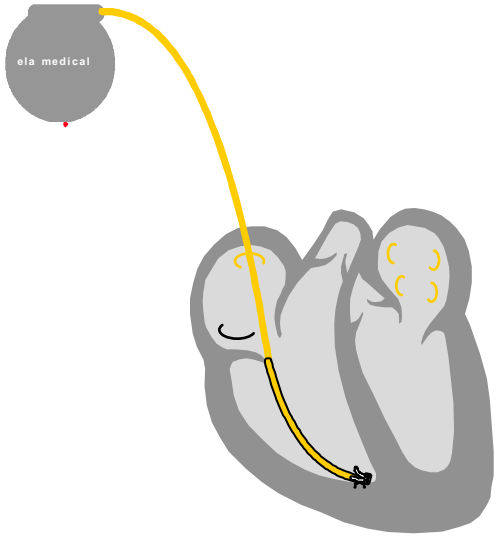

BAV I
BAV II Mobitz I
(Wenckebach)
BAV 2/1
(infranodal*)
BAV II Mobitz II
(infranodal*)
BAV haut degré
(infranodal*)
BAV III
(infranodal*)
P. Taboulet
AFMU 2014

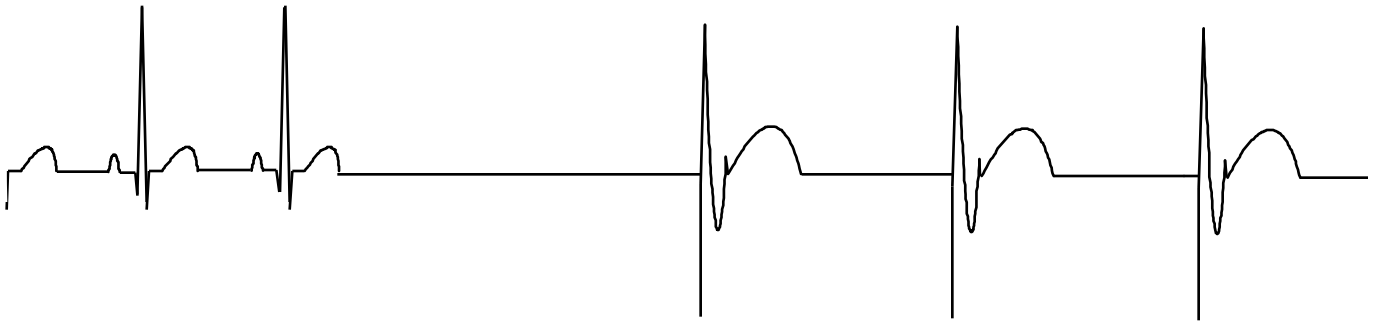

aVL
V2
V5
aVF
V3
V6

Syncope

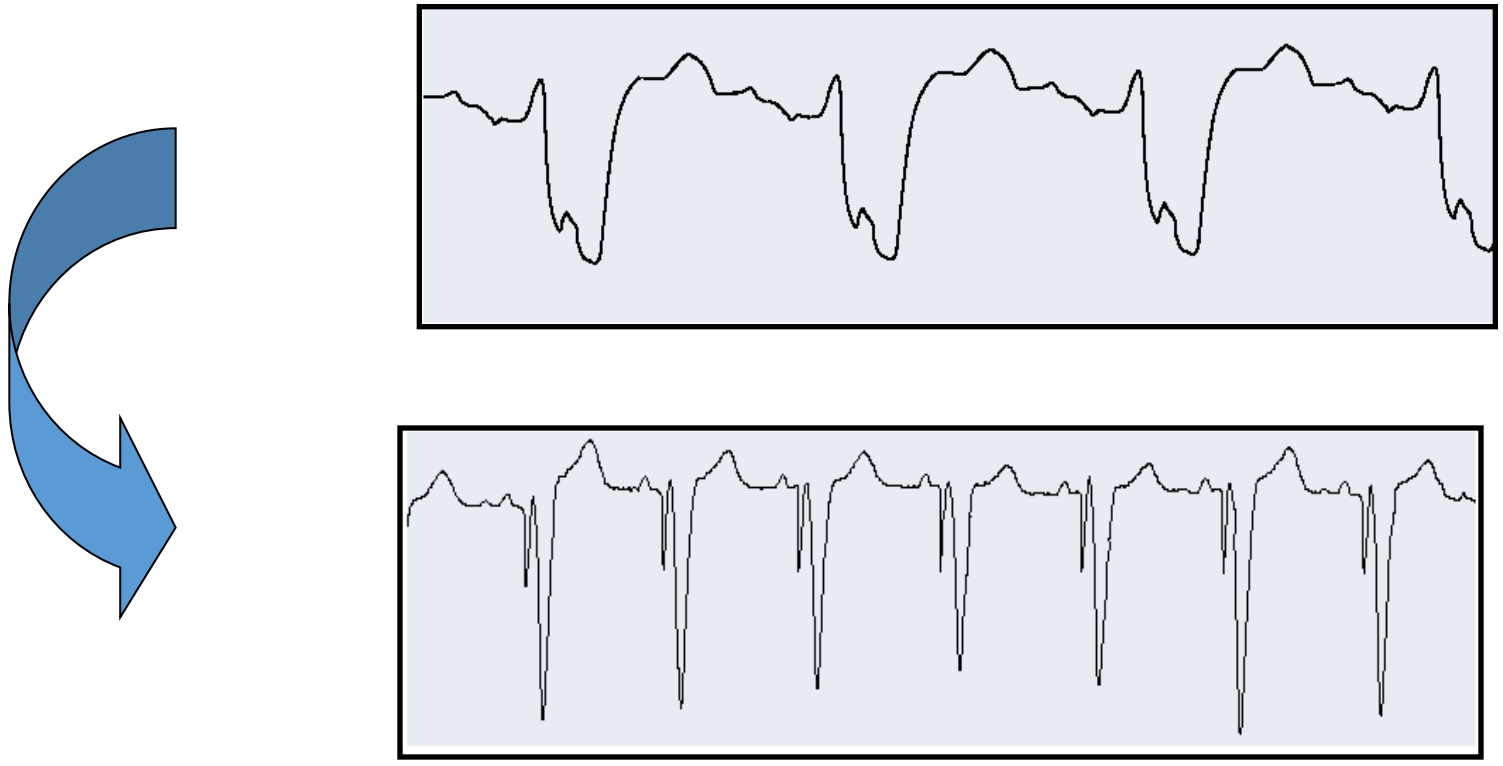


Stimulation simple chambre
VVI
Pace Maker

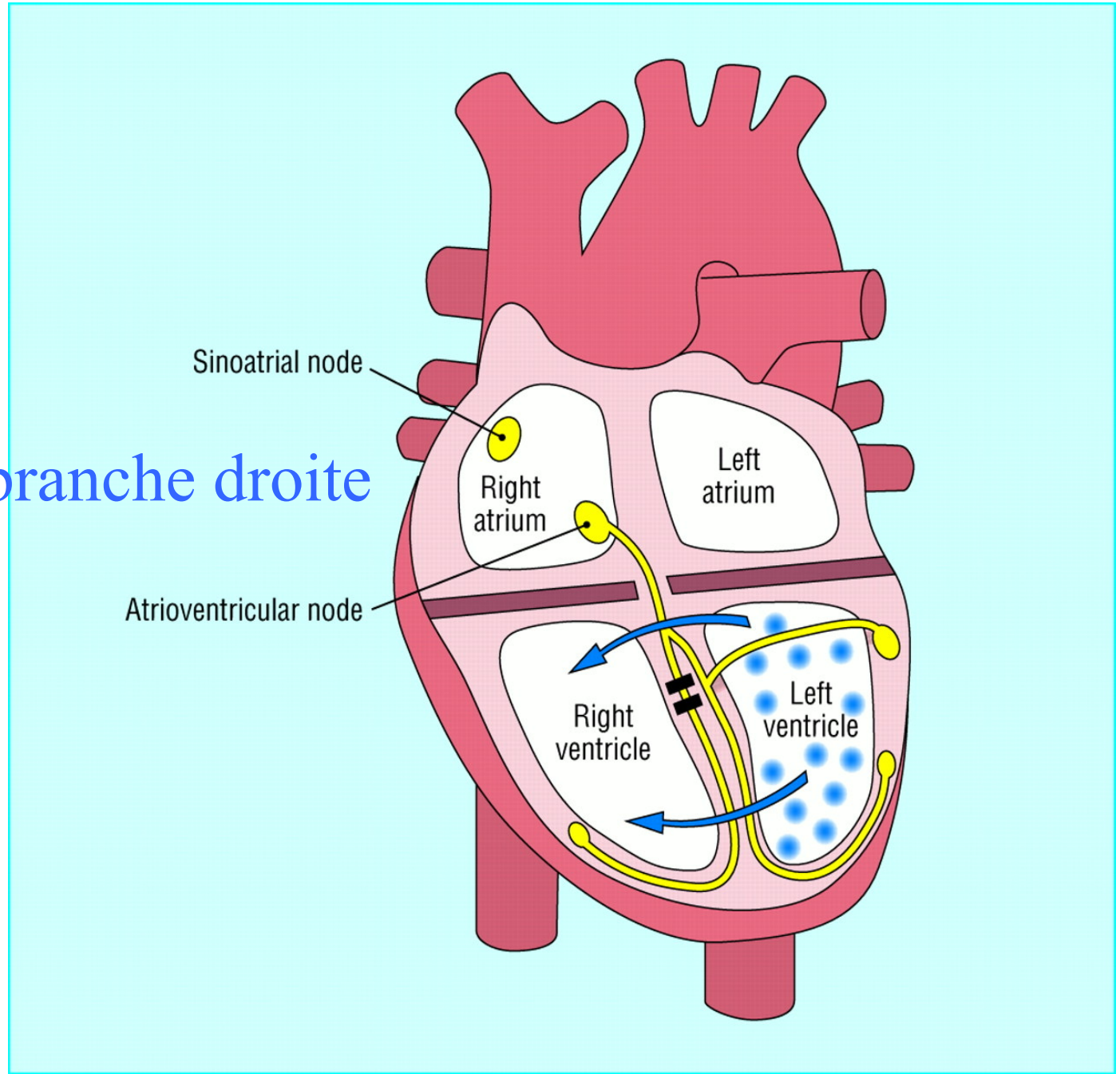


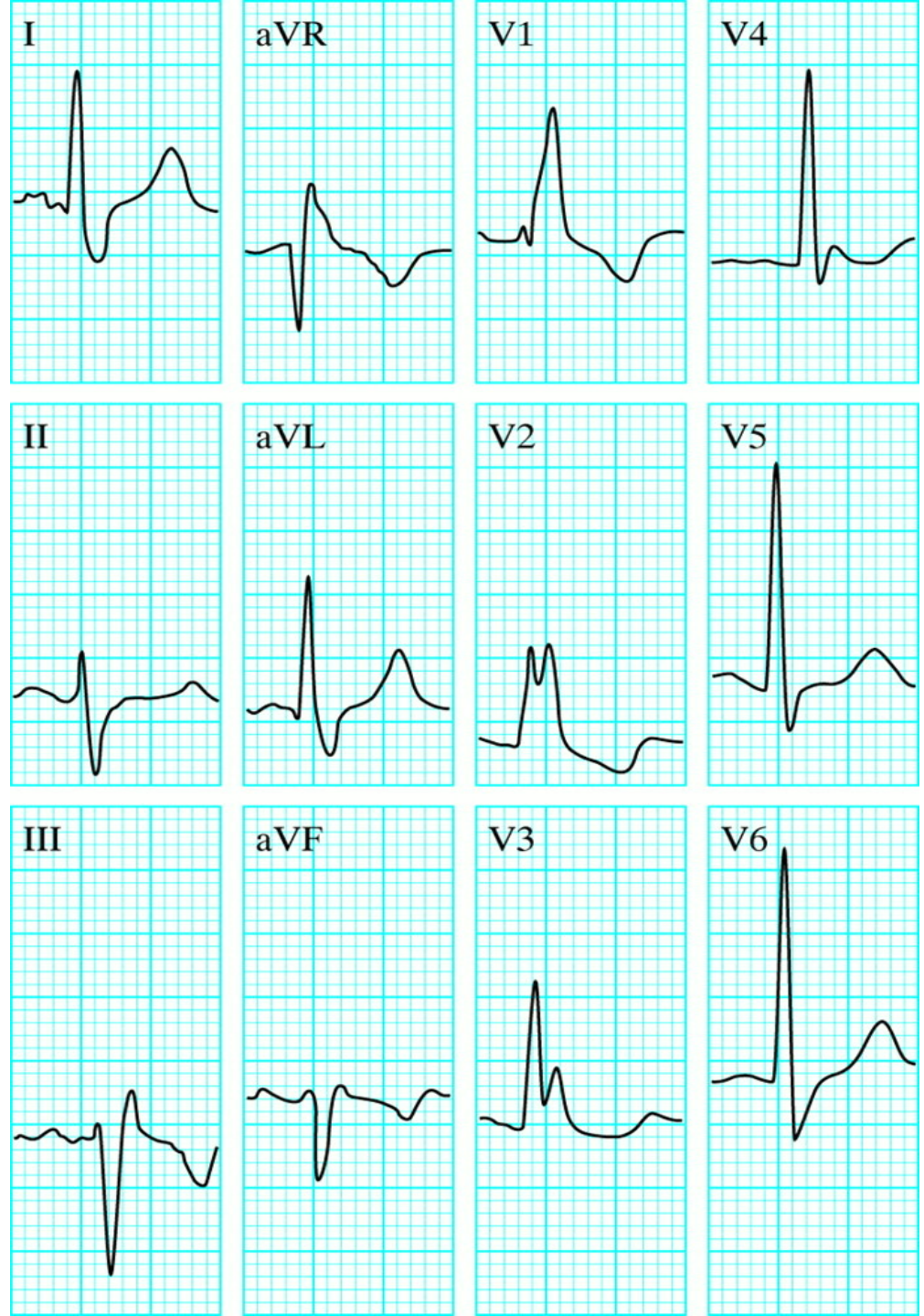


Resynchronisation ventriculaire

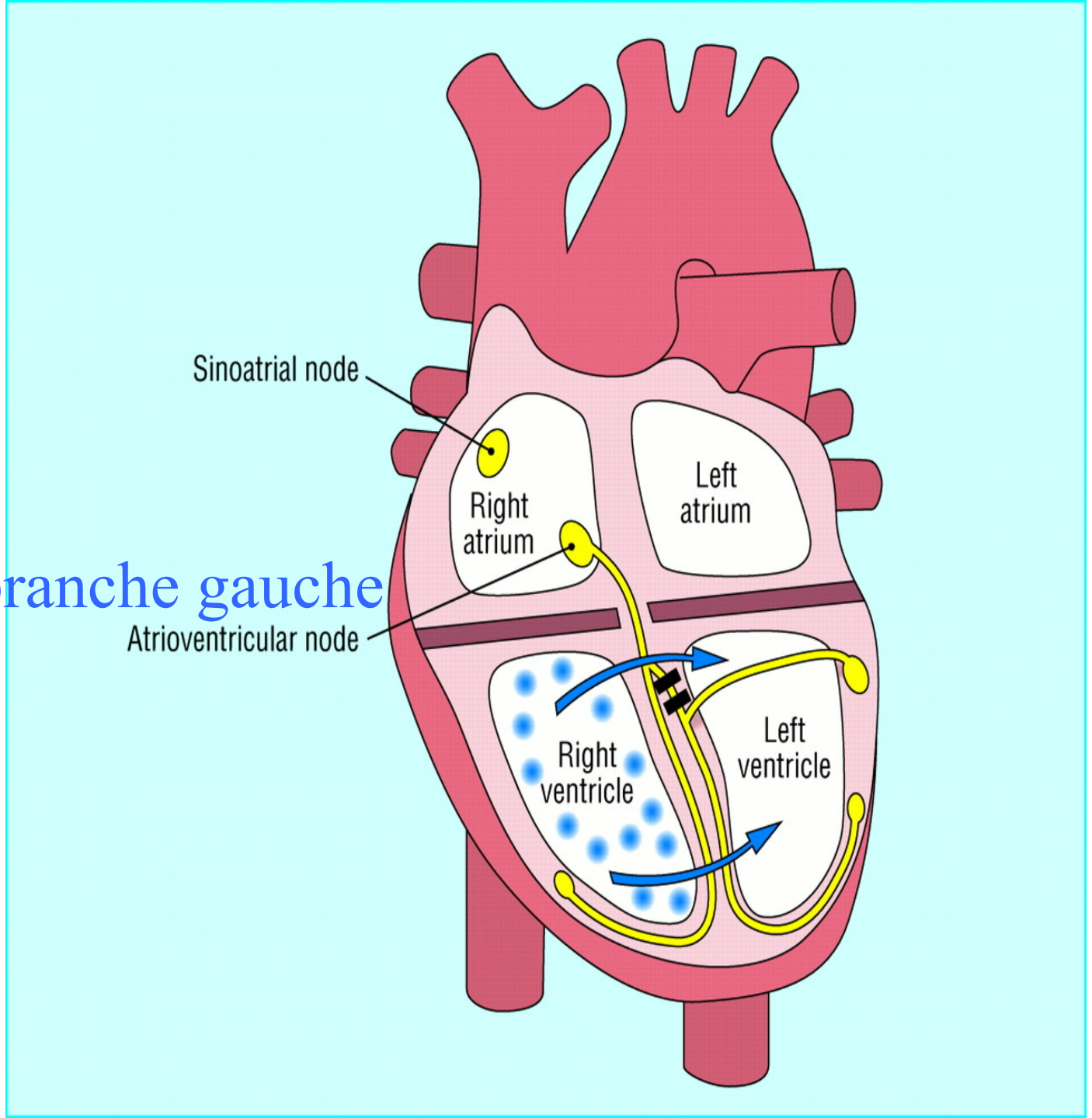


Bloc de branche droite

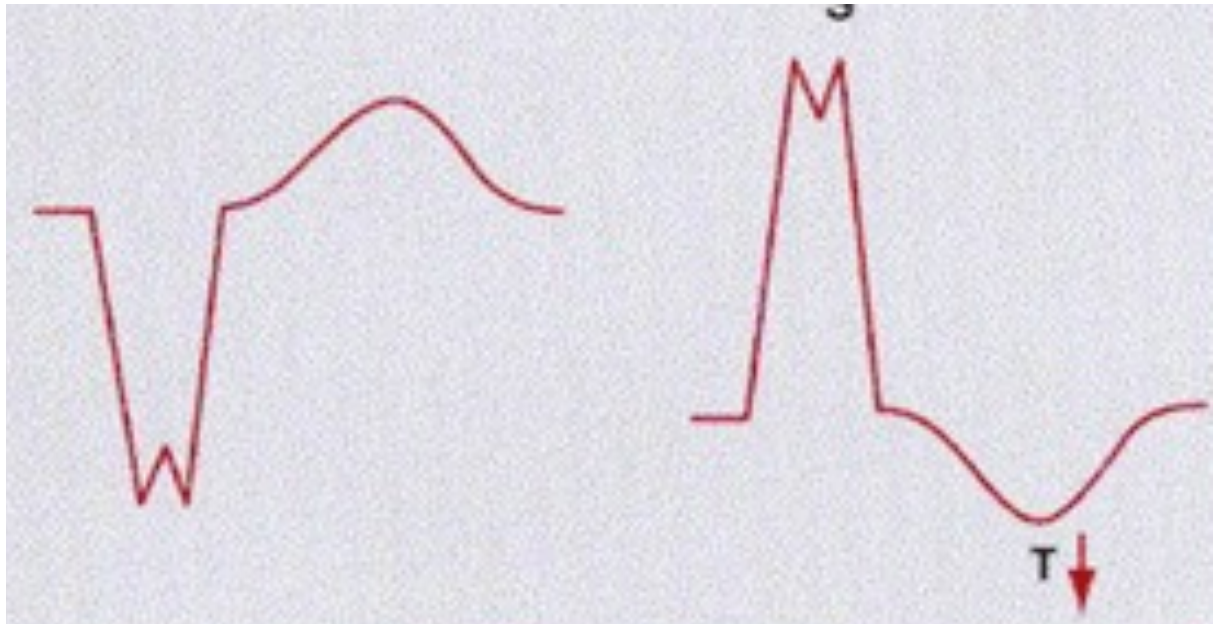



I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6

Bloc de branche gauche

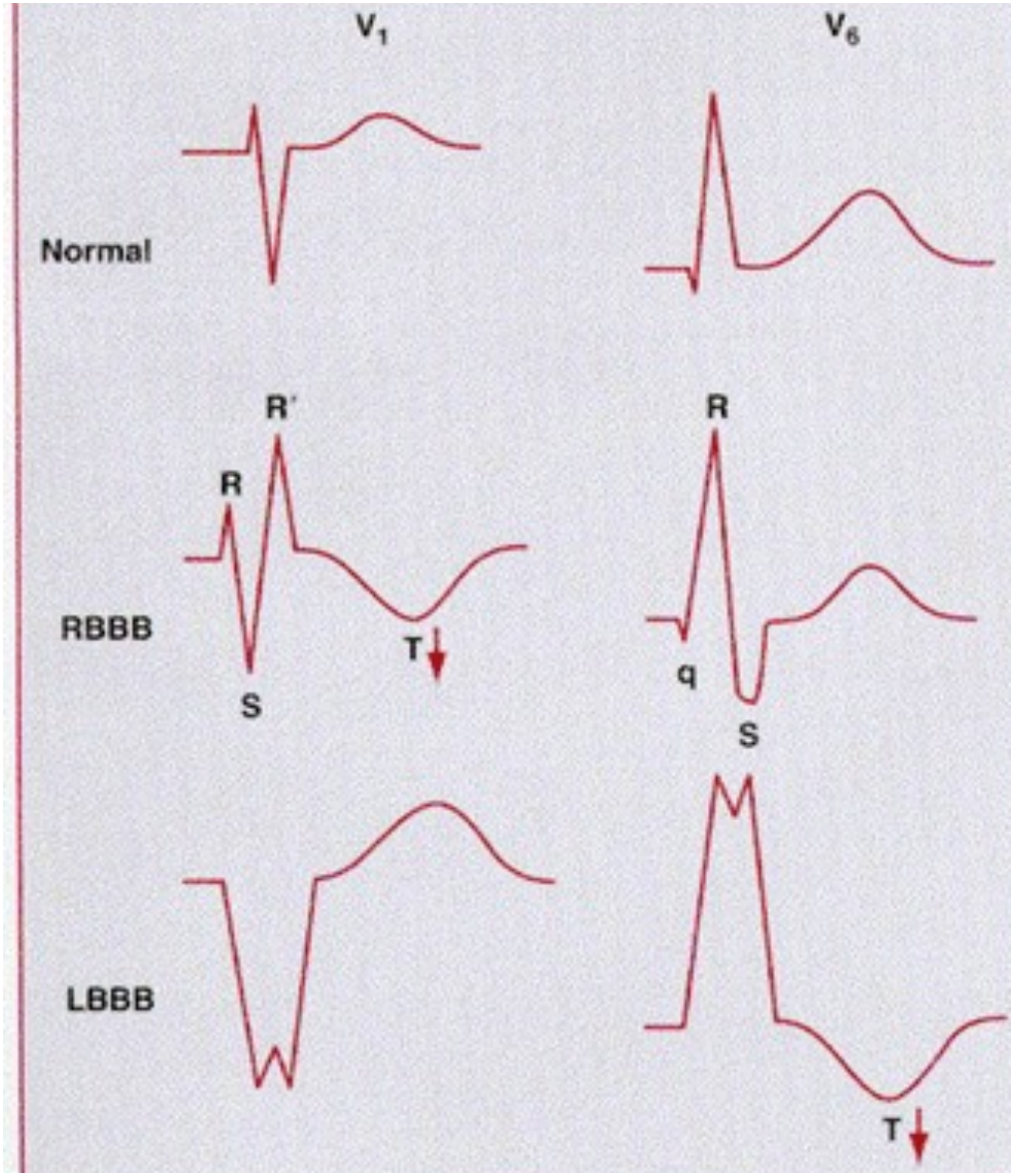


BBG



V1

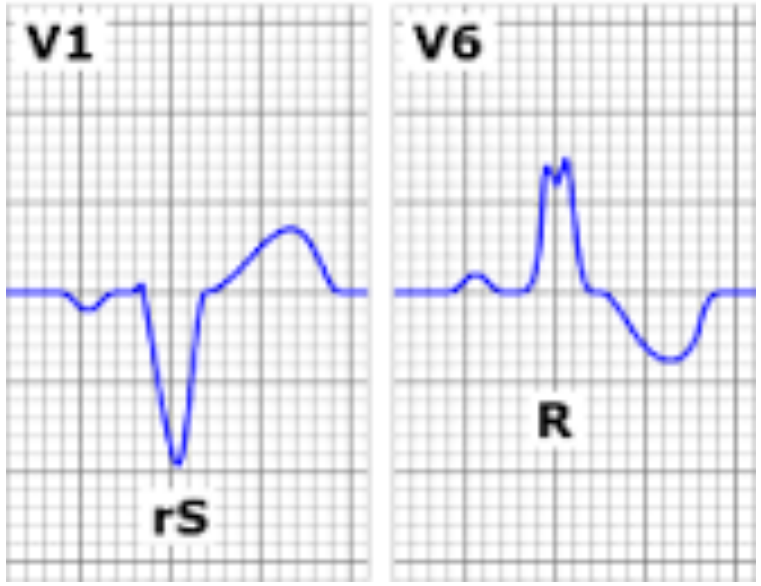
V6

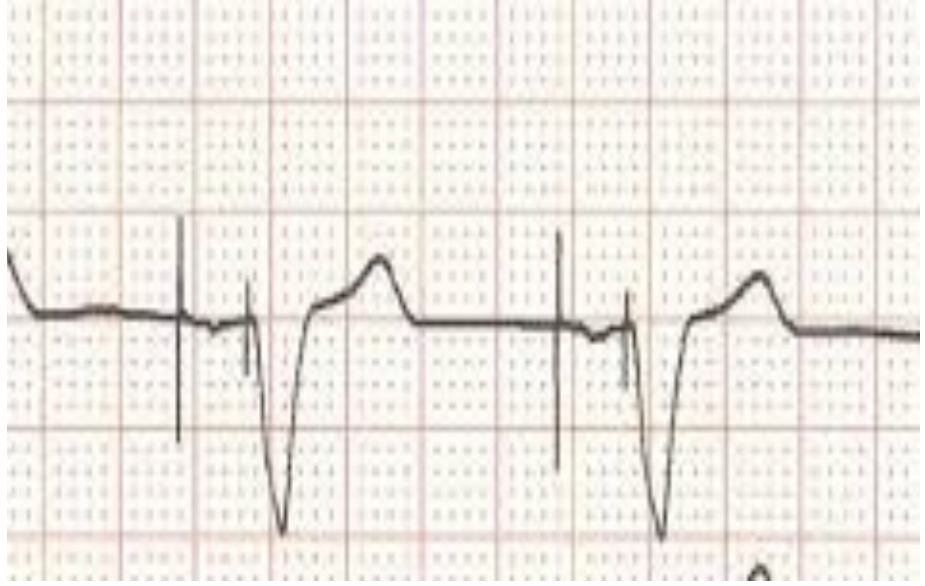


Normal

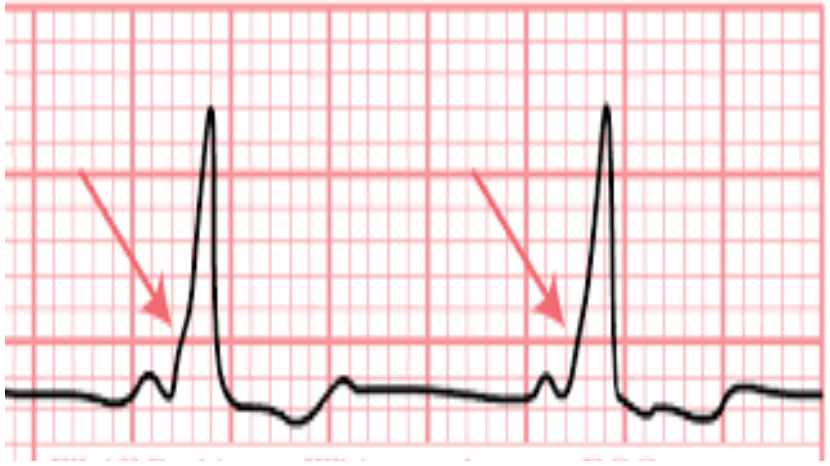
BBD

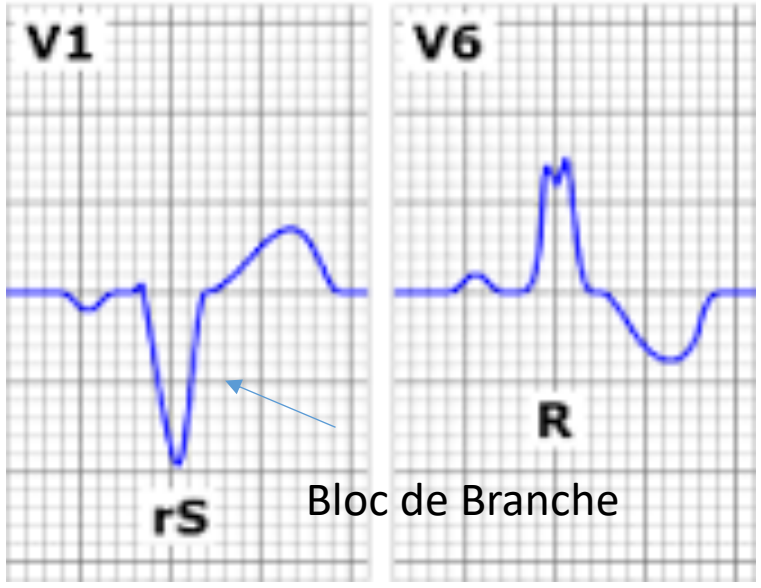
BBG

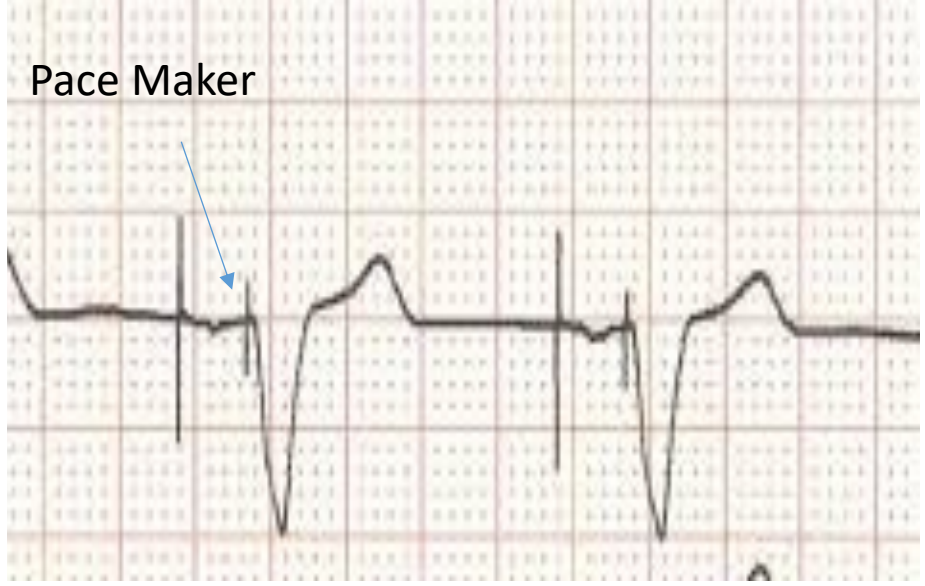




QRS larges?

