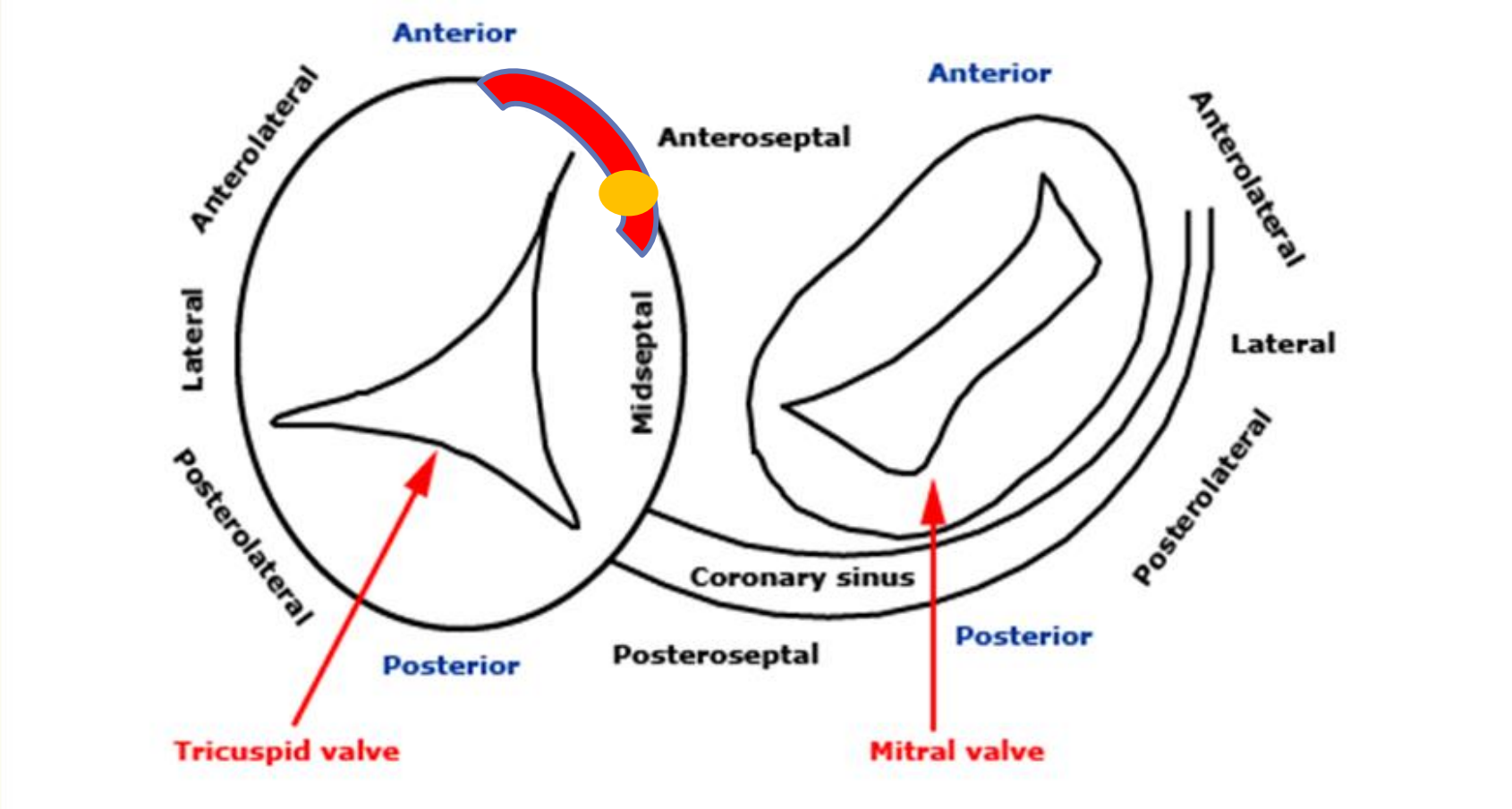
Para-hisian Aksesuar Yollarda Ablasyon

(olgu temelli)

Dr. Basri Amasyalı
Dumlupınar Üniversitesi
Kütahya

Aksesuar Yol Lokalizasyonları



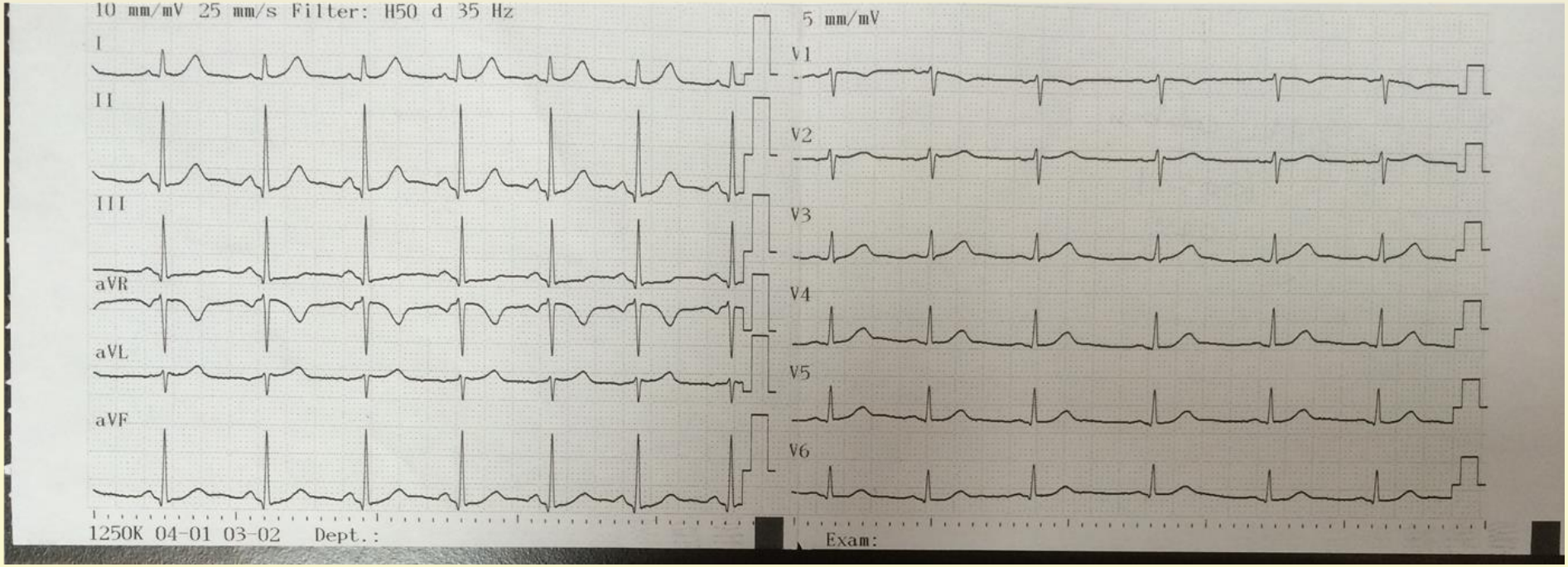
Para-Hisian aksesuar yollar: Aksesuar yolun atrial ve ventriküler insersiyon noktalarına eşlik eden maksimum His potansiyeli varlığı (>0.1 mV)

Olgu-1

- 40 yaşında bayan,
  - Son 10 yıldır aralıklı çarpıntı atakları var
  - Son atakları öncekilerden daha uzun (1-2 atak/ay)
  - Senkop yok

- Öz-Soy geçmiş: Özellik yok

- FM: kalp - akciğer dinlemekle normal. TA: 120/80 mmHg. Nabız ritmik.
- Eko: normal


10 mm/mV 25 mm/s Filter: H50 d 35 Hz
I
II
III
aVR
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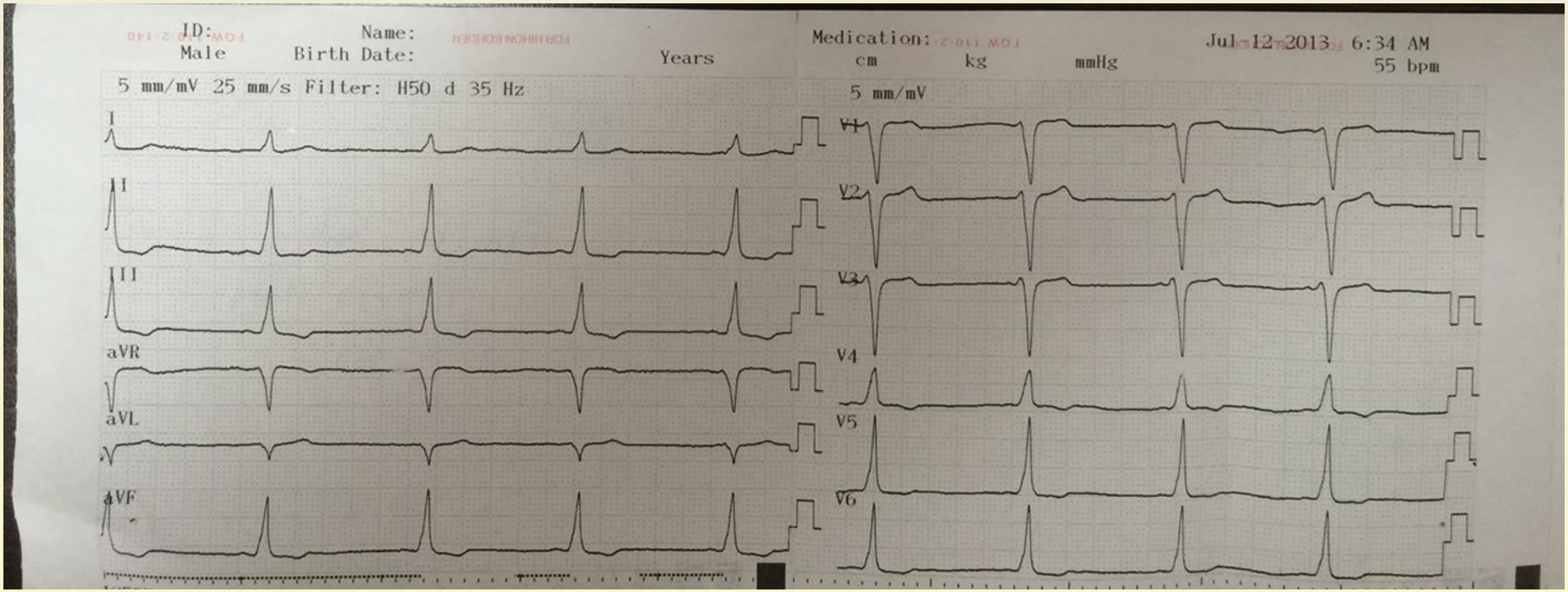
V3
V4
V5
V6
1250K 04-01 03-02 Dept.:
Exam:


ID:
Male
Name:
Birth Date:
Years
Medication:
cm
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mmHg
Jul 12 2013 6:34 AM
55 bpm
5 mm/mV 25 mm/s Filter: H50 d 35 Hz
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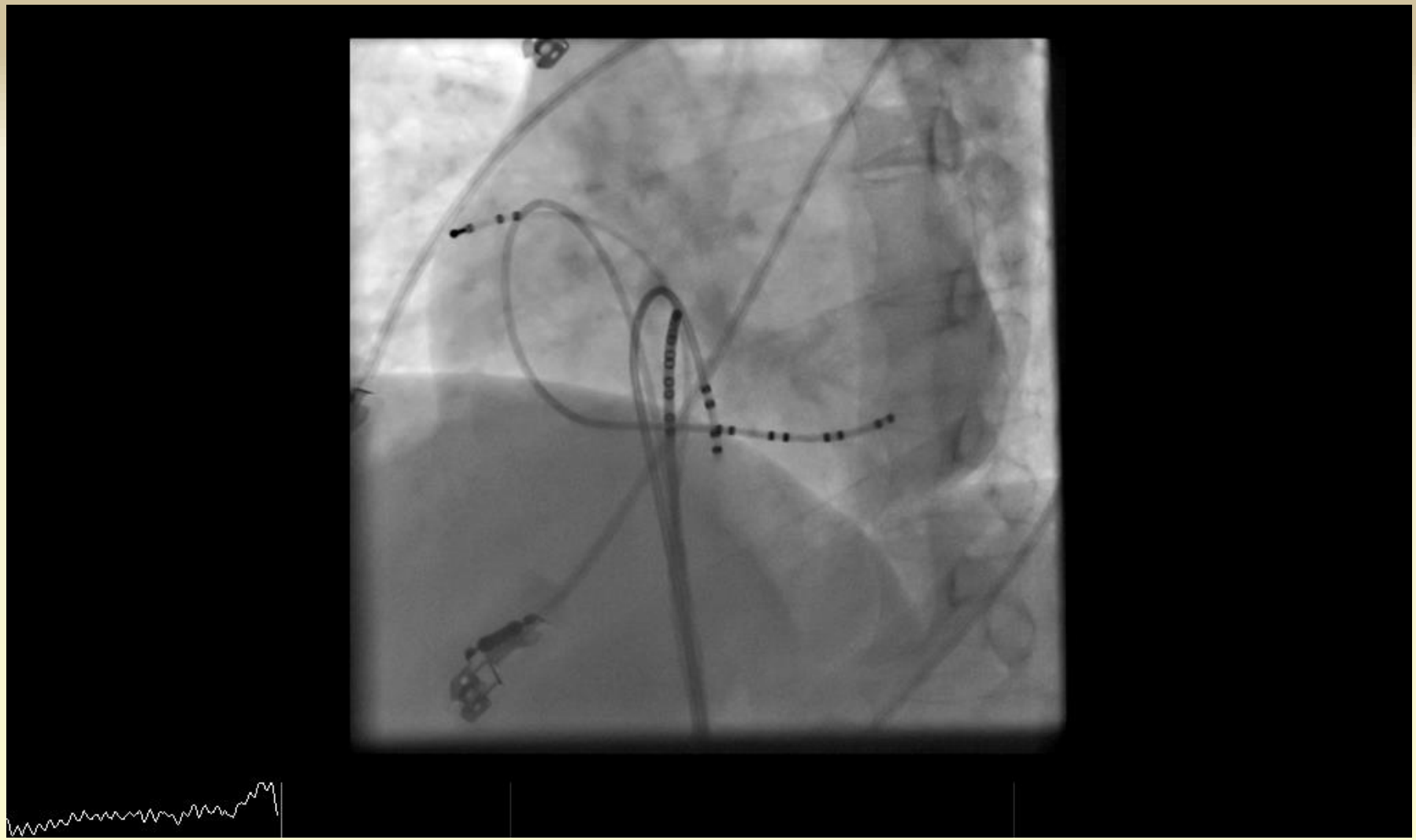

