

ELECTRA



4-5 DÉCEMBRE 2021

**HOTEL VILLA M.
MARSEILLE | FRANCE**

**1^{re}es journées françaises
pratiques de rythmologie
& de stimulation cardiaque**

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Journées Françaises Pratique de Rythmologie & Stimulation Cardiaque Fawzi KERKOURI

05 Déc 2025



Case presentation

- 78-year
- woman
- Hypertension
- Paroxysmal atrial fibrillation treated by amiodarone (200 mg/day)
- Idiopathic severe pulmonary hypertension

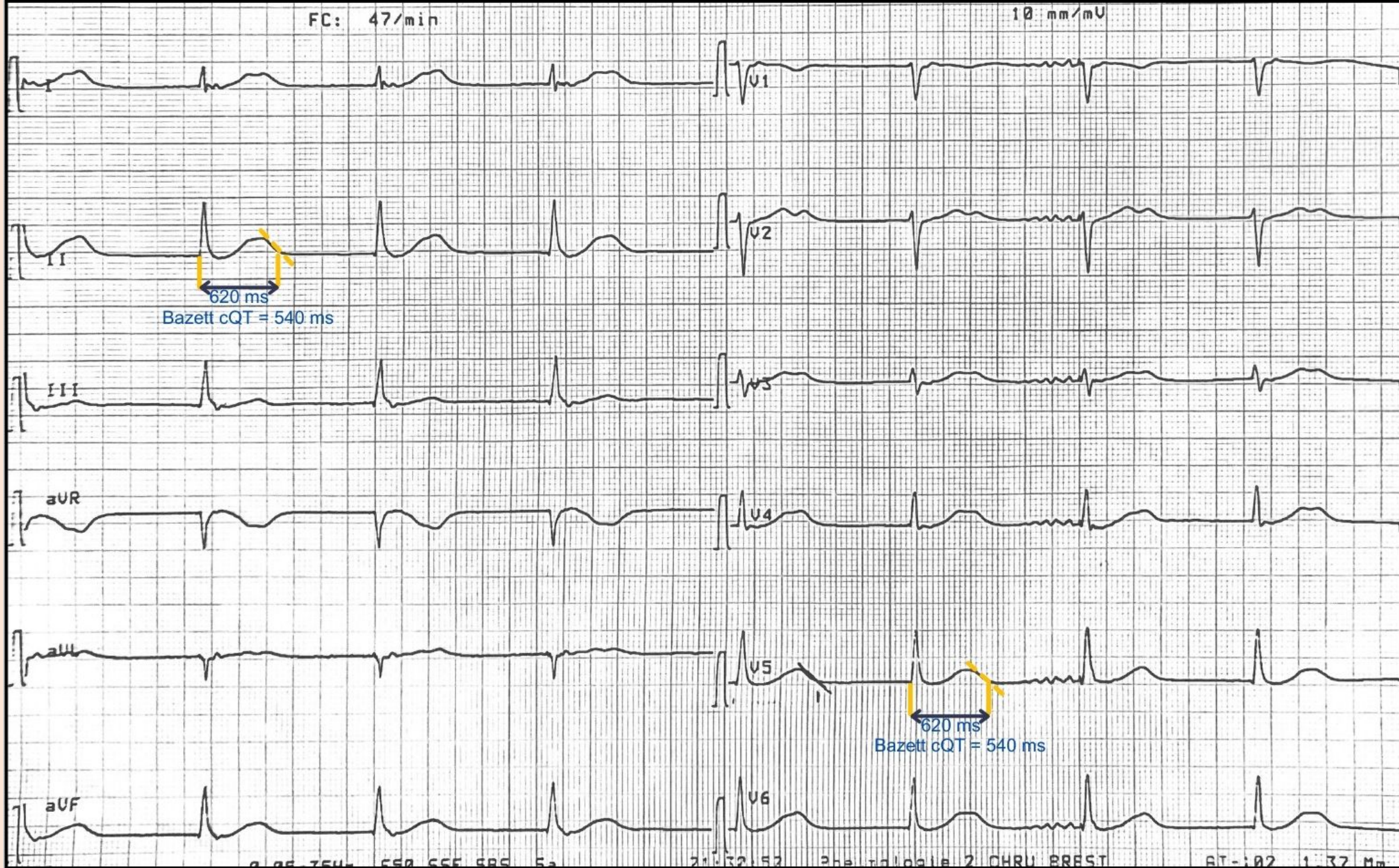
➔ Admitted for umpteenth cardiac decompensation