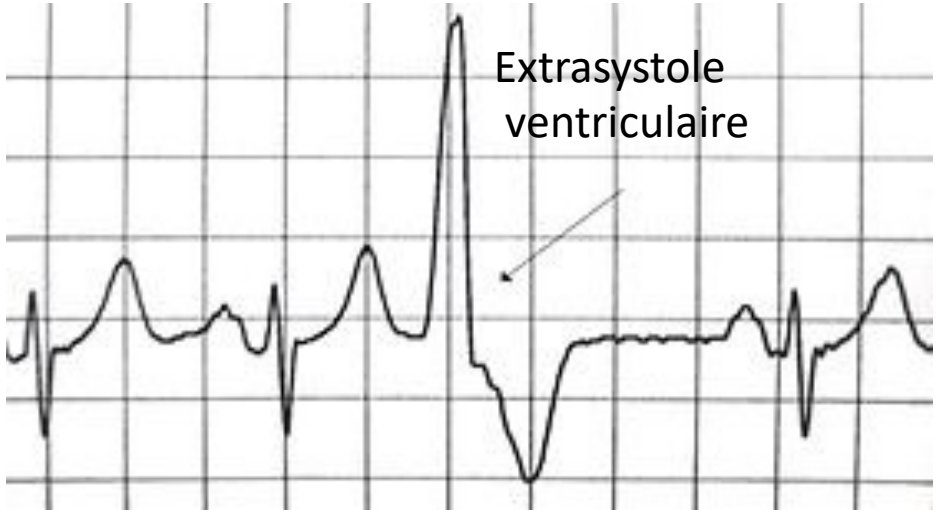



V1
V6
R
rS
Bloc de Branche


Pace Maker

QRS larges?


WPW


Extrasystole
ventriculaire

Rythmologie

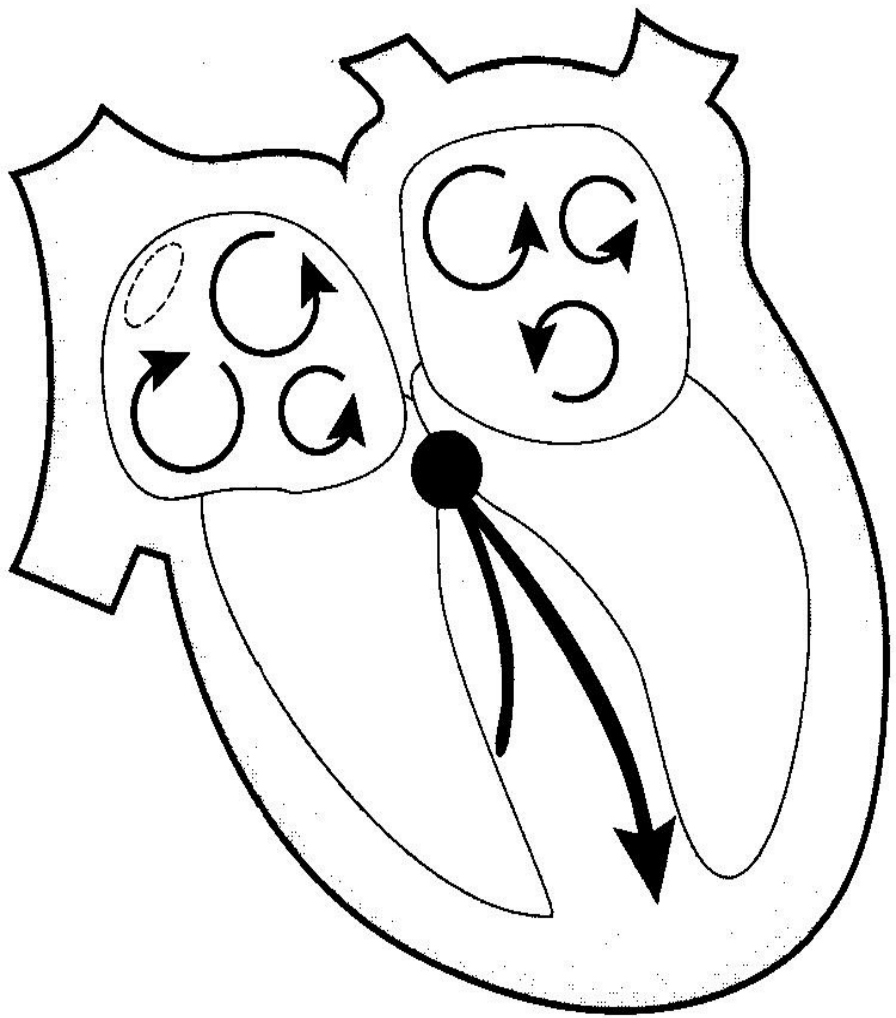
Philippe Chevalier

- ✓Syncopes/Troubles de la conduction
- ✓Palpitations/Tachycardies

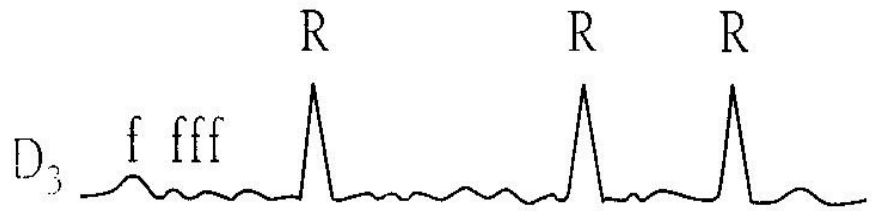
Novembre 2022

Tachycardies/Palpitations

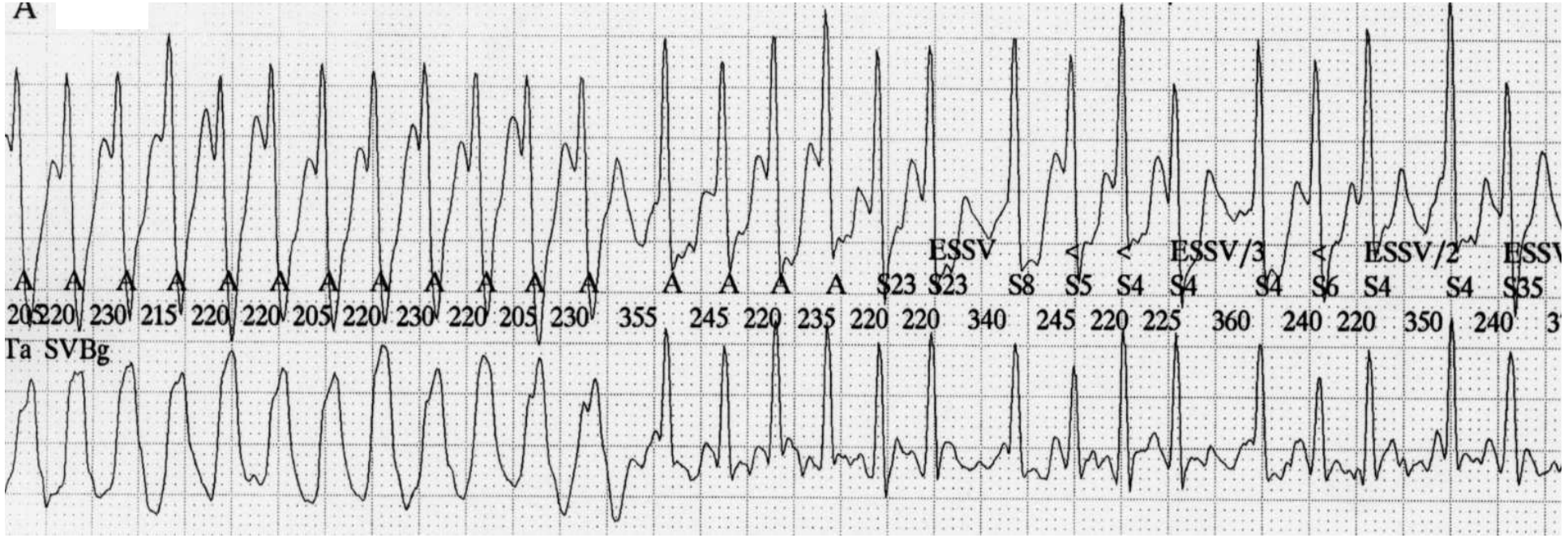
1) Tachycardies atriales
2) Tachycardies jonctionnelles
3) Tachycardies ventriculaires