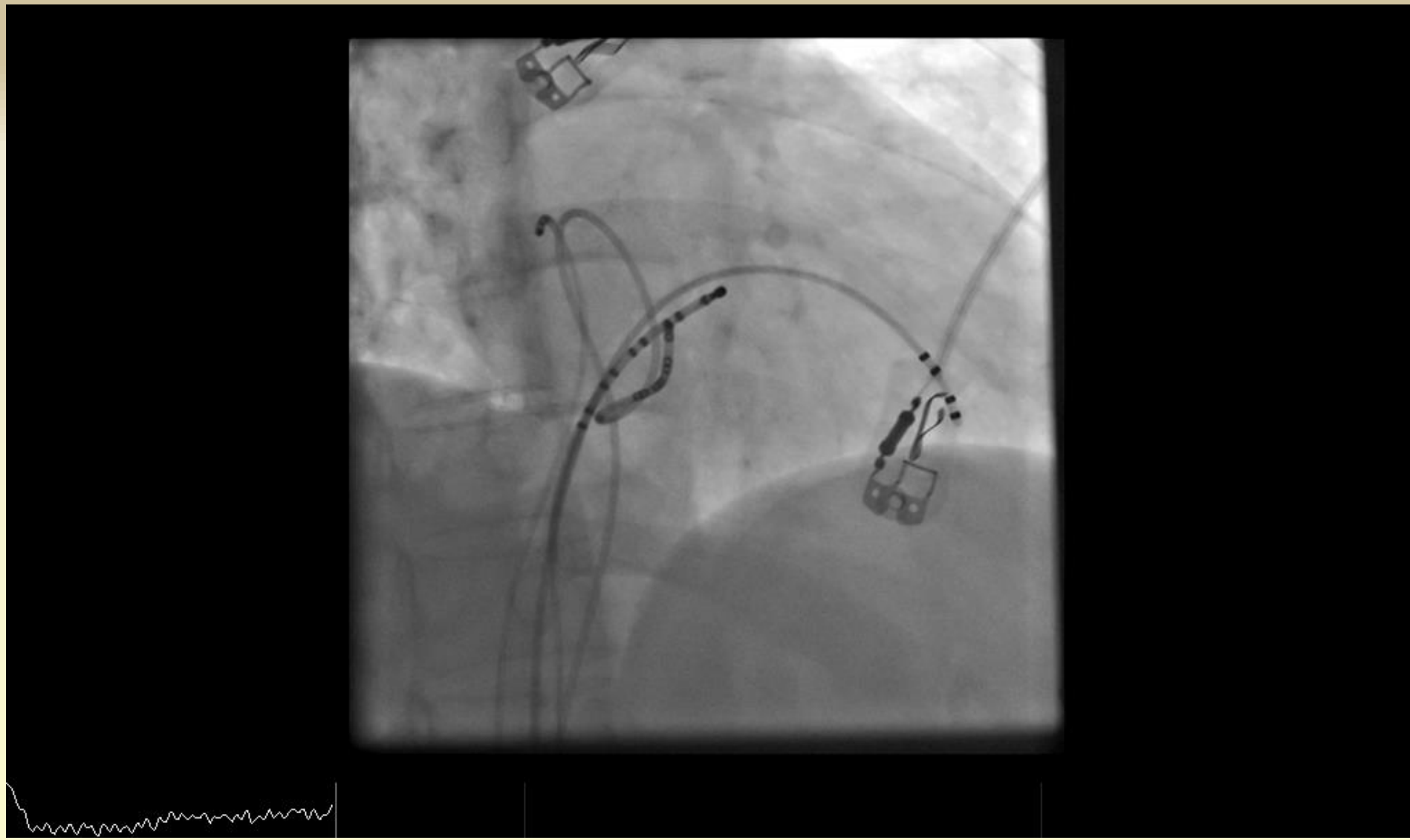

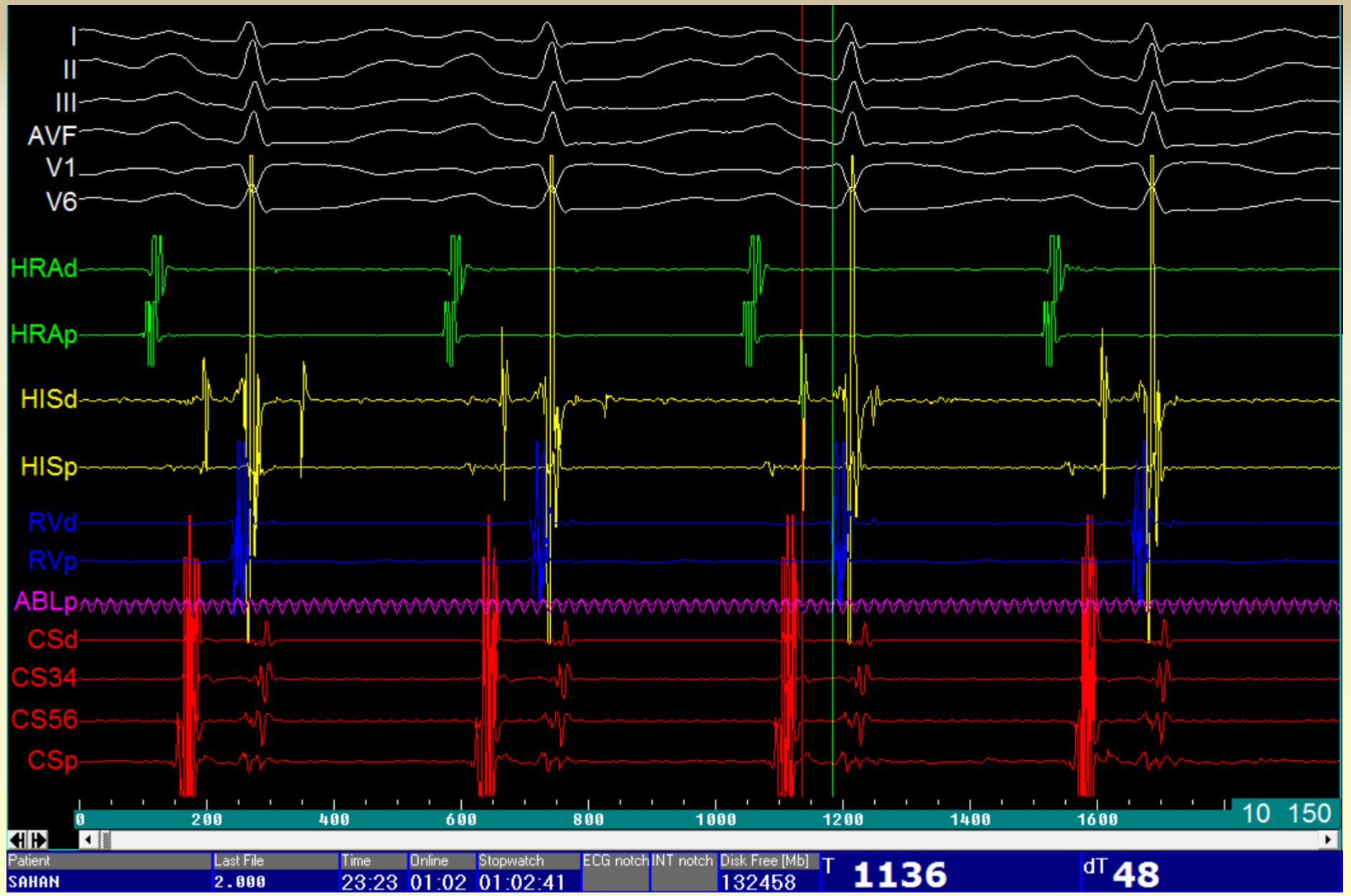
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V6
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HISd
HISp
RVd
RVp
ABLp
CSd
CS34
CS56
CSp
0
200
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600
800
1000
1200
1400
1600
10
150
Patient
SAHAN
Last File
2.000
Time
23:23
Online
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Stopwatch
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ECG notch
INT notch
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132458
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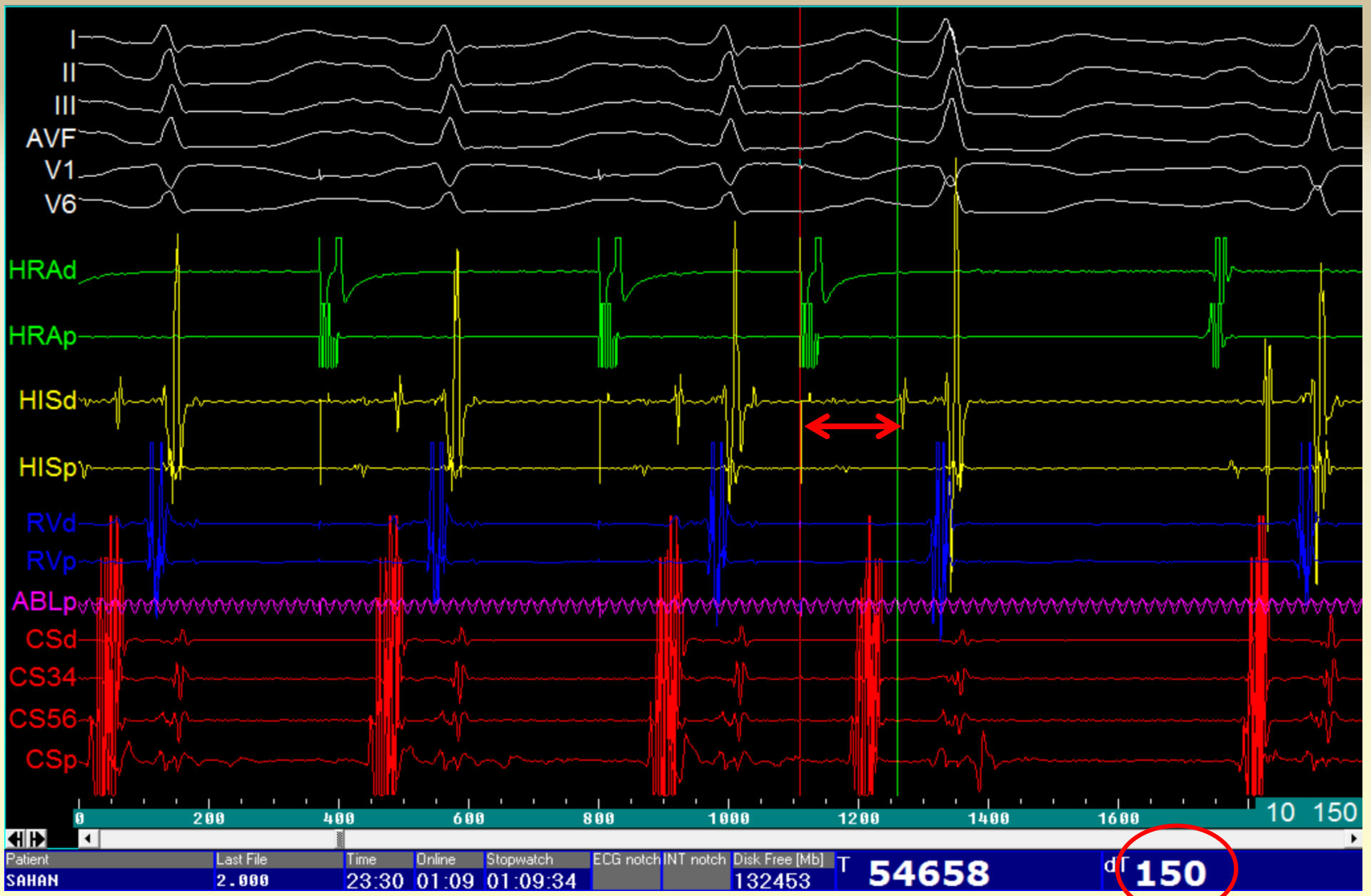
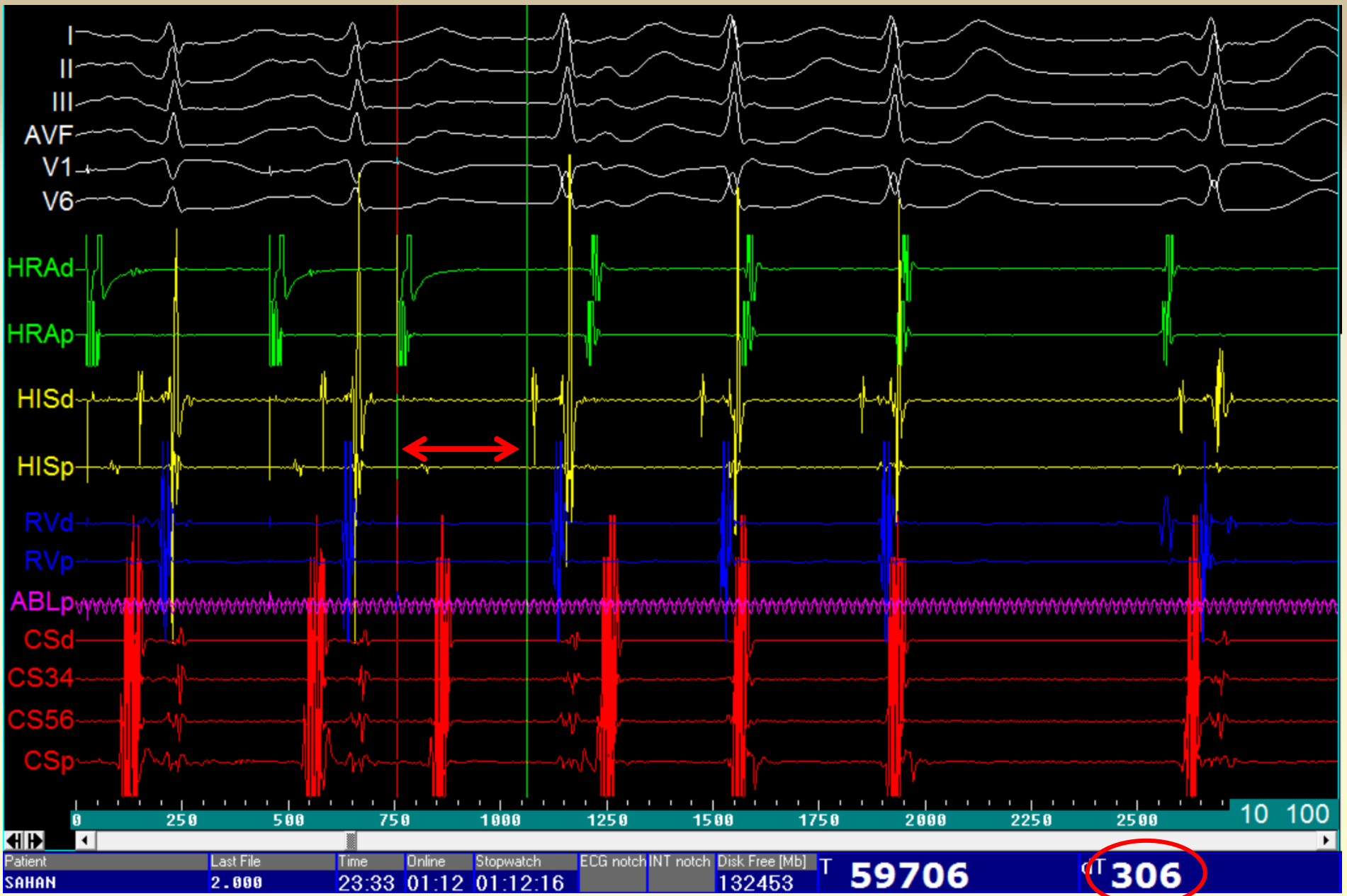
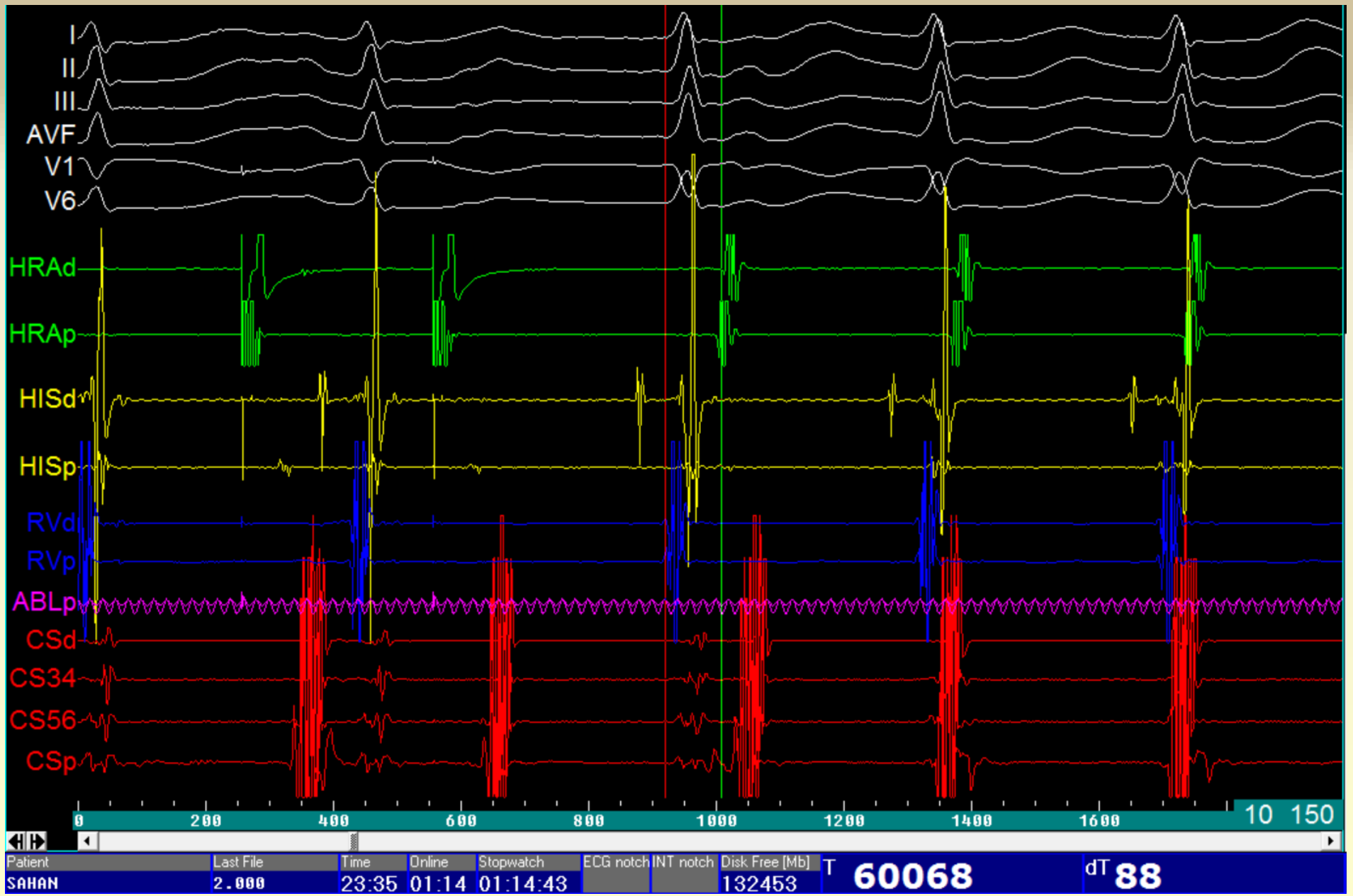


A pace ile 430-310'da AH 150 msn



430-300'de AH jump ile (306 msn) VA sı değişen 3'lü atım oldu


I
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V6
HRAd
HRAp
HISd
HISp
RVd
RVp
ABLp
CSd
CS34
CS56
CSp
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200
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1200
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10 150
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
SAHAN
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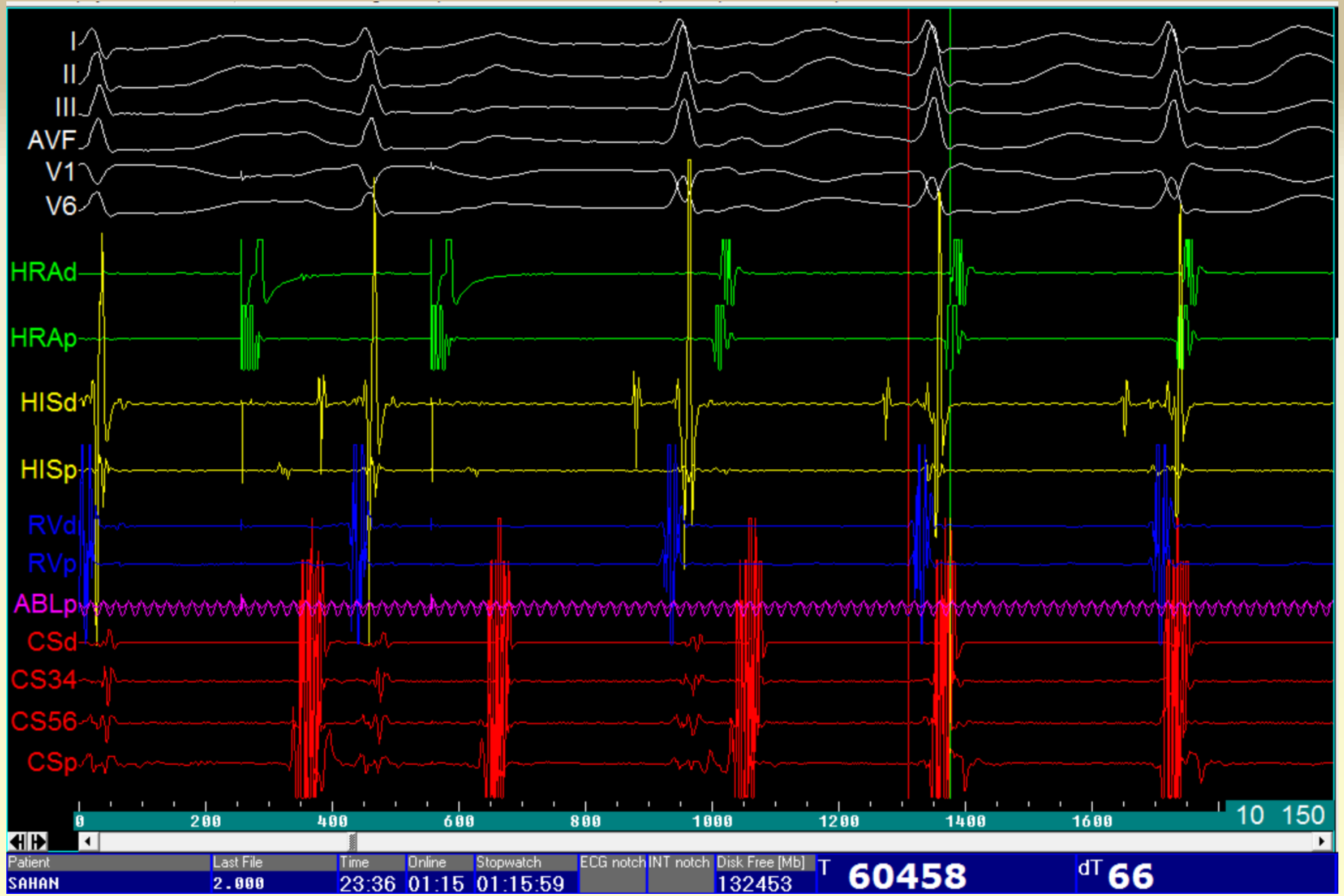
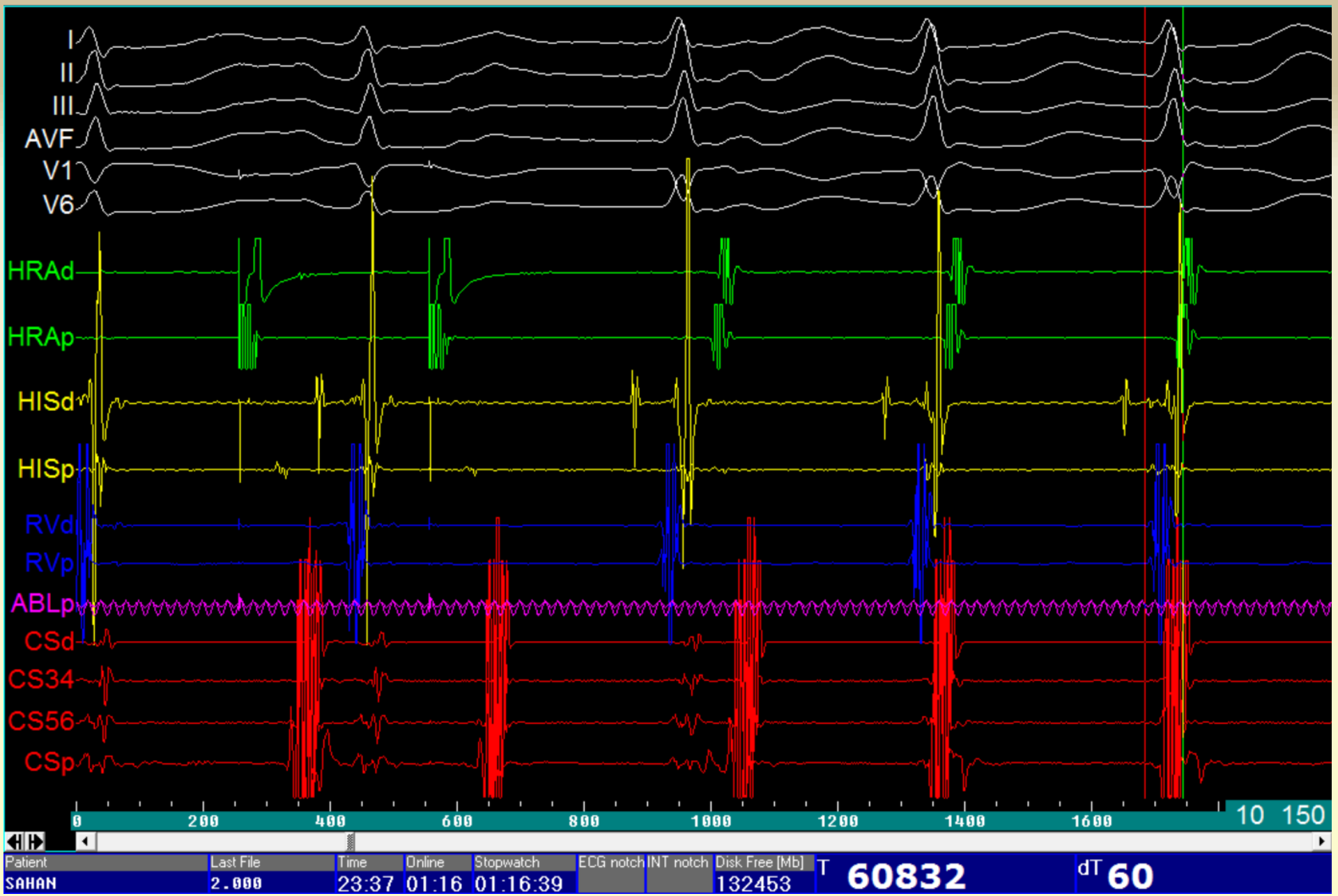
01:14:43
132453
T 60068
dT 88