FC: 47/min

10 mm/mV

ECG
At
Baseline

HR
47/min

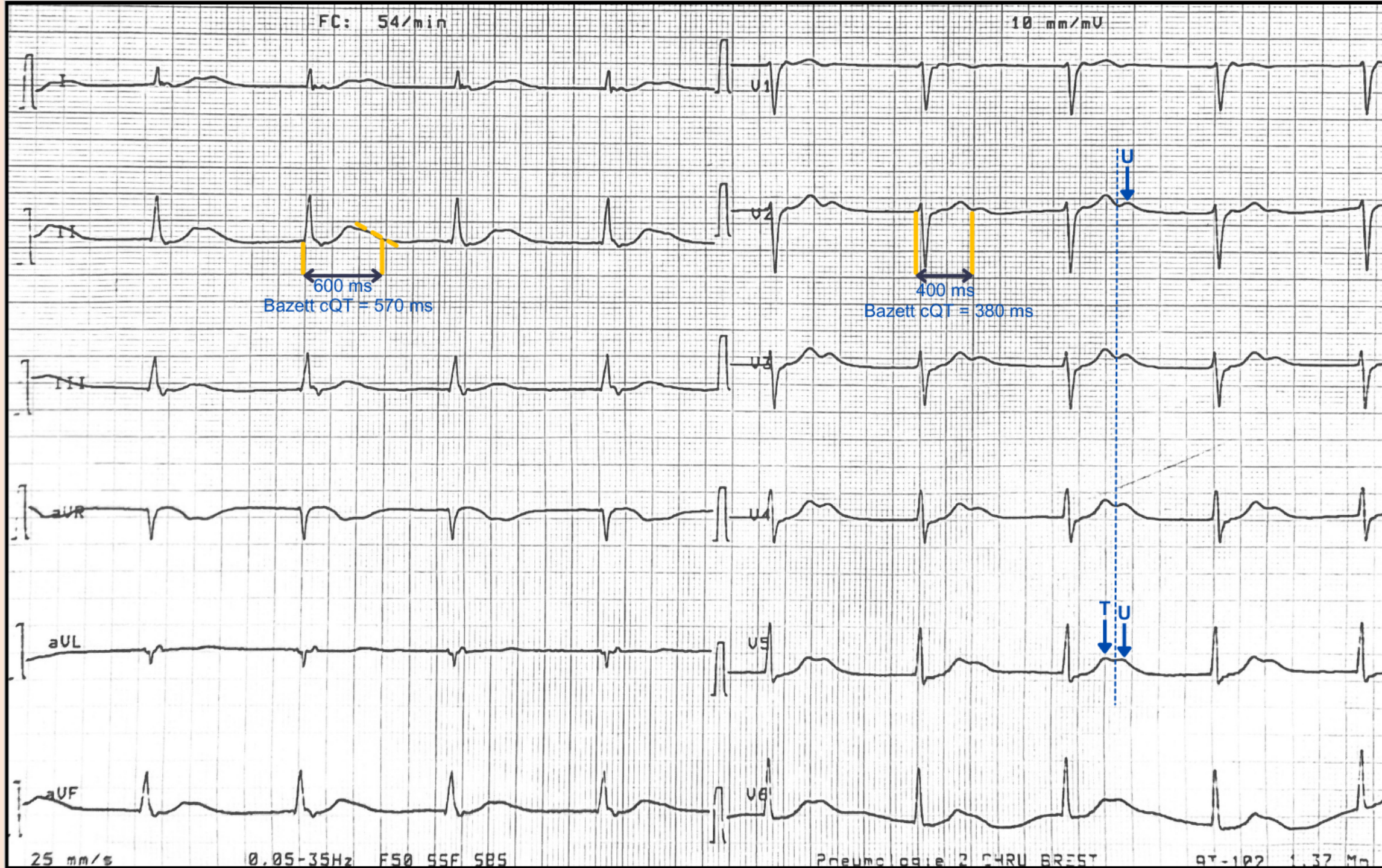


0.05 75uV 550 555 560 565

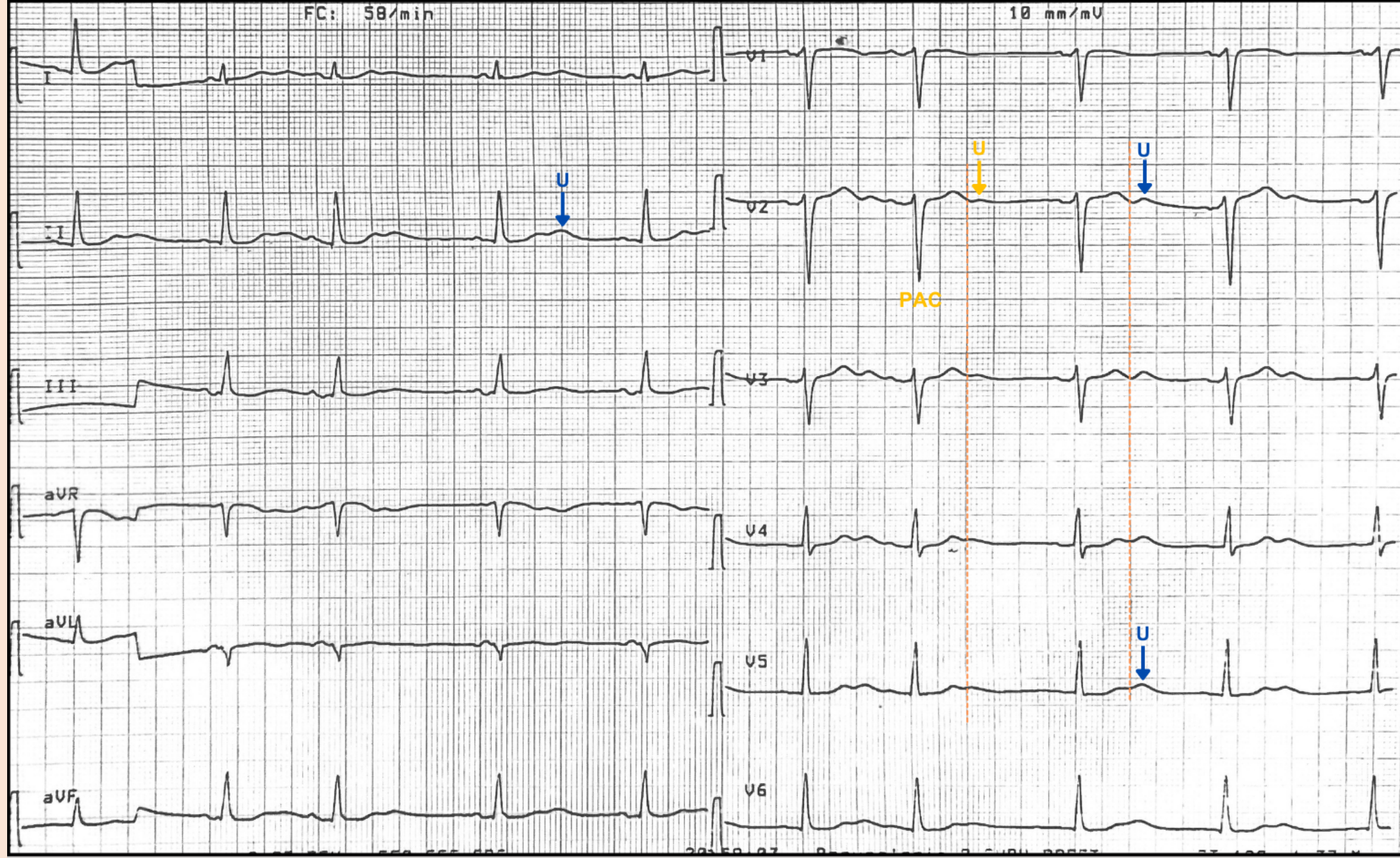
21.32.53 2nd dialogue 2 CHRU BREST

AT-102 1-32 Mo

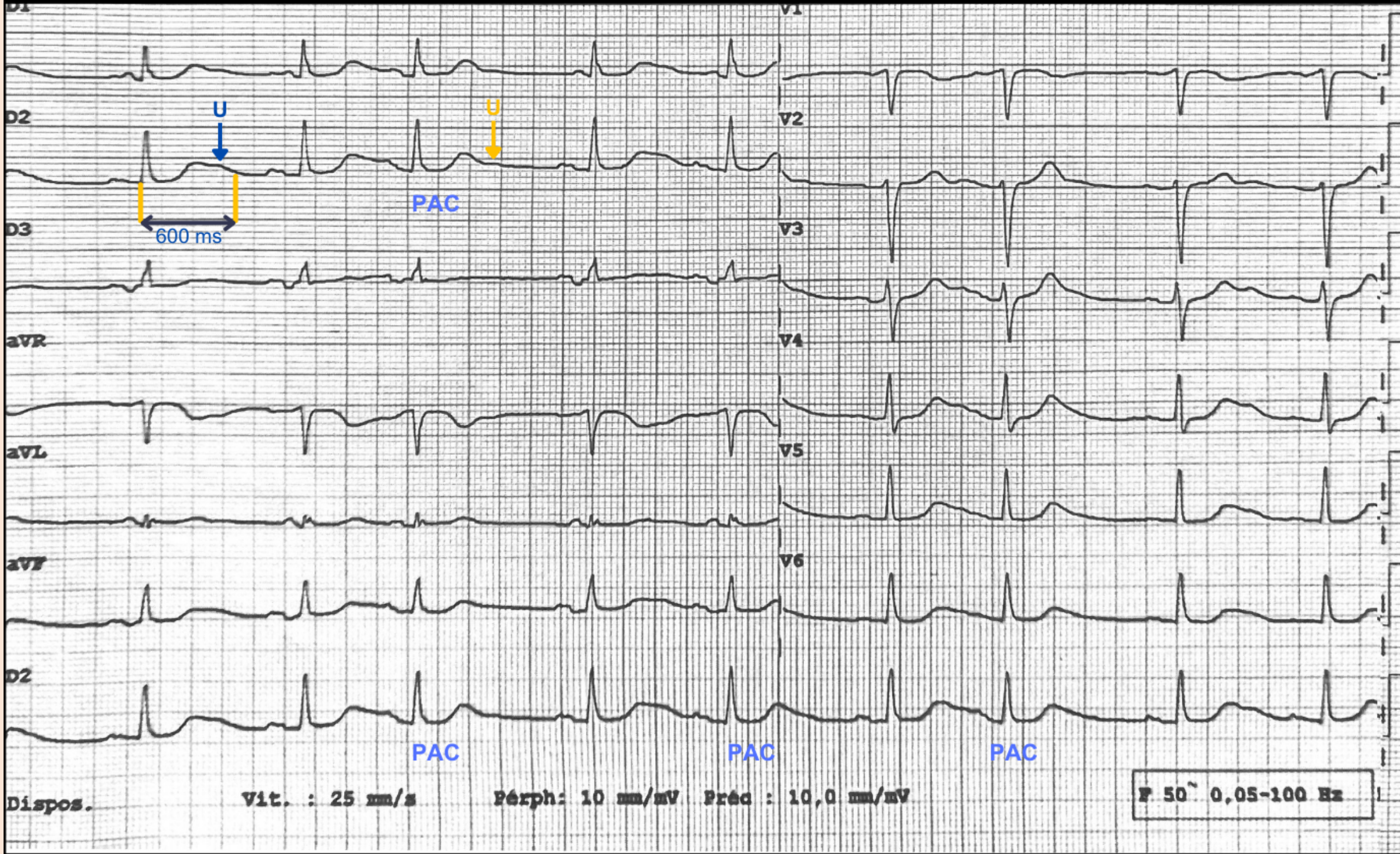
ECG
-
HR
54/min



ECG
-
HR
54/min

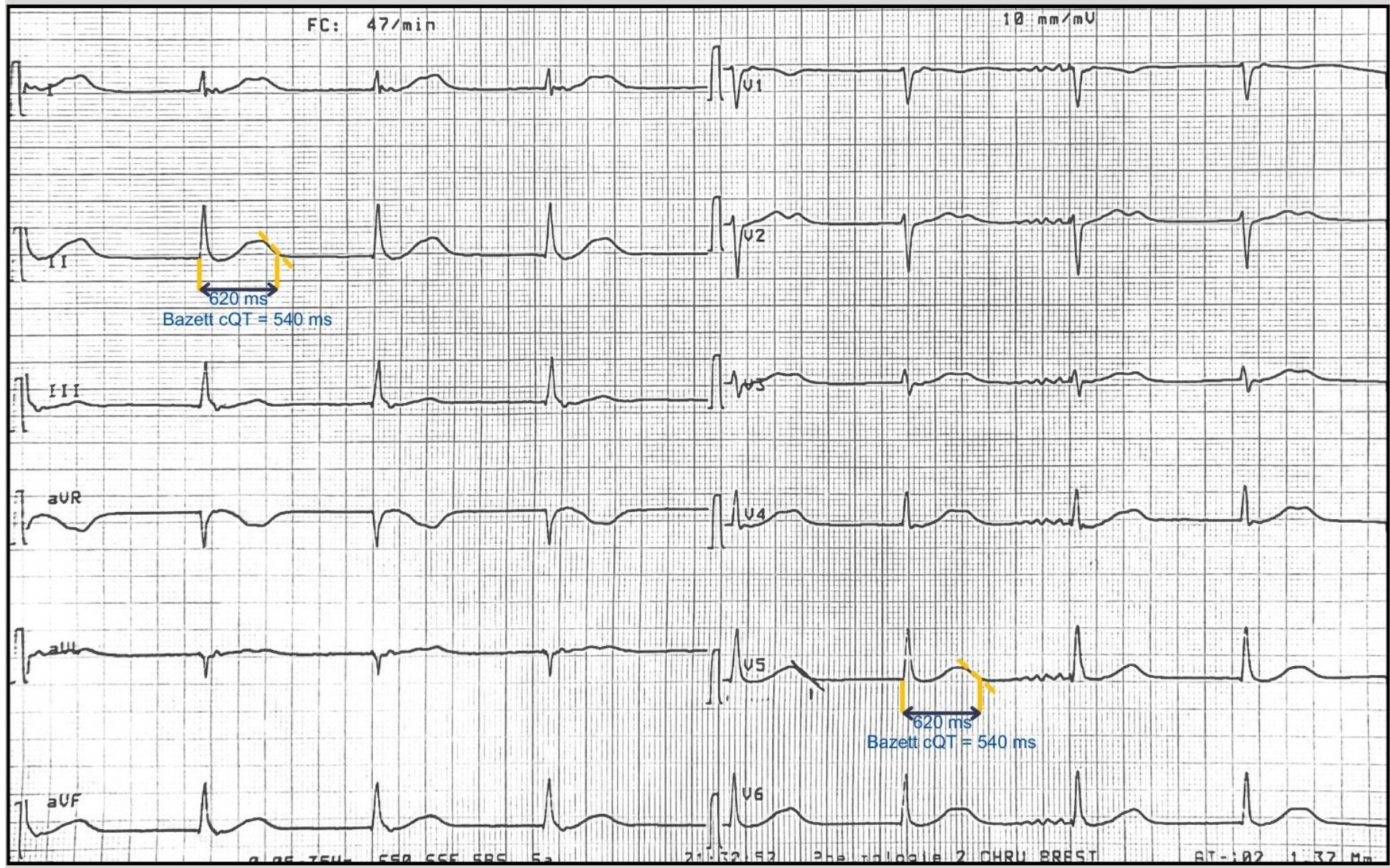