- **Paroxystique**
- ***Persistante***
- **Permanente**

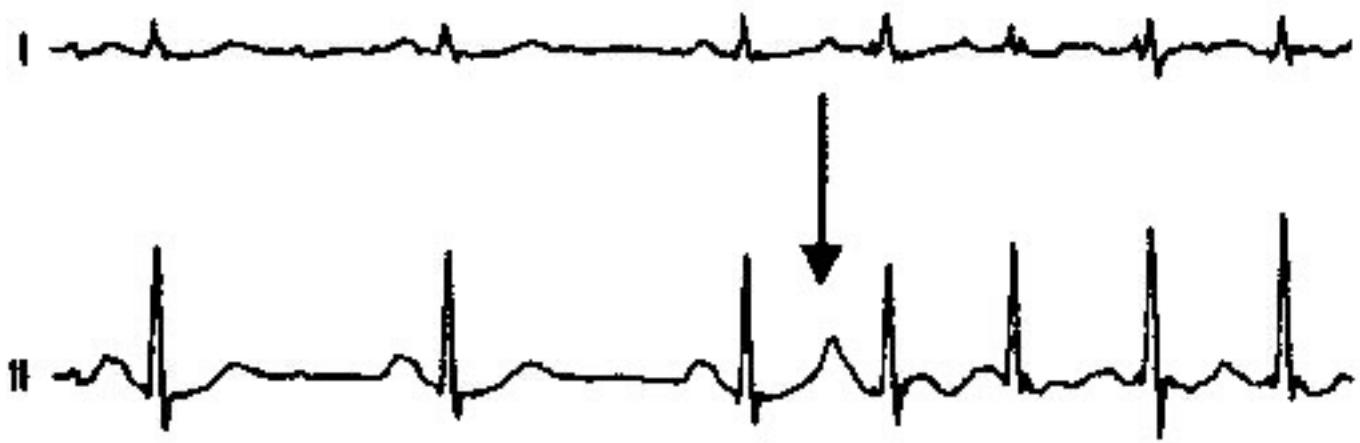


FIBRILLATION ATRIALE

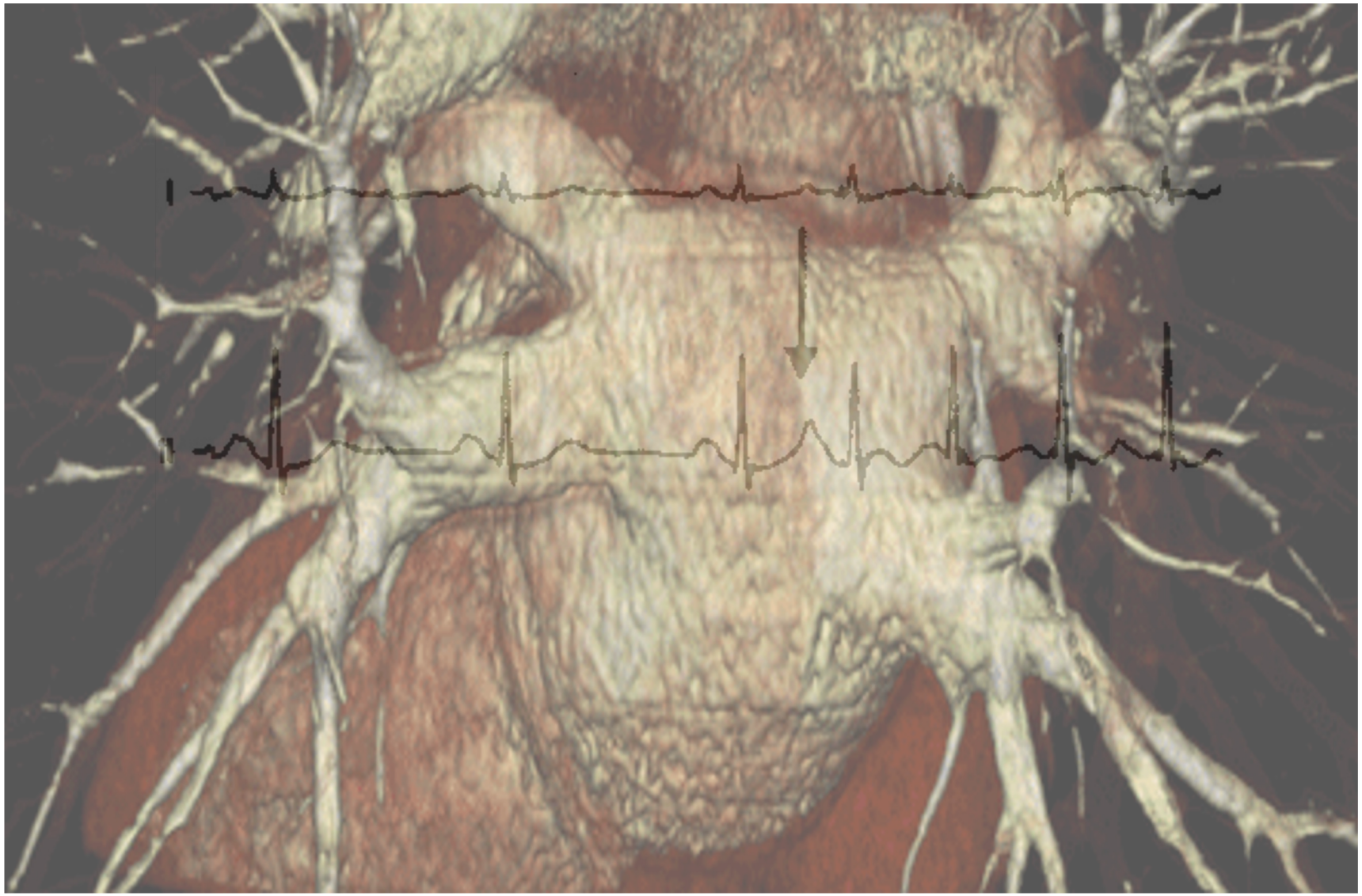


Holter : Fibrillation Atriale

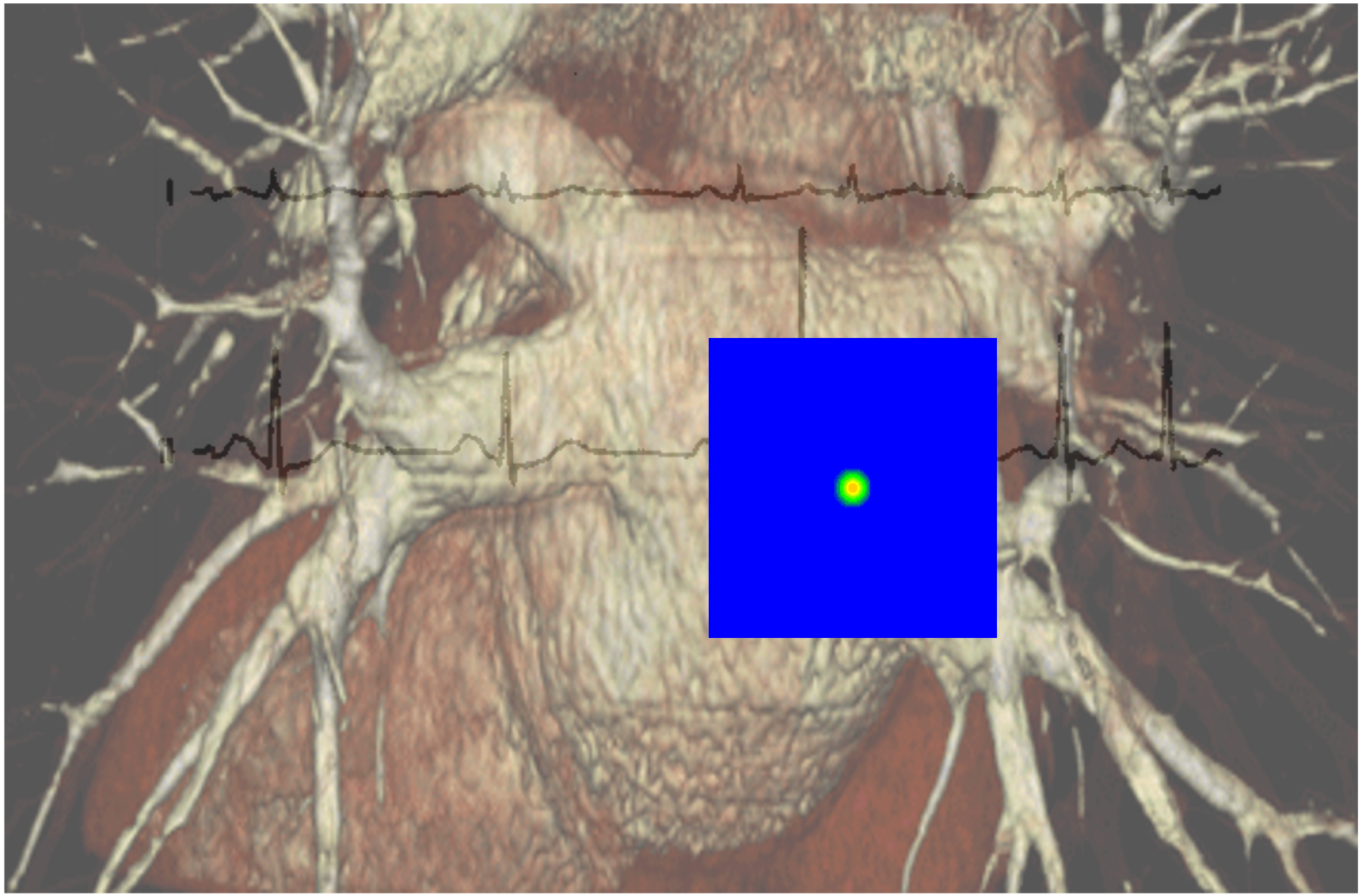
Extra Systole Atriale

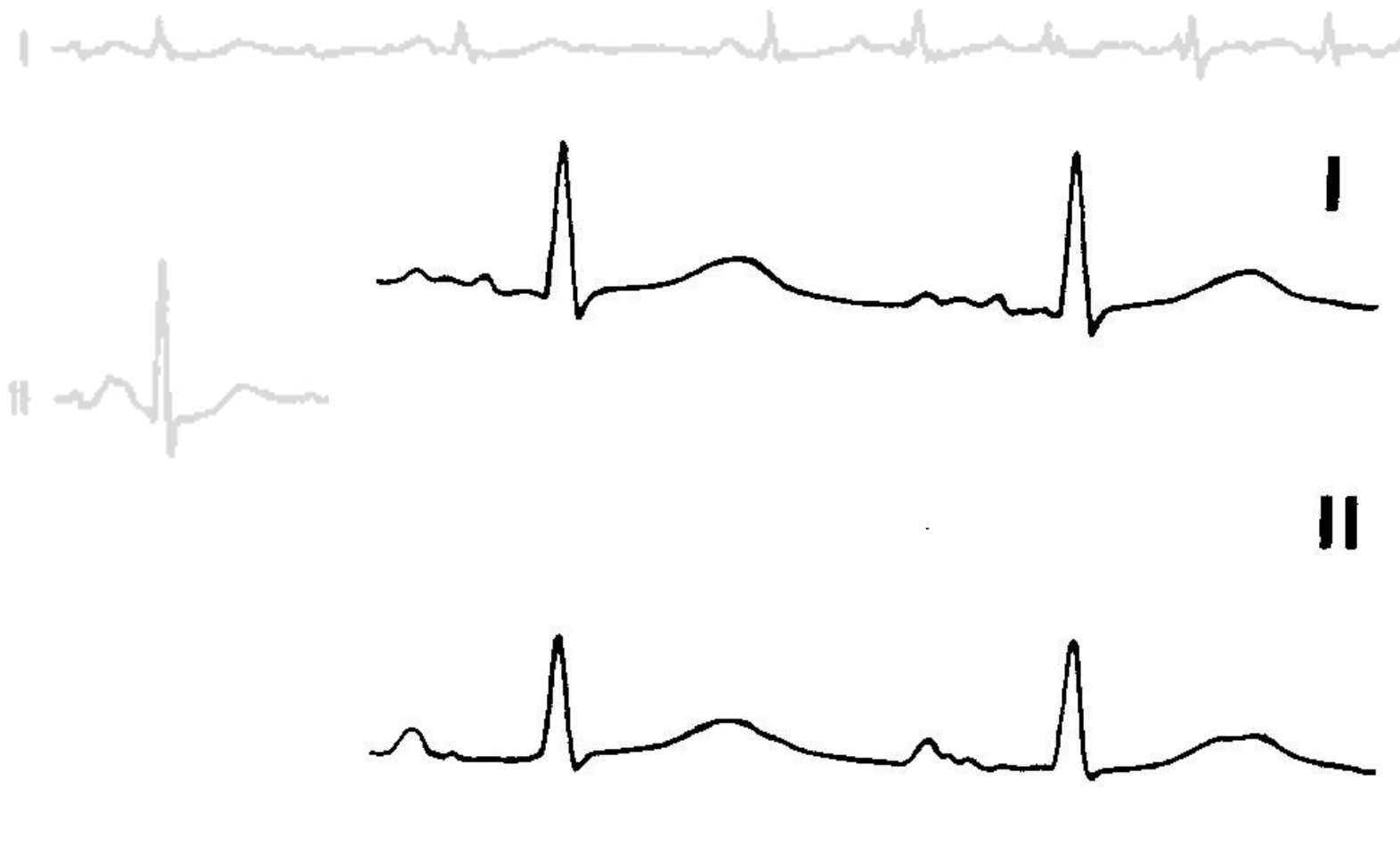


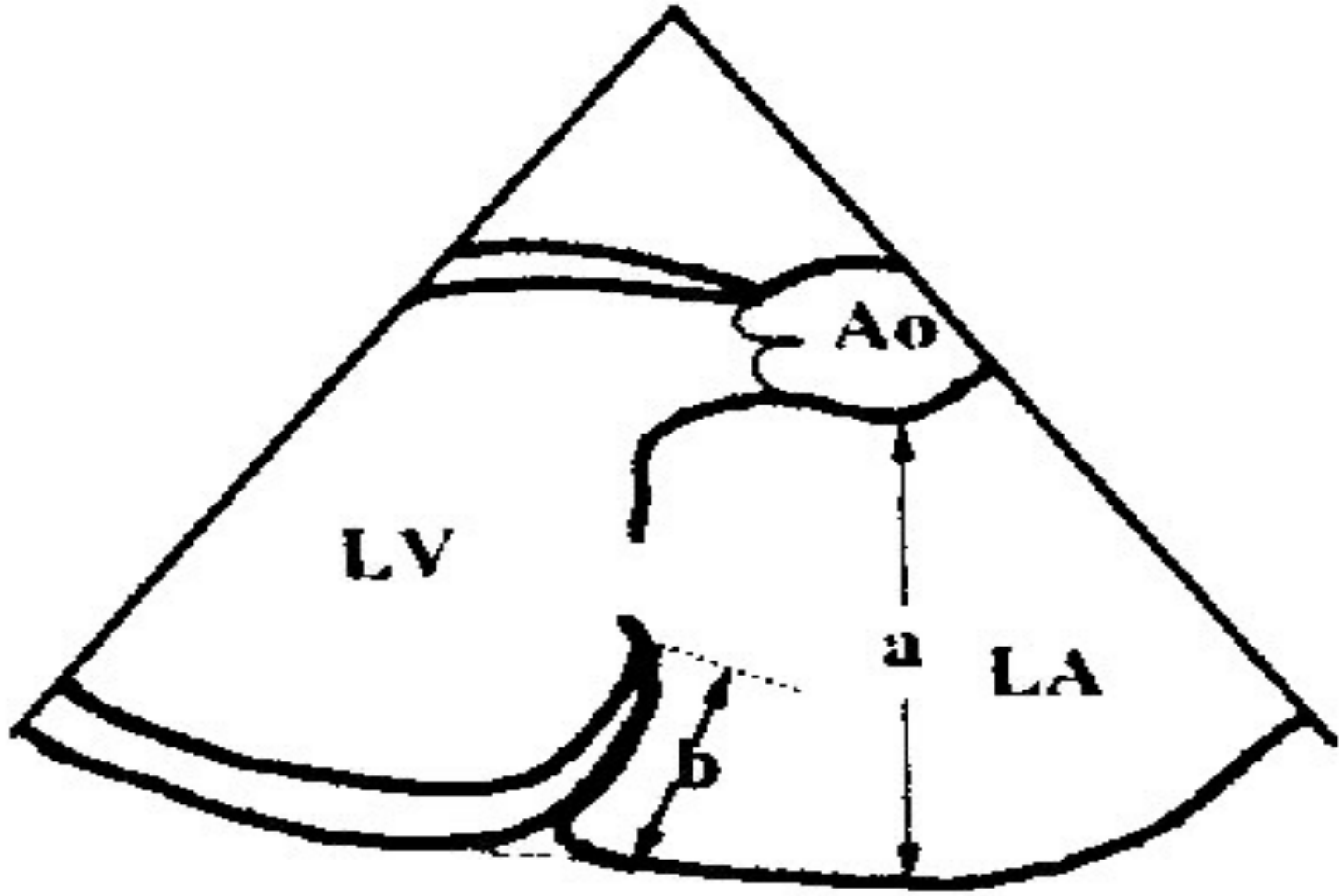
Extra Systole Atriale



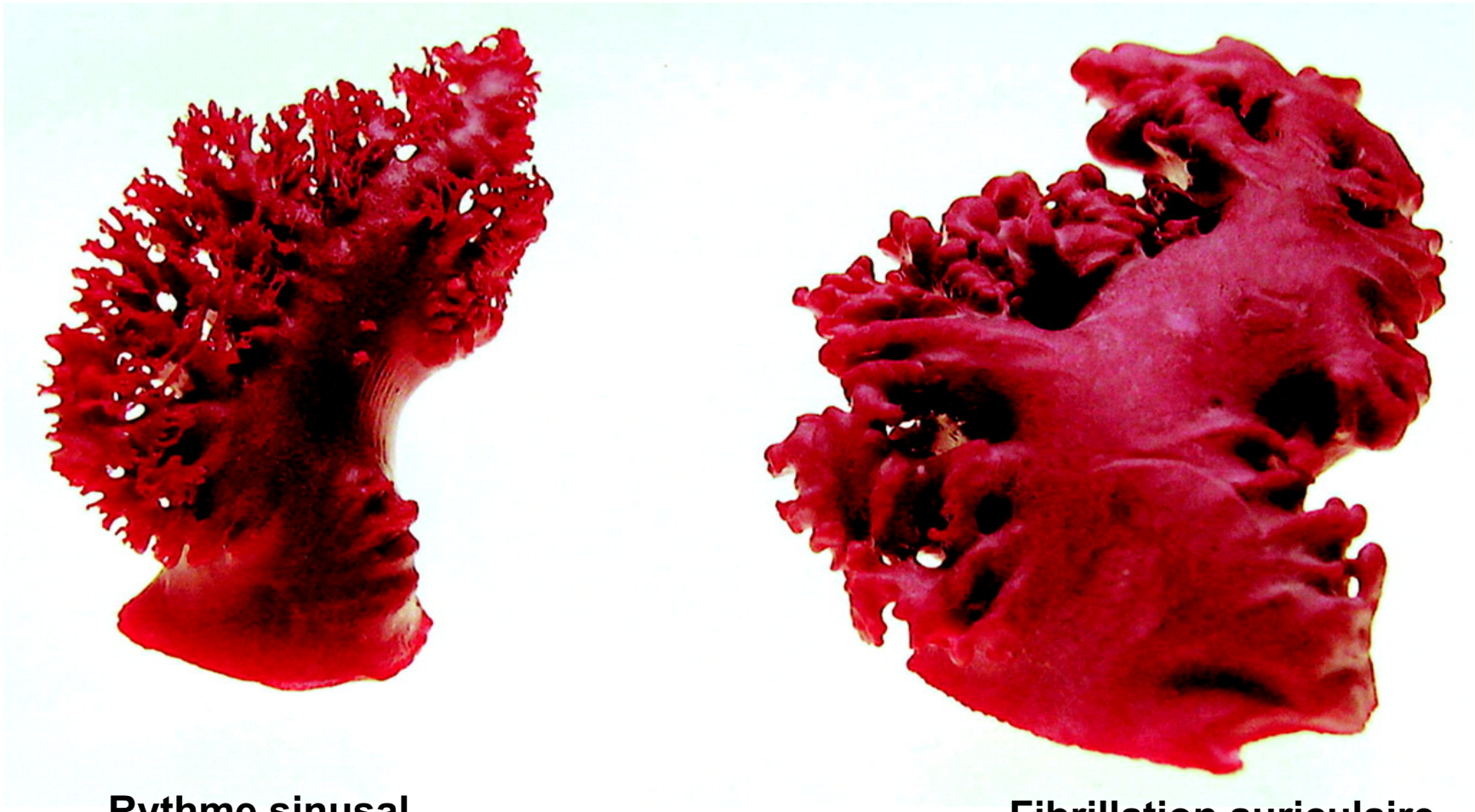
Extra Systole Atriale




I
II


Ao
LV
a
LA
b

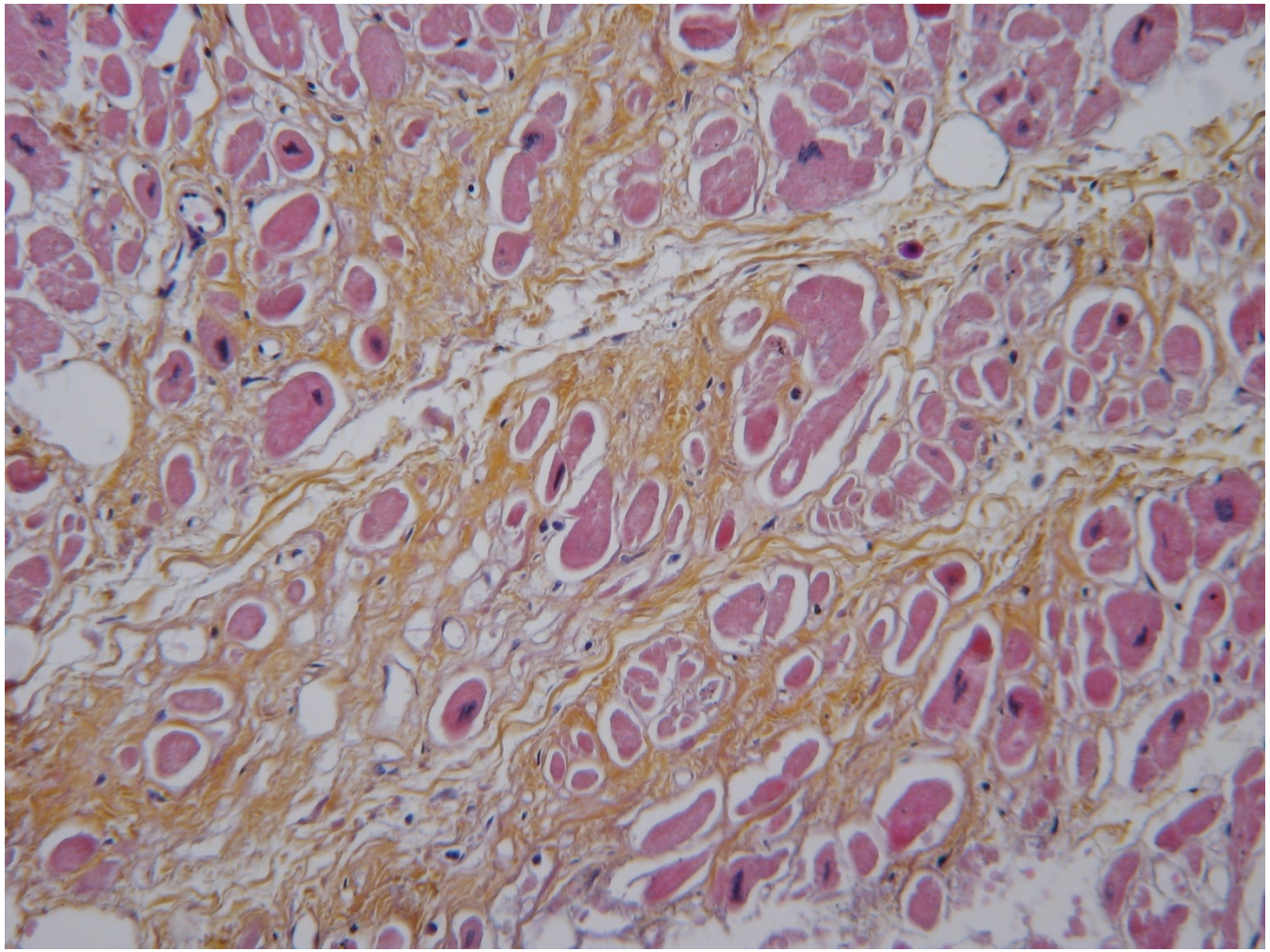
FA et remodelage anatomique



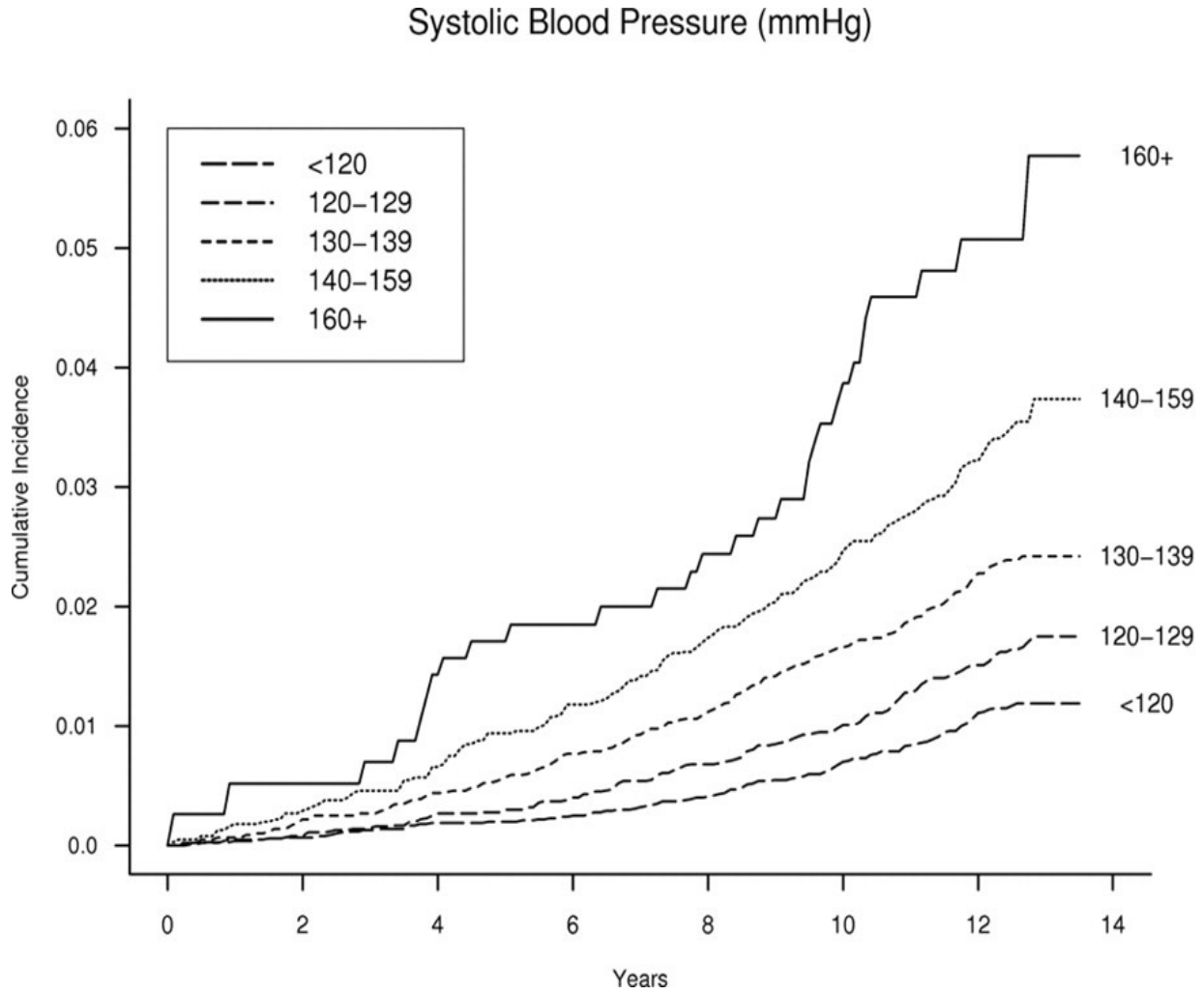
Rythme sinusal

Fibrillation auriculaire

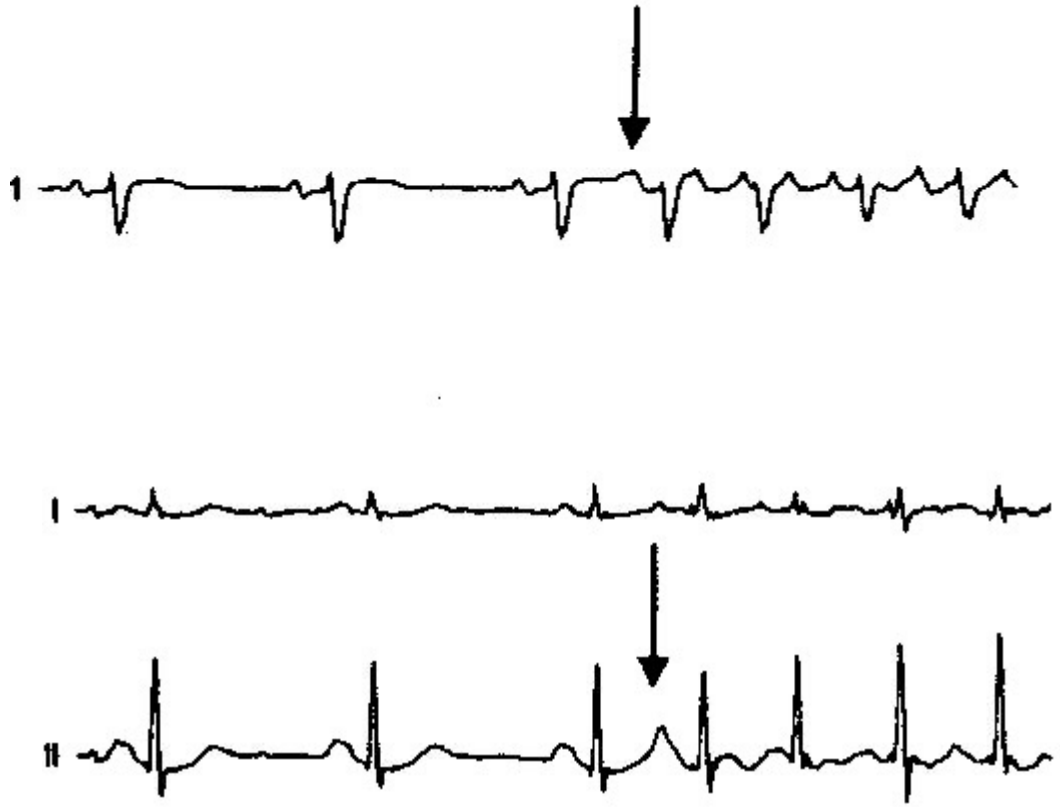
Myopathie atriale



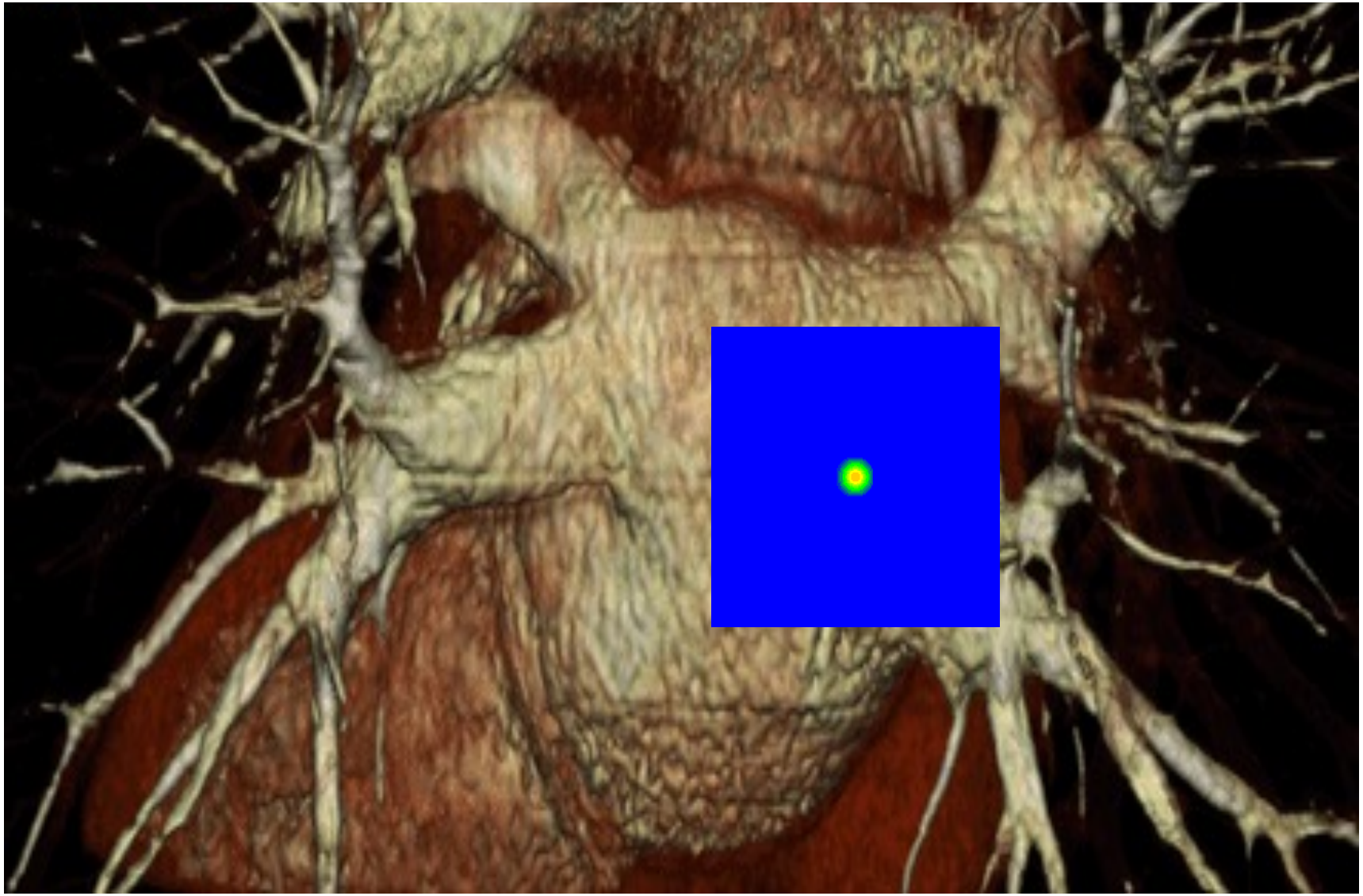
38 876 patients
Rôle de la pression artérielle systolique

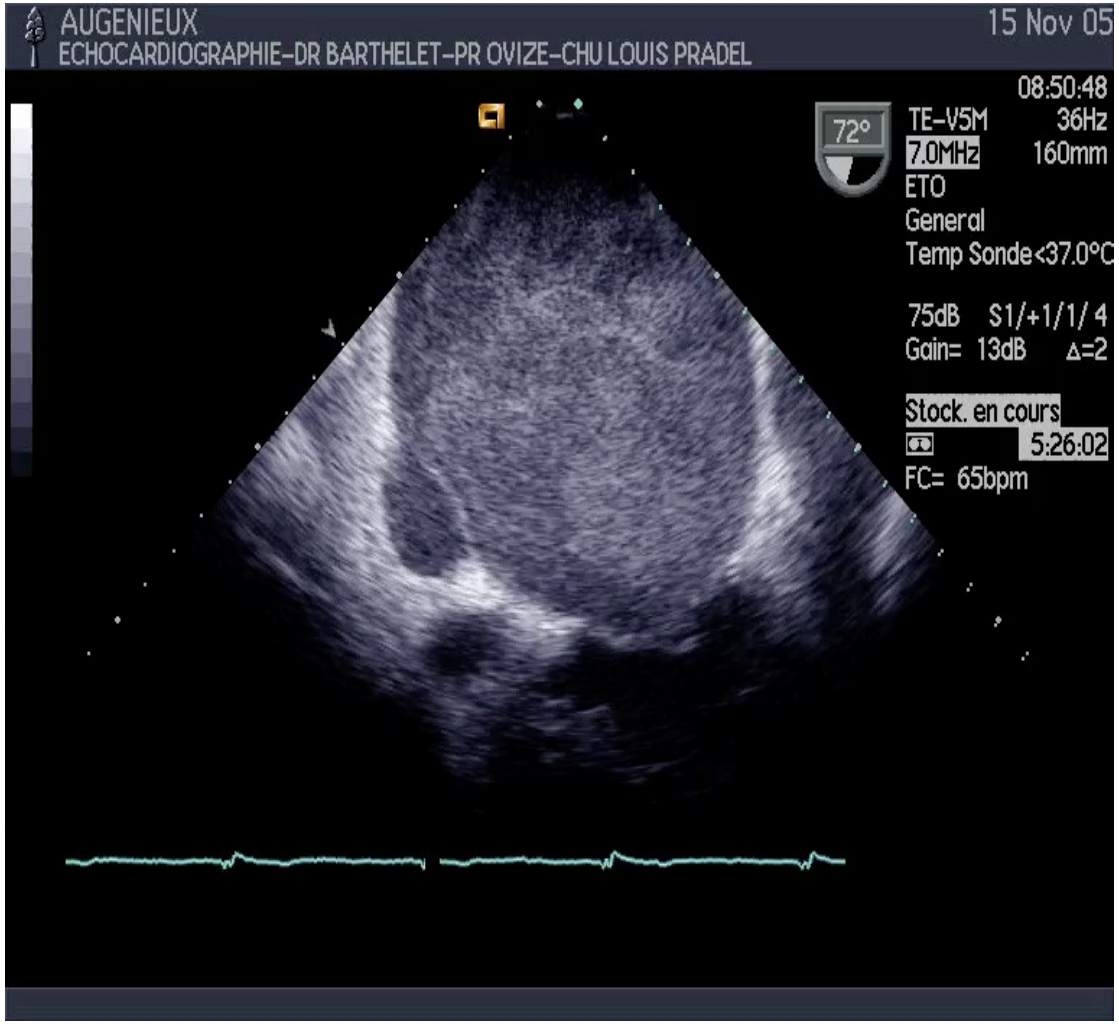


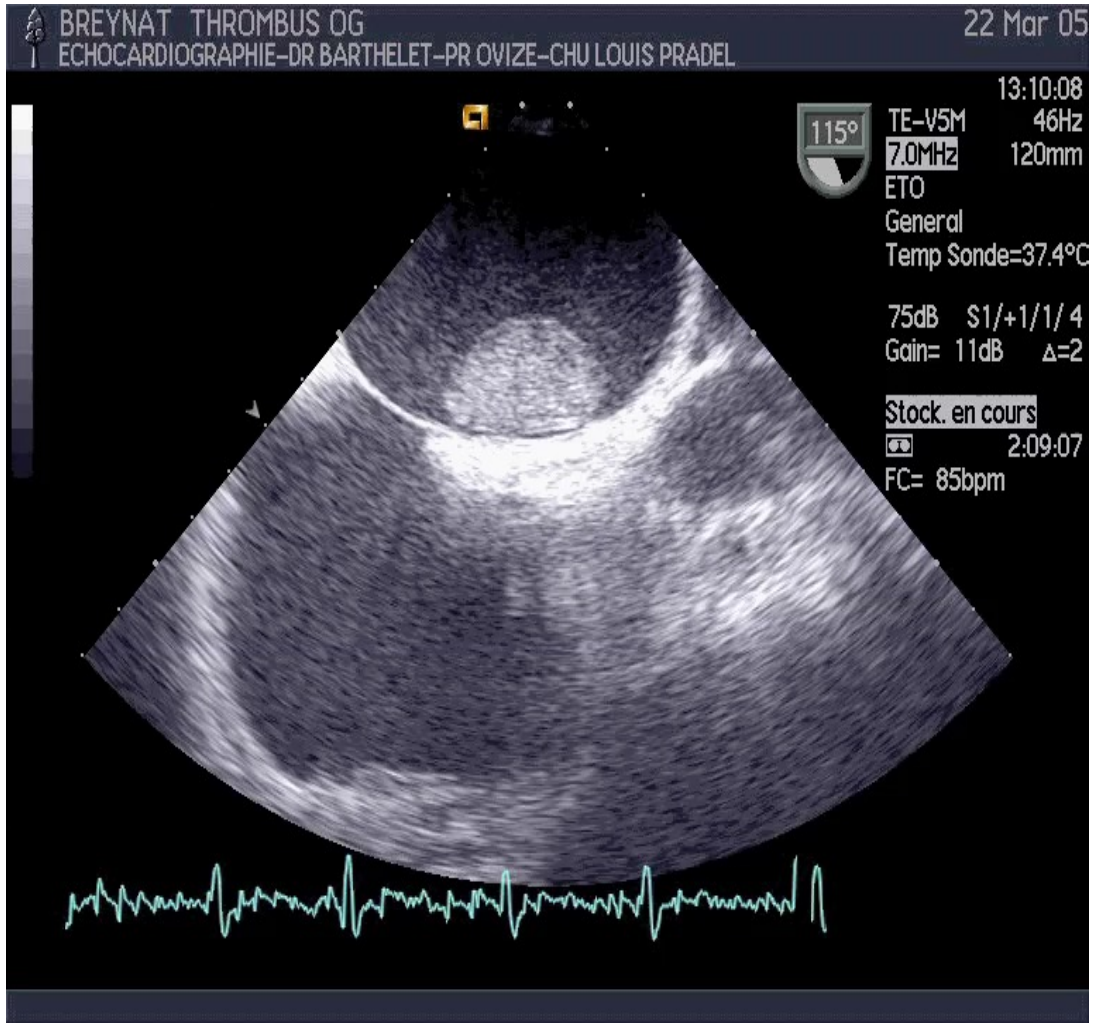
Conen, D. et al. Circulation 2009;119:2146-2152



ESA d'origine atriales gauches





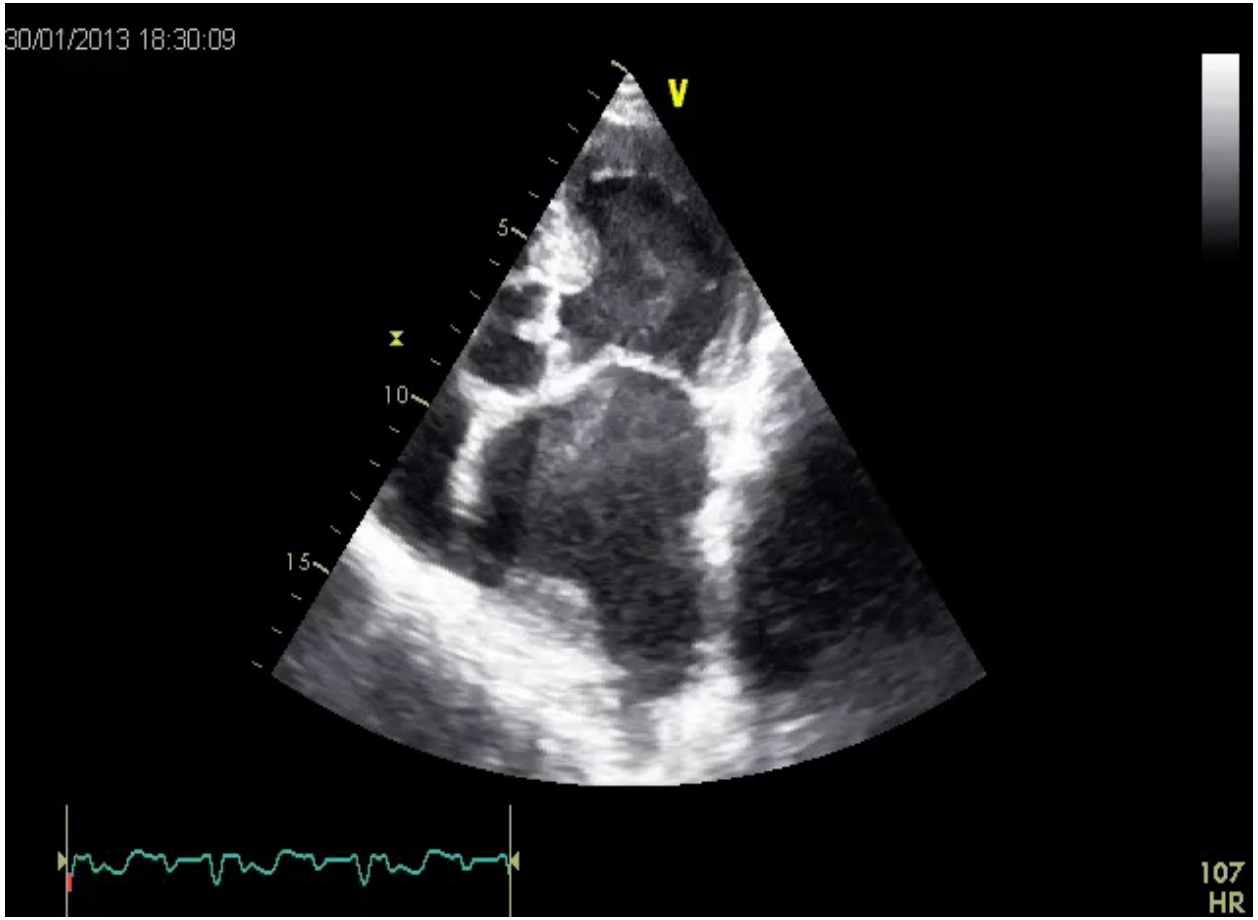


ETO

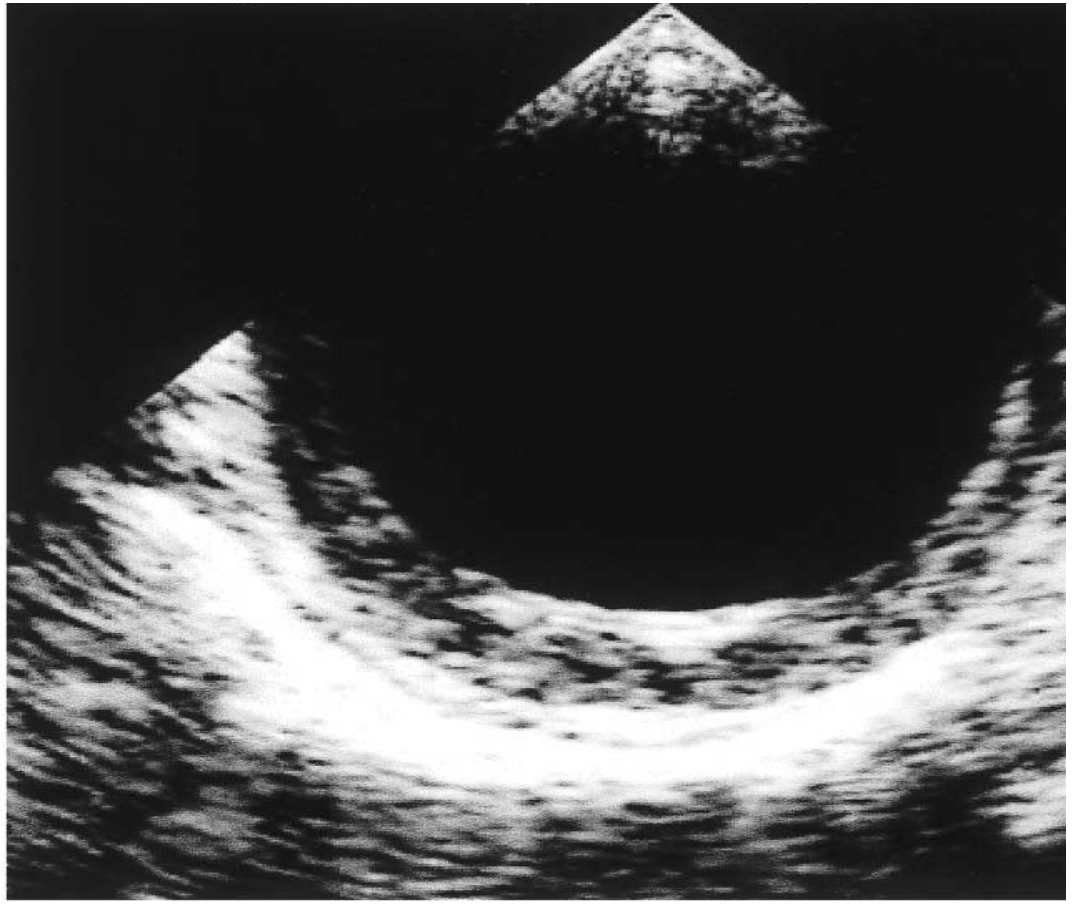
Fibrillation atriale : risque thromboembolique

Accident vasculaire cérébral : Quelle origine?

Oreillette Gauche?

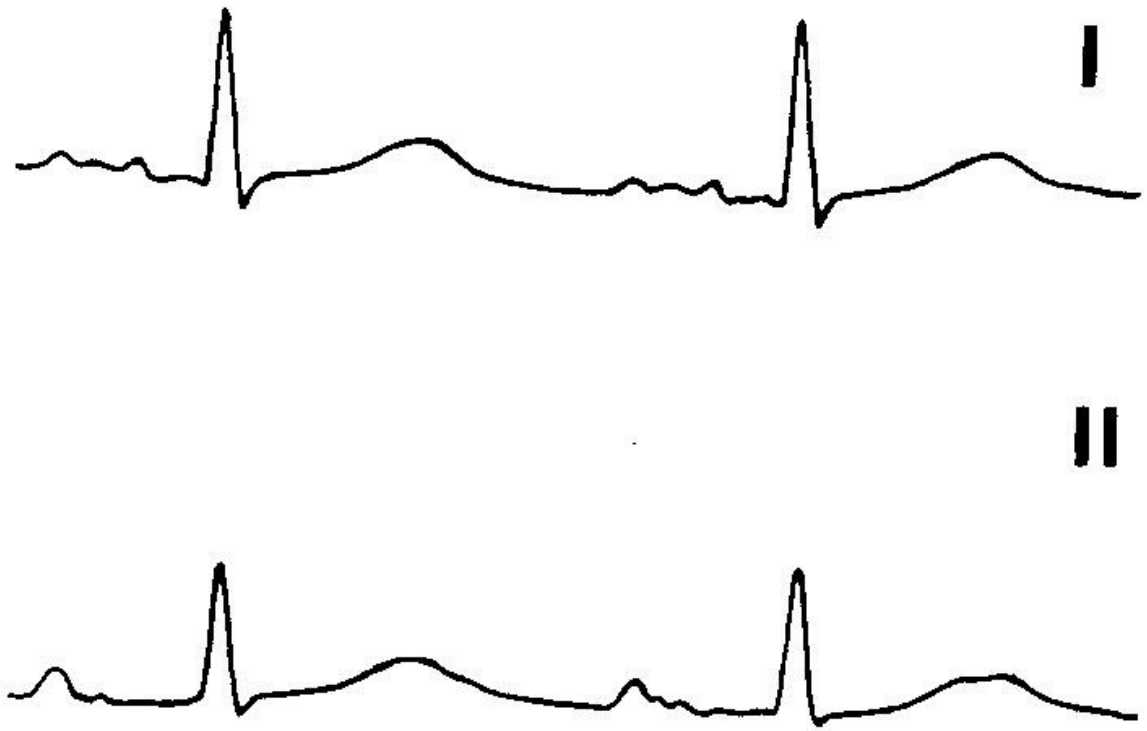


Athérome aortique?

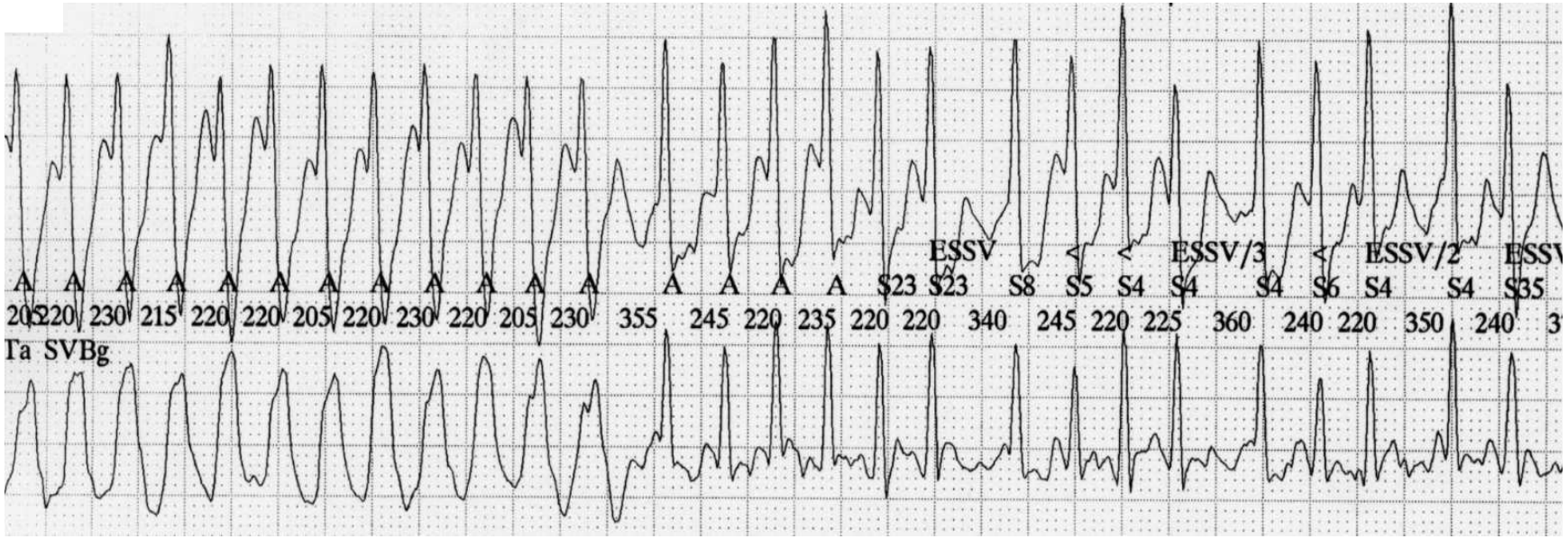


Fibrillation atriale: Formes cliniques

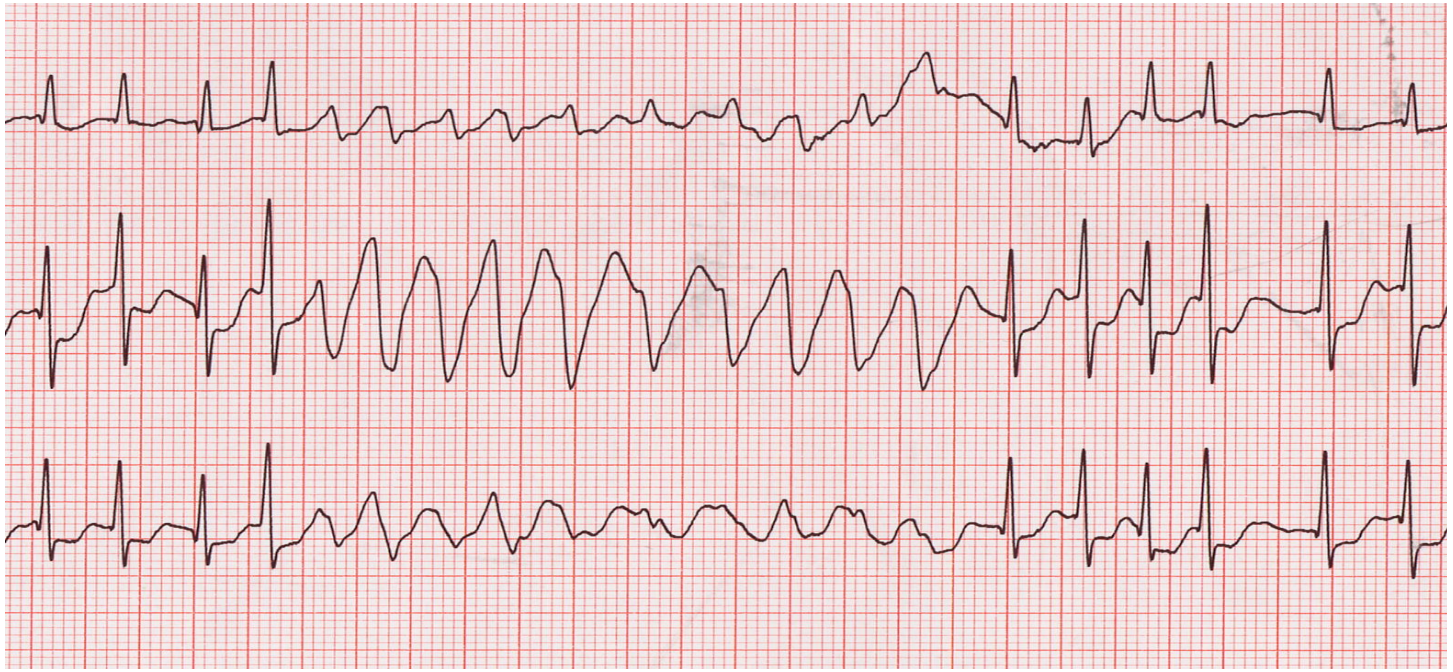
Hypertension artérielle



Onde P anormale

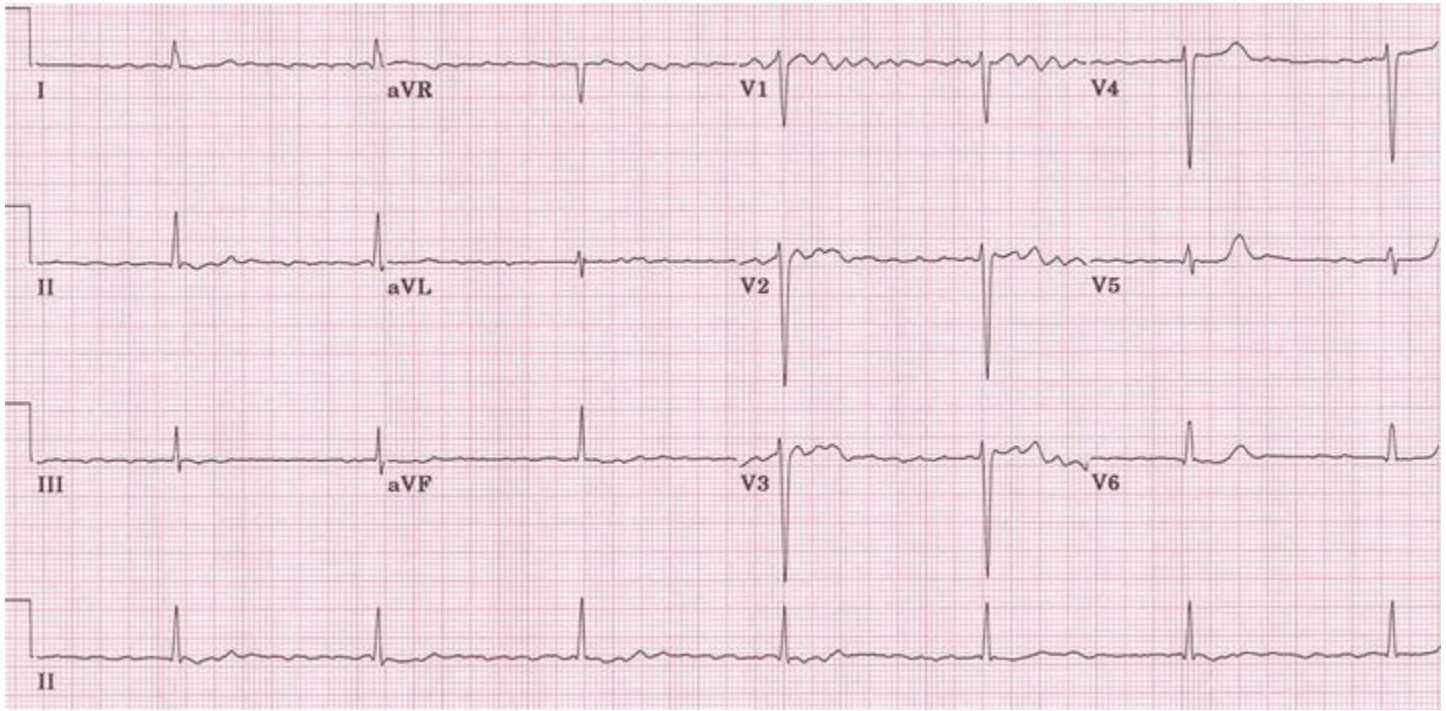


40 ans : fatigue au début d'une course à pied?