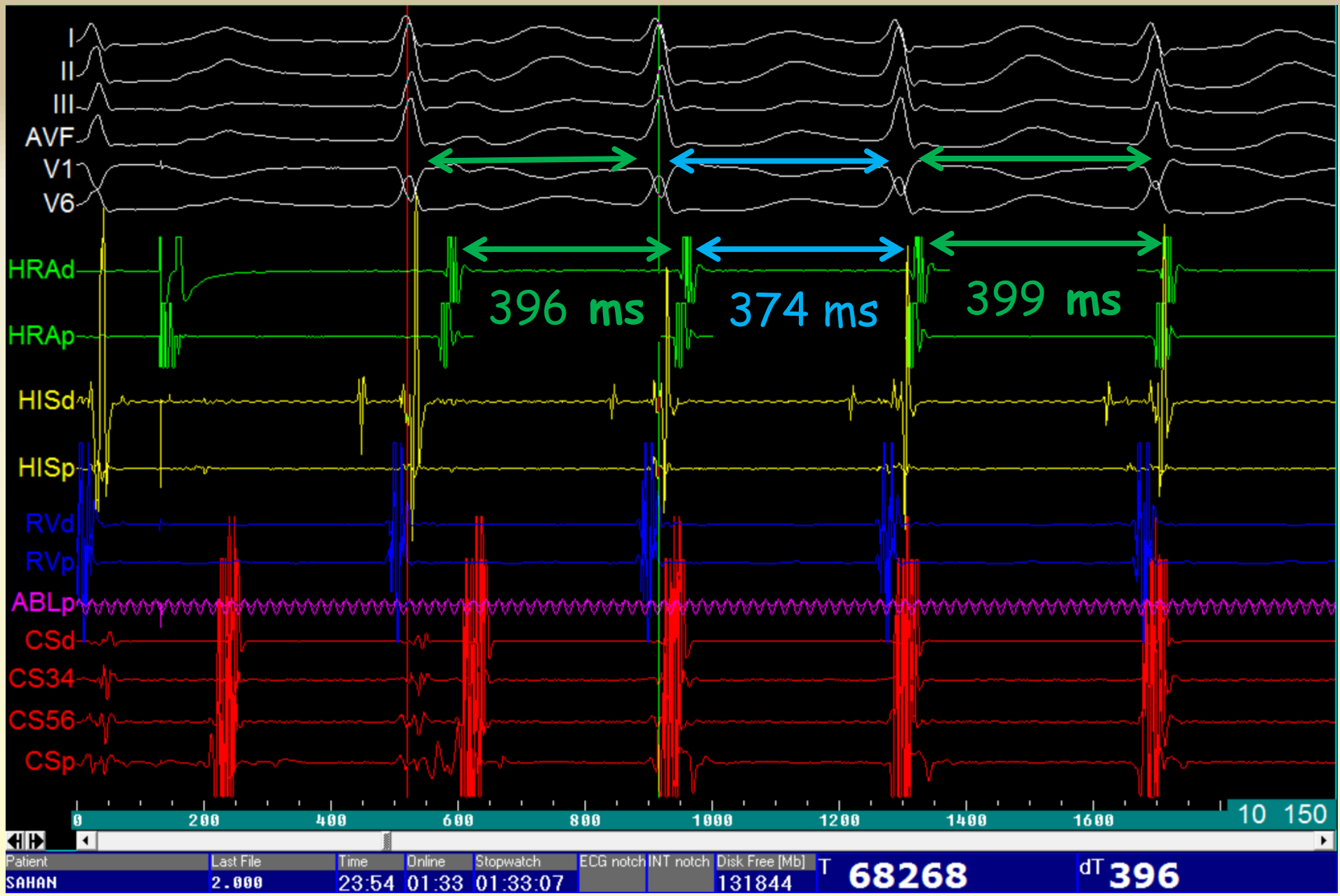
İlk VA 88 ms



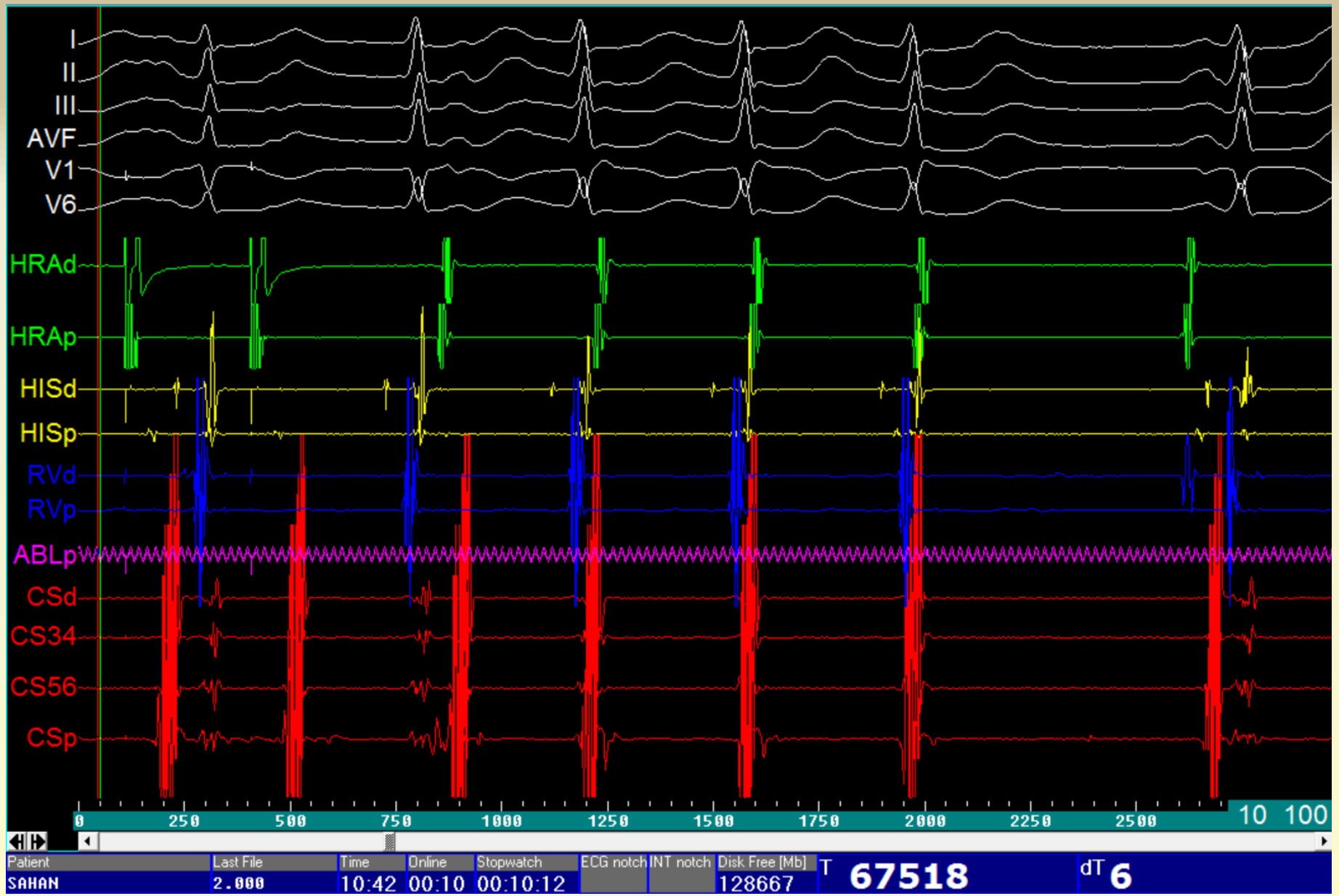
İkinci VA 66 ms



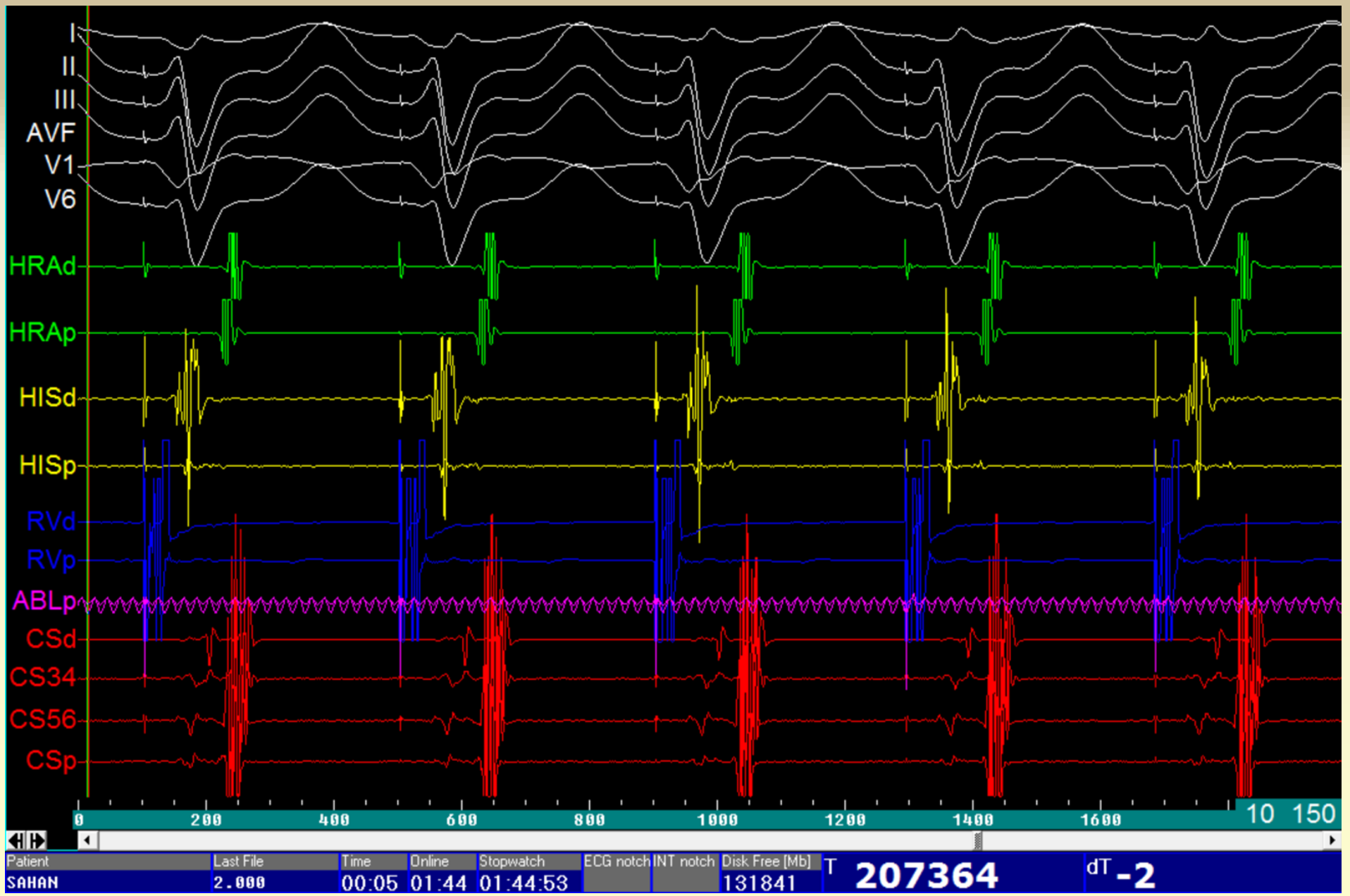
Üçüncü VA 60 ms



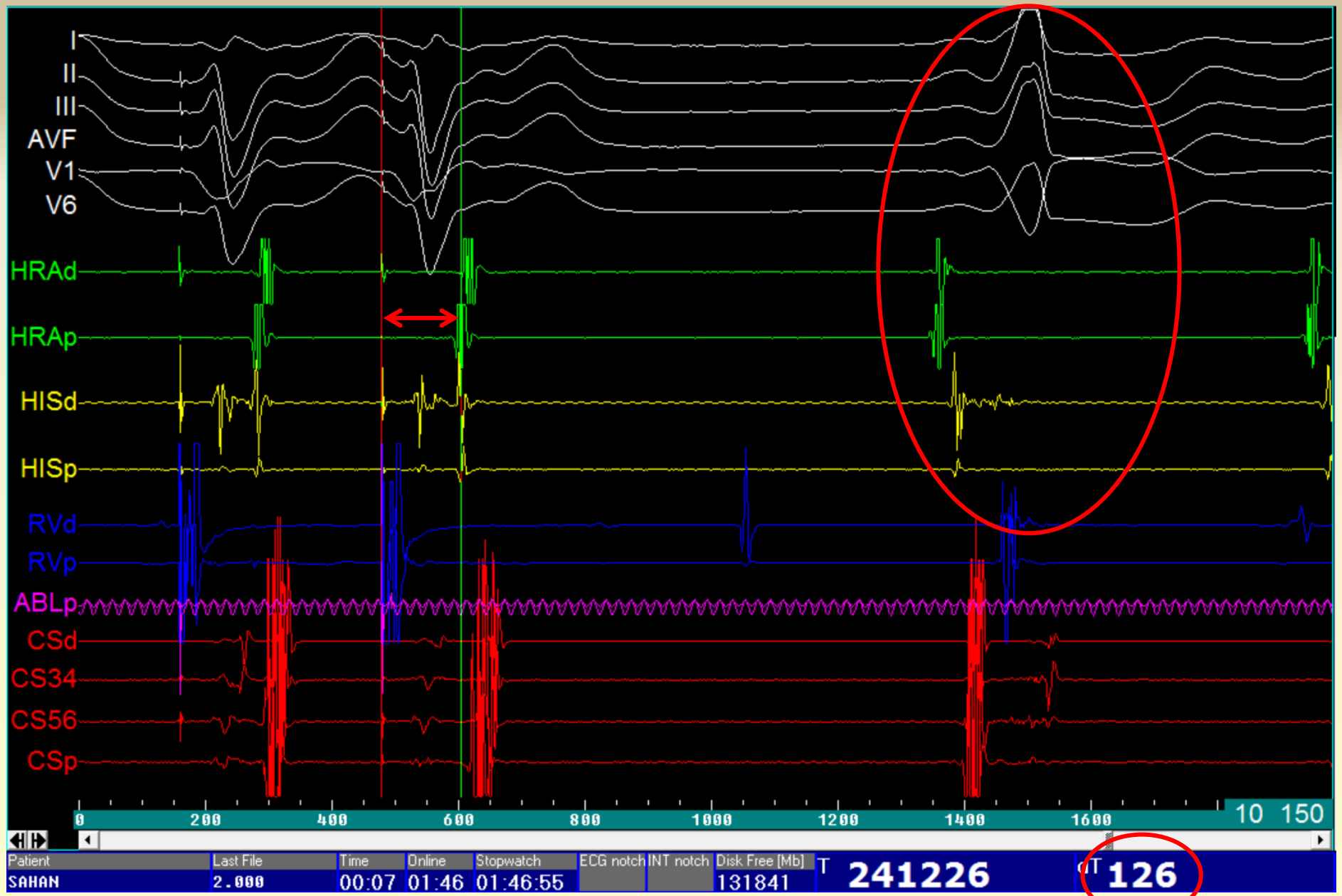
430-290'da VA'sı değişen 4'lü atım oldu (TCL: 370-400 ms)



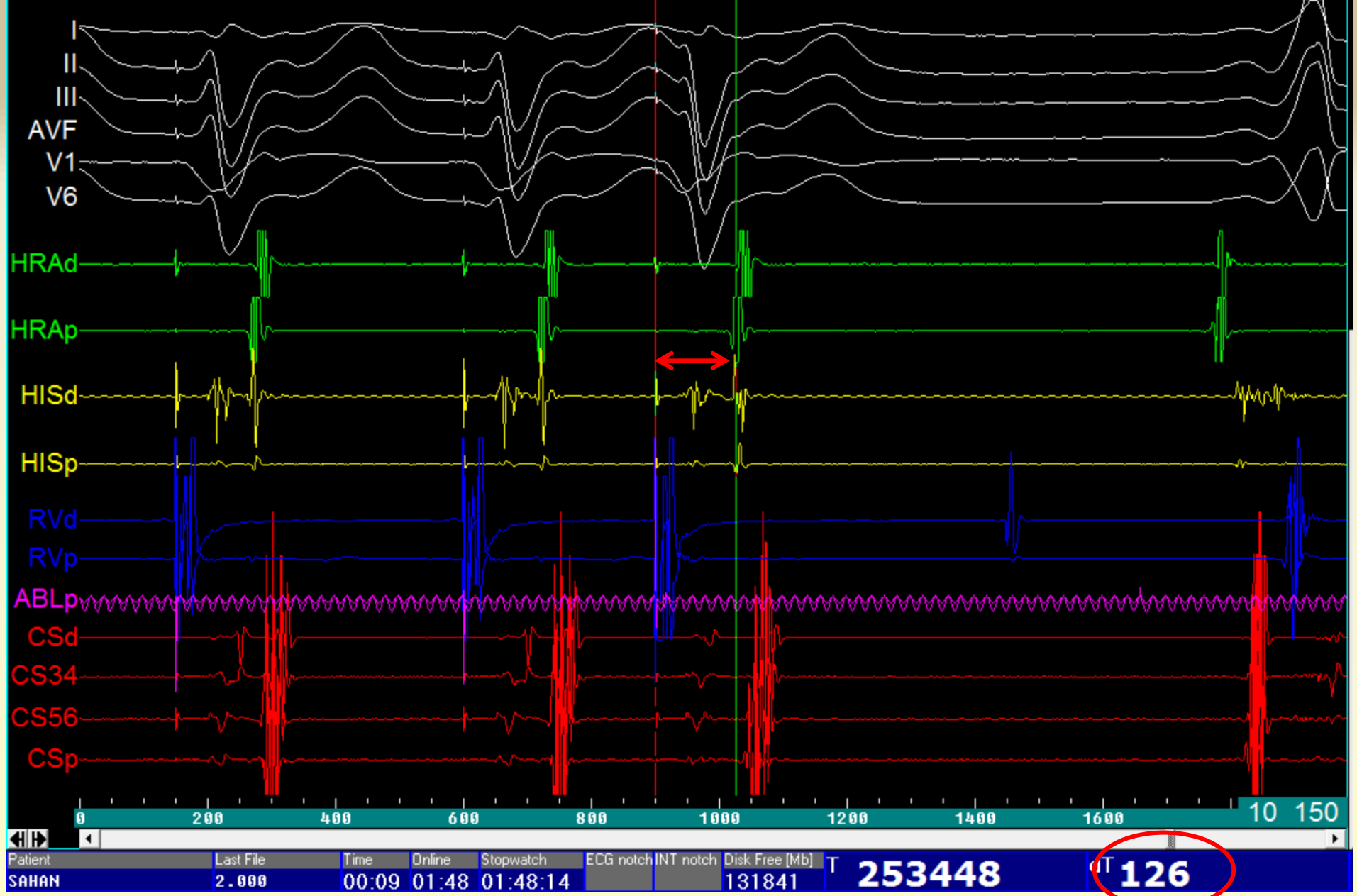
450-300'de: ilave jump olmadan 4'lü SVT, sonlanma şekli aynı



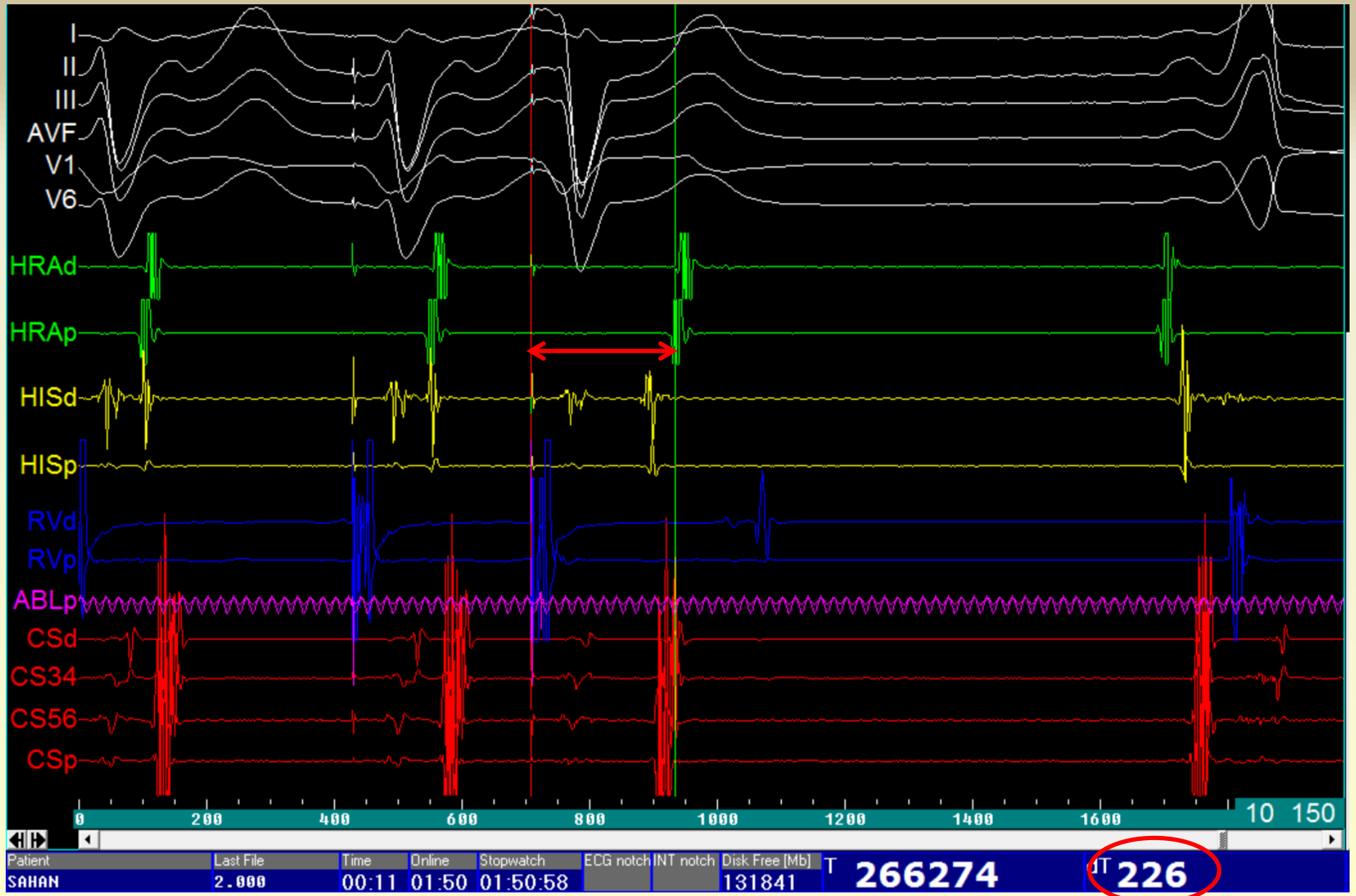
Düz V-pace de öz yok



- Programlı VES ile VA ileti: 126 ms…



. 450-290'a kadar VA'da uzama olmadı: 126 ms .