ECG
-
HR
62/min



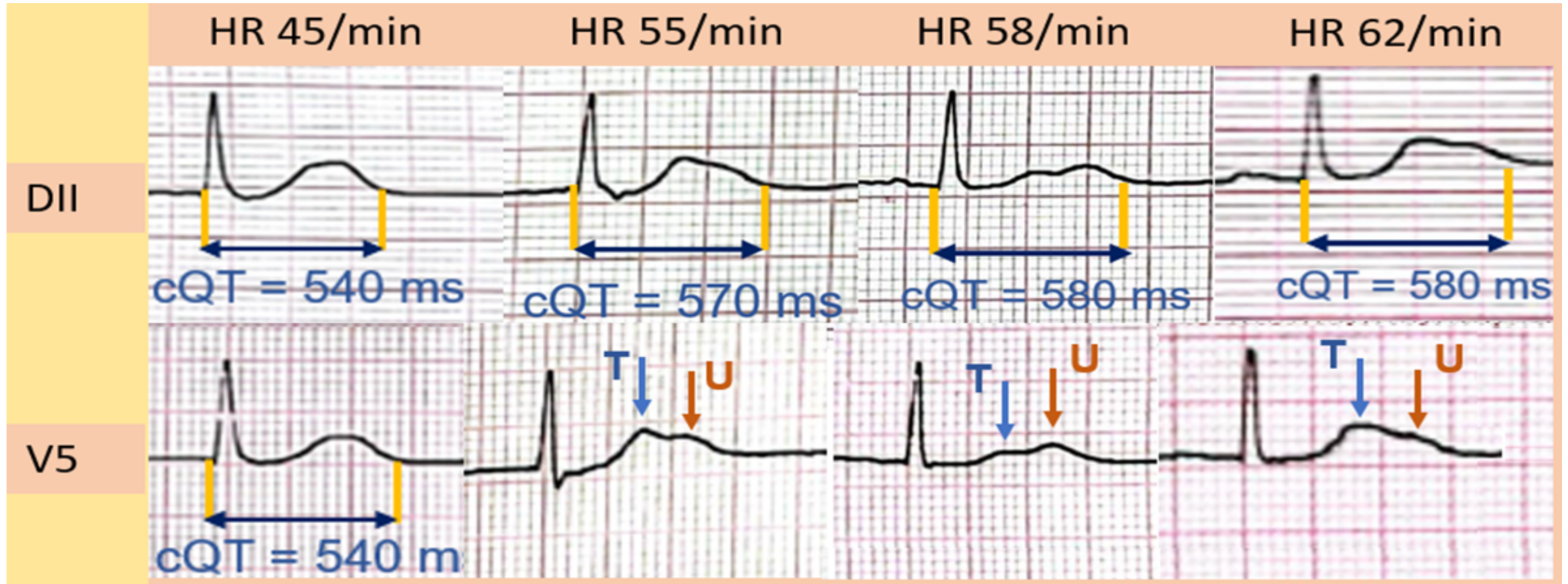
Take home message

Lead selection



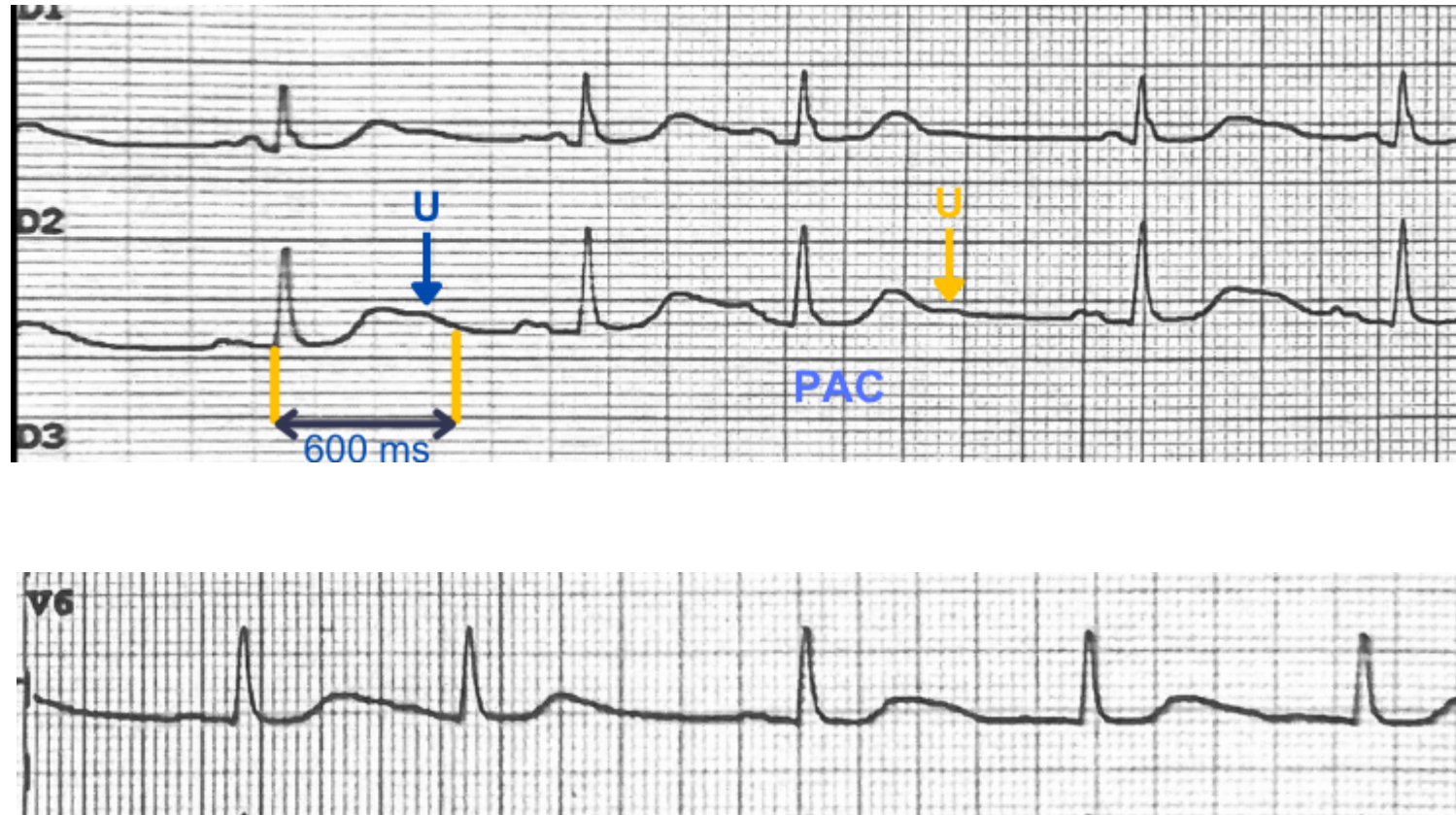
Take home message

Repeat ECG



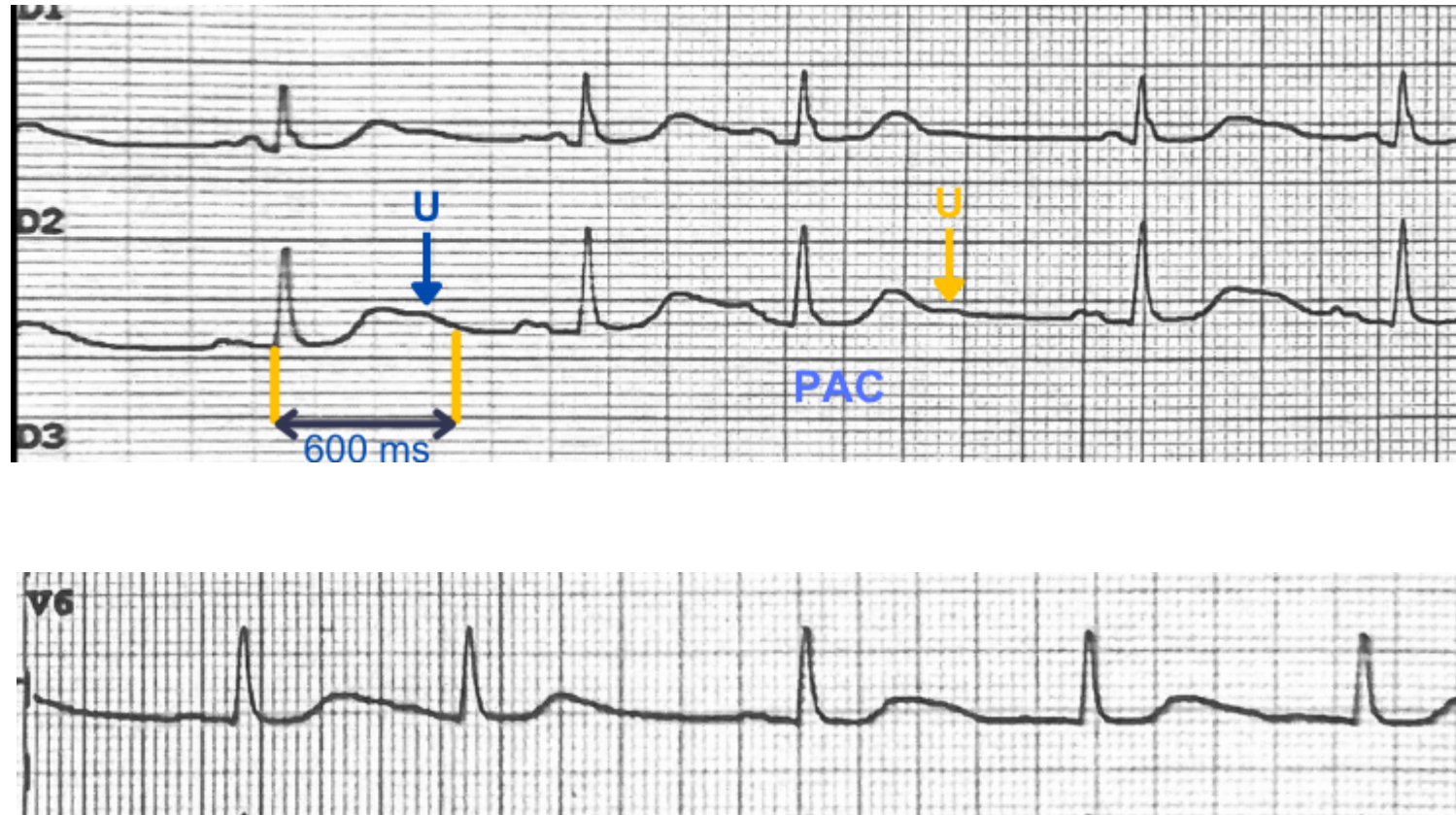
Take home message

Premature atrial complexes



Take home message

Premature atrial complexes