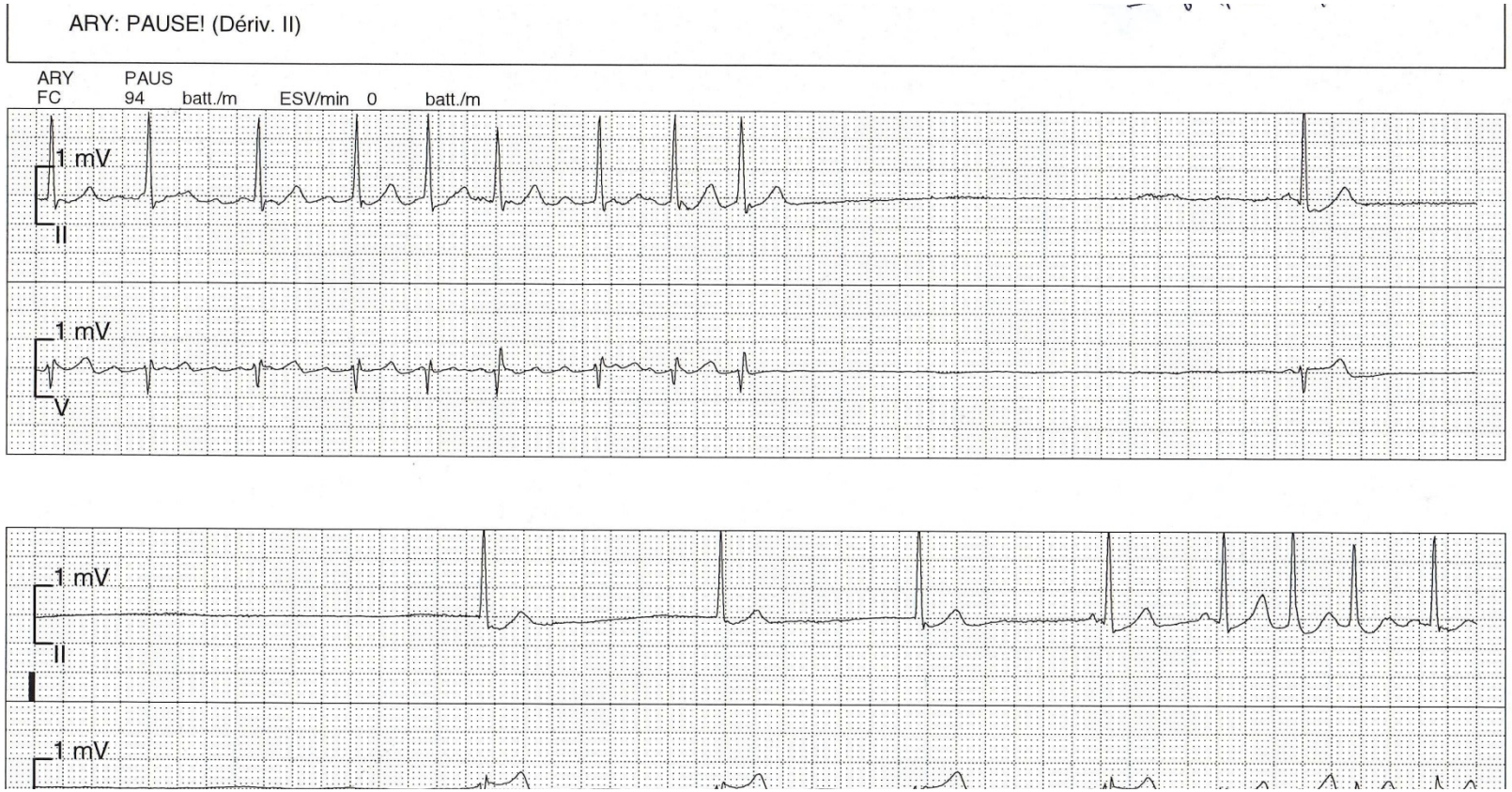


50 ans, palpitations à l'effort : Epreuve d' effort

72 ans,
Syncope au repos Fibrillation Atriale
Digoxine, amiodarone



Femme, 67 ans
HTA, Diabète



Fibrillation atriale : Traitement médicamenteux

- ✓ Anticoaguler
- ✓ Ralentir
- ✓ Réduire
- ✓ Prévenir

Fibrillation atriale : Traitement médicamenteux

- ✓ *Anticoaguler*
  - ✓ Si la FA dure plus de 48 heures
  - ✓ Selon le score de risque CHADS2Vasc
  - ✓ Un mois avant et un mois après cardioversion électrique externe

Fibrillation atriale : Traitement médicamenteux

- ✓ Anticoaguler
- ✓ Ralentir
- ✓ Réduire
- ✓ *Prévenir*

Contrôle du rythme

Cardioversion Electrique

1. **Flécainide**
2. **Sotalex**
3. **(Amiodarone)**

Si récidive : Cardioversion Electrique

Médication essai 2

Si nouvelle récidive : Cardioversion Electrique

Ablation des veines pulmonaires

CONTRÔLE DE LA CADENCE VENTRICULAIRE (âge, symptômes, cardiopathie sous-jacente)

Bèta-bloquants
Inhibiteurs calciques
Digoxine…

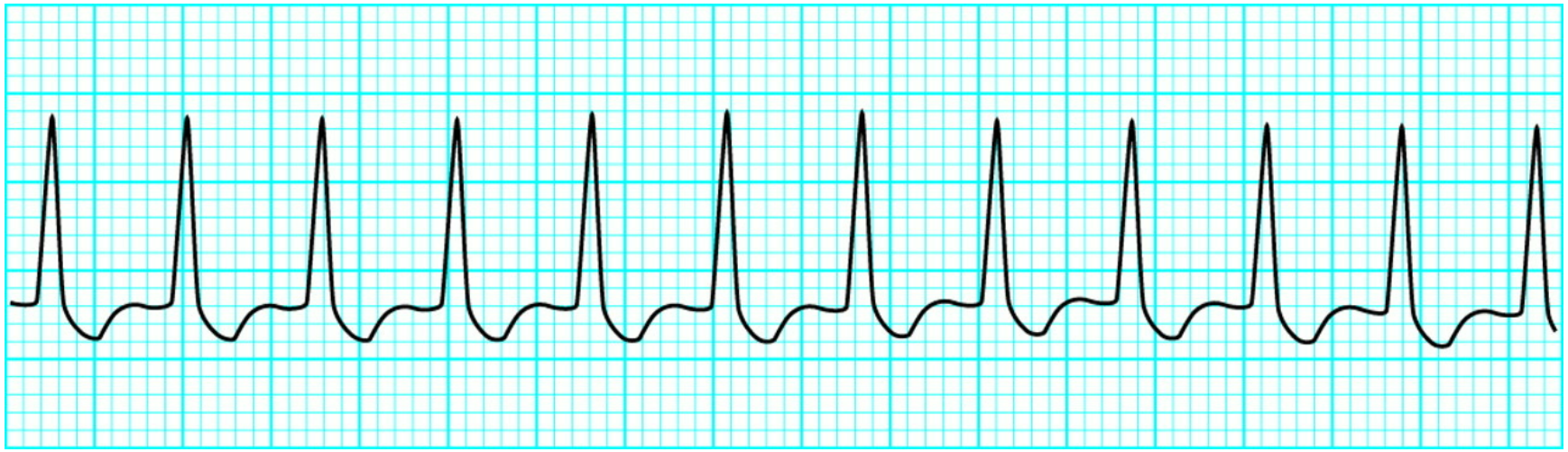
Critères d ’efficacité : symptômes, fonction ventriculaire gauche

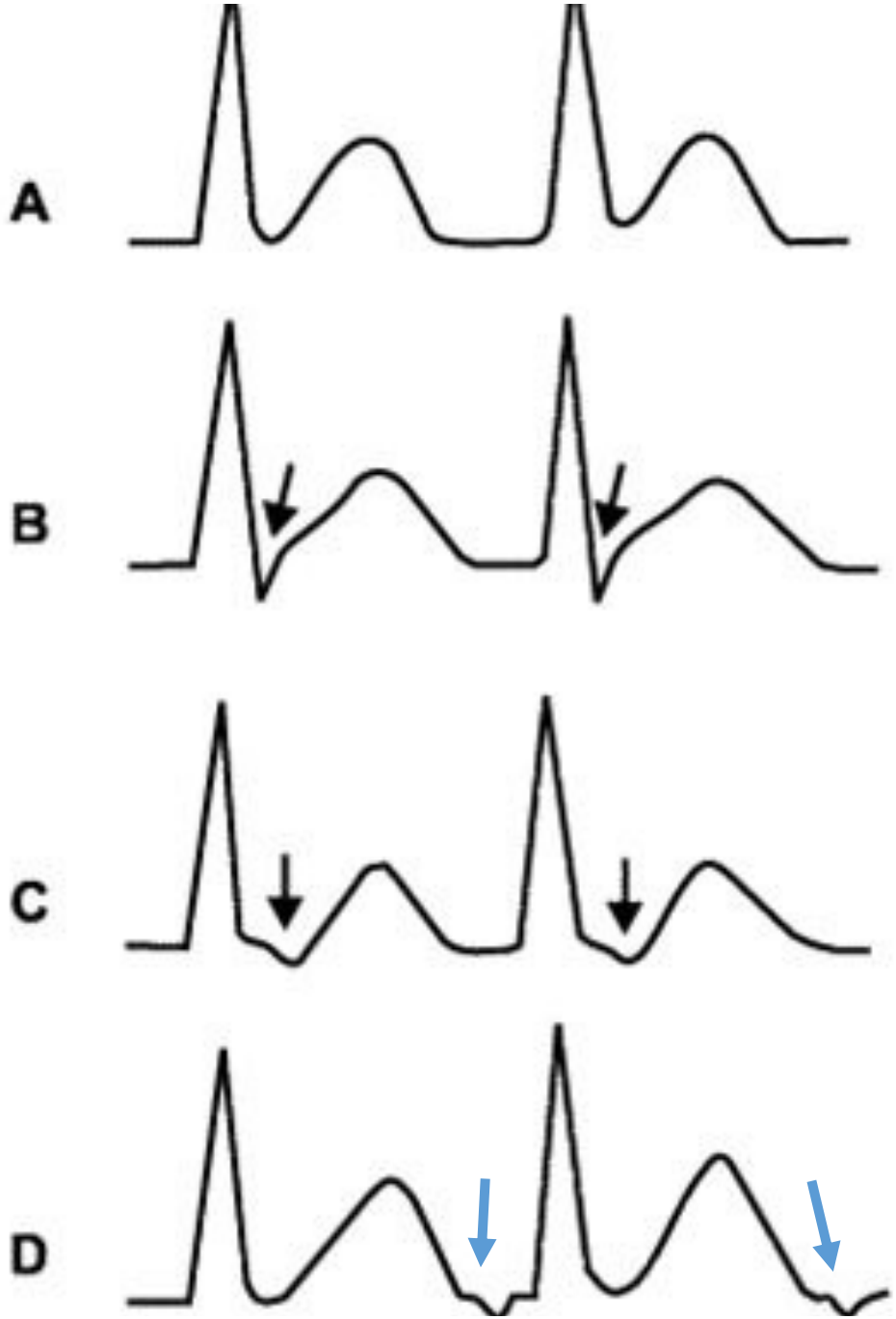
Flutter atrial commun : aspect en dents de scie

Tachycardies

1) Tachycardies atriales
2) Tachycardies jonctionnelles
3) Tachycardies ventriculaires

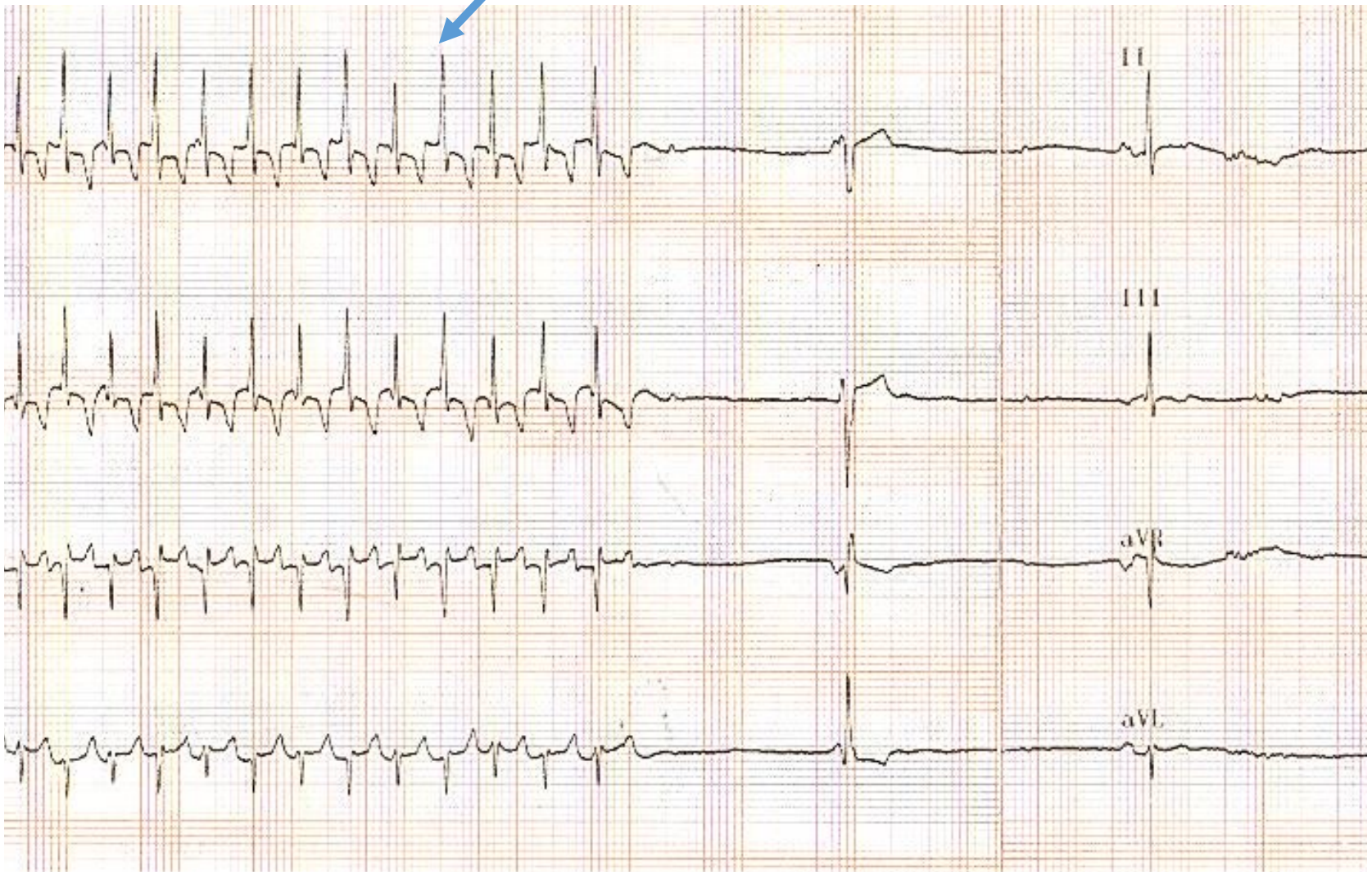
Tachycardie jonctionnelle





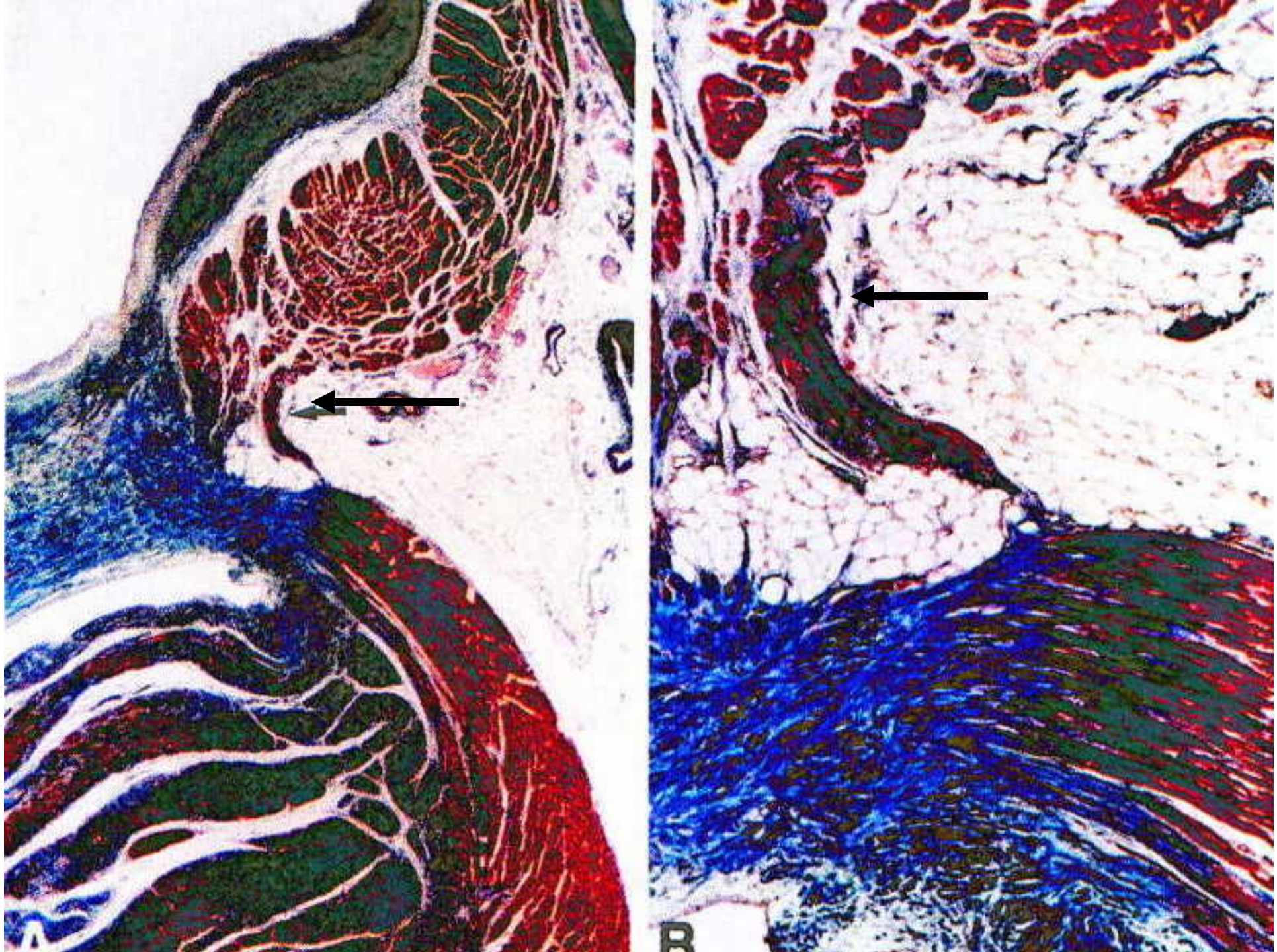
Place de l'onde P
en cas de tachycardie
jonctionnelle à QRS fins
(TPSV)

Adénosine/Striadyne
IV flash

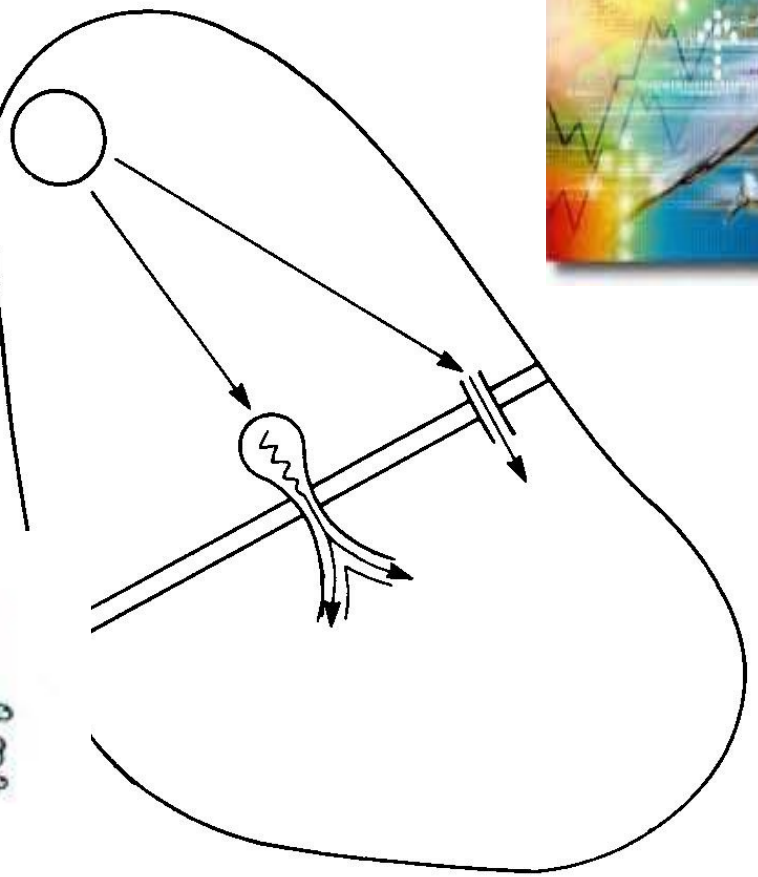


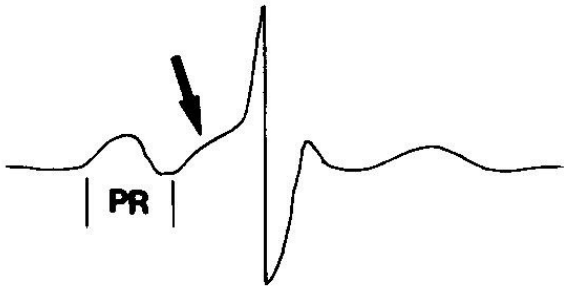
Aspect Electrocardiographique de *Wolff-Parkinson-White* de découverte fortuite.