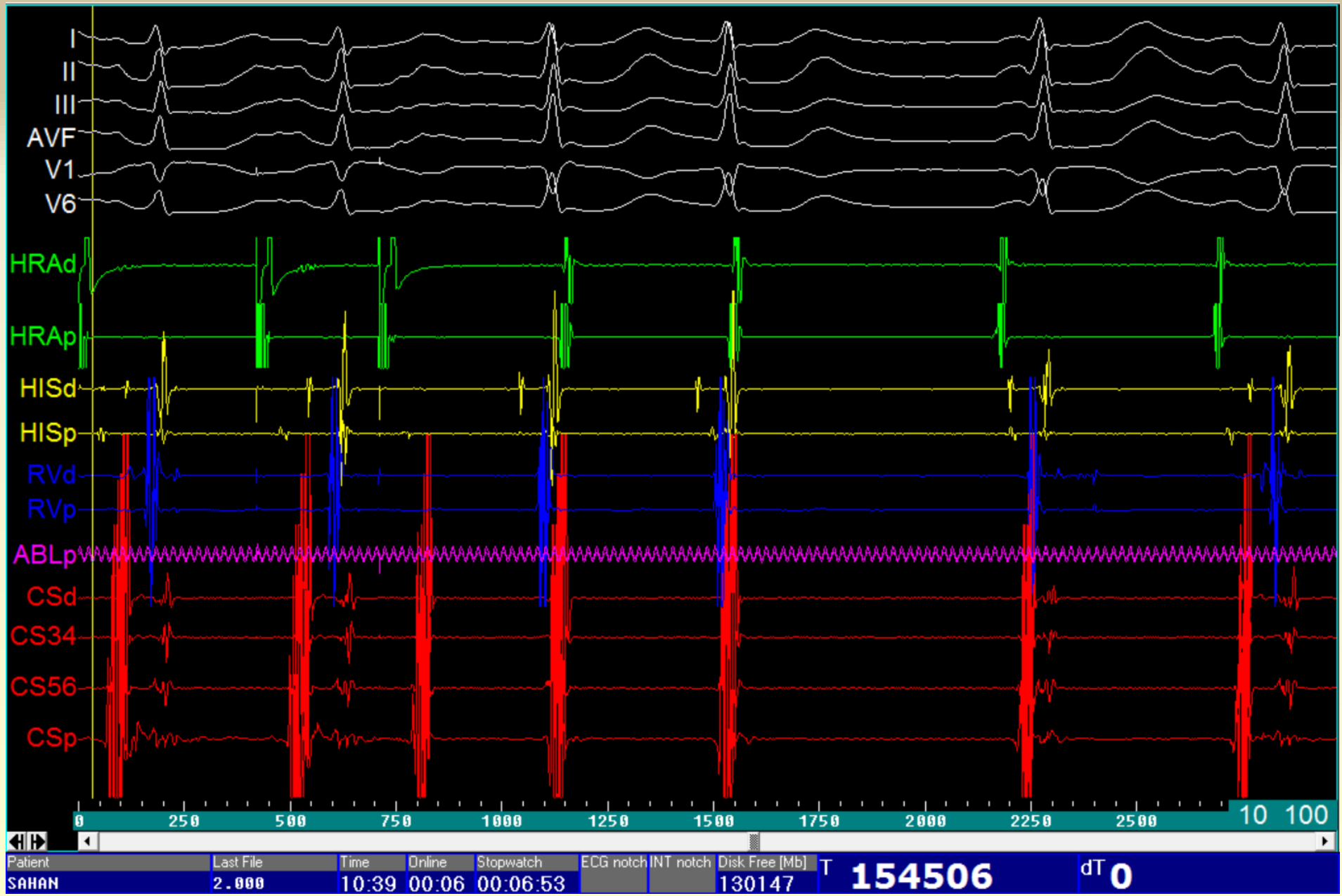


450-280'de VA'da uzama oldu(100 ms); VA=226 ms

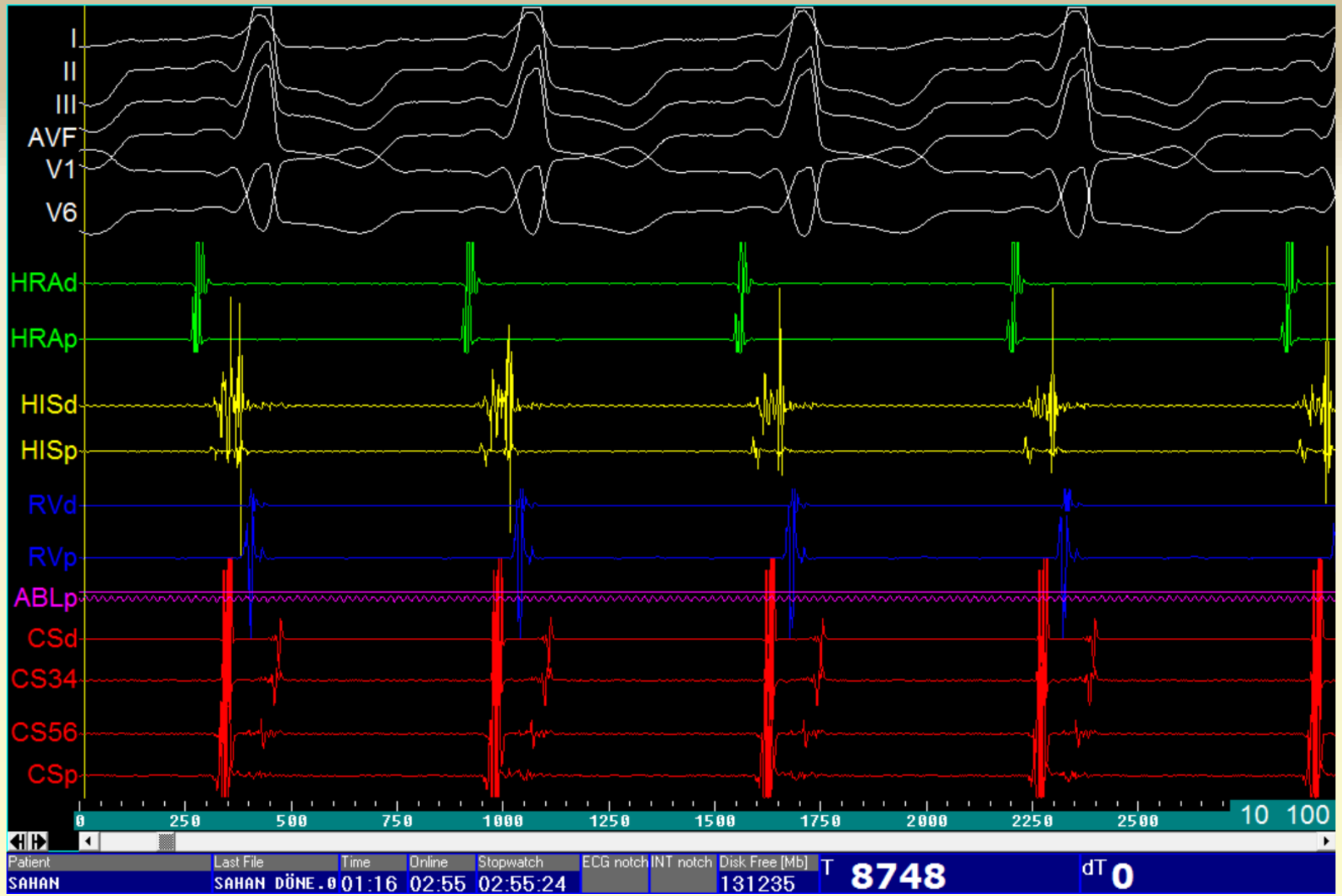
Bu aşamada;

- **Bu hastada tipik AVNRT var ?**
  - Anterograd ikili AV nod fizyolojisi var
  - Retrograd ikili AV nod fizyolojisi var
  - 3'lü, 4'lü eko atımlar var (VA değişken olsa da)
  - Bayan hasta
  - TCL 370-390 msn arasında

- **Yavaş yol ablasyonu yapalım mı ?**



sonlanma şeklinden dolayı janctional runlar olarak kabul edildi



V pace bittikten sonra hastada aksesuar yol manifest hale gelmişti


I
II
III
AVR
AVL
AVF
V1
V2
V3
V4
V5
V6
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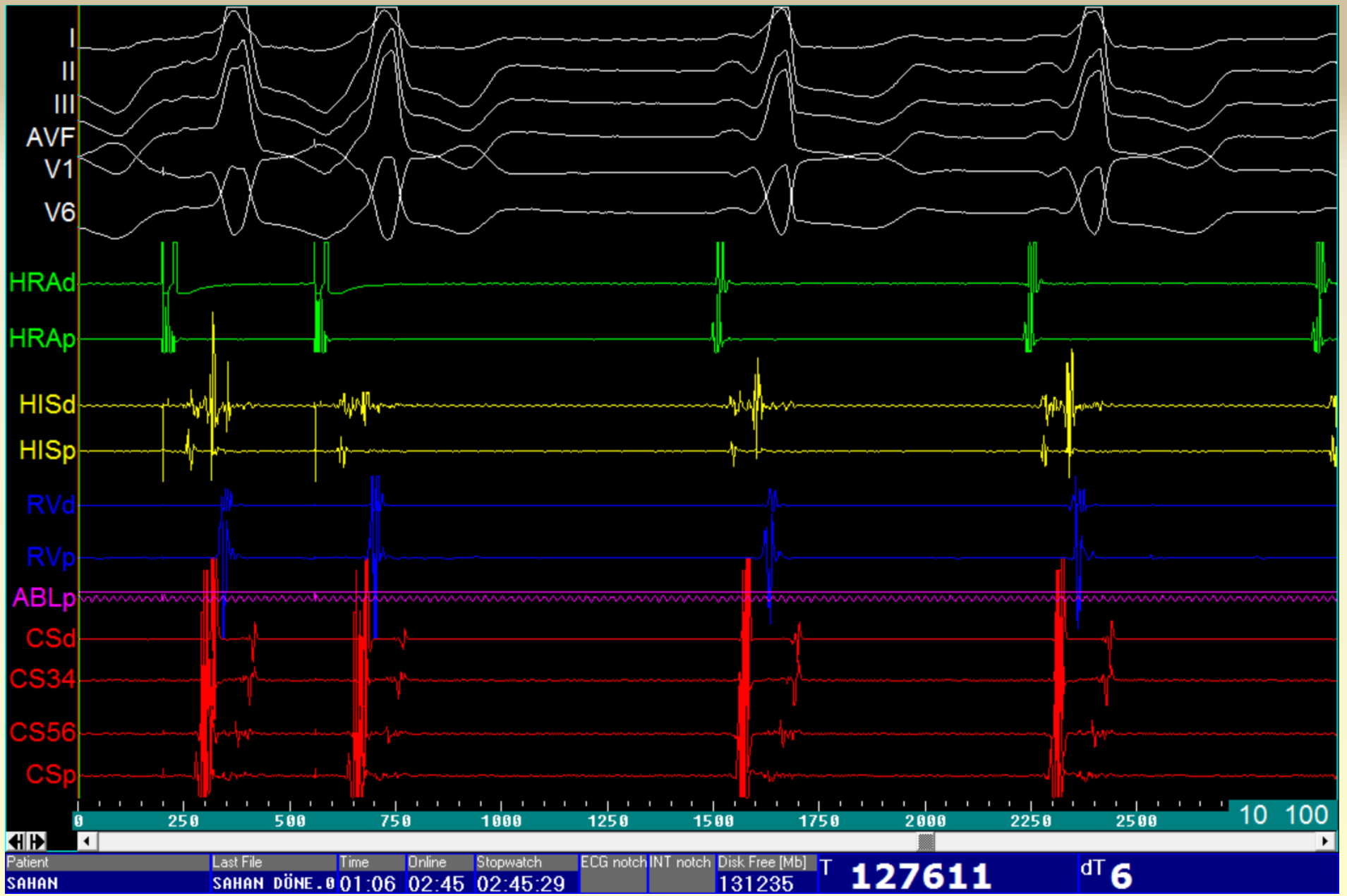
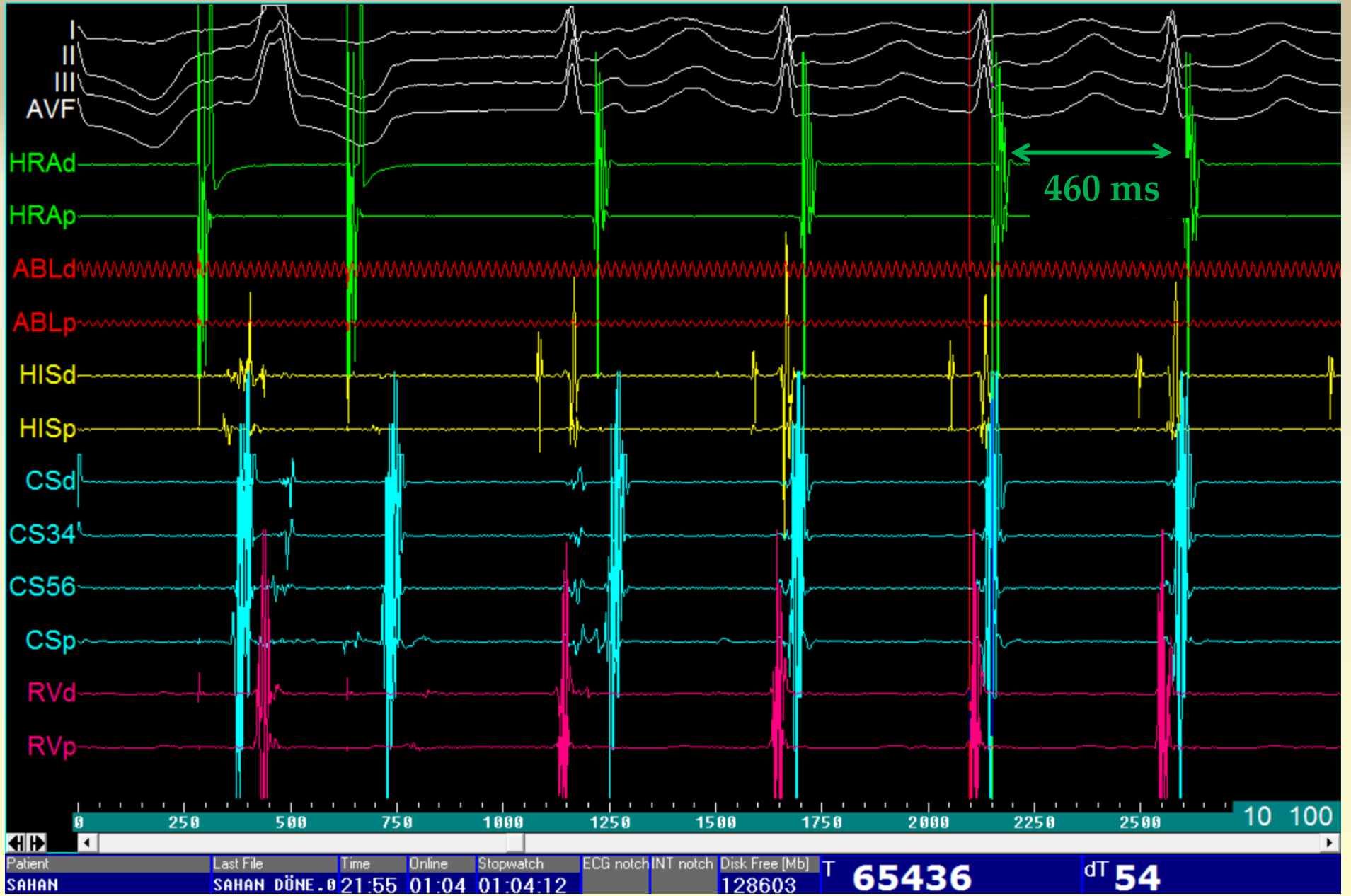
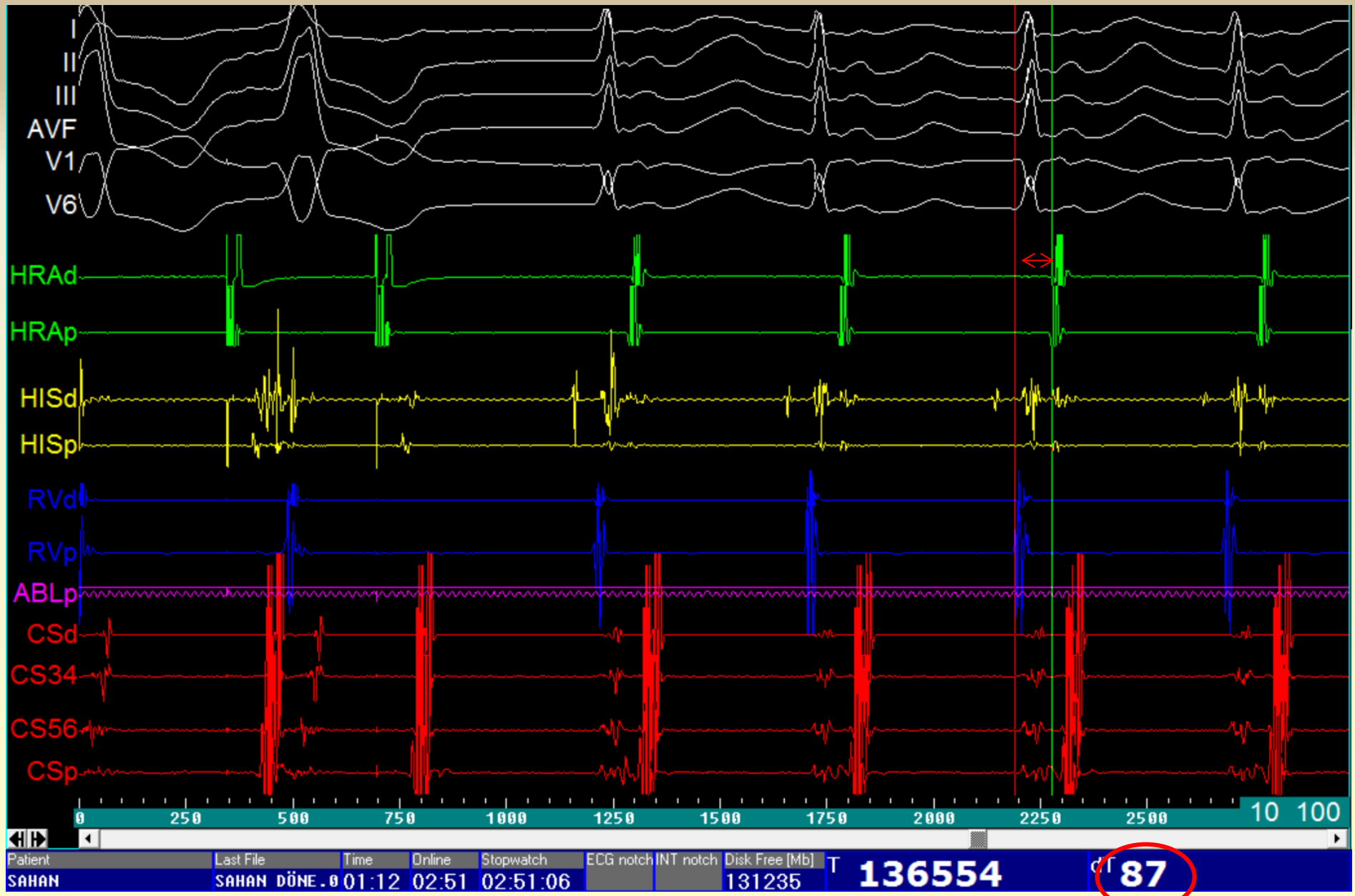
400
600
800
1000
1200
1400
1600
10 150
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
SAHAN
2.000
23:41
01:20
01:20:53
131843
T 62152
dT -4