U wave mimicking long QT interval: the role of lead selection, repeated electrocardiograms, and premature atrial complexes

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ESC curriculum 5.6 Ventricular arrhythmia • 5.8 Cardiac ion channel dysfunction

Case presentation

A 78-year-old woman with hypertension, paroxysmal atrial fibrillation treated by amiodarone (200 mg/day), and idiopathic pulmonary hypertension was admitted for cardiac decompensation. Her baseline electrocardiogram (ECG) showed sinus dysfunction and an apparently prolonged corrected QT (QTc) interval (540 ms) in leads V5 and DII (*Figure 1A*), without electrolyte disturbances or ischaemia. To determine if this represented true QT prolongation or false prolongation due to U-T wave fusion,¹ repeated ECGs at varying heart rates were performed. At 54/min, a double wave appeared in V5, suggesting a pos-

sible U wave causing false QT prolongation (*Figure 1B*). At 58/min, the second wave amplitude exceeded the first and notably decreased following premature atrial complexes (PACs). This cycle length variation supports its identification as a U wave rather than a bifid T wave (*Figure 1C*).² At 62/min after mild exercise, the second wave amplitude further diminished, particularly after PACs, reinforcing its identification as a U wave (*Figure 1D*). As recommended leads (V5/II) showed persistent U-T wave fusion,³ measuring QT interval in these leads would erroneously suggest QT prolongation. Therefore, QT interval was accurately assessed in lead V2, where T and U waves were clearly separated, confirming a normal QT interval of 400 ms.

Merci