Préexcitation atrio ventriculaire intermittente WPW

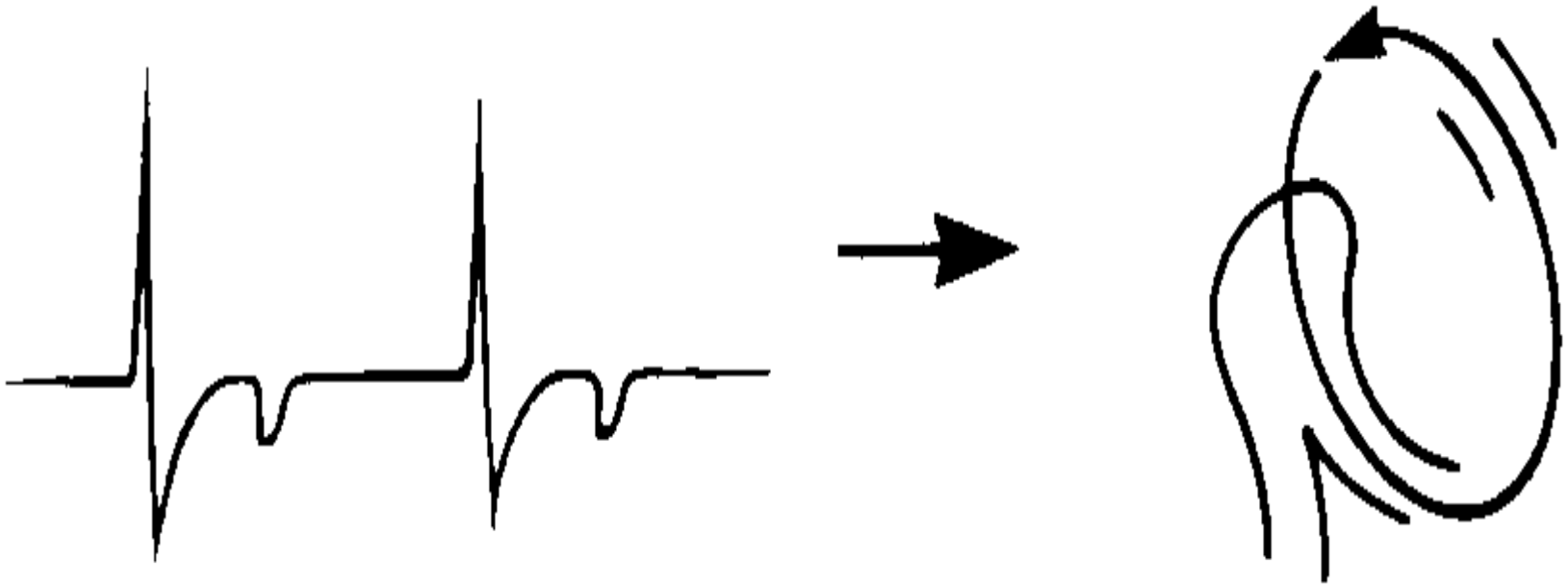


WPW

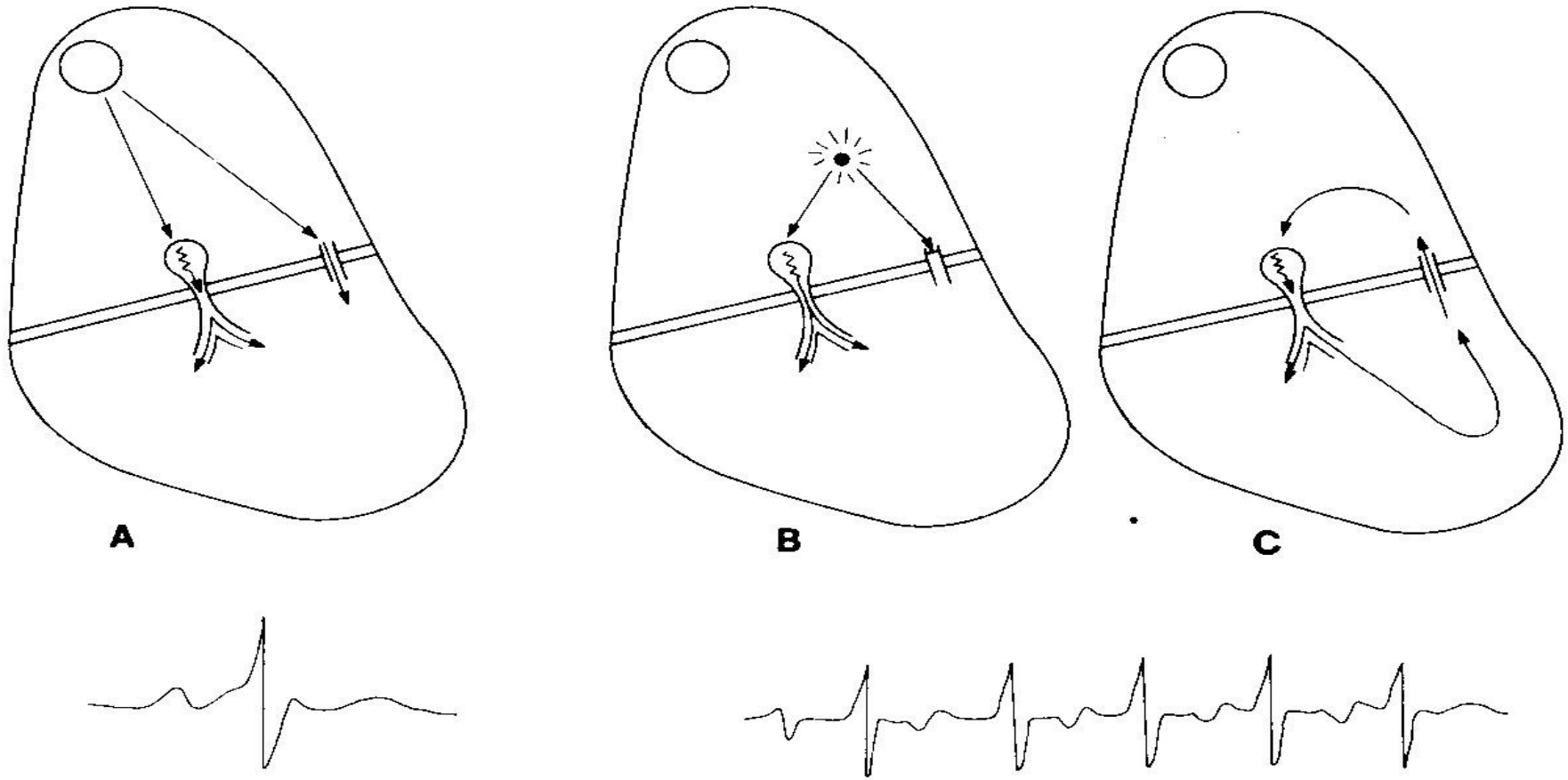




WPW

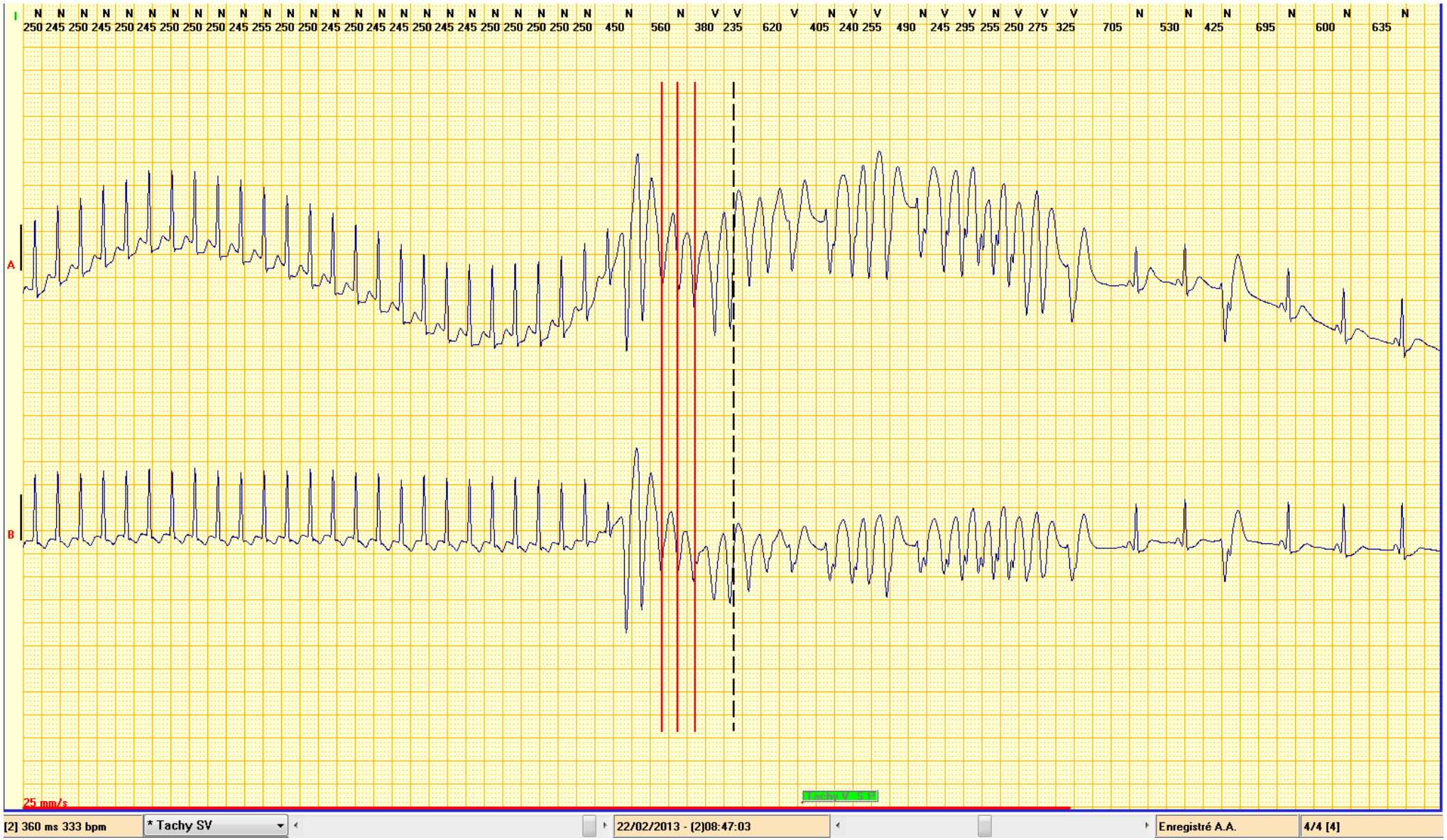


Wolff-Parkinson-White



WPW Tachycardie jonctionnelle

Syndrome de WPW: TJ puis FA avec aberration ventriculaire (QRS larges)

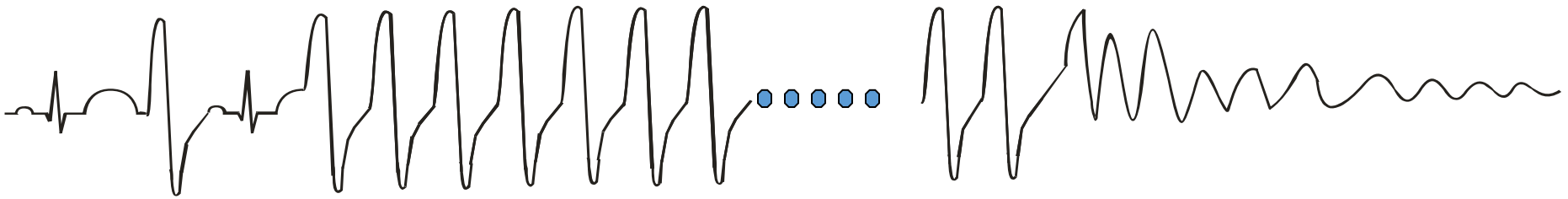


Tachycardies

1) Tachycardies atriales

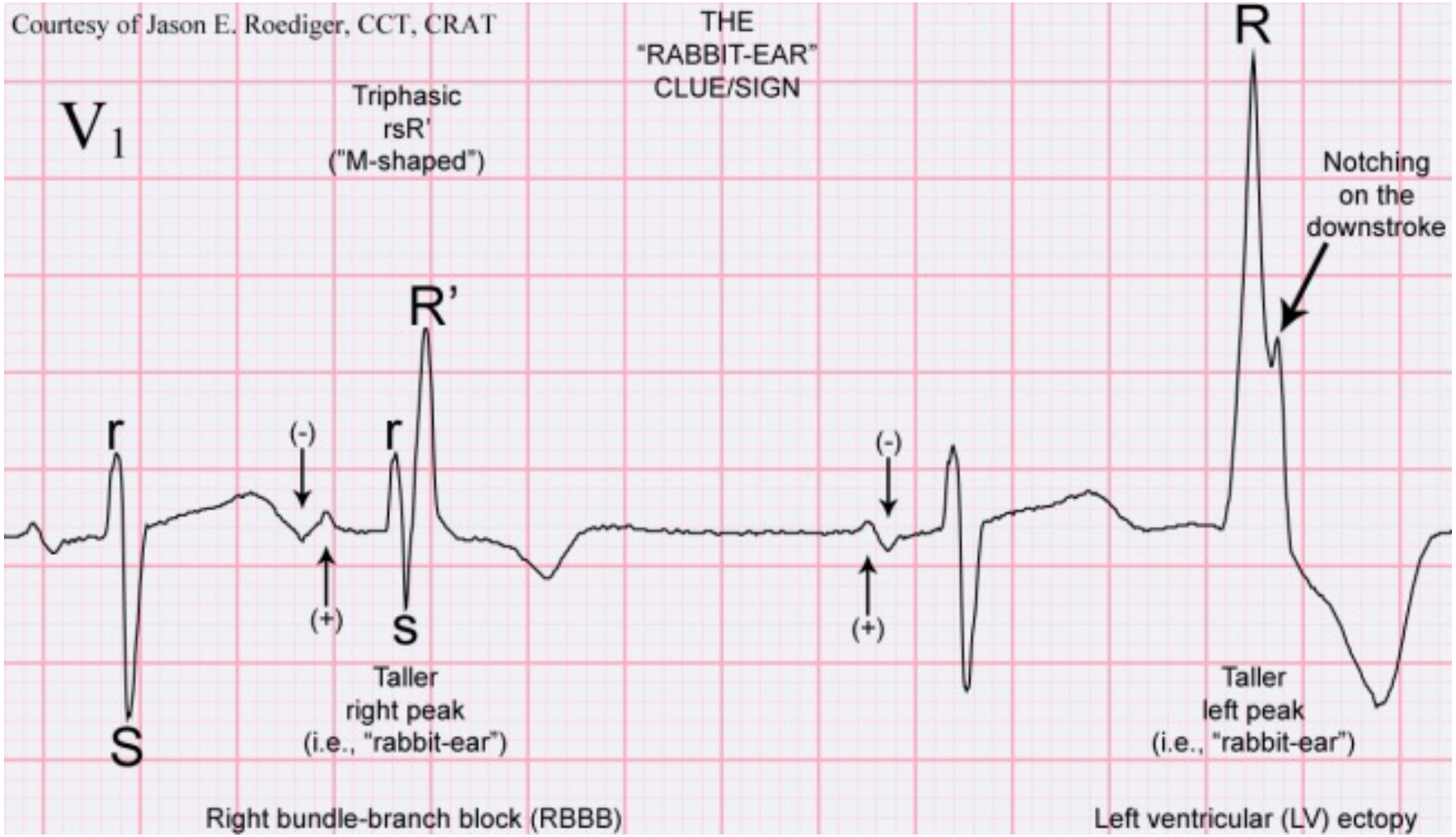
2) Tachycardies jonctionnelles

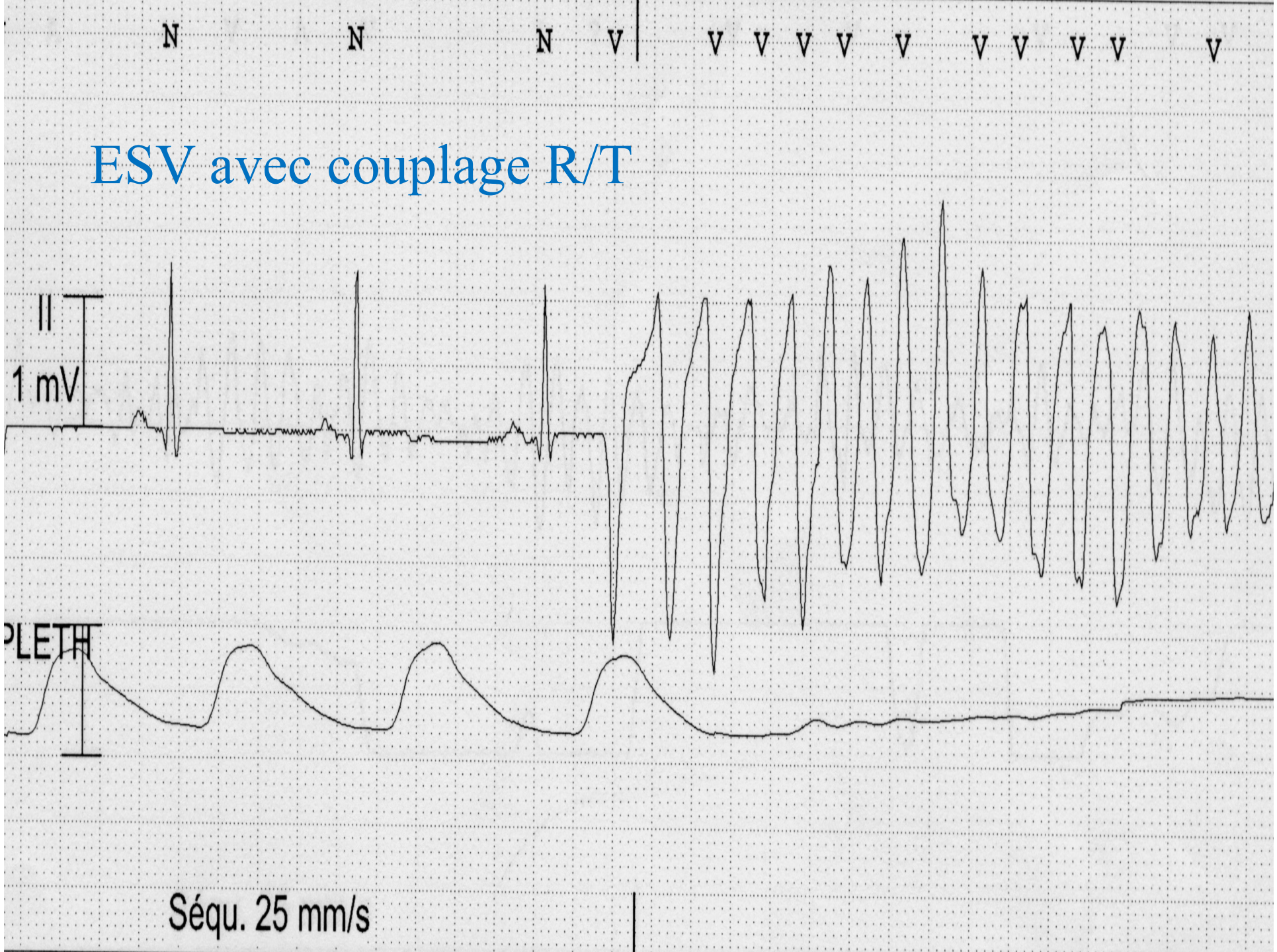
3) Tachycardies ventriculaires



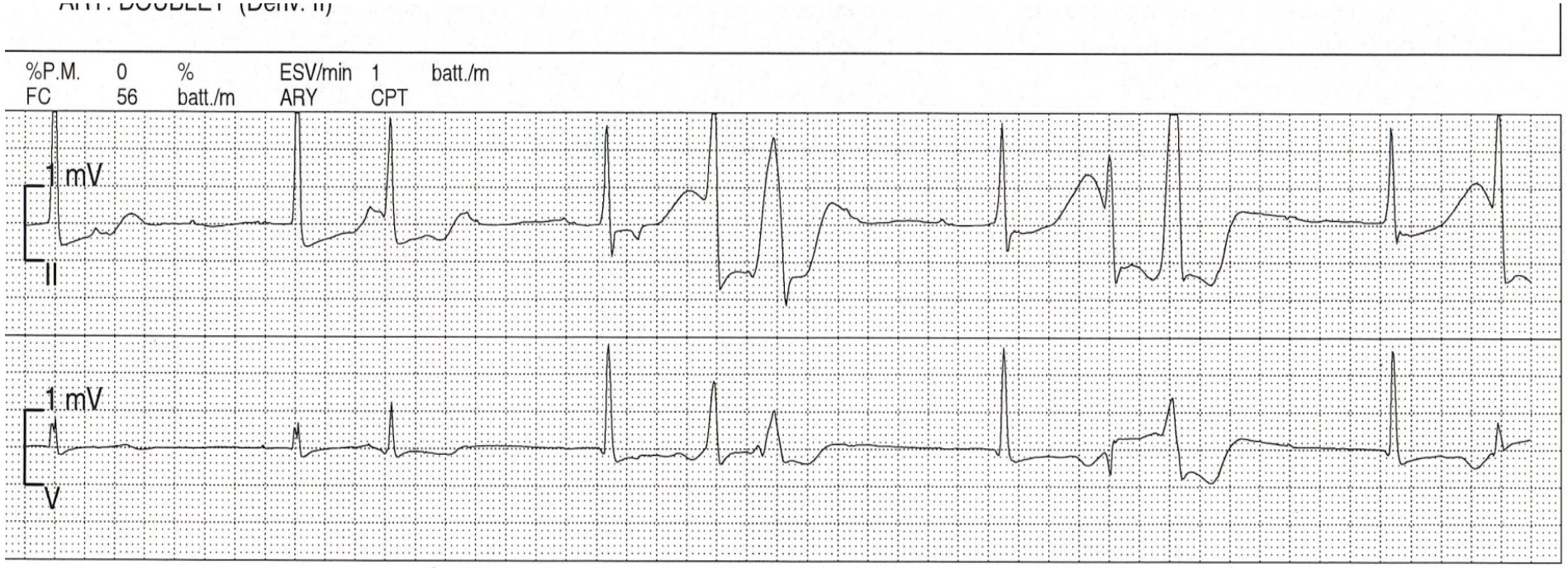
ESV TV monomorphe TV polymorphe FV

ESV et aberration ventriculaire : deux causes de QRS larges

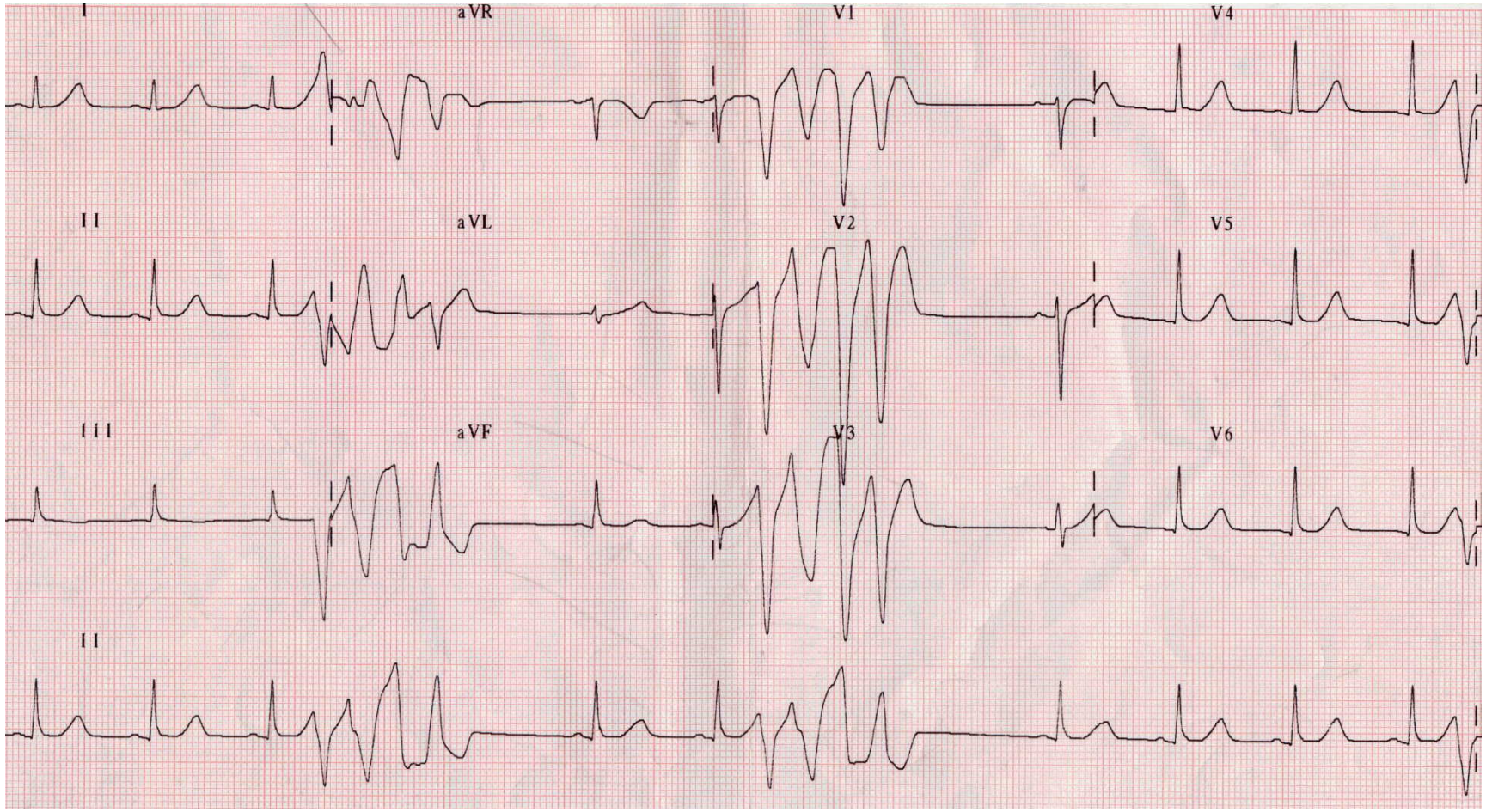



N N N V V V V V V V V V V V
ESV avec couplage R/T
II
1 mV
PLETH
Séqu. 25 mm/s

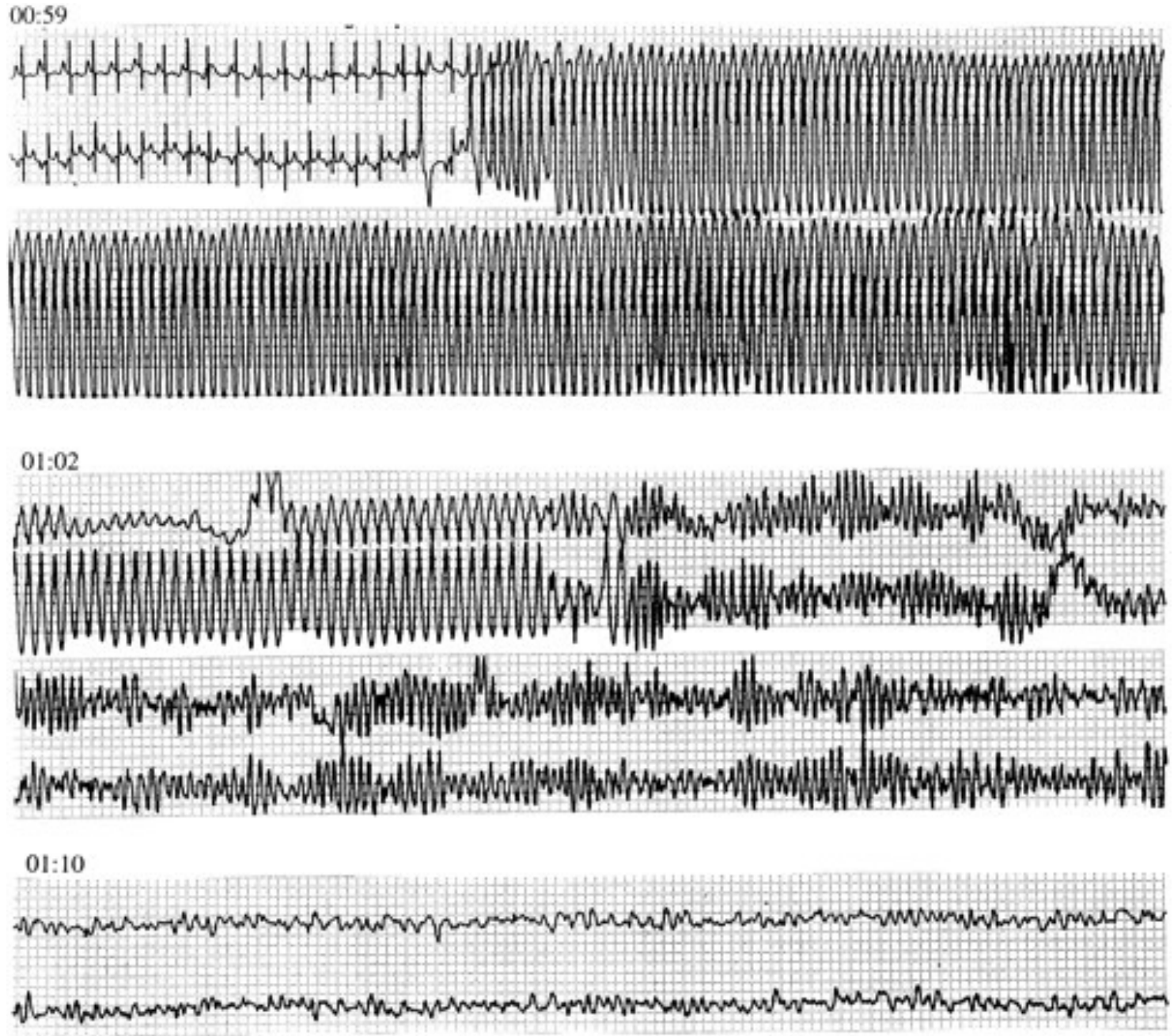
Femme, 84 ans, malaises, ESV répétées polymorphes

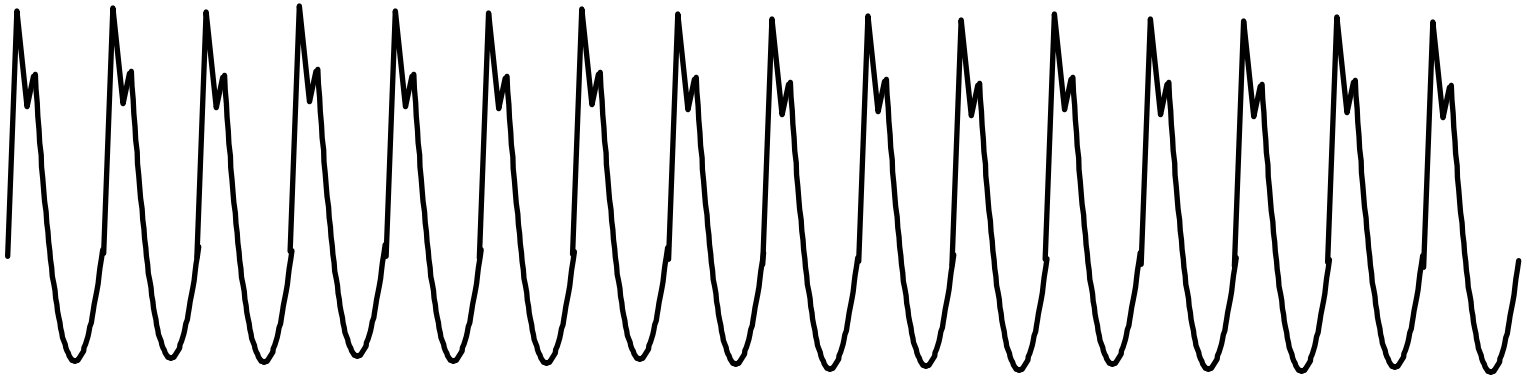


TV non soutenue

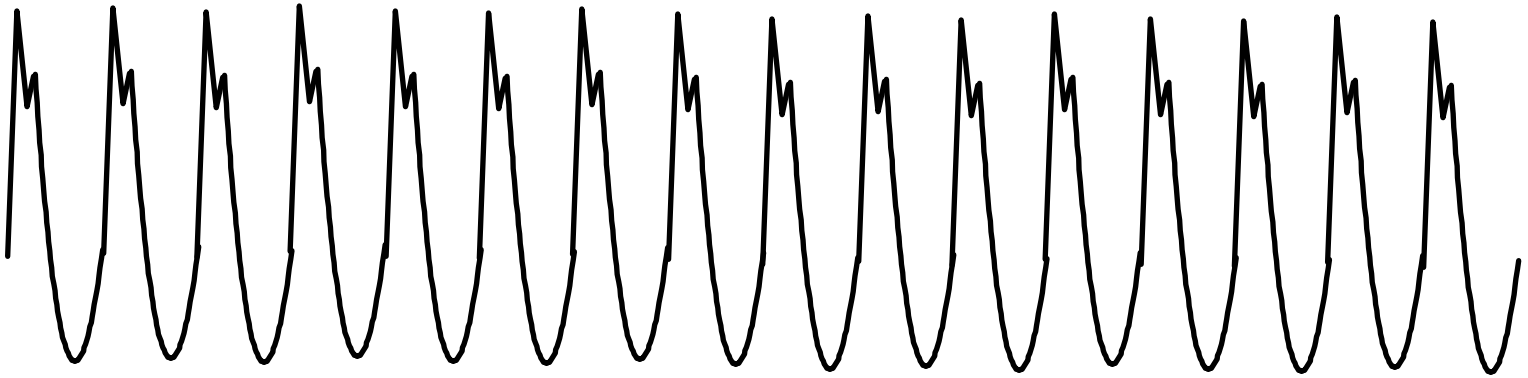


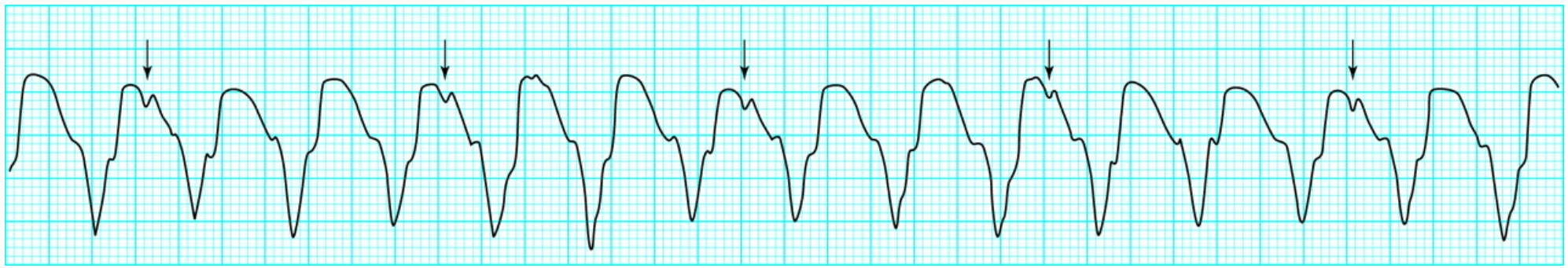
ESV , TV monomorphe puis
TV polymorphe suivie
d’une Fibrillation Ventriculaire



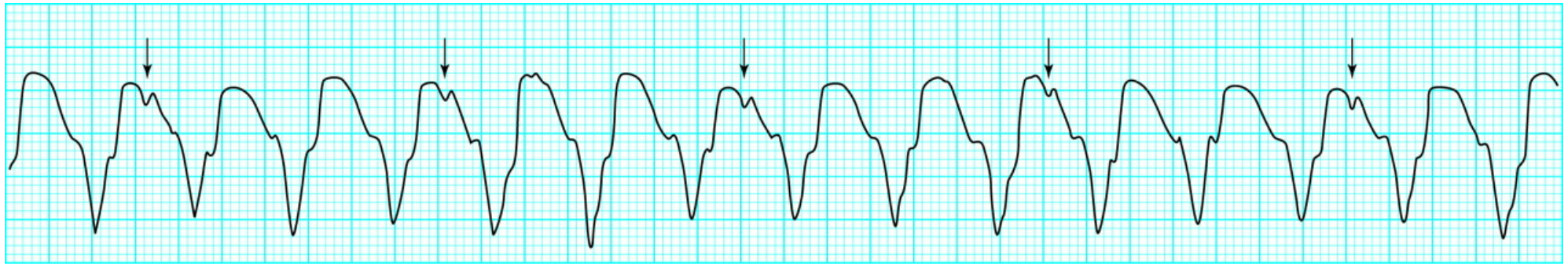


Tachycardie Ventriculaire monomorphe (régulière à QRS larges)