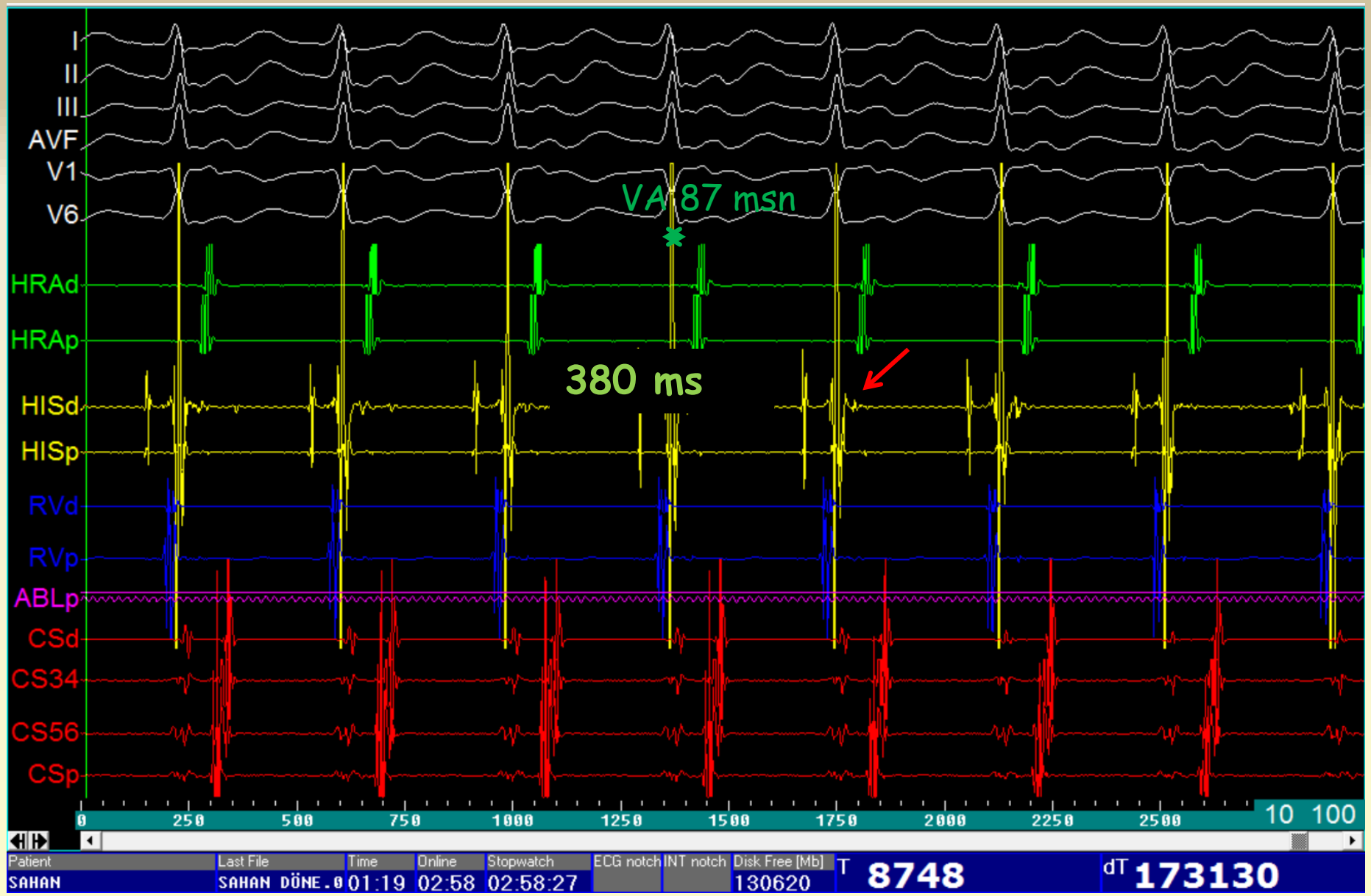
- Prog atrial stimulasyona tekrar başlandı



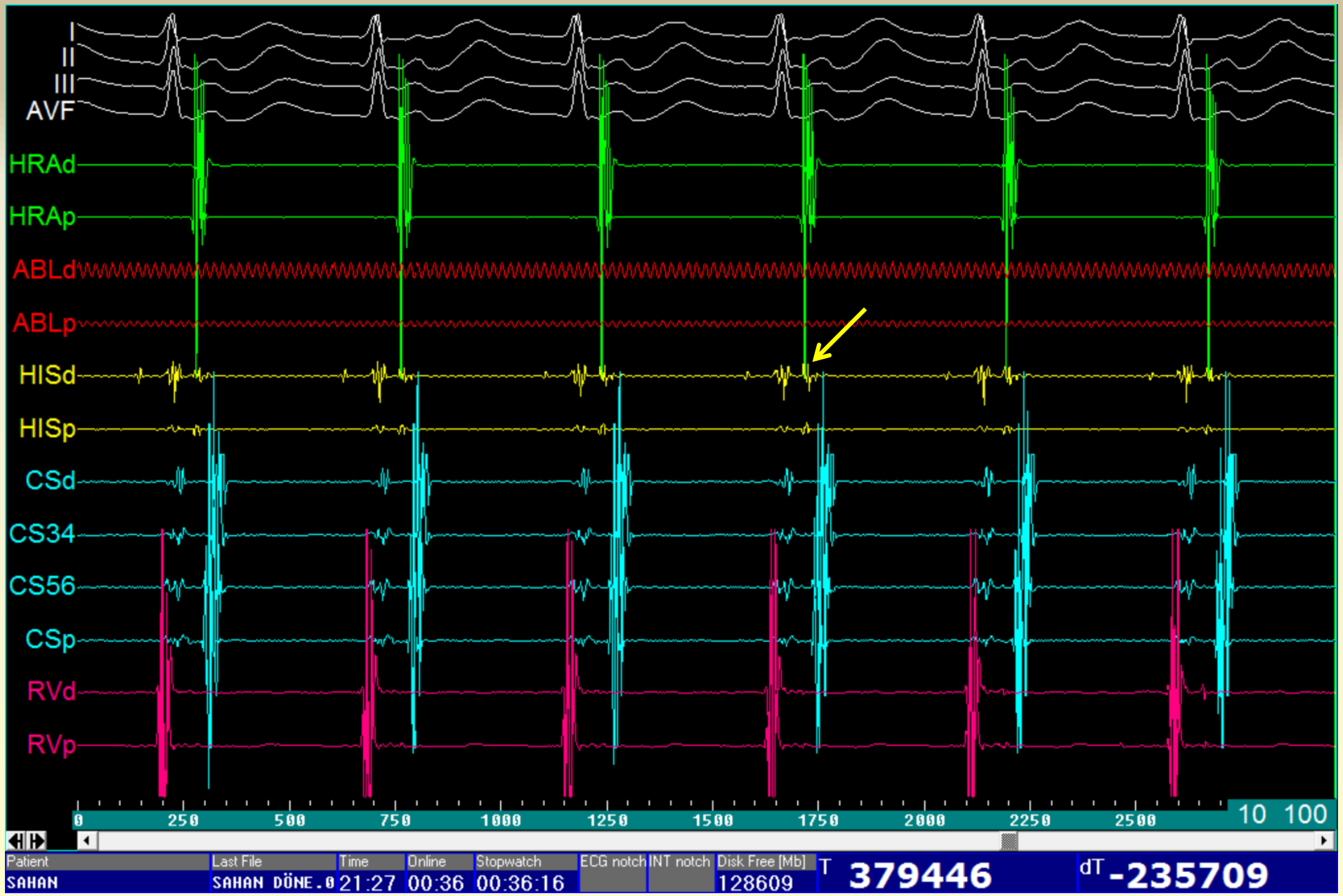
450-360 msn'de VA'sı daha kısa olan jump ile başlayan ancak TCL 460 ms olan nons SVT indüklendi



Hemen akabinde VA'sı sabit(87ms) sustained SVT indüklendi



His kateterini biraz modifiye ettiğimizde VA kaydı daha iyi

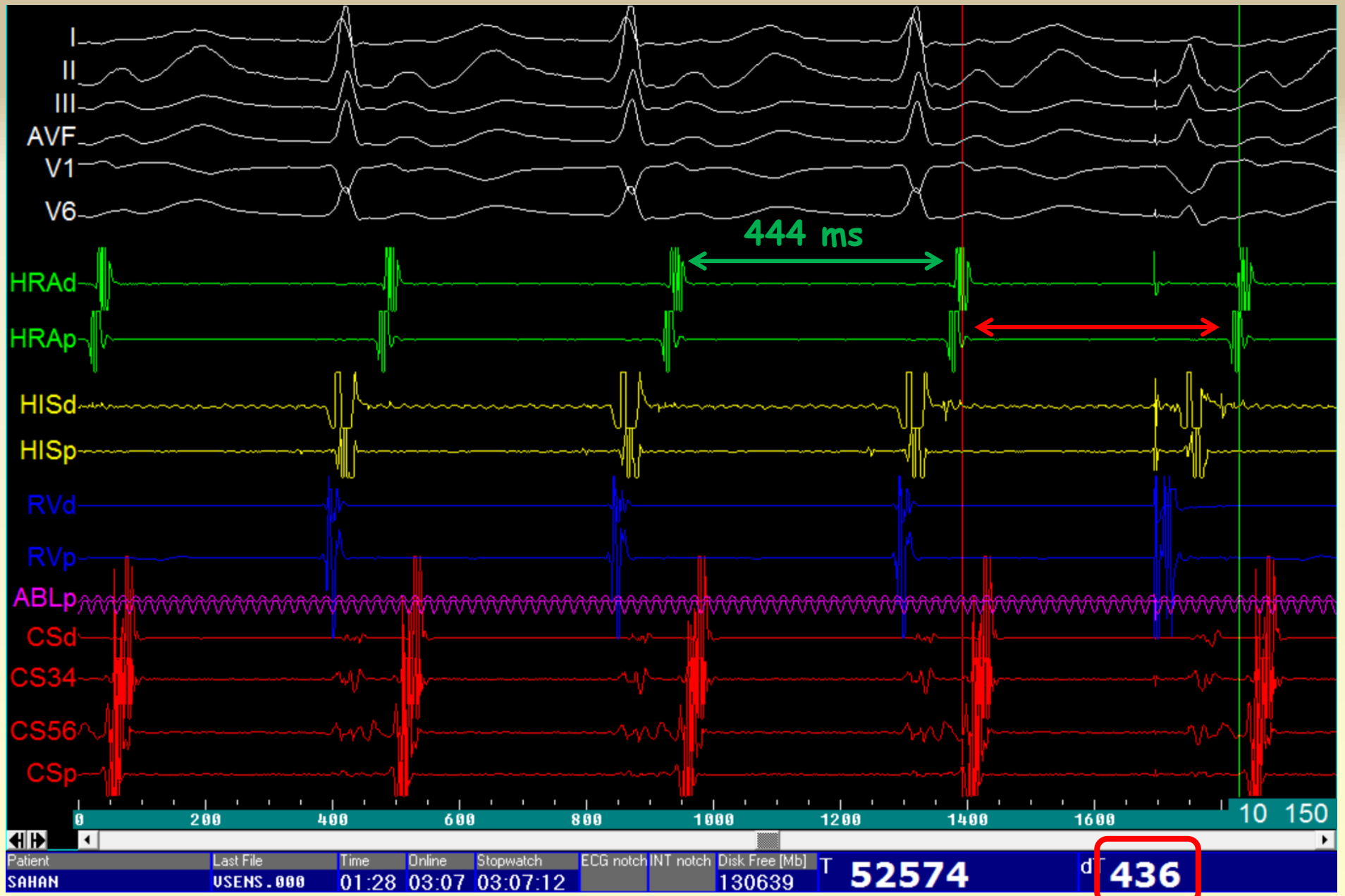


His'den uzaklaşınca VA ileti daha kötü

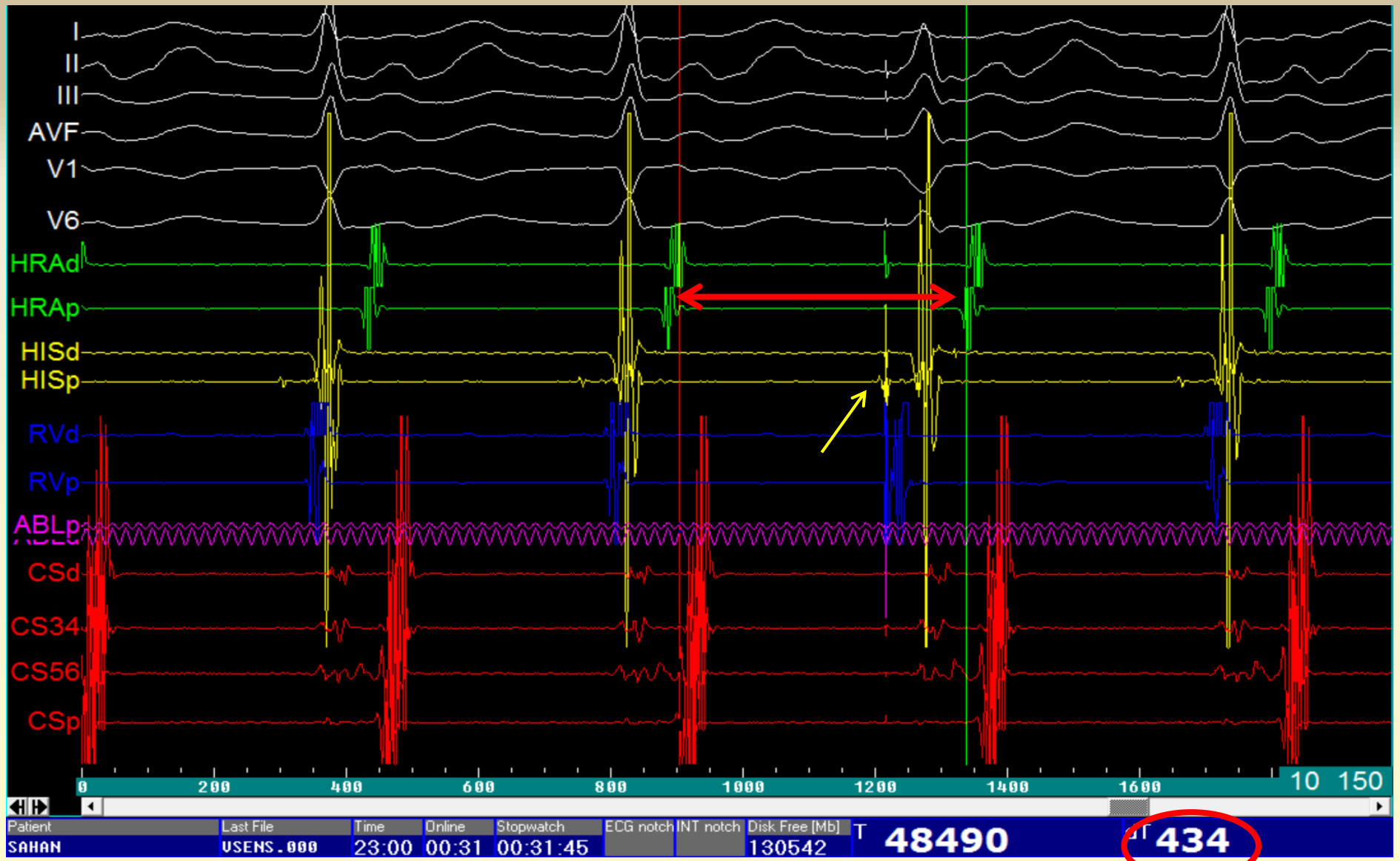
Ayırıcı Tanı

- Tipik AVNRT
- Atrial Taşikardi (Parahisian)
- Junctional Taşikardi
- Ortodromik AVRT

His refrakter iken VES



- AA intervali 436 msn….444-436= 8 msn öne almışız…



His refakter iken atrial aktivasyon öne alınmış……aksesuar yol varlığını destekler