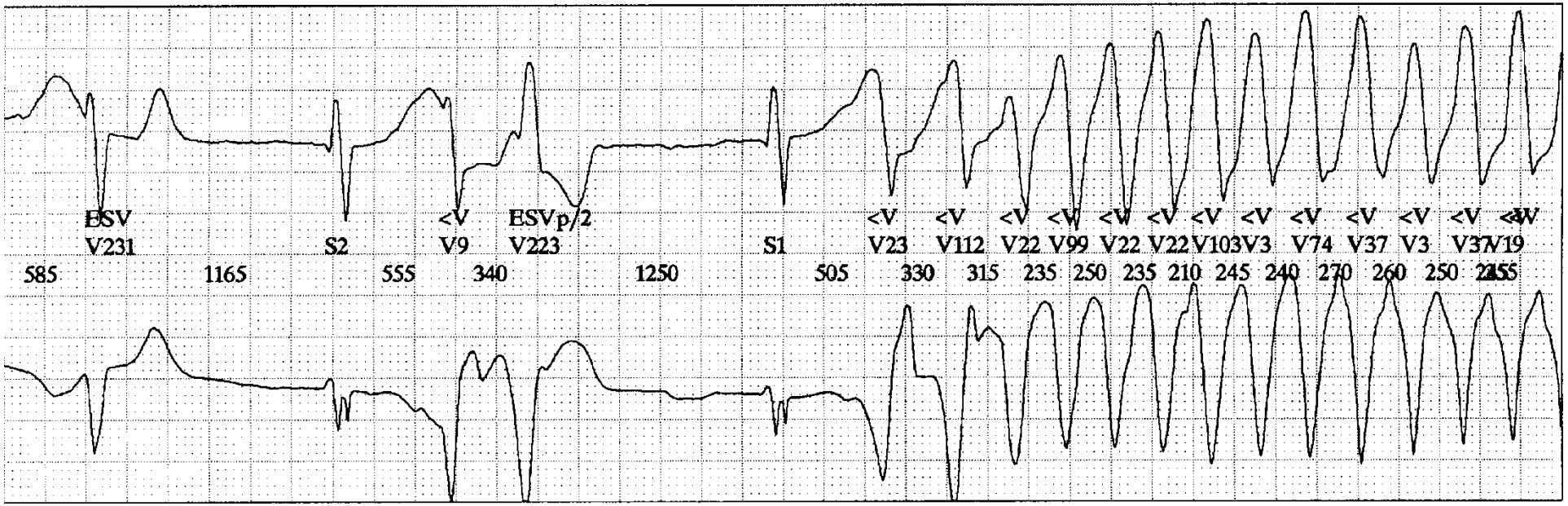


Tachycardie ventriculaire monomorphe

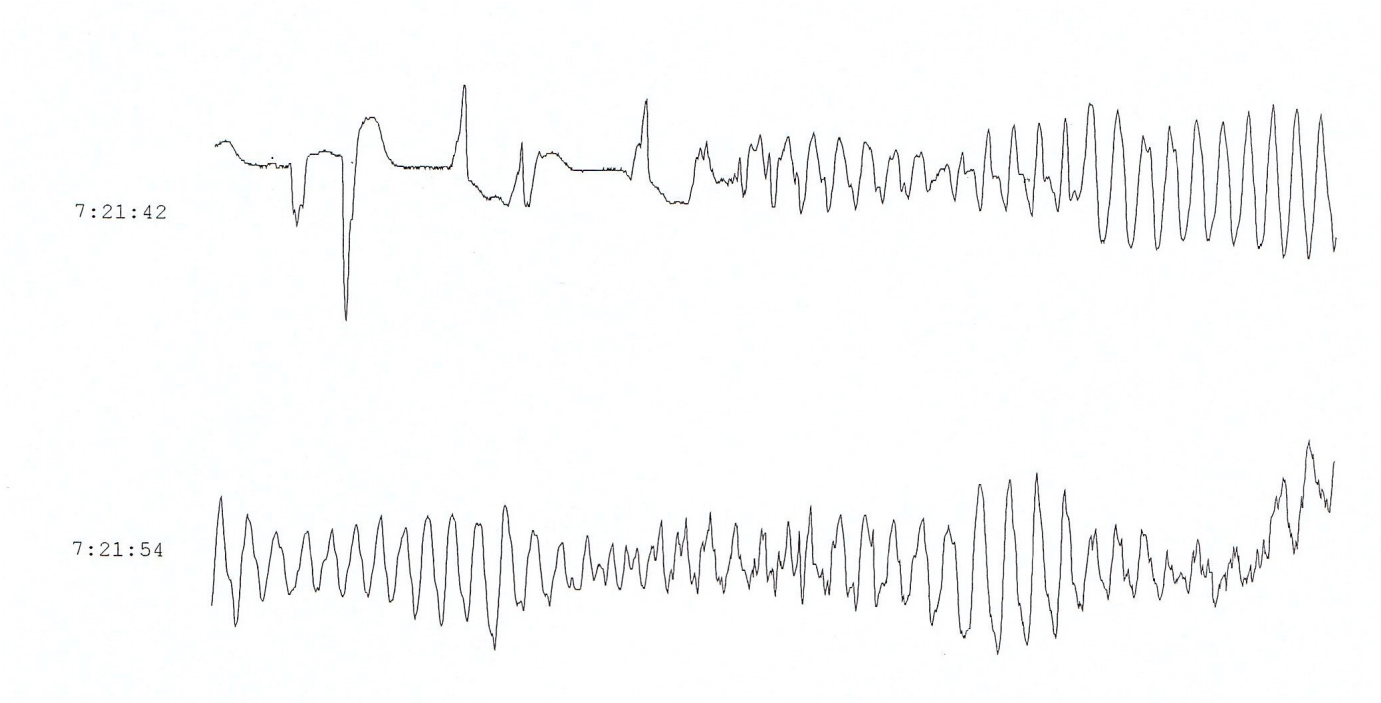


Le terrain…

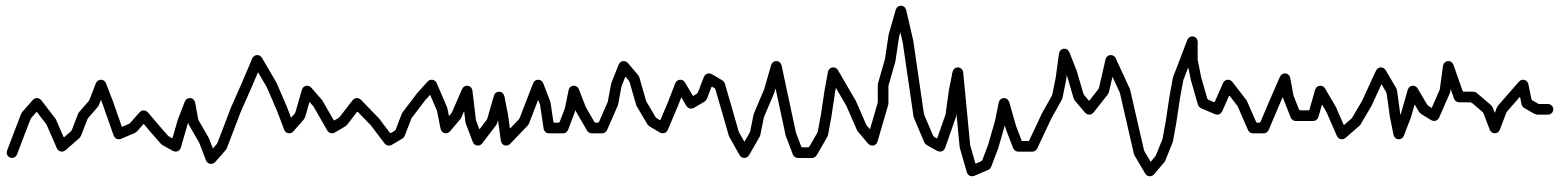
Médications torsadogènes



Intervalle QT long : Torsades de pointes

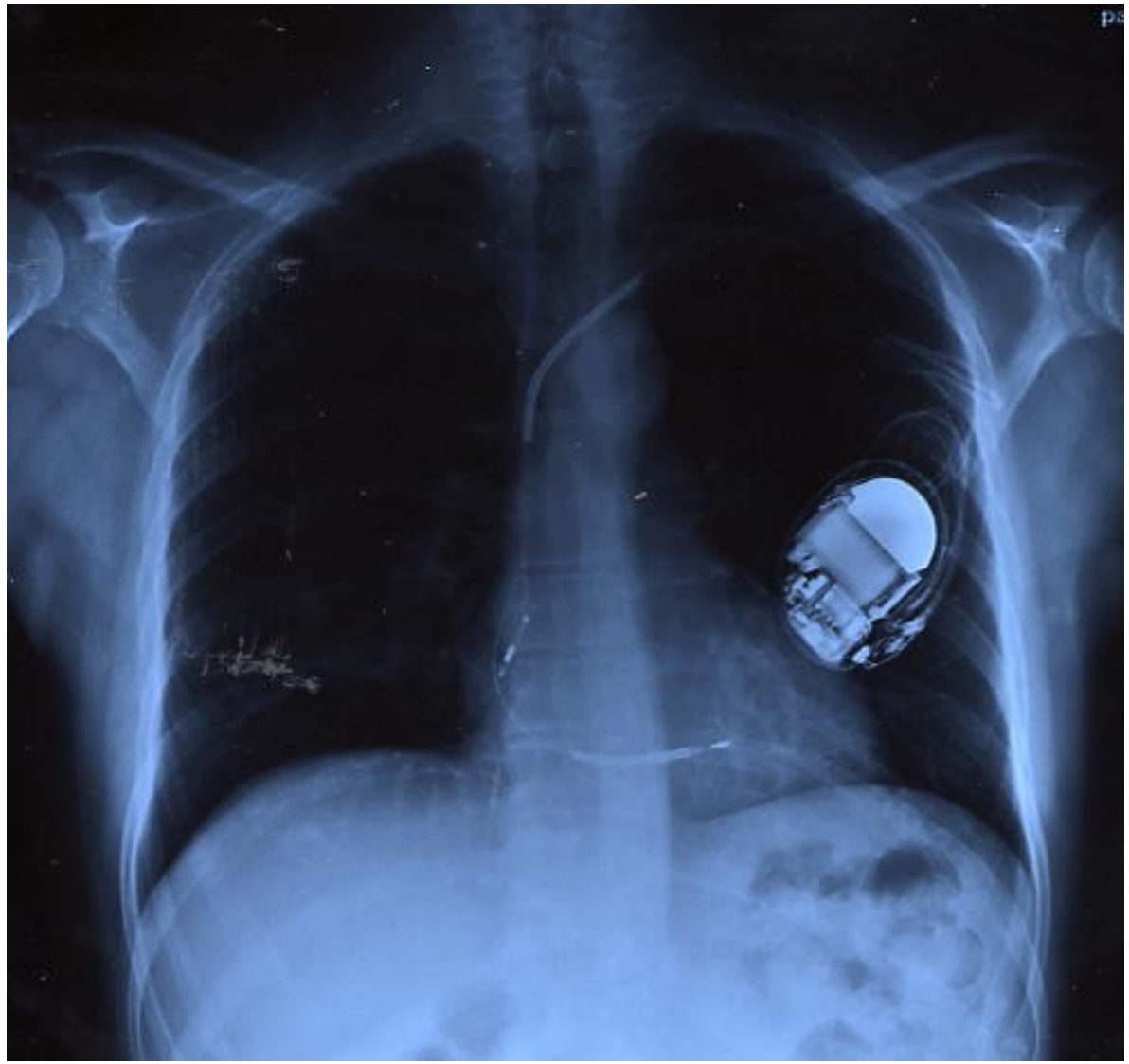


Fibrillation Ventriculaire

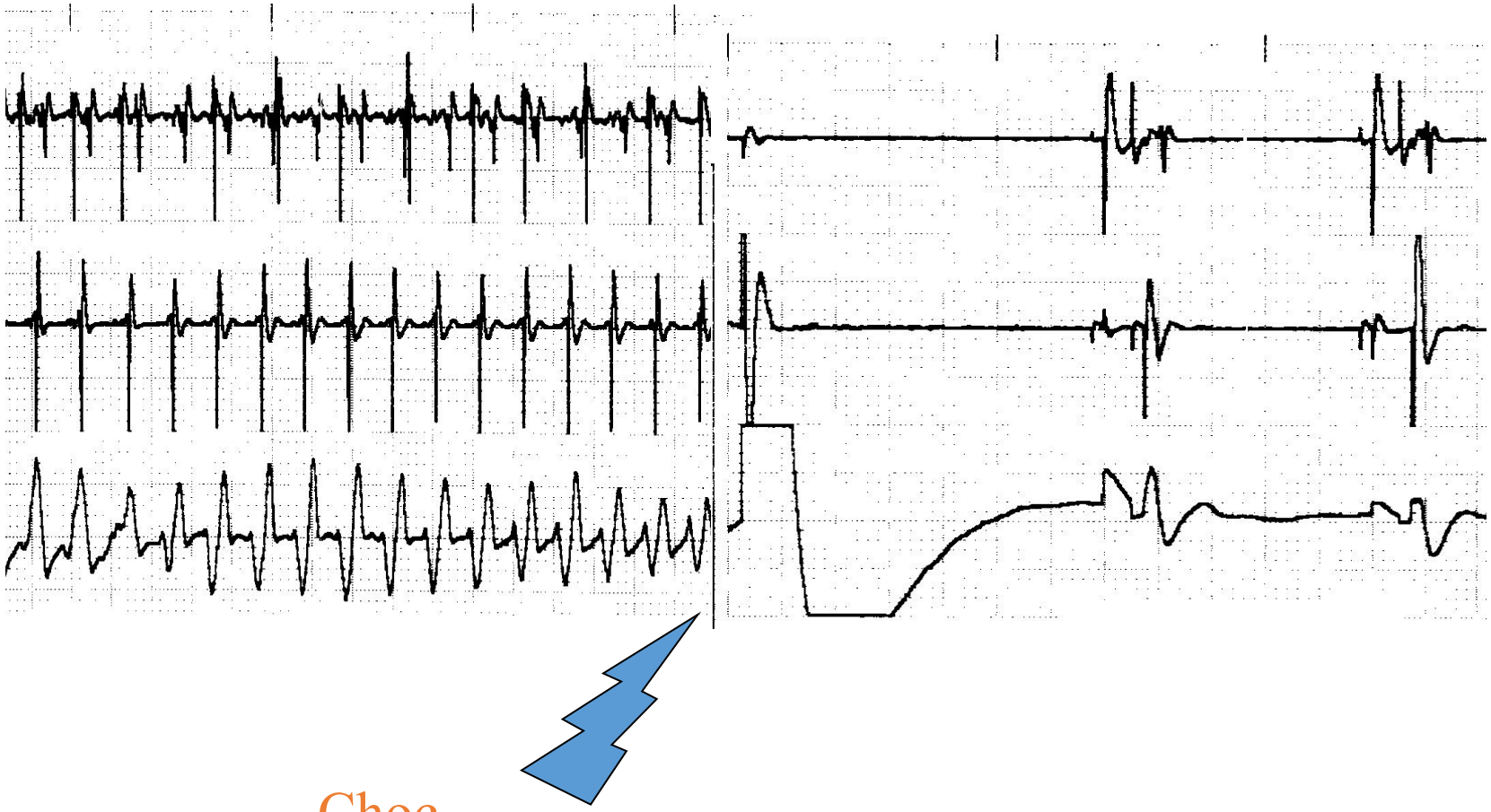


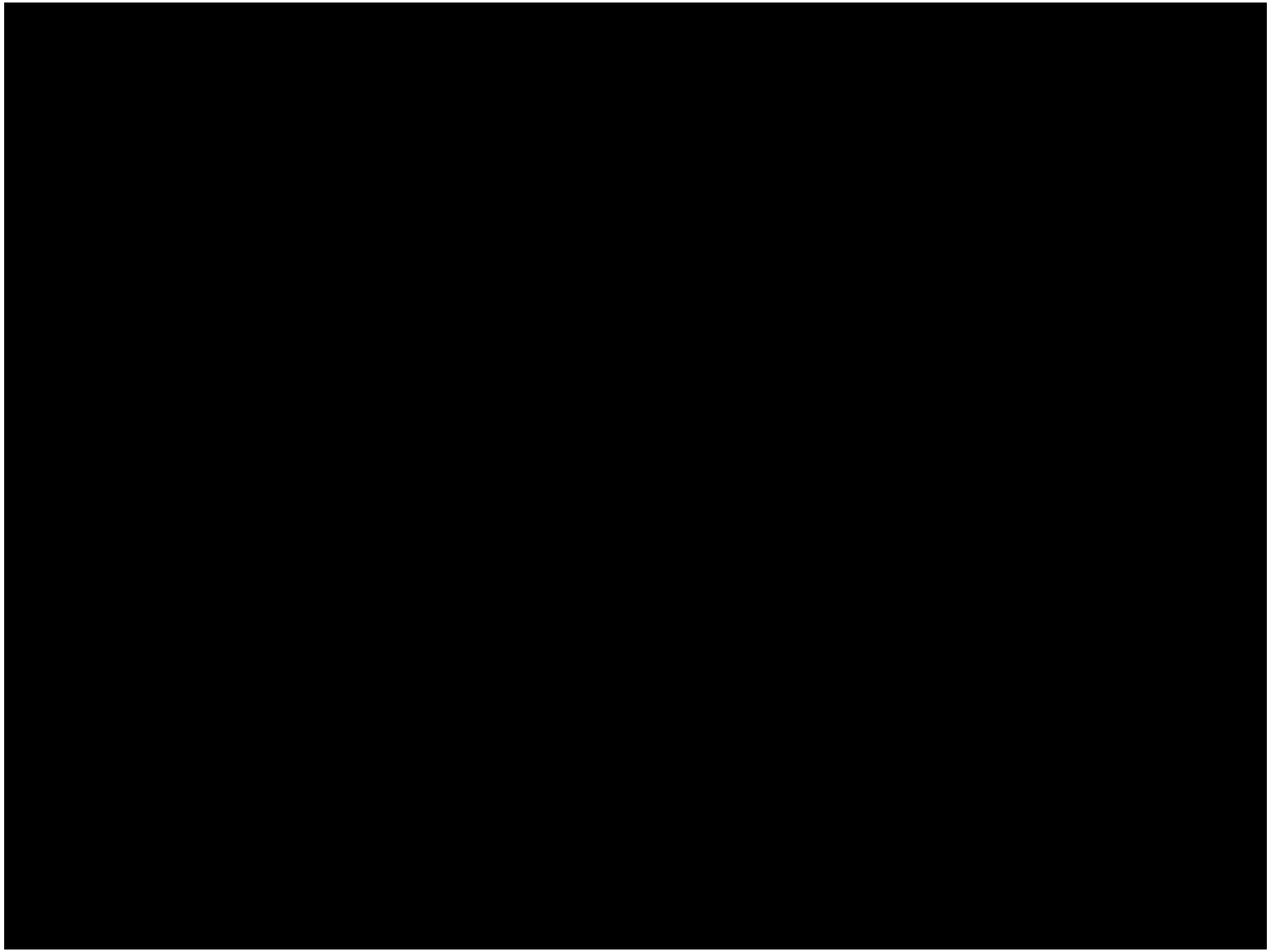
✝ en moins de 3 mn !