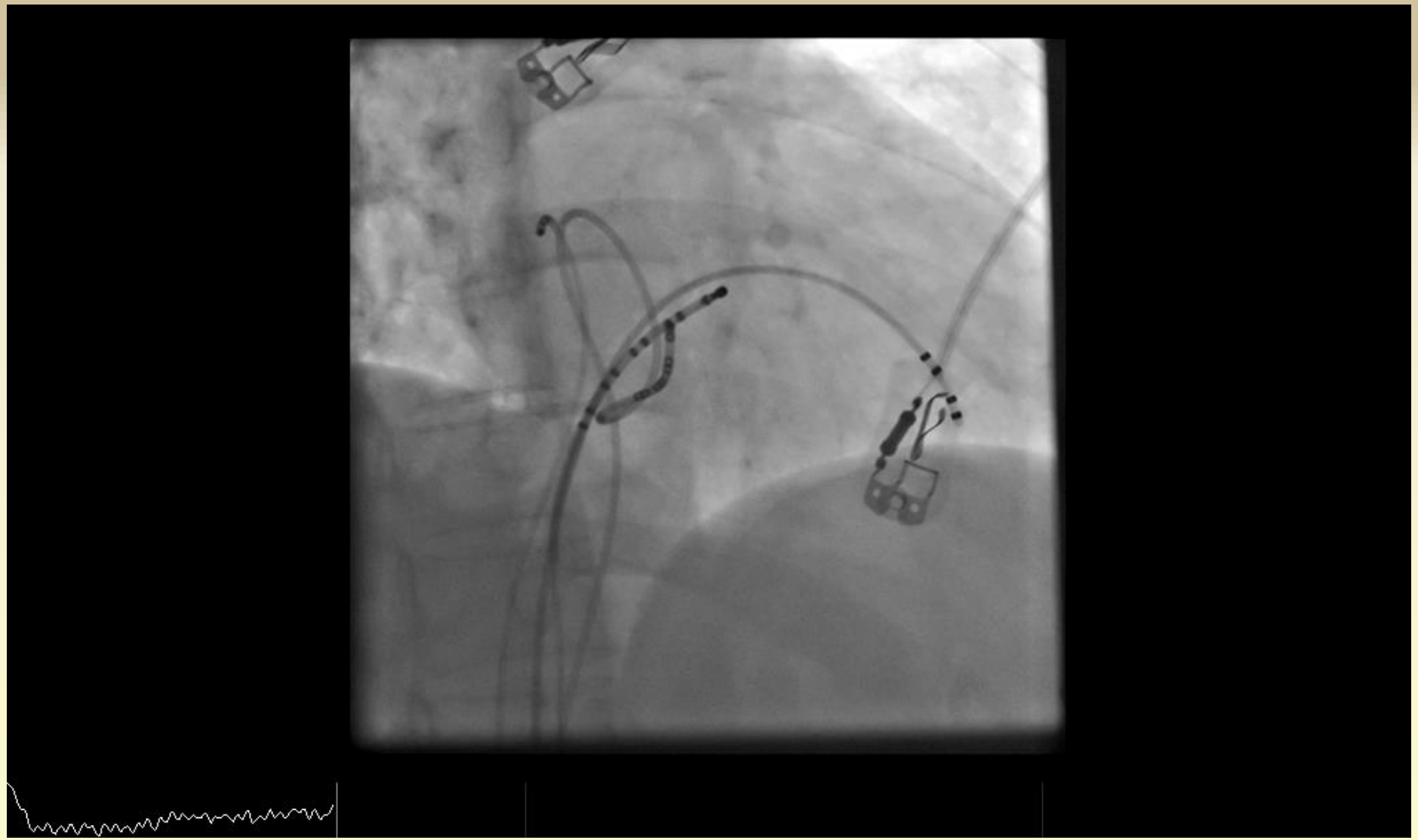
Parahis Pacing

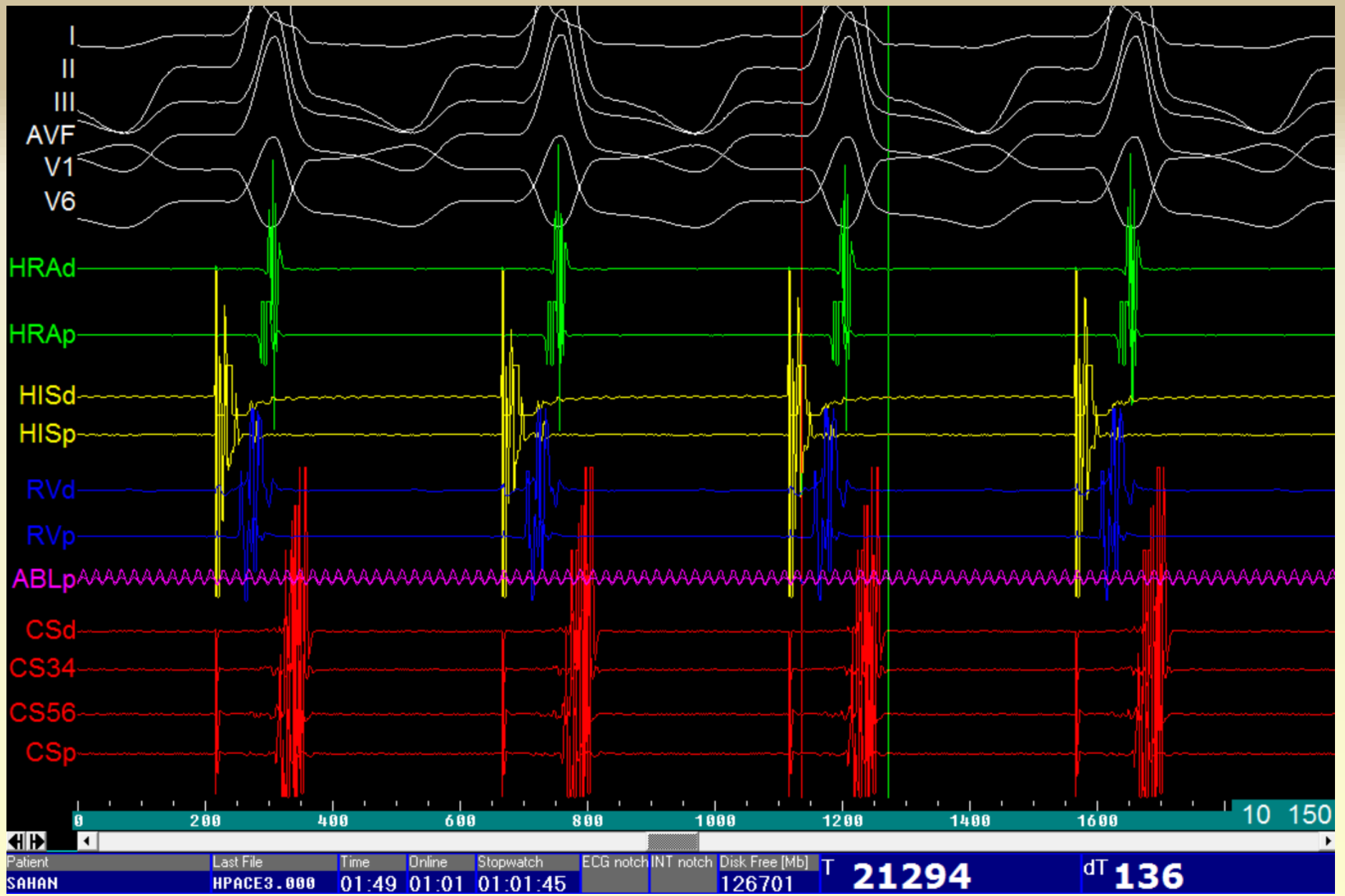
- Nodal Yanıt

Stimulus- A interval $_{\text{His capture}}$ < S-A $_{\text{RV capture}}$

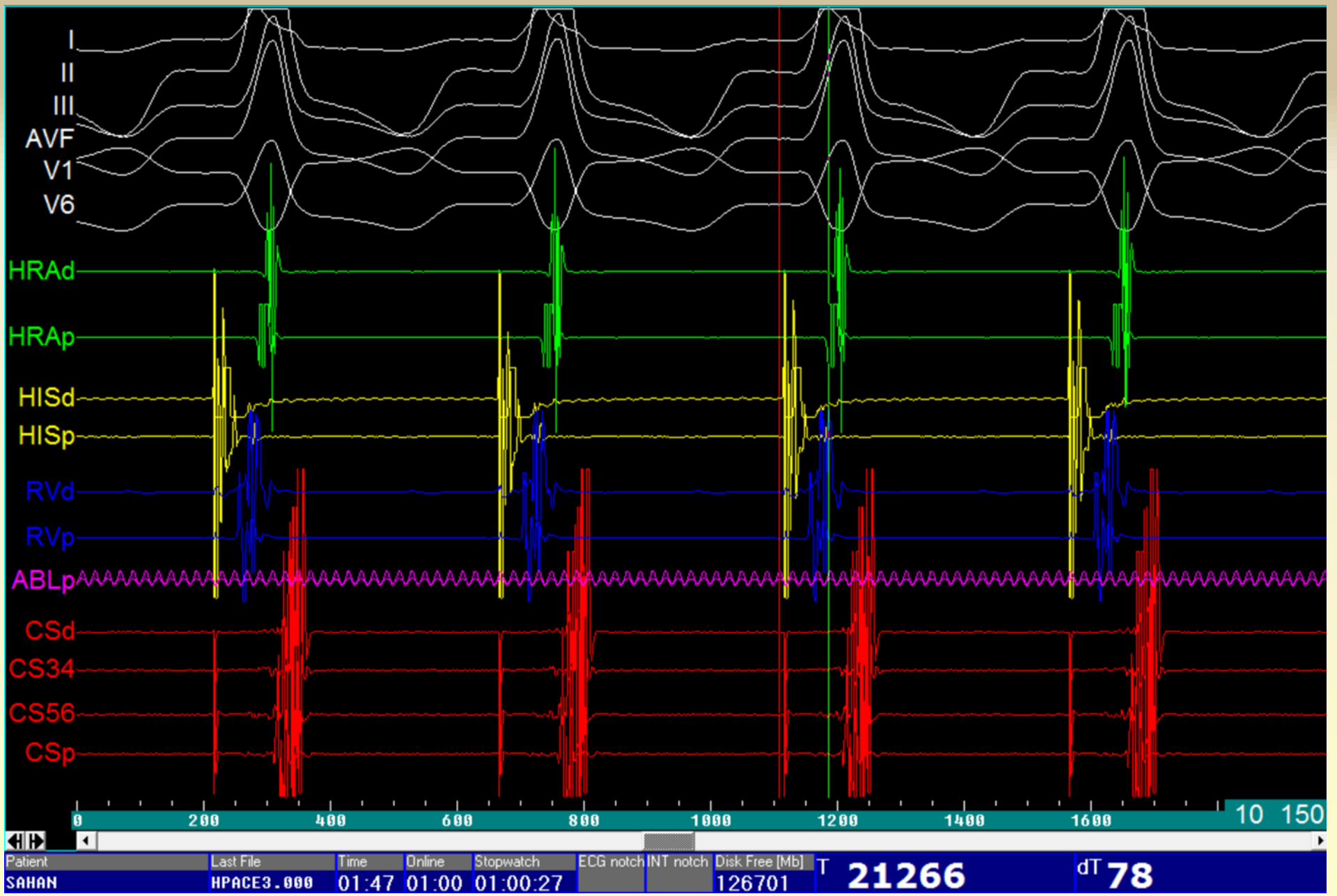
- ya da Extranodal Yanıt

Stimulus- A interval $_{\text{His capture}}$ = S-A $_{\text{RV capture}}$

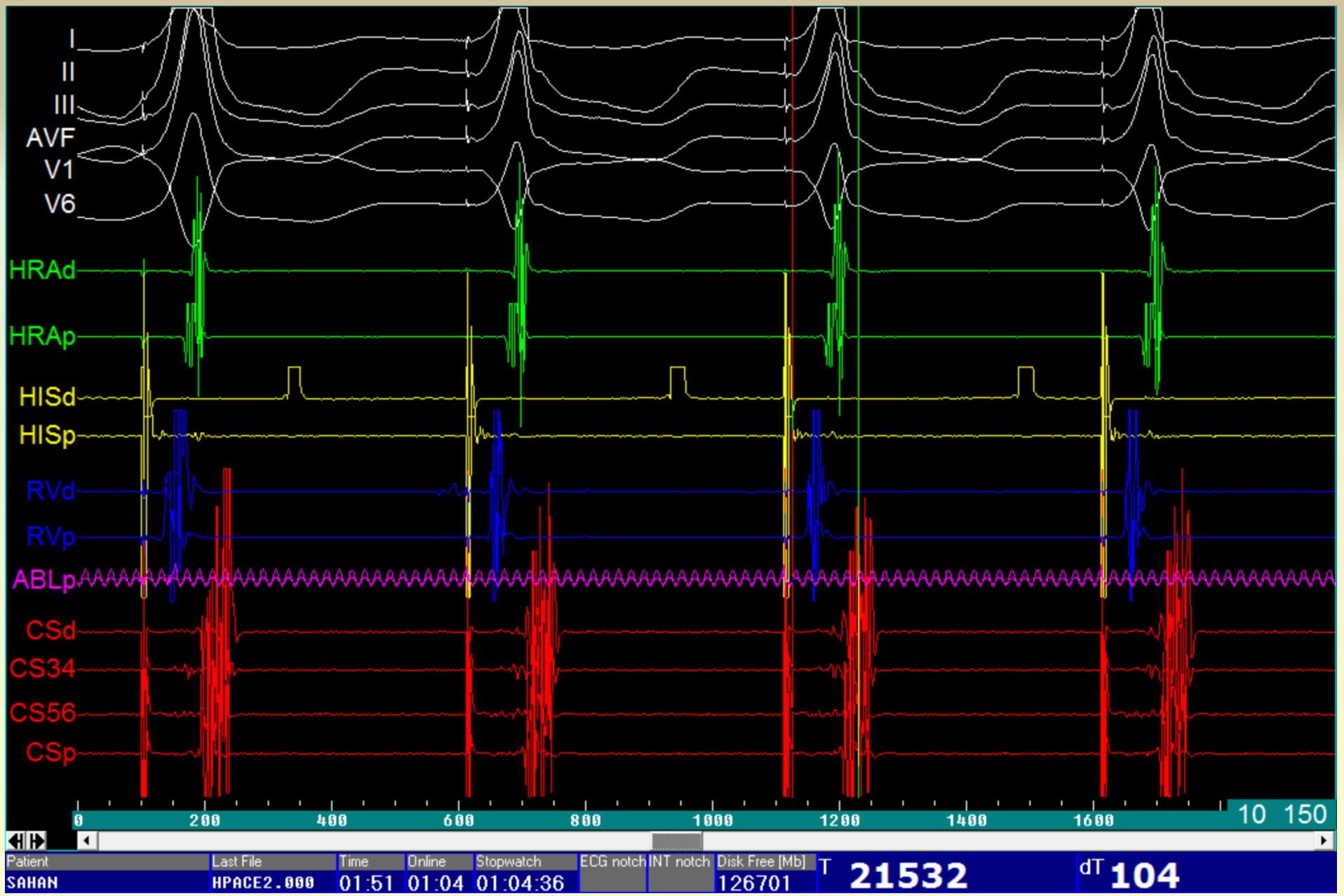




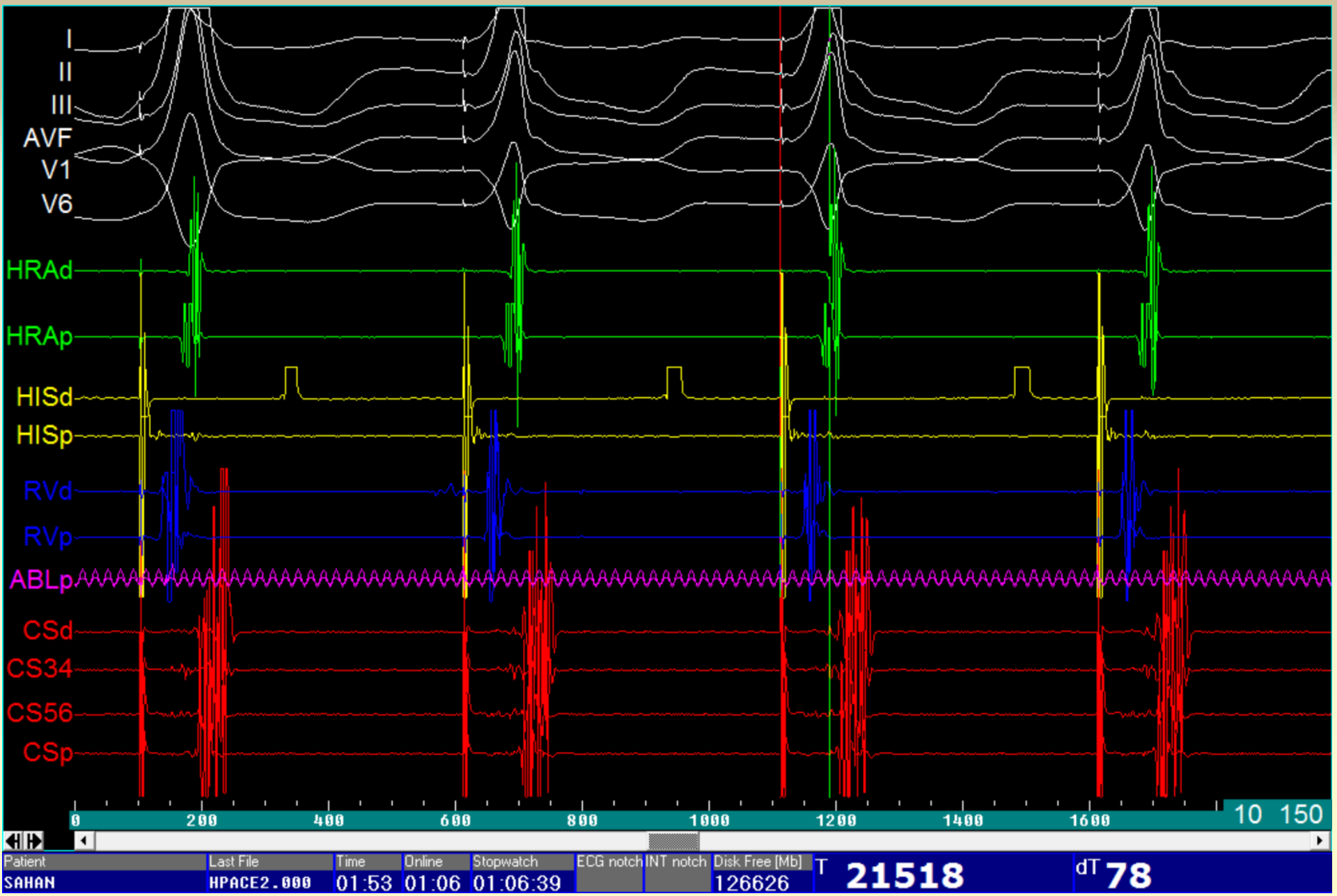
RV capture: düşük Volt'da pacing. QRS 136 msn



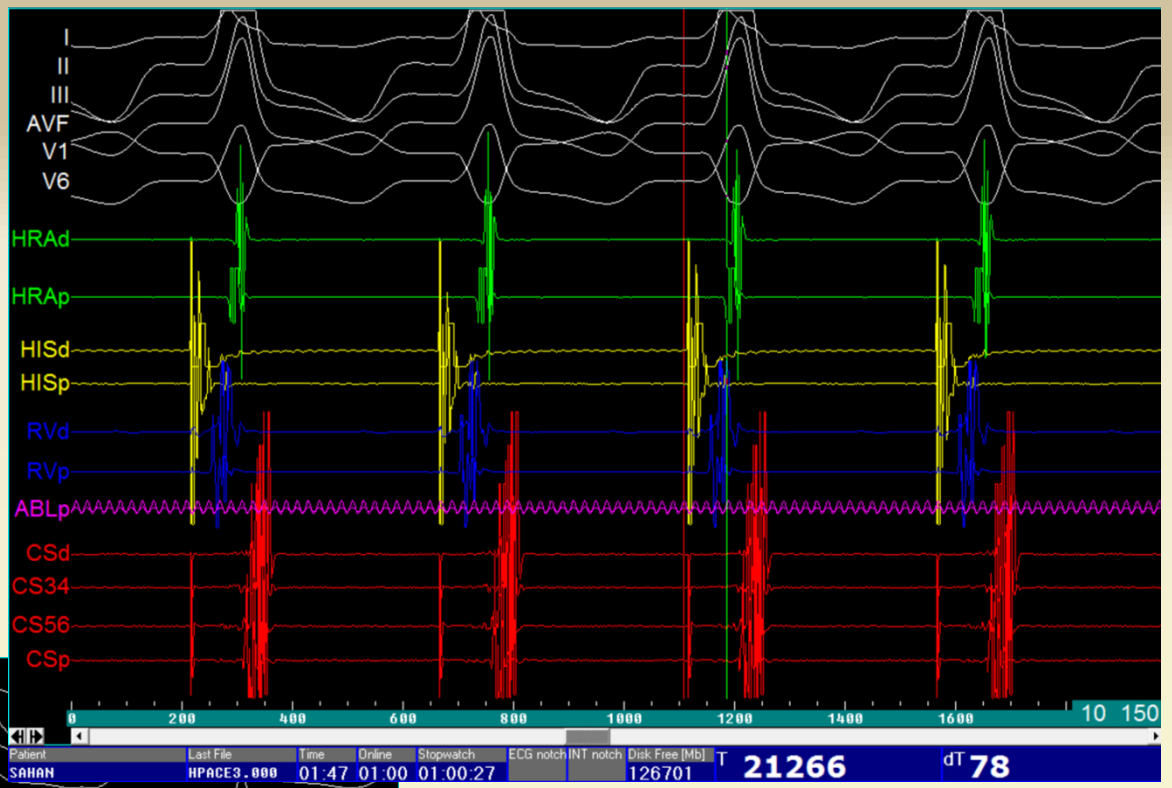
RV capture: VA=78 msn



His capture: yüksek Volt'da pacing. QRS 104 msn



His capture: VA=78 msn


I
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V1
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0 200 400 600 800 1000 1200 1400 1600
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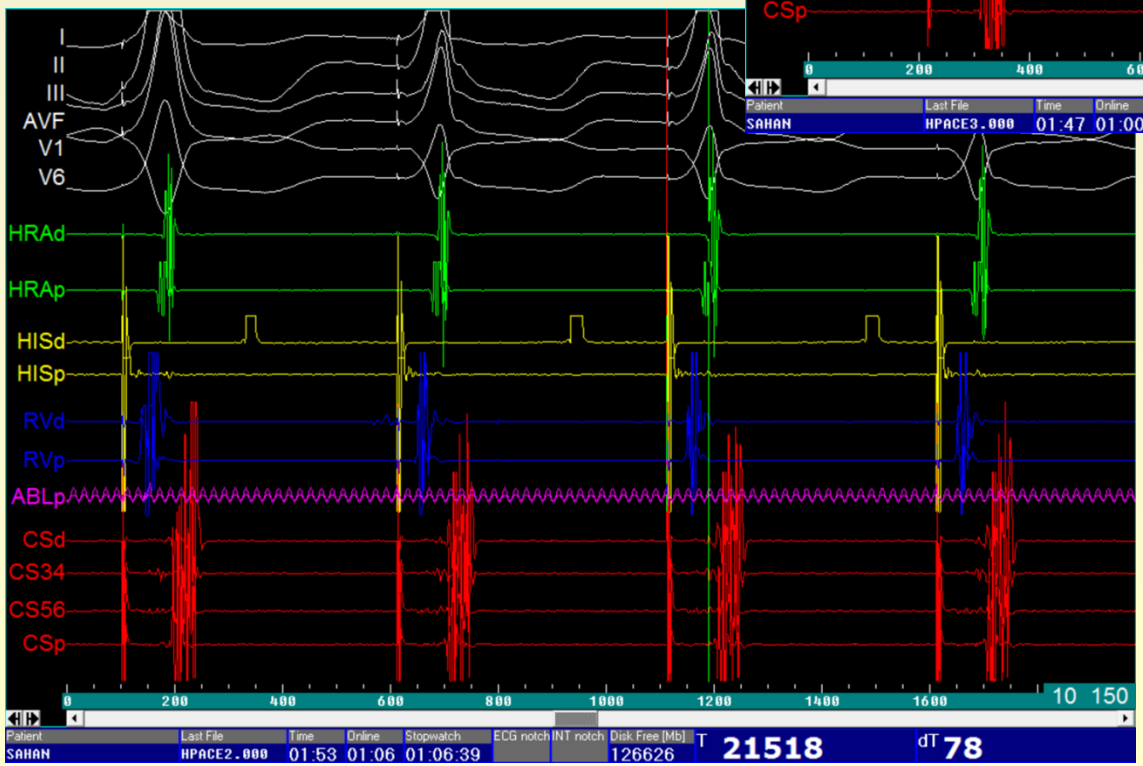
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10 150
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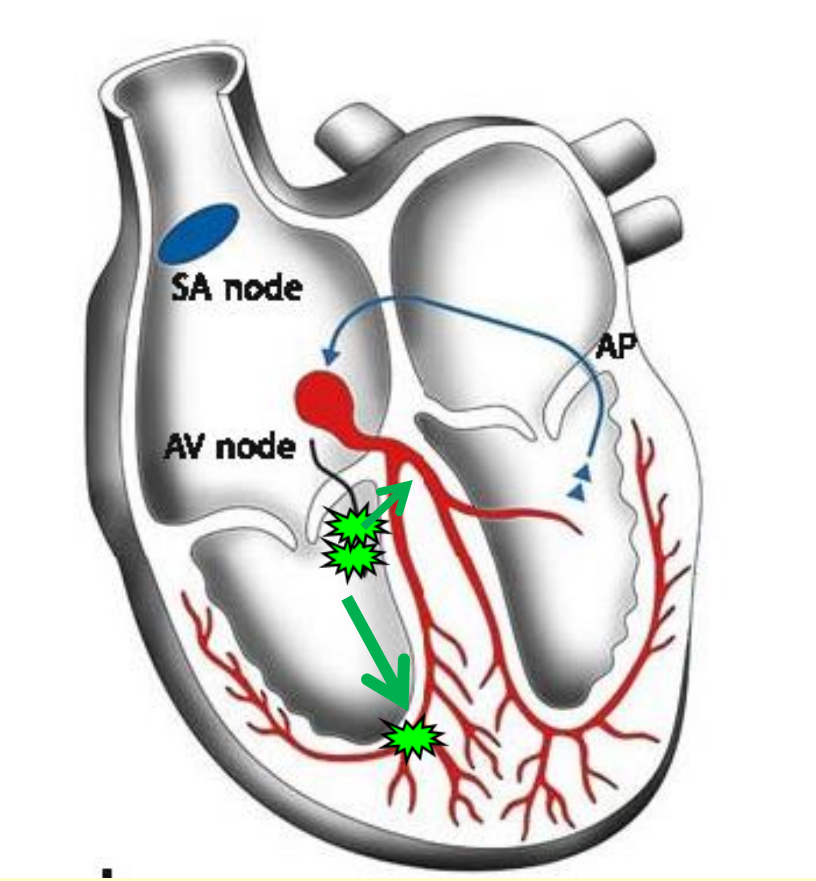
T 21518
dT 78