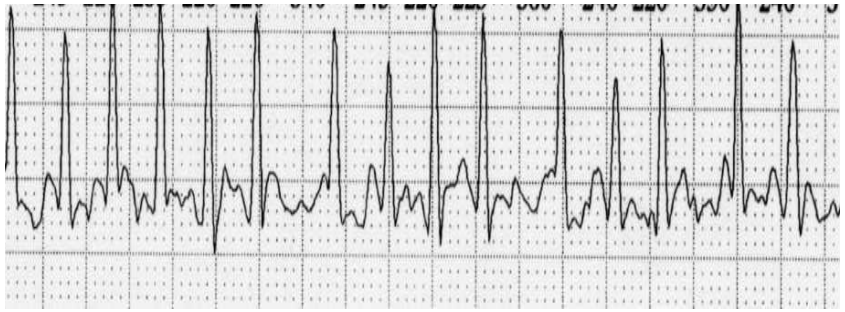
Mort subite

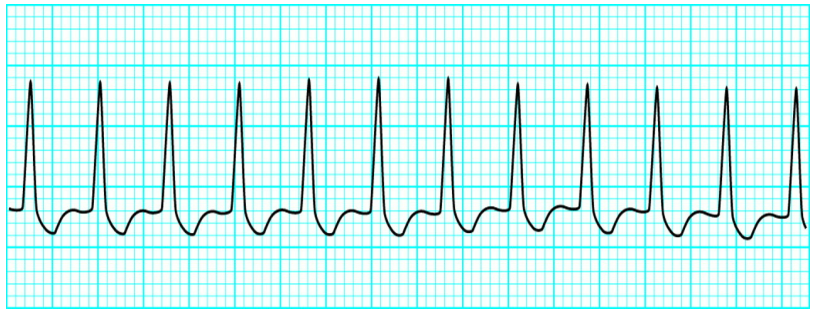


Syncope avant choc électrique d'un défibrillateur implantable





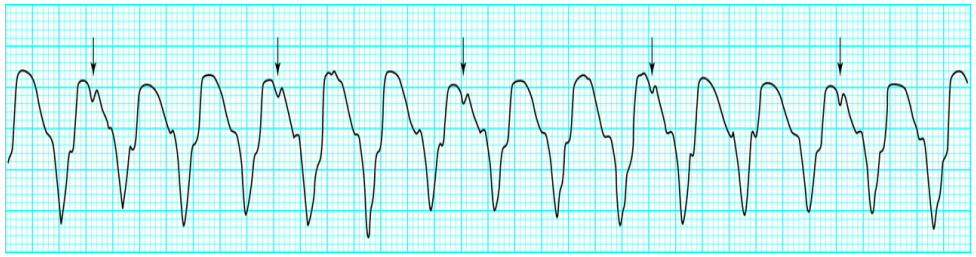


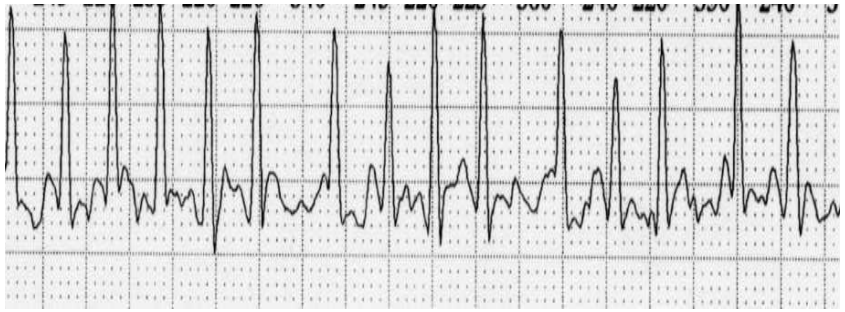


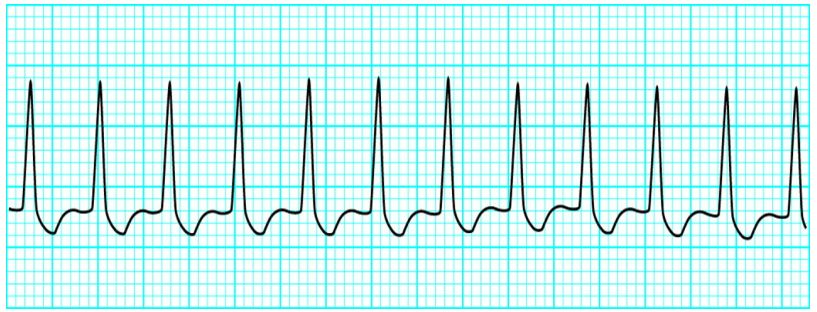
QRS fins

Tachycardies

QRS larges



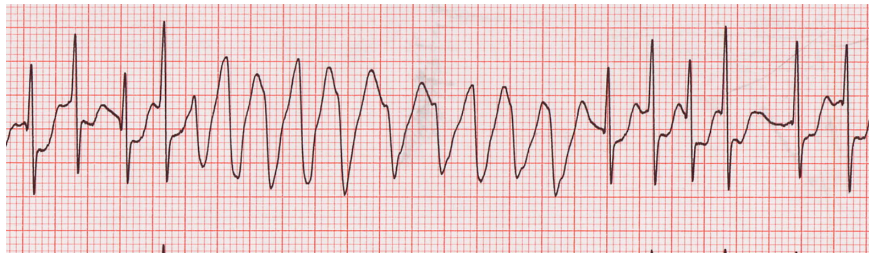


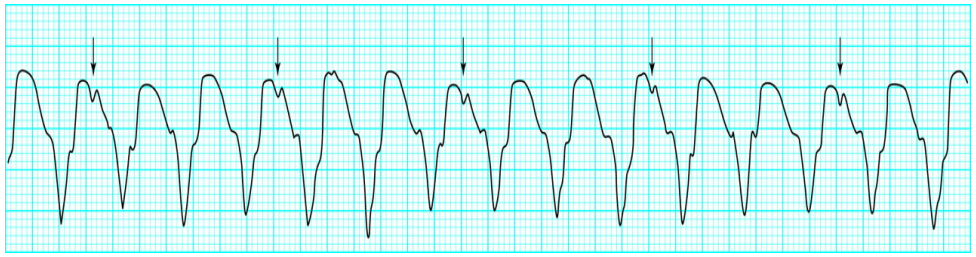


Tachycardies

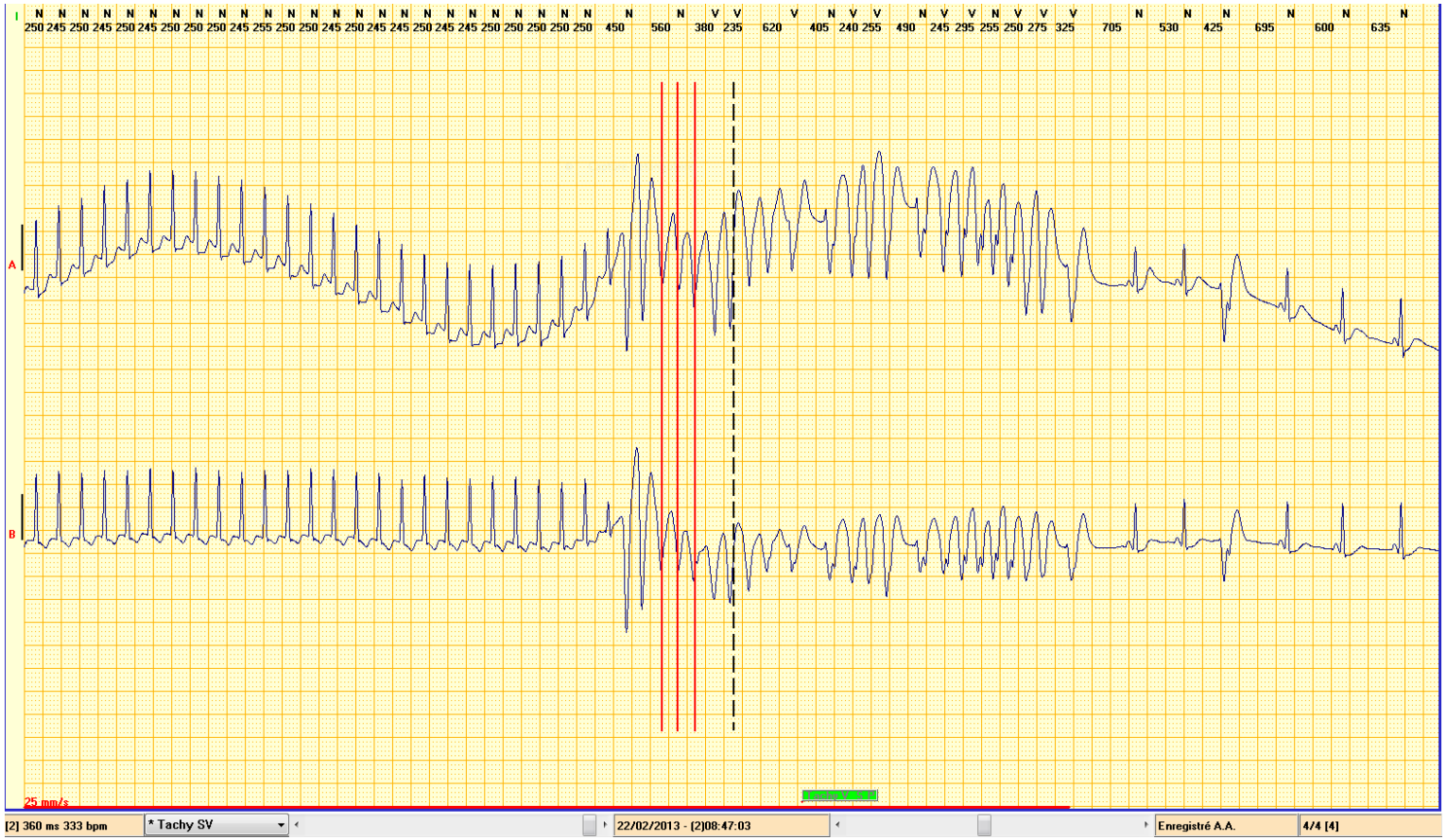
QRS fins

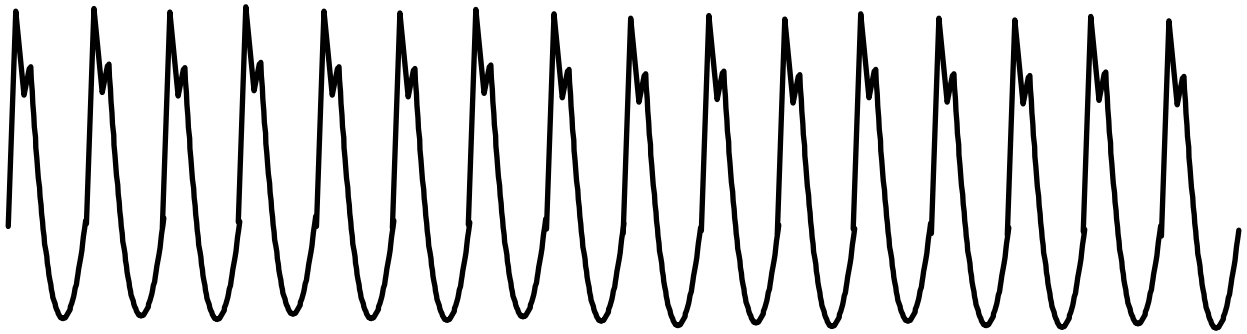
QRS larges

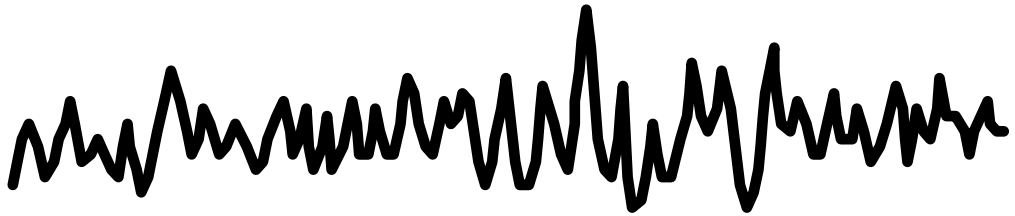




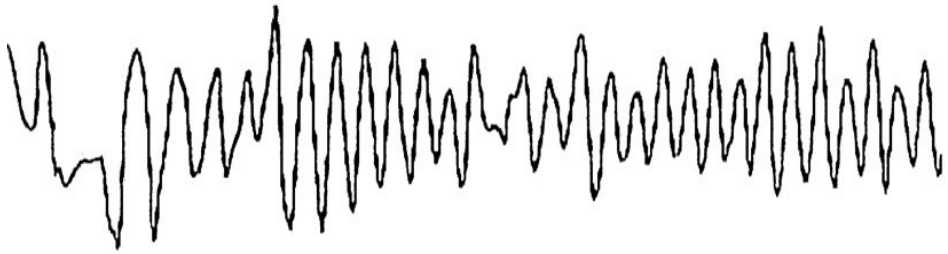
Jeune femme 25 ans



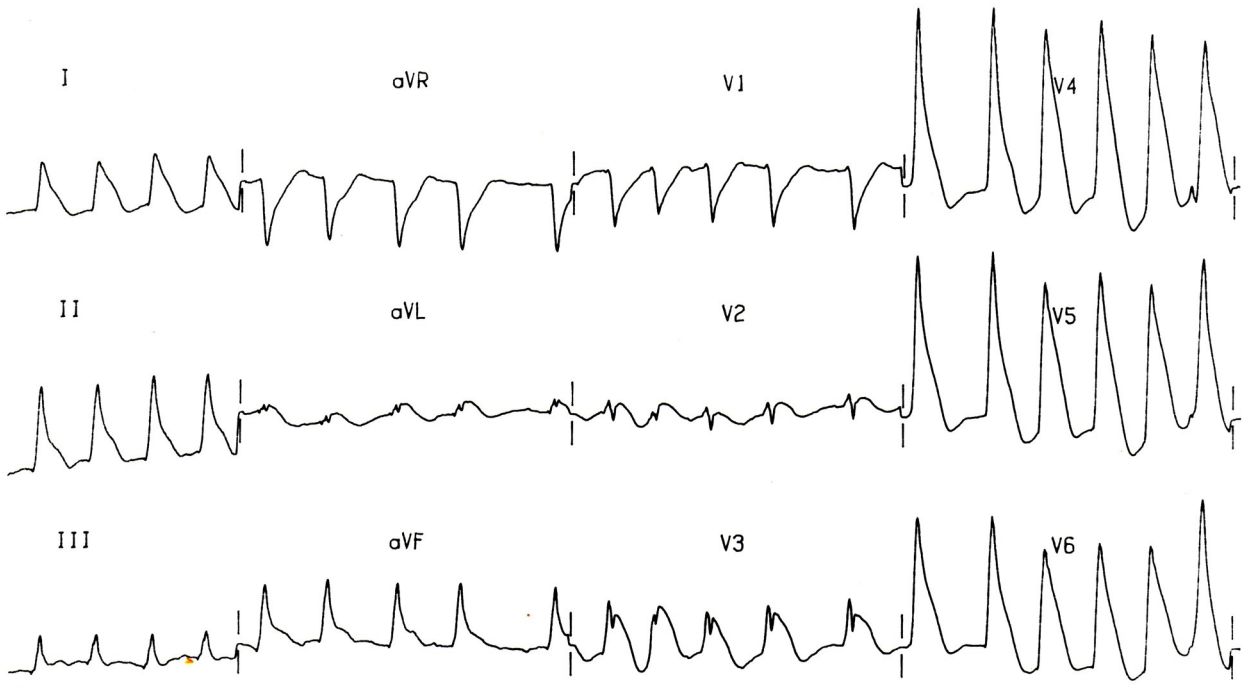




Tachycardies polymorphes



Fibrillation atriale au décours d'un infarctus du myocarde

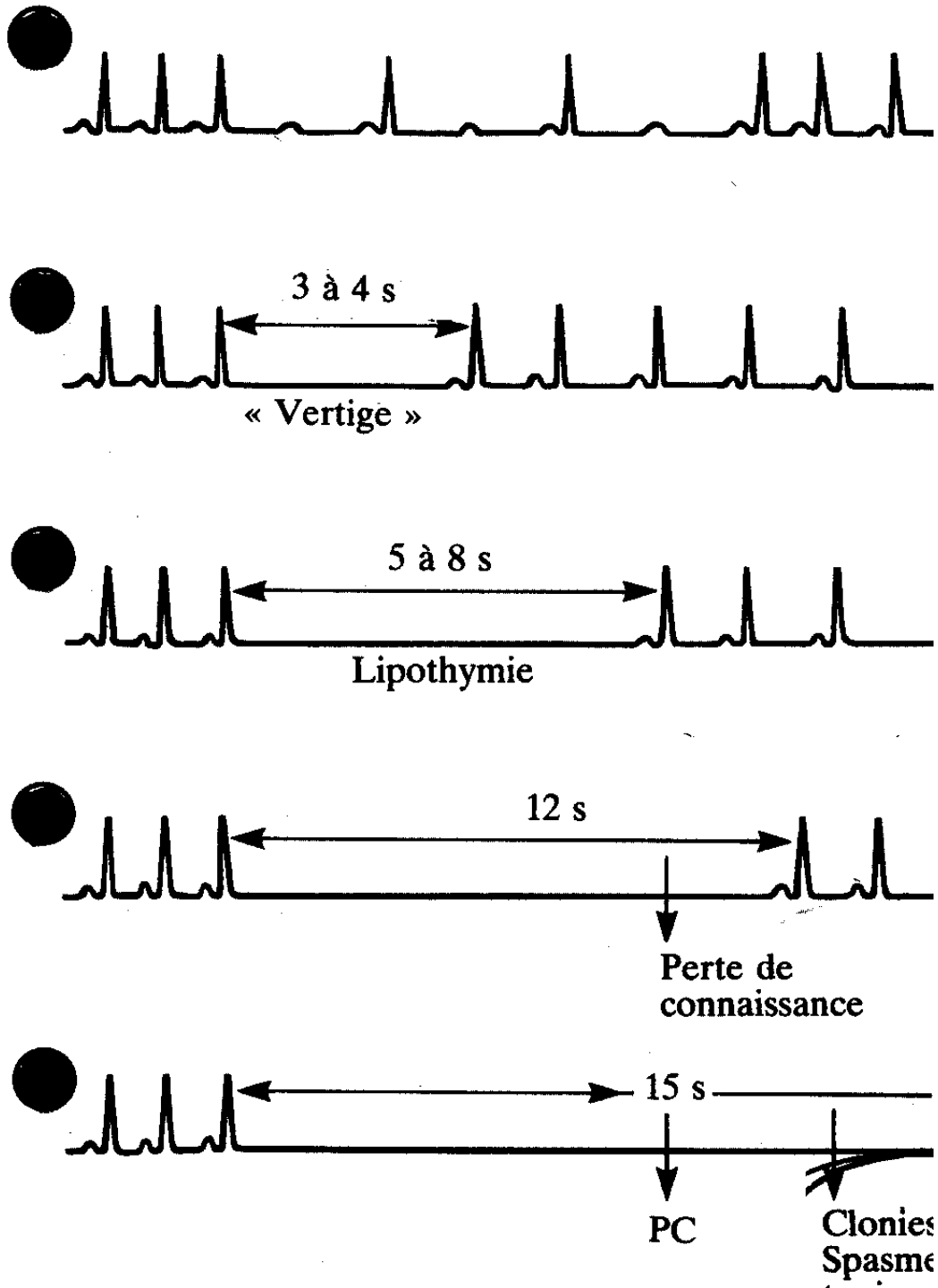


Rythmologie

✓Rappel

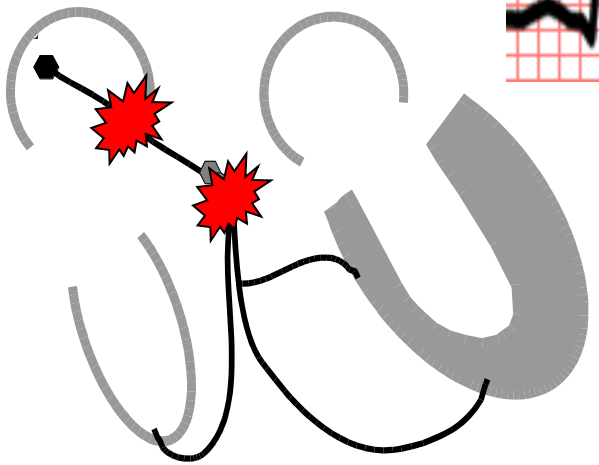
✓Syncopes.Troubles de la conduction

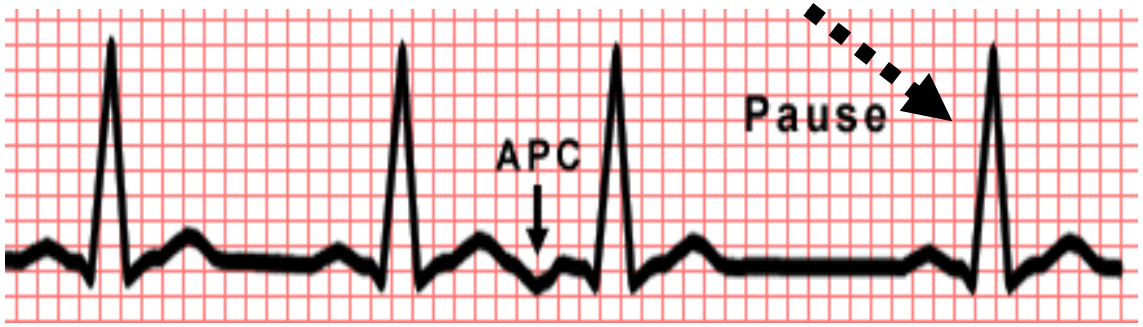
✓Palpitations/Tachycardies


3 à 4 s
« Vertige »
5 à 8 s
Lipothymie
12 s
Perte de
connaissance
15 s
PC
Clonies
Spasme

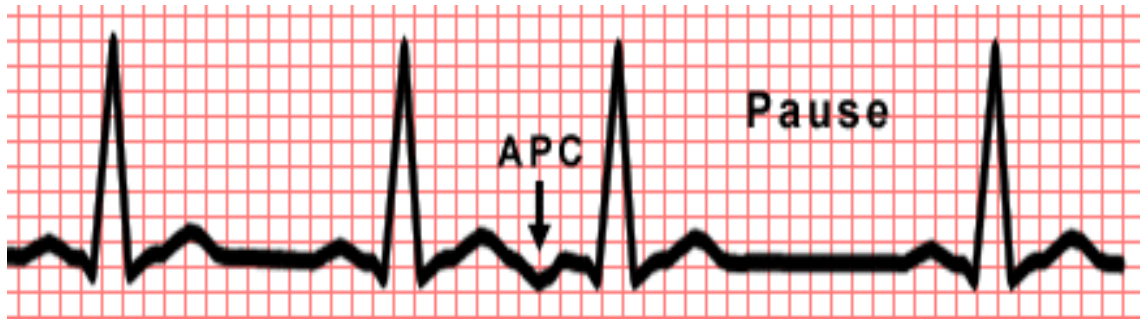
Après une pause….

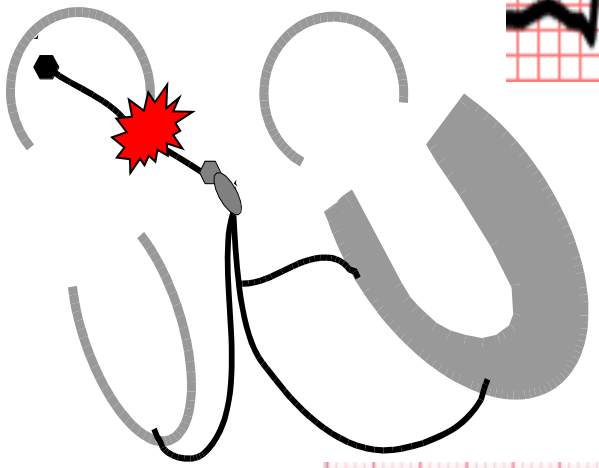
Échappement

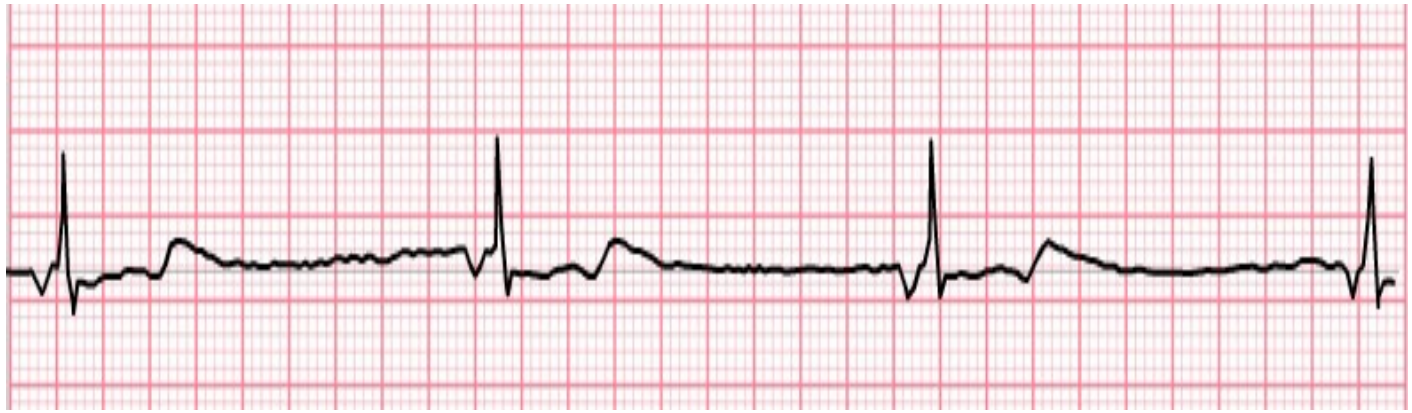




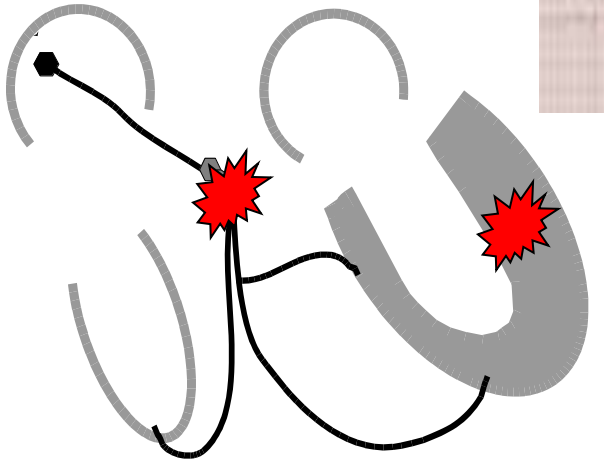
Échappement

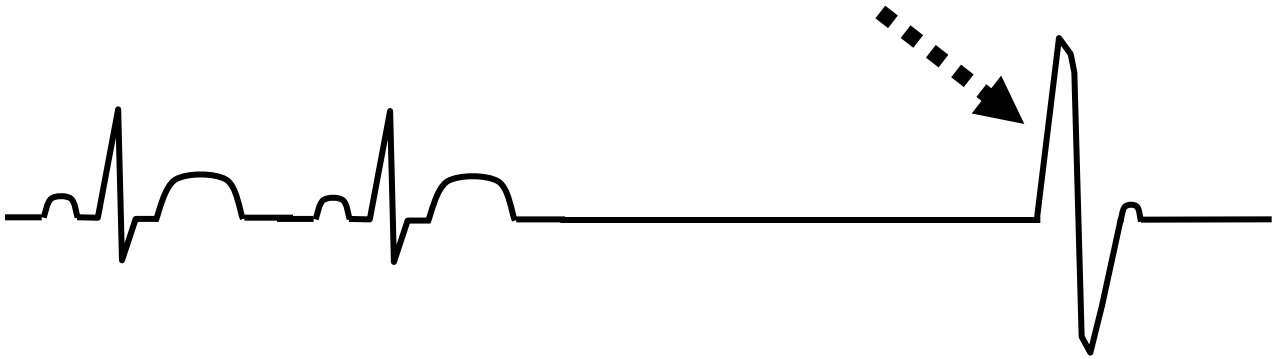






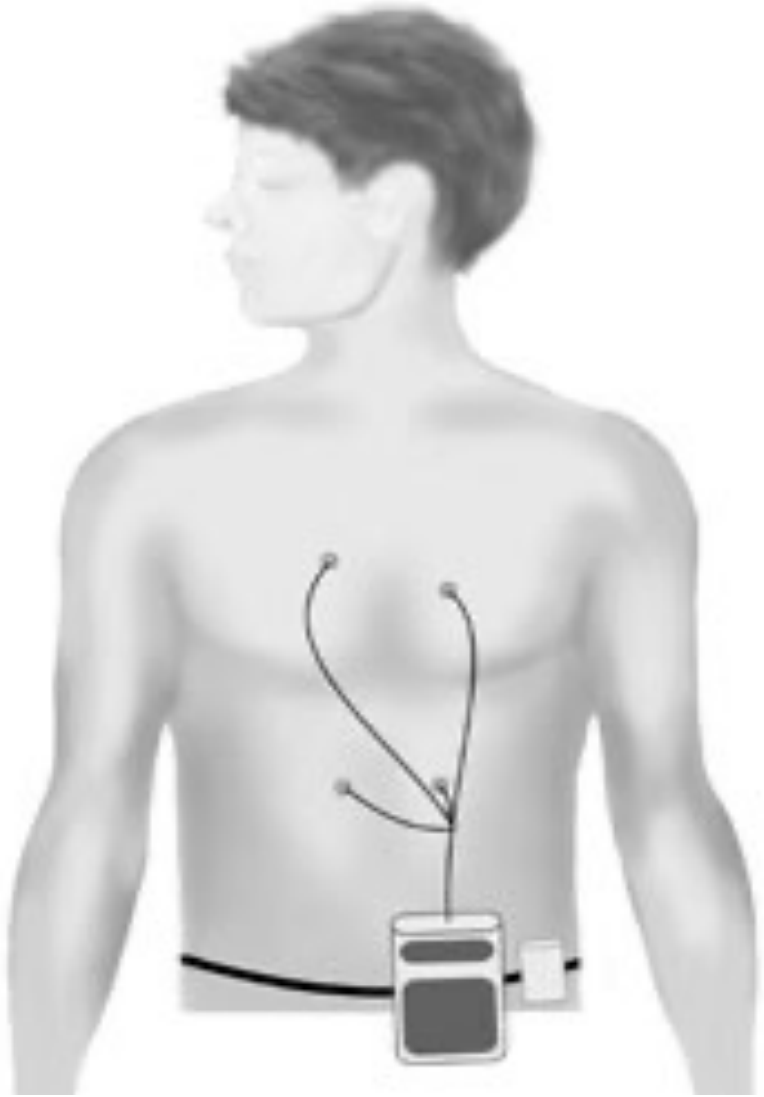
Échappement

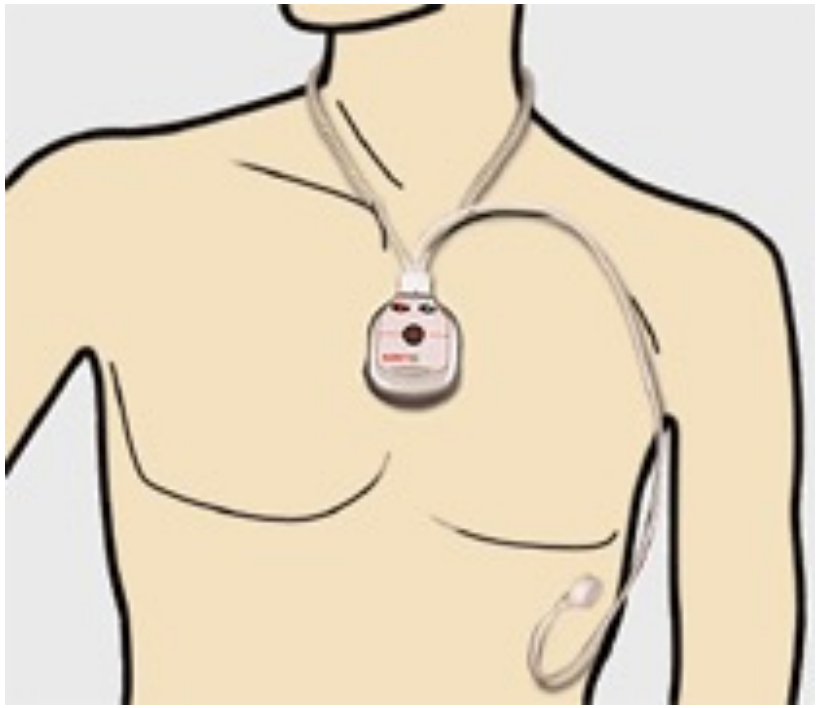




Syncope : Les outils diagnostiques

Examen Holter





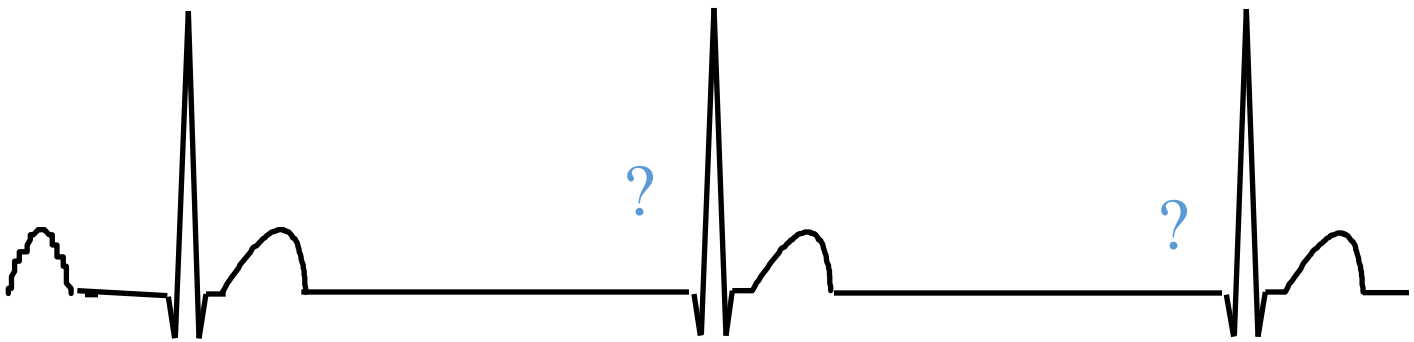

Reveal

Dysfonction sinusale

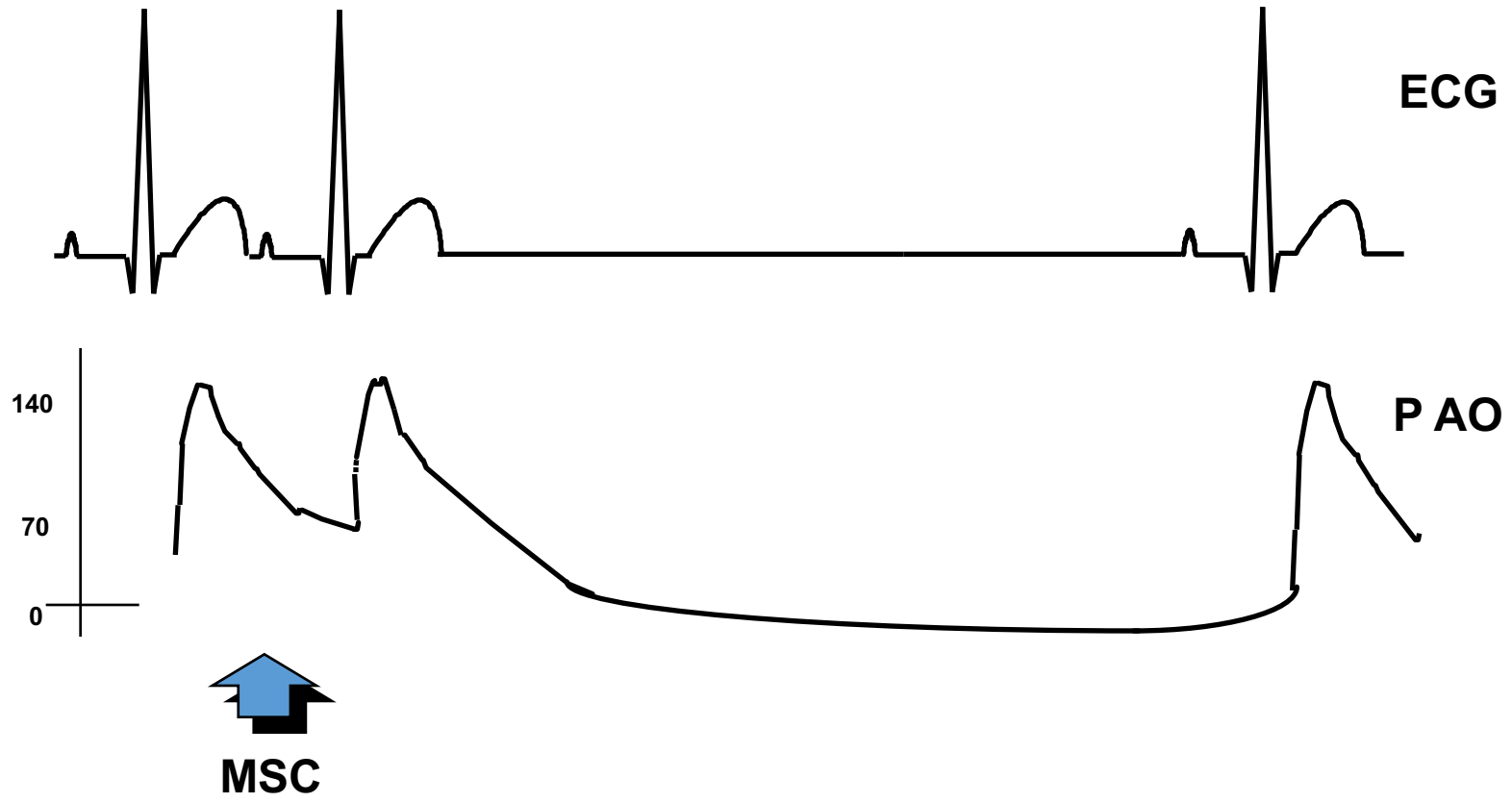
- Bradycardie <50 /min?
- Syndrome brady-tachycardie++++
- E*preuve d'effort+++++*

Bloc Sino-Auriculaire

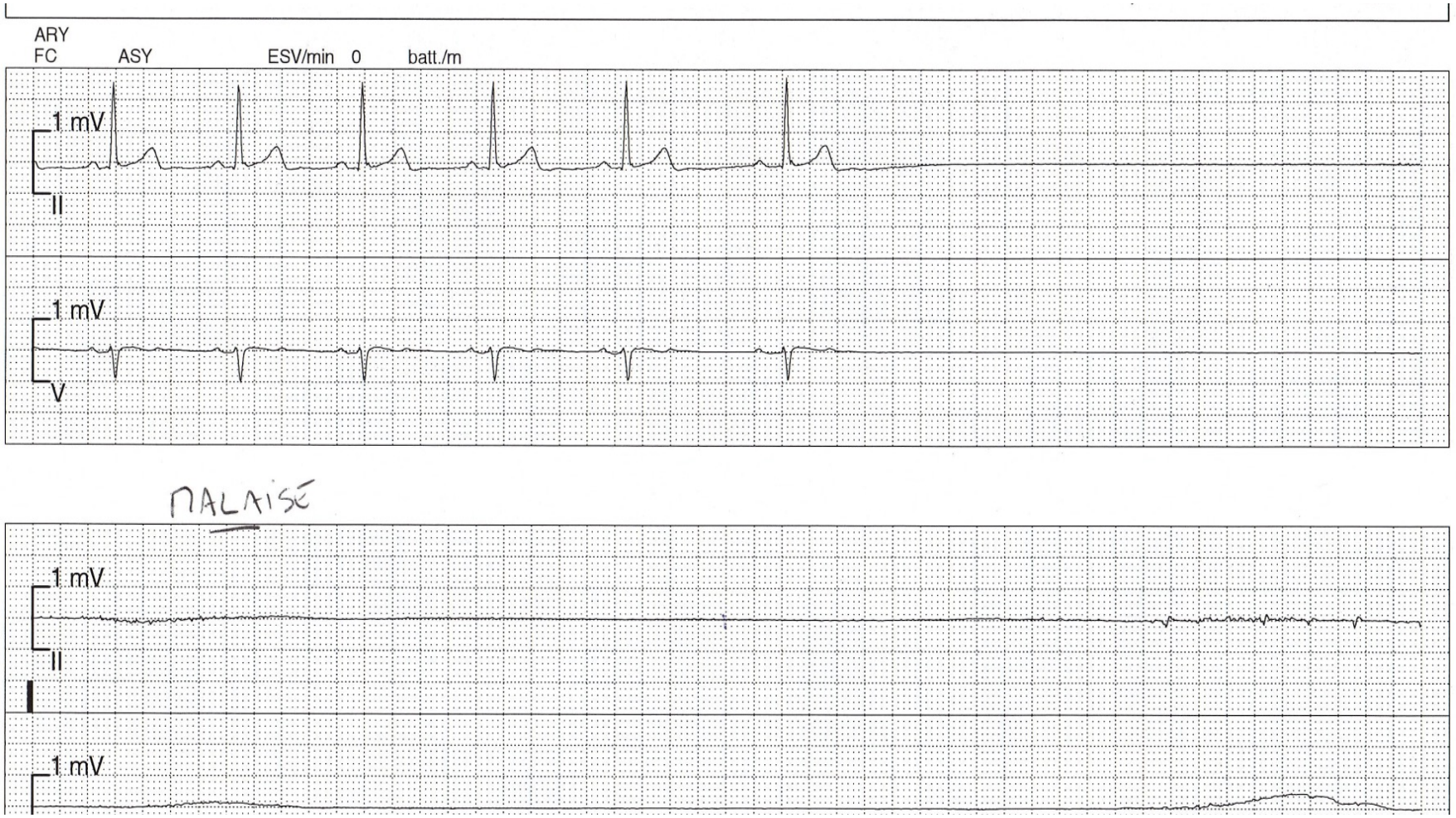
Echappement Jonctionnel



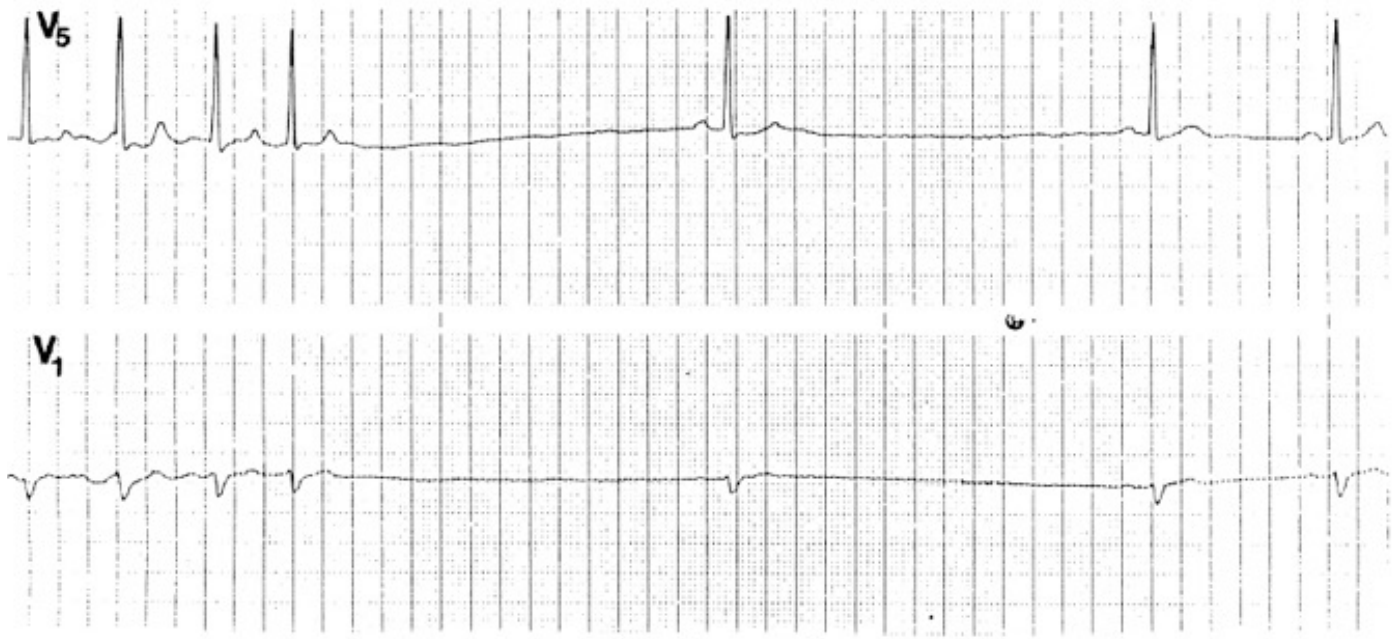
Syndrome Sino-Carotidien



Lipothymies



Maladie de l’oreillette



Blocs atrio-ventriculaires

- Retard ou absence de conduction lorsque la jonction AV n’est pas en période réfractaire.

Bloc atrio-ventriculaire
Symptômes

- Aucun SF
- Lipothymie
- Syncope (Asystole ou tachycardie ventriculaire++++)
- Dyspnée

Blocs atrio-ventriculaires
Degrés

- Premier degré: Conduction prolongée
- Second degré: Conduction intermittente
  - Type I arrêt progressif
  - Type II arrêt brutal

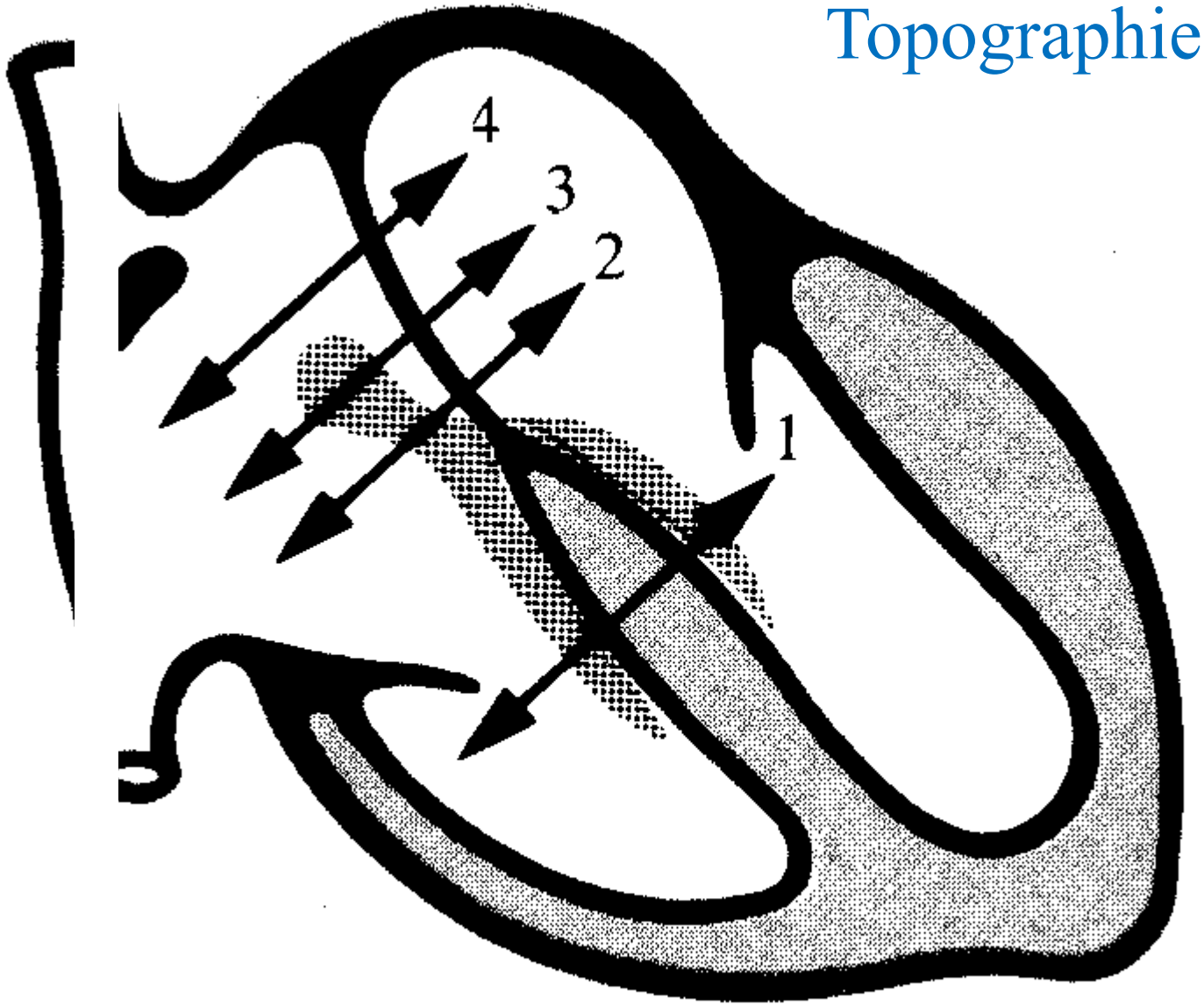
- Deux sur un : Conduction 2/1 (attention DD entre type 1 et type 2)
- Haut degré : Deux ondes P consécutives non conduites
- Troisième degré : Absence de conduction

Bloc atrio ventriculaire
Topographie?

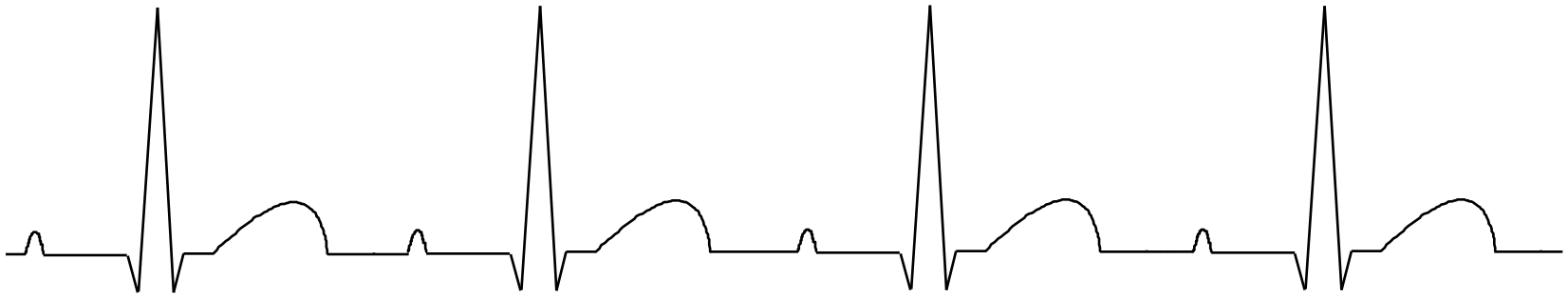
- *QRS fins* : bloc dans le noeud AV

- *Cadence d'échappement* pendant BAV < 30 /min :siège infra hisien; >50/min supra hisien

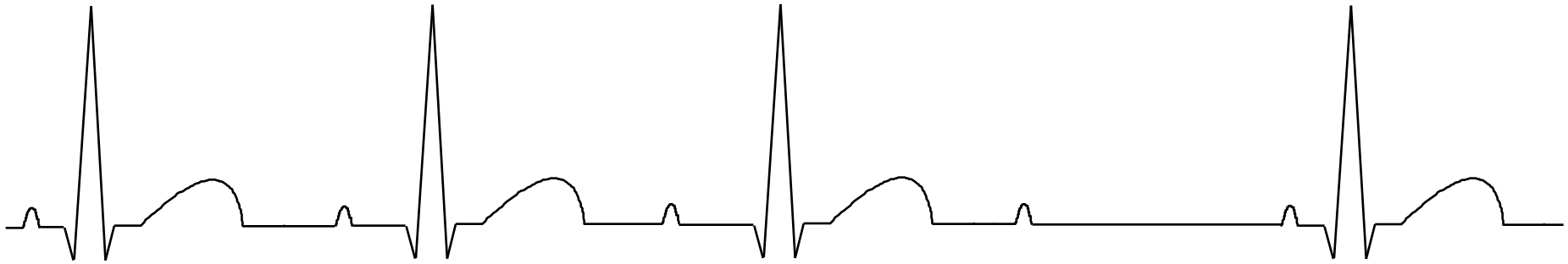
Bloc atrio-ventriculaires: Topographie



Bloc AV 1°

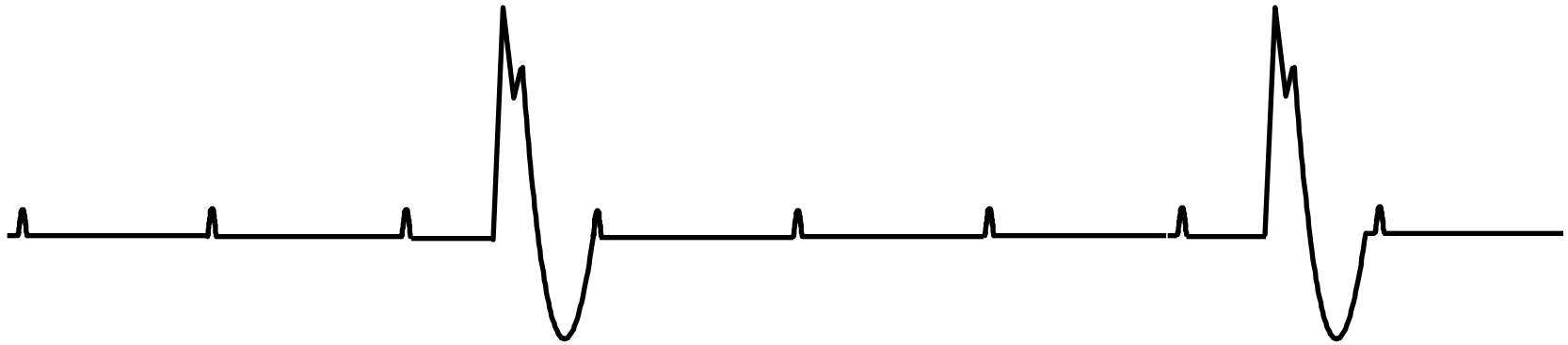


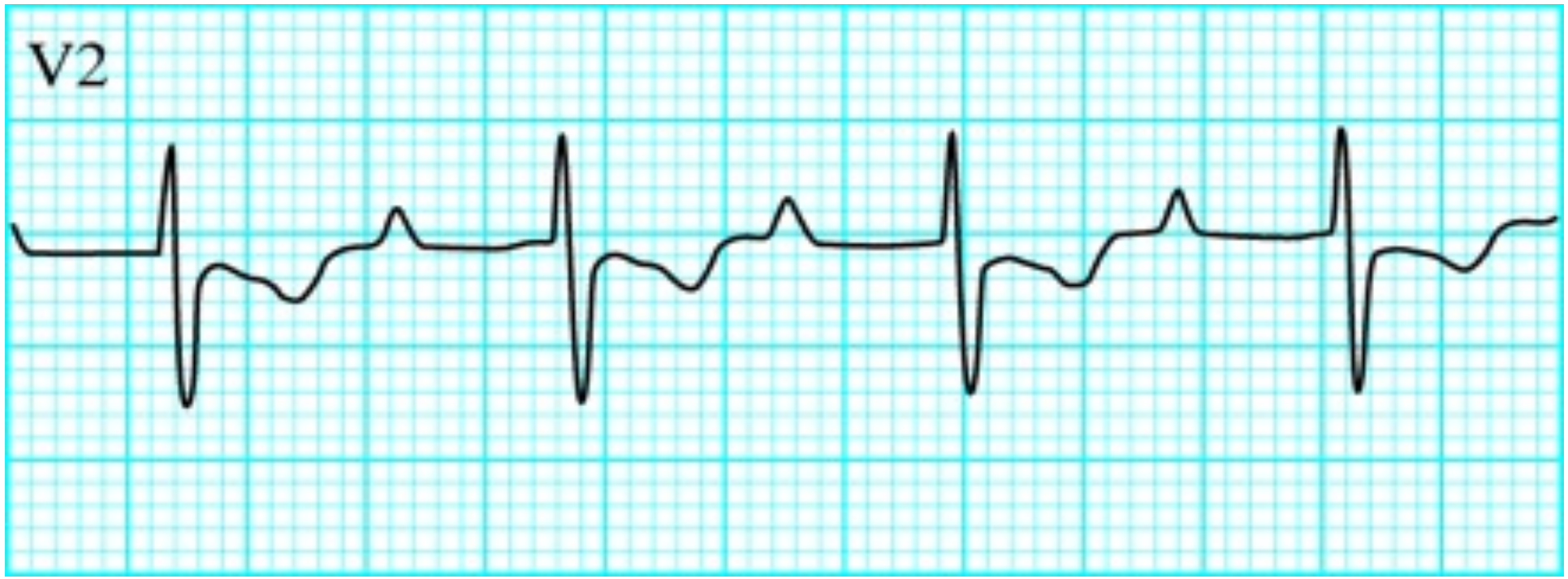
BAV 2°
Luciani Wenckebach

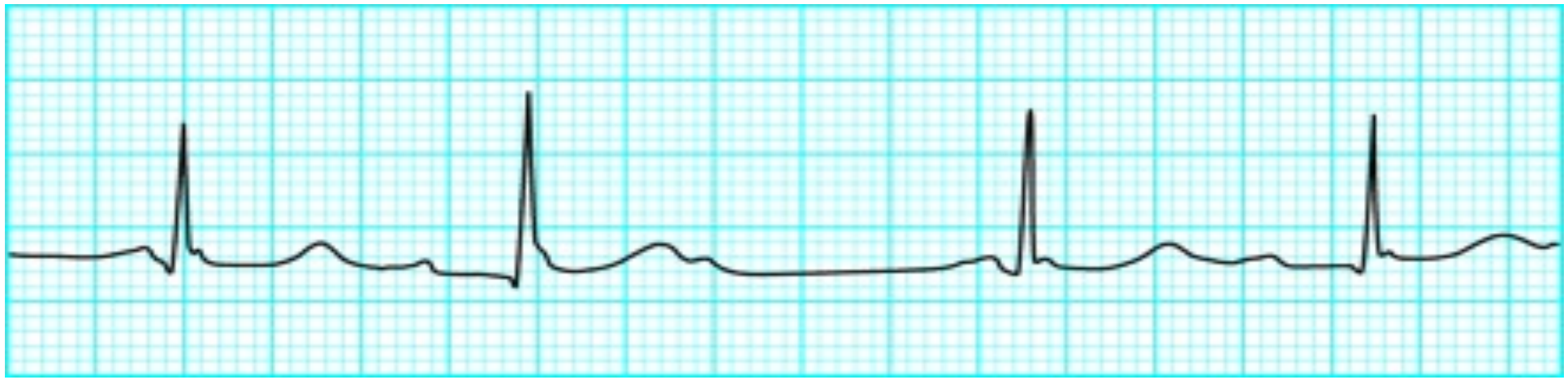


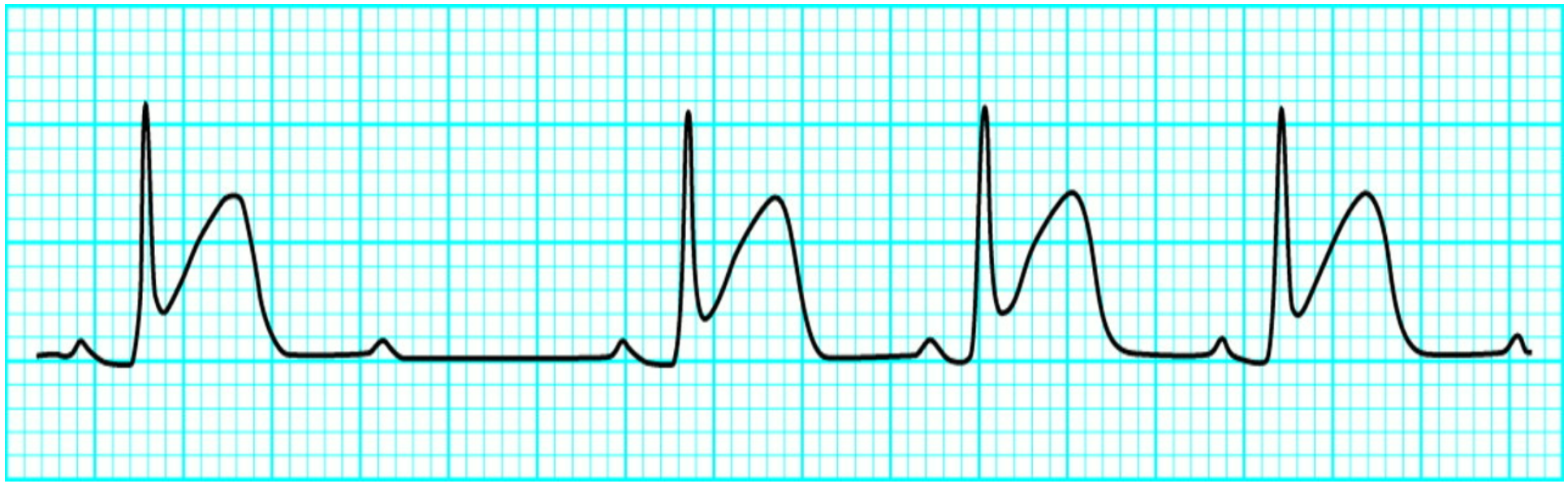
BAV 2°
Mobitz II

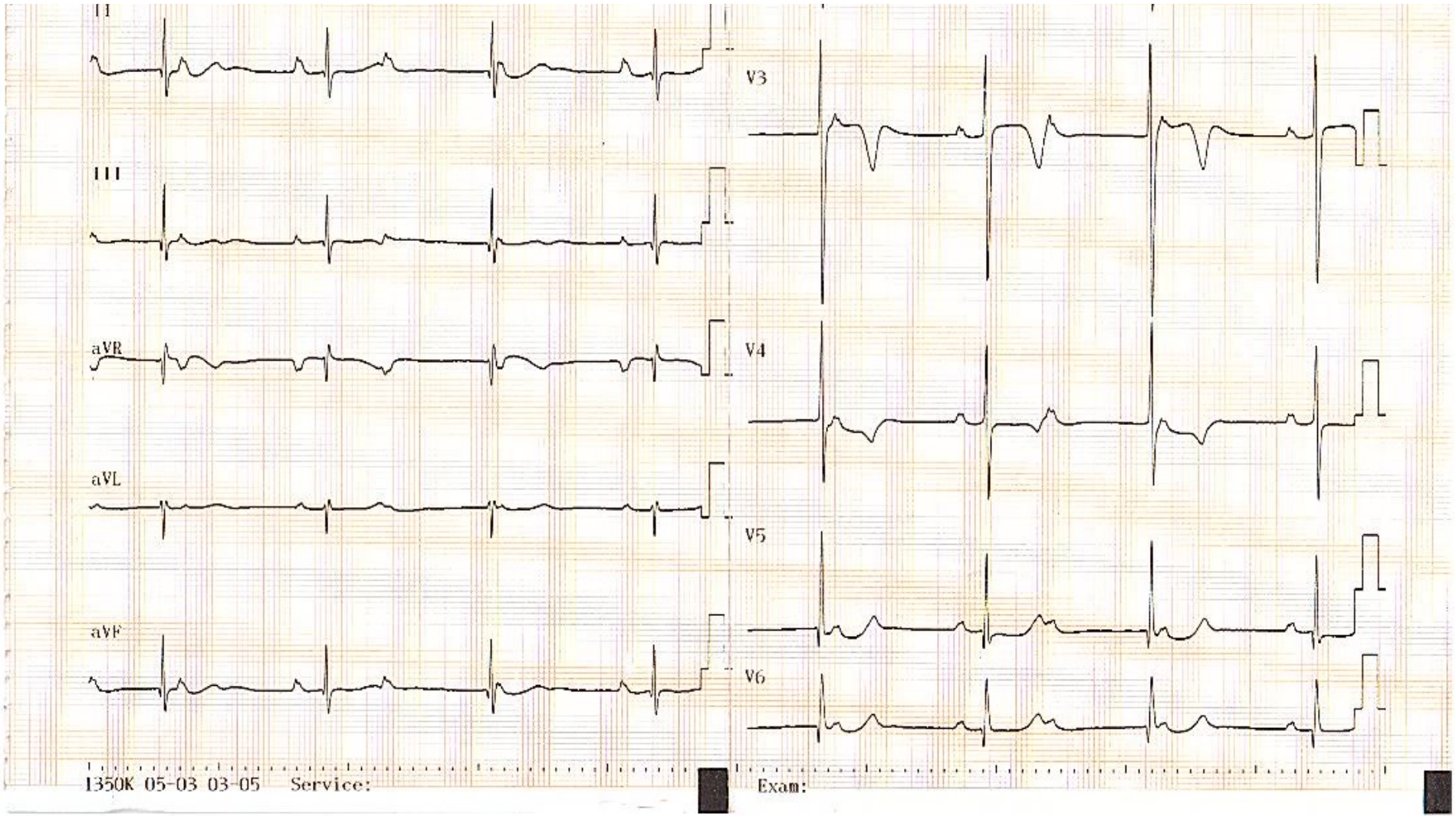
BAV 3°
bloc complet

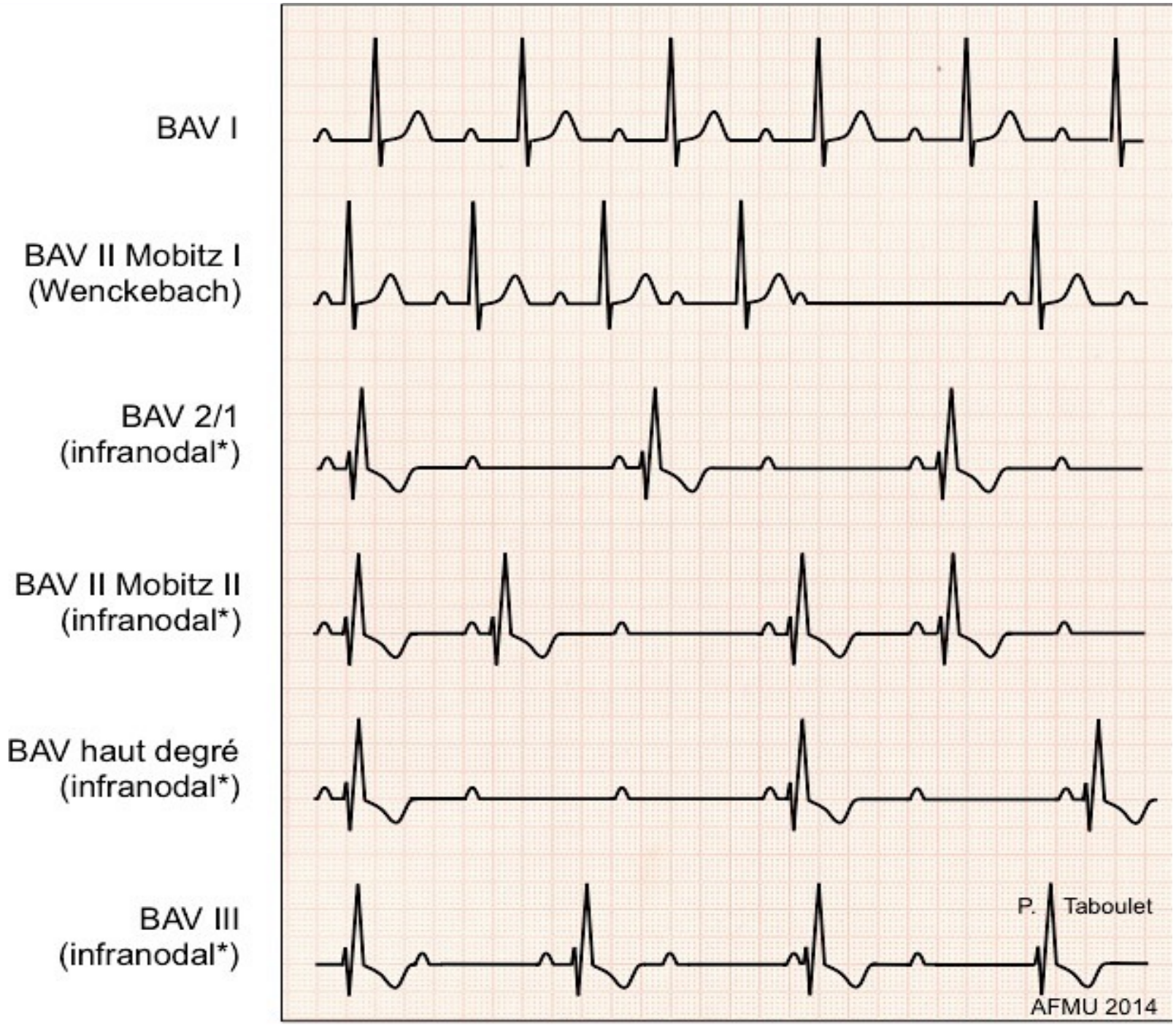


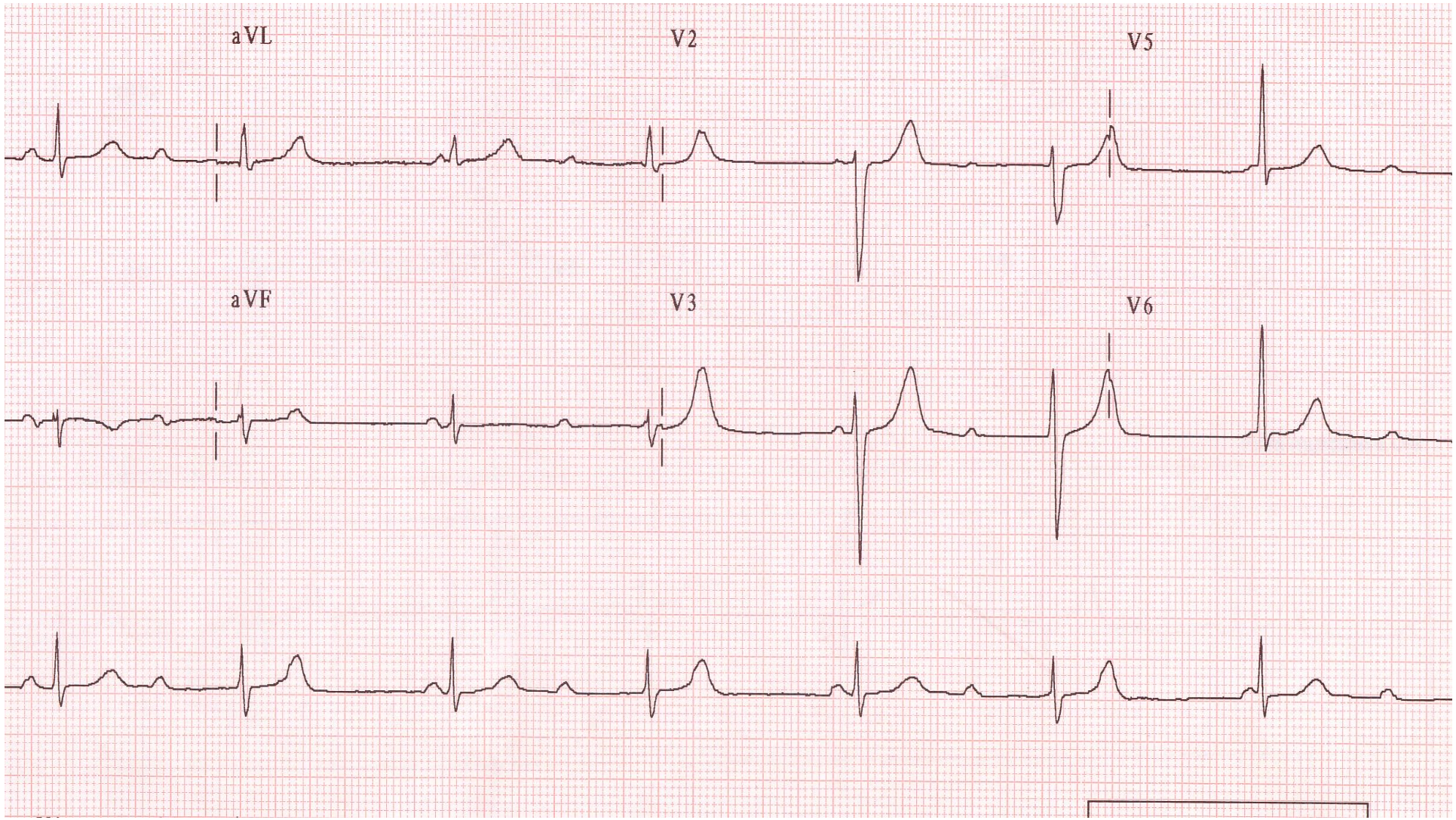

V2



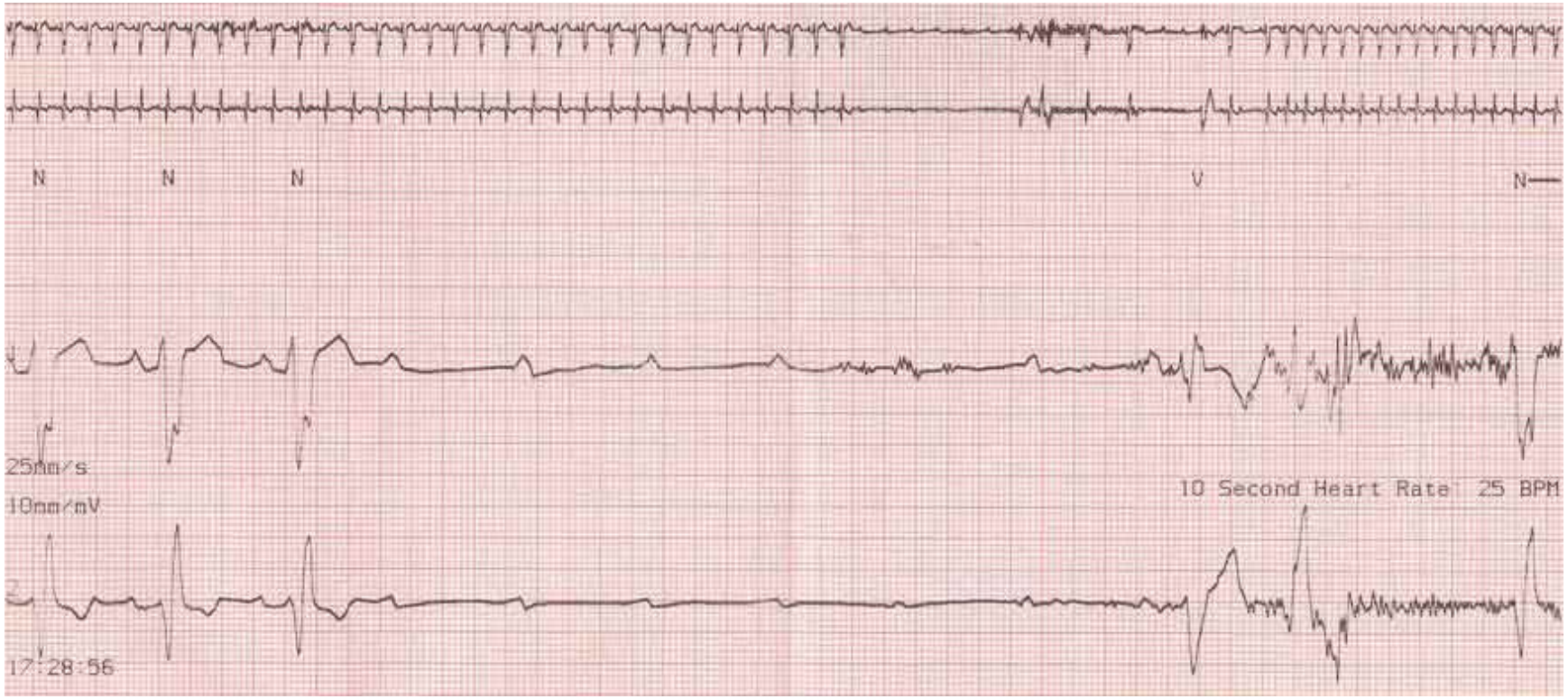



II
III
aVR
aVL
aVF
V3
V4
V5
V6
1350K 05-03 03-05 Service:
Exam:

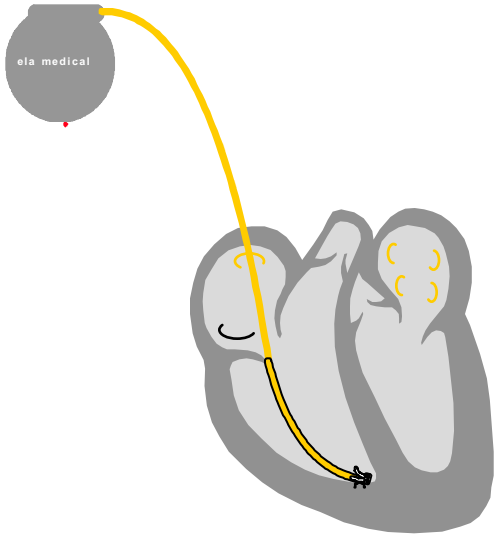

BAV I
BAV II Mobitz I
(Wenckebach)
BAV 2/1
(infranodal*)
BAV II Mobitz II
(infranodal*)
BAV haut degré
(infranodal*)
BAV III
(infranodal*)
P. Taboulet
AFMU 2014

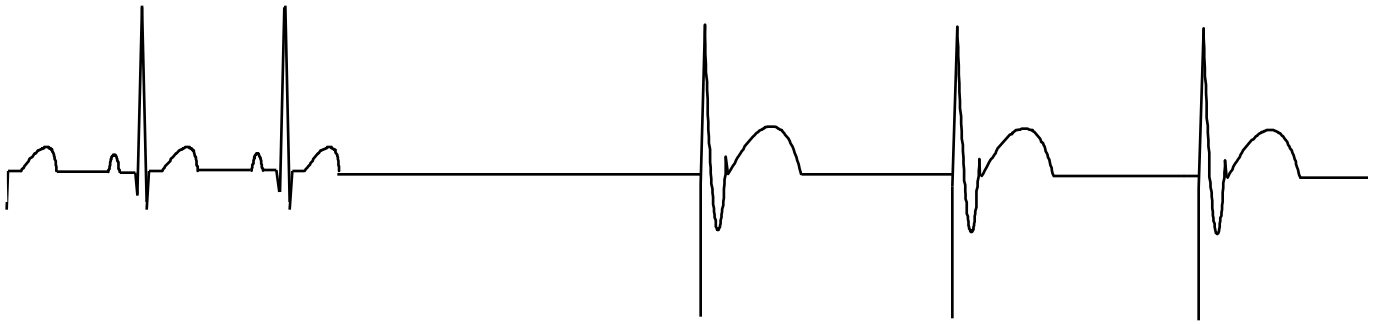

aVL
V2
V5
aVF
V3
V6

Syncope



Stimulation simple chambre
VVI
Pace Maker





Resynchronisation ventriculaire