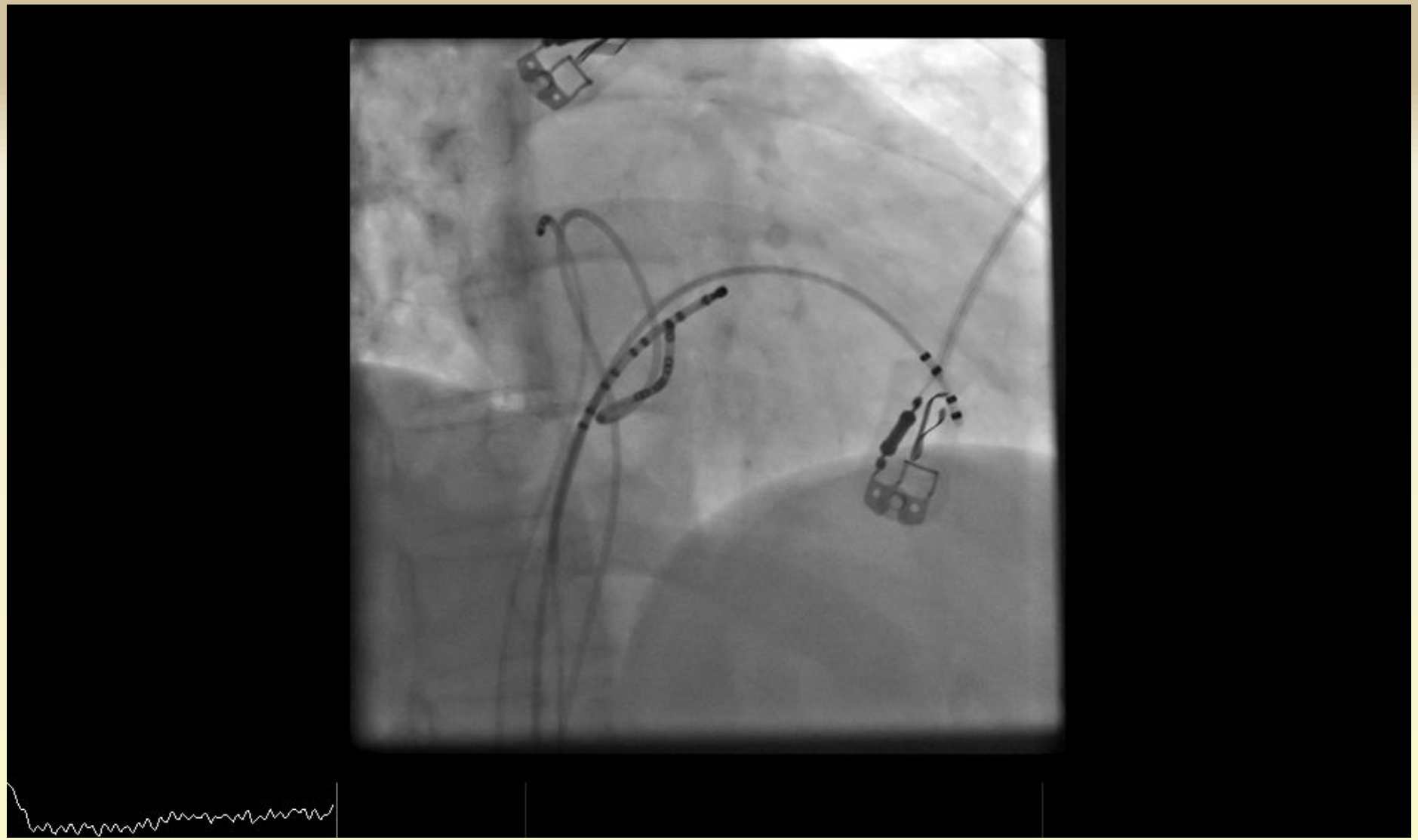
RV'nin değişik noktalarından pace

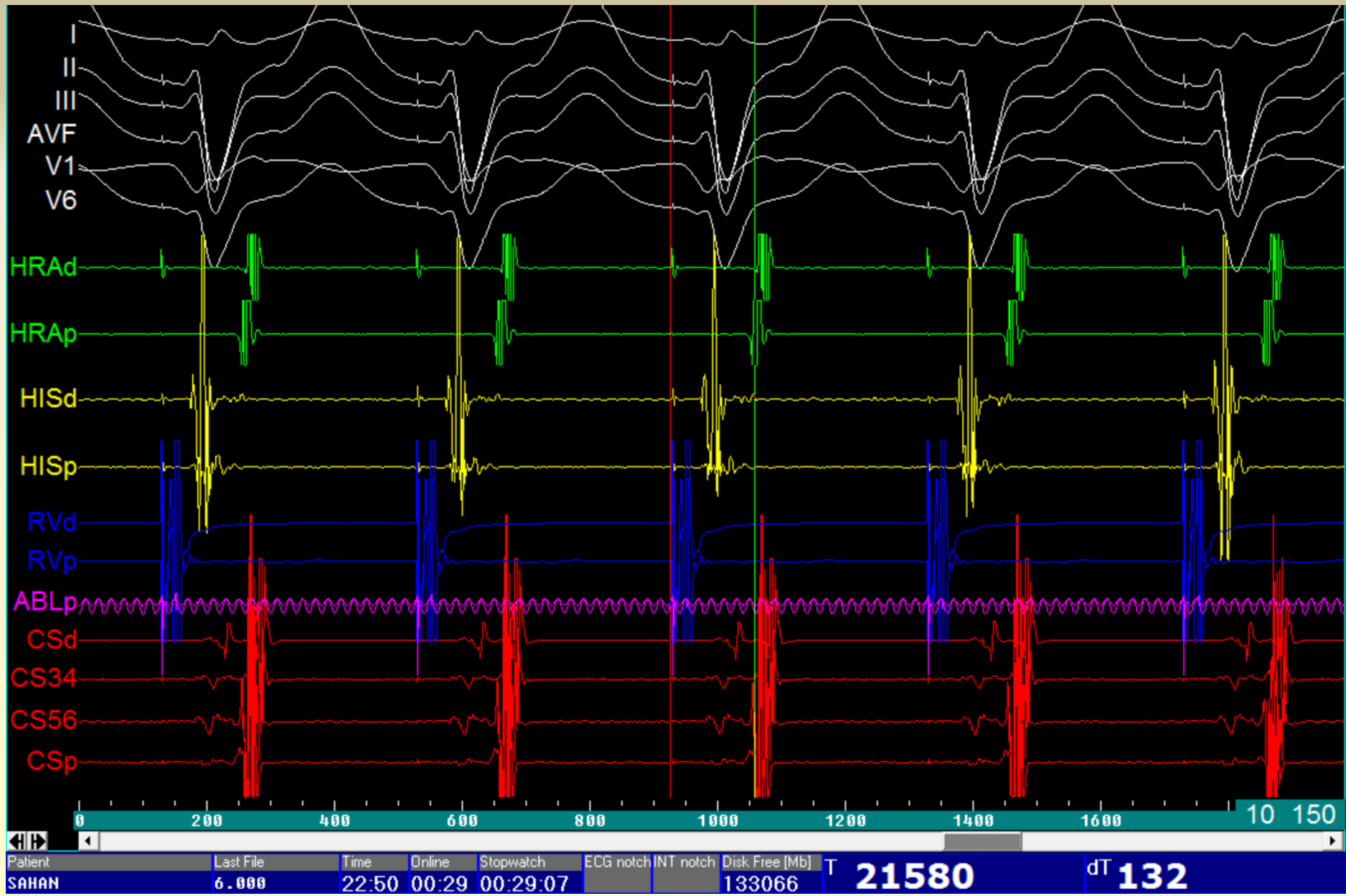


RV apikal/bazal pacing

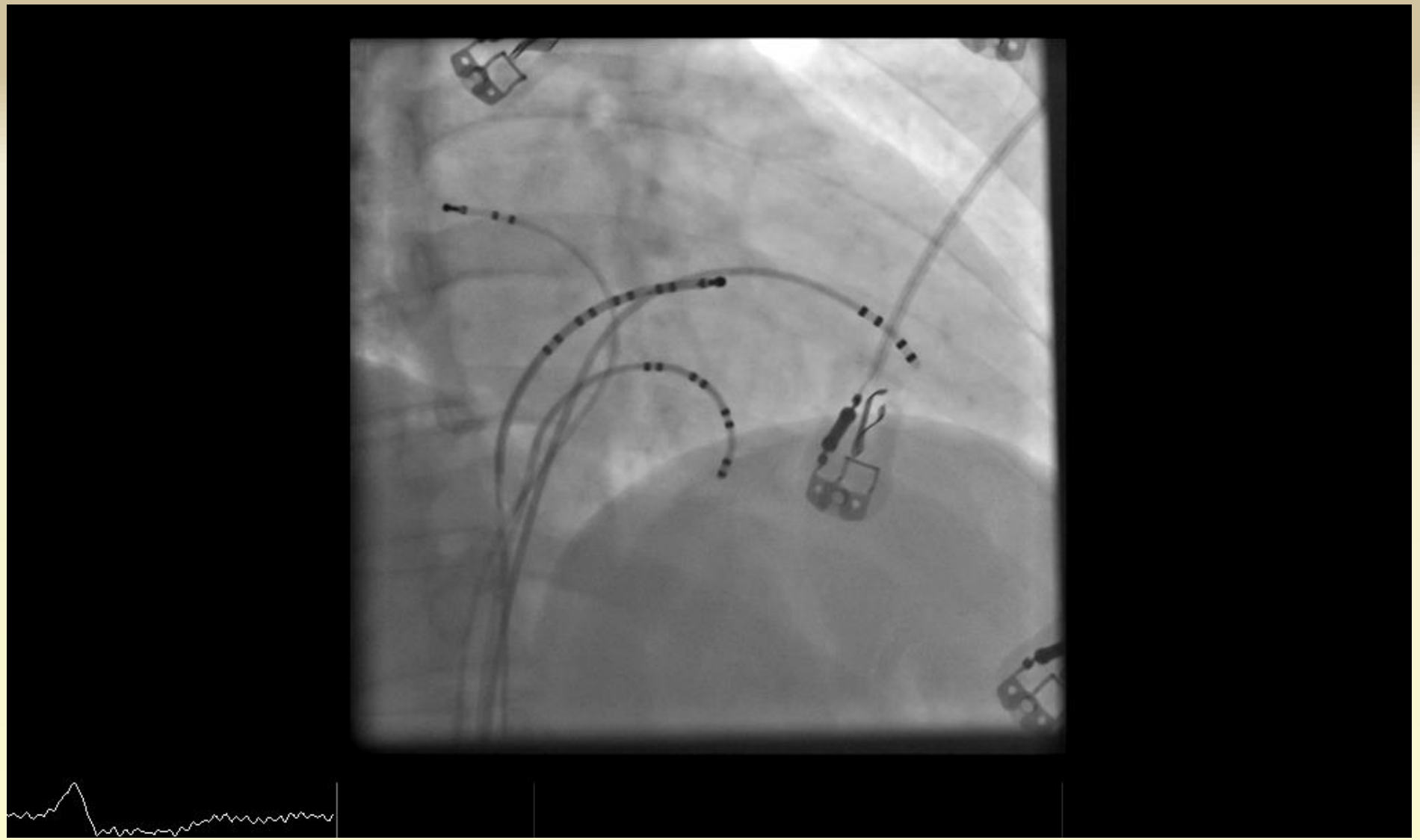
- **Septal aksesuar yolu olanlarda**

RV bazal pacing VA < RV apikal pacing VA

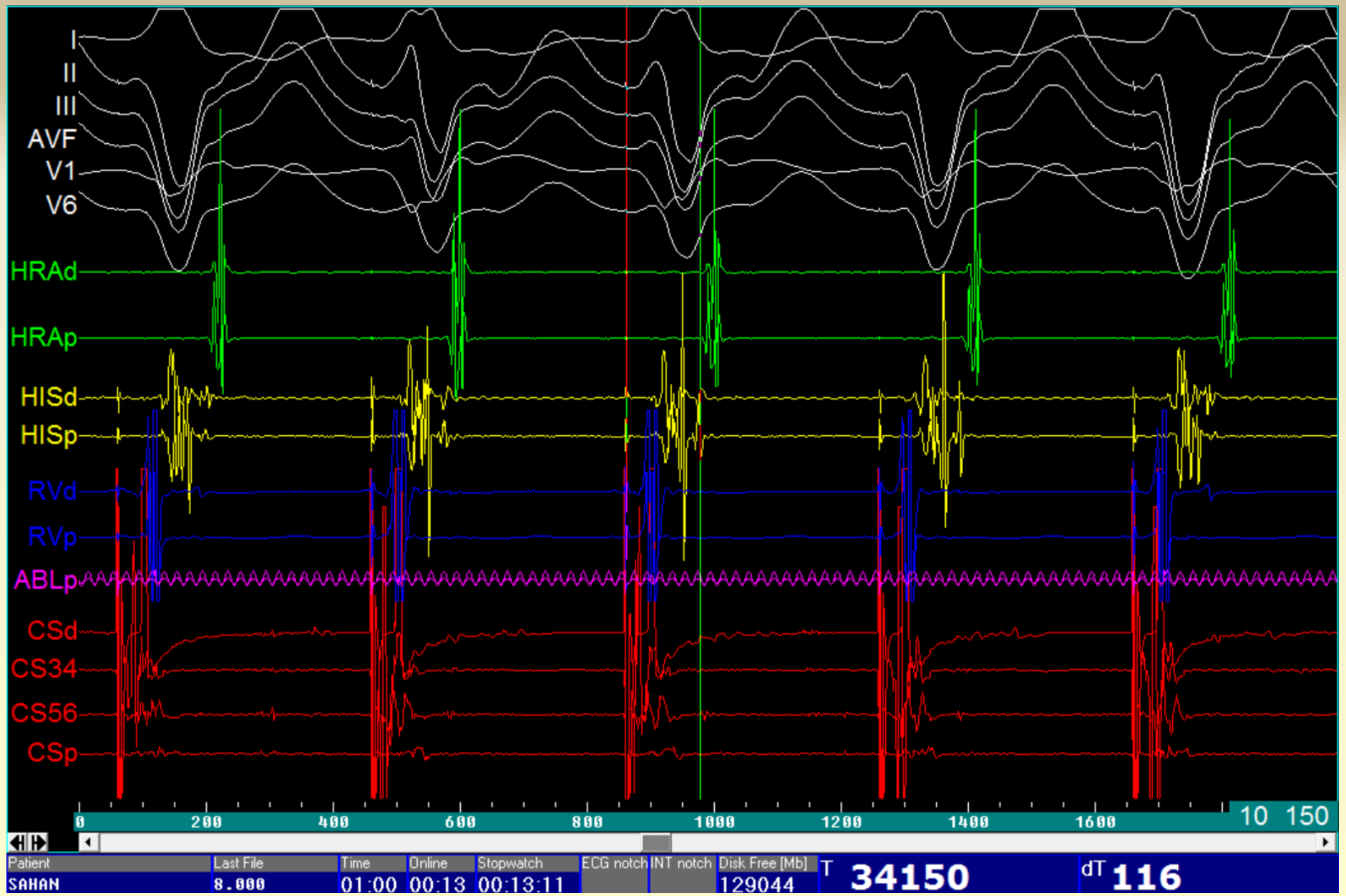




RV apikal Pace: QRS dar: VA 132 ms



Koroner sinüs kateterimiz ile RV bazal pace yaptık

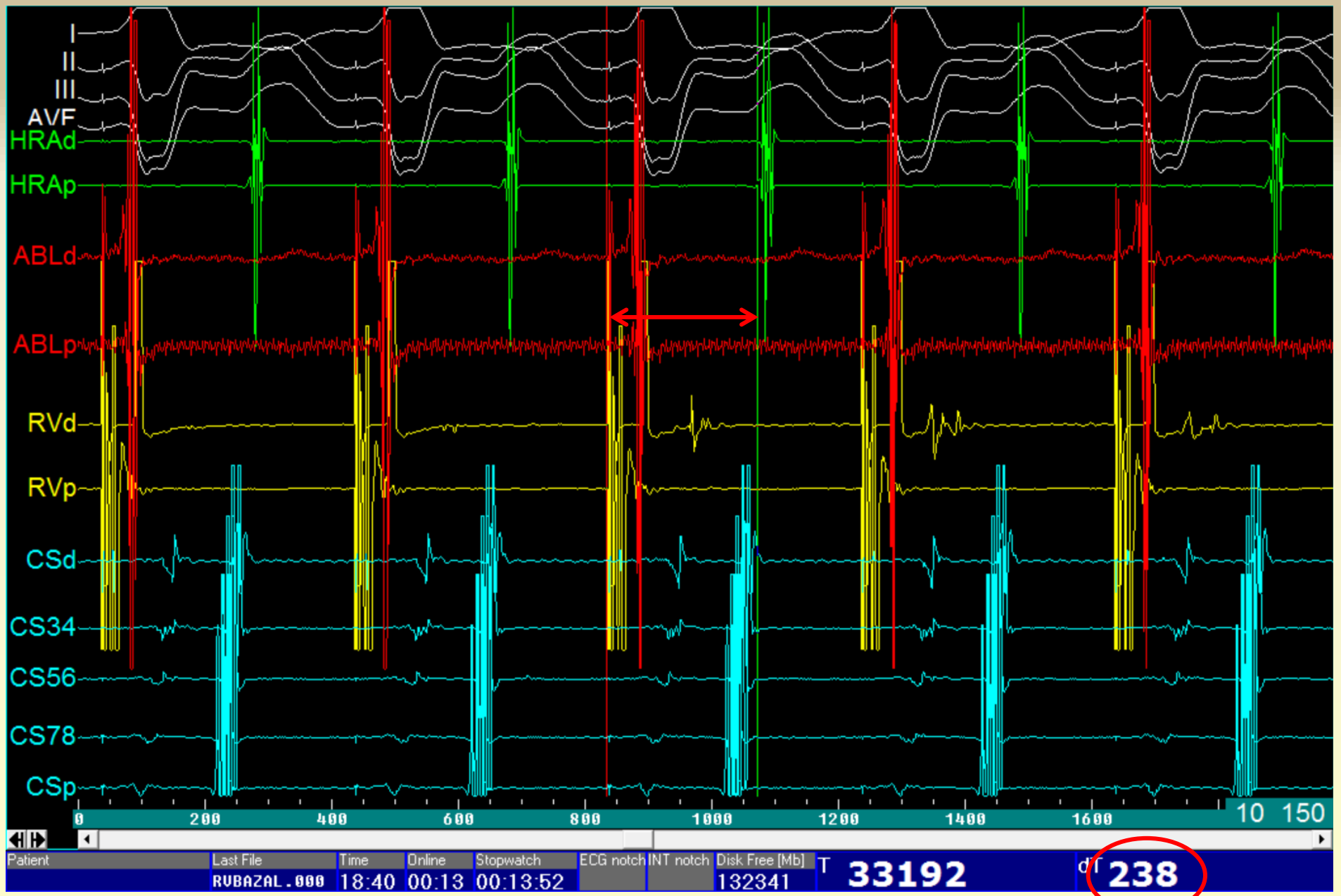


RV bazal Pace: QRS geniş: VA 116 ms

AVNRT'li hastada ise

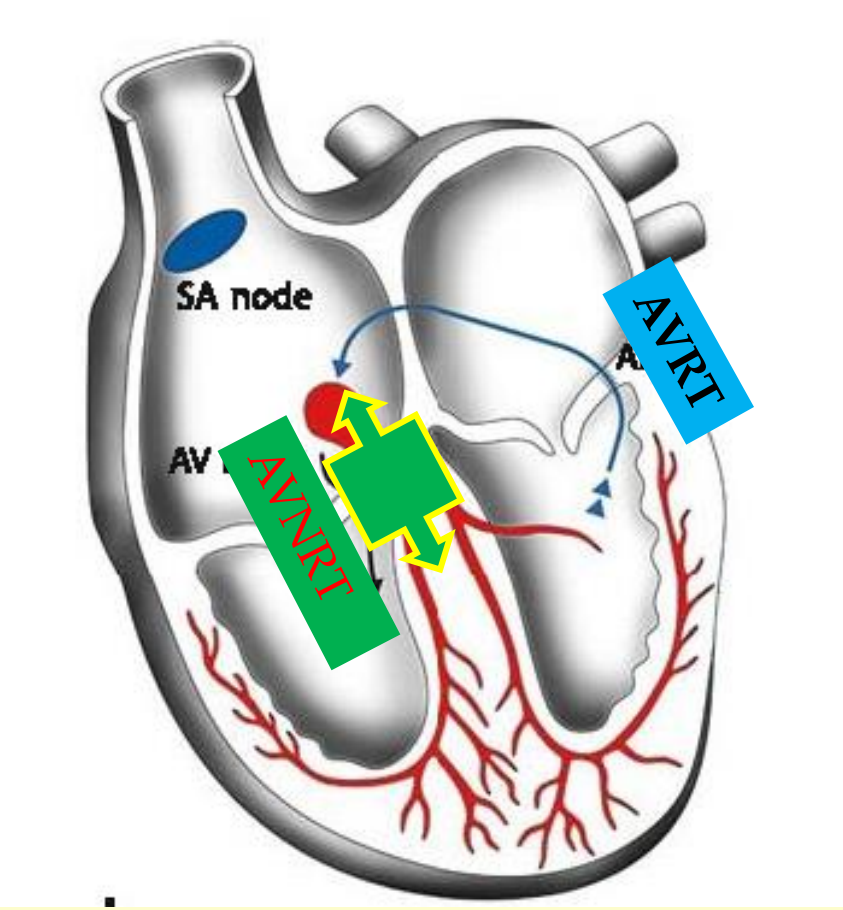
RV bazal pacing VA > RV apikal pacing VA

RV apikal Pace: QRS dar: VA 212 ms



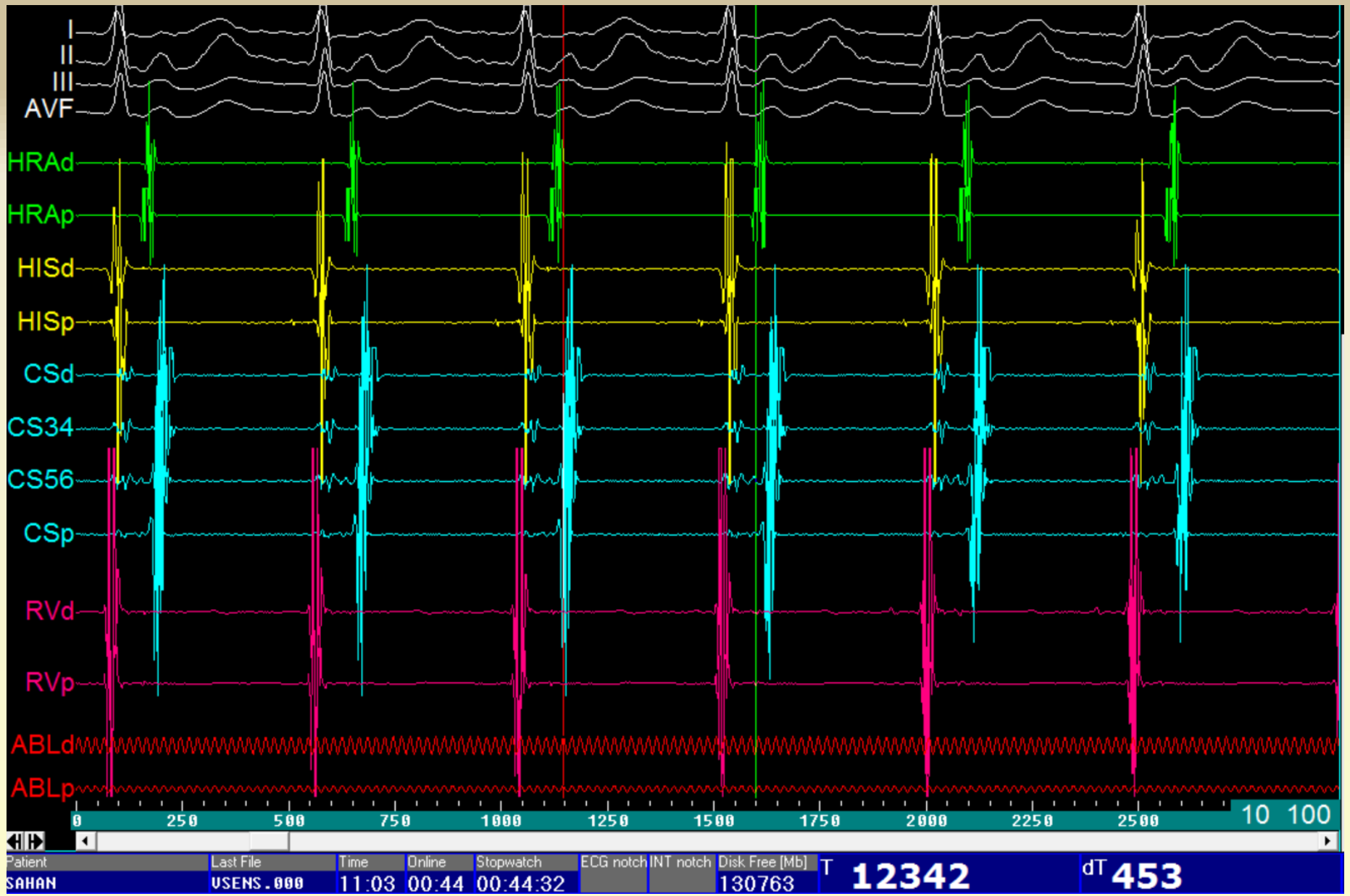
RV bazal Pace: QRS geniş: VA 238 ms

Taşikardi ve V-pace sırasında VA'nın tayini



AVNRT dışlanır

VA_{pacing}-VA_{SVT} < 85 ms


I
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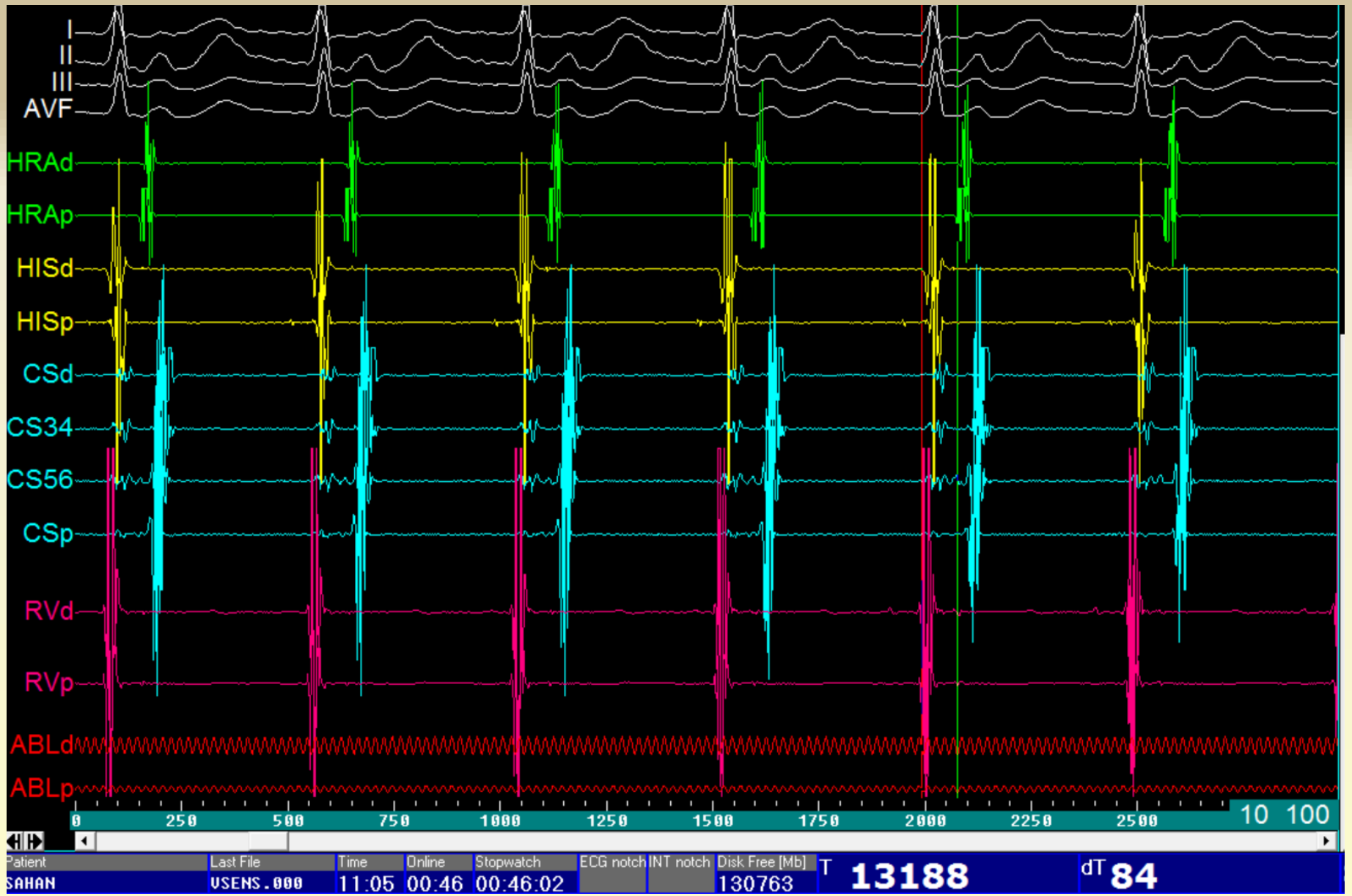
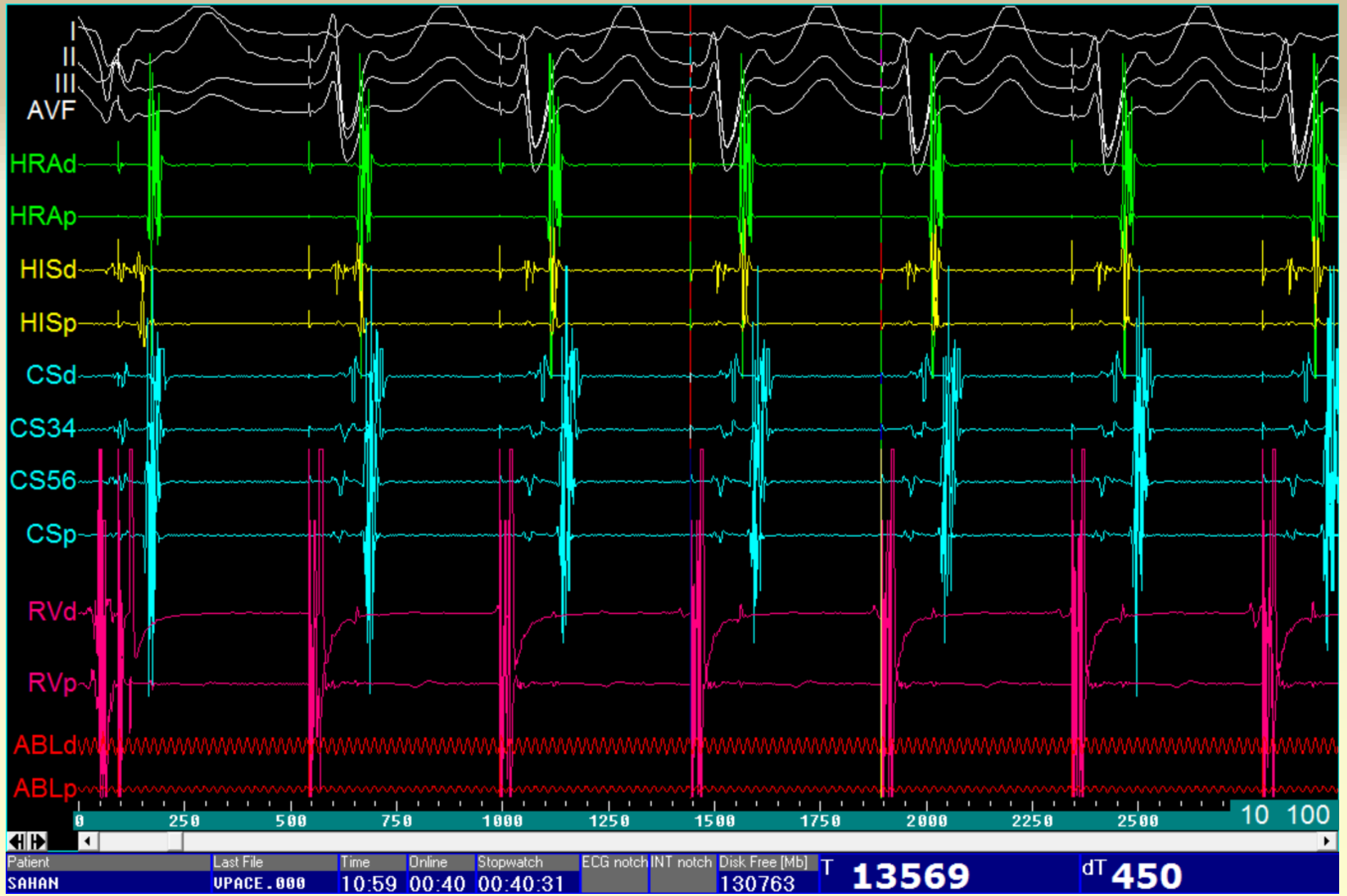
AVF
HRAd
HRAp
HISd
HISp
CSd
CS34
CS56
CSp
RVd
RVp
ABLd
ABLp
0
250
500
750
1000
1250
1500
1750
2000
2250
2500
10
100
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
SAHAN
USENS.000
11:03
00:44
00:44:32
130763
T 12342
dT 453

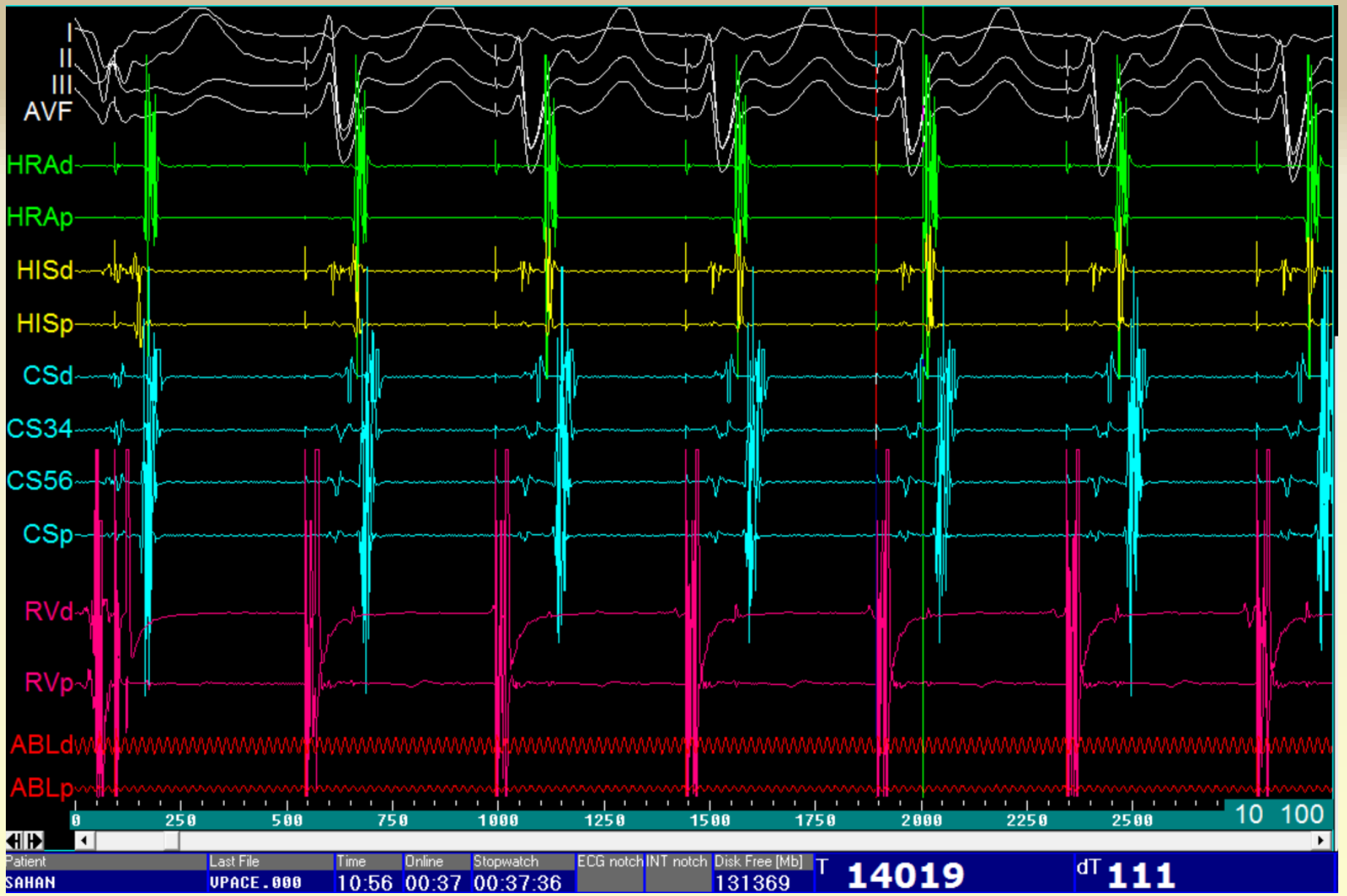
TCL =453 msn



TCL =453 ms, VA=84 ms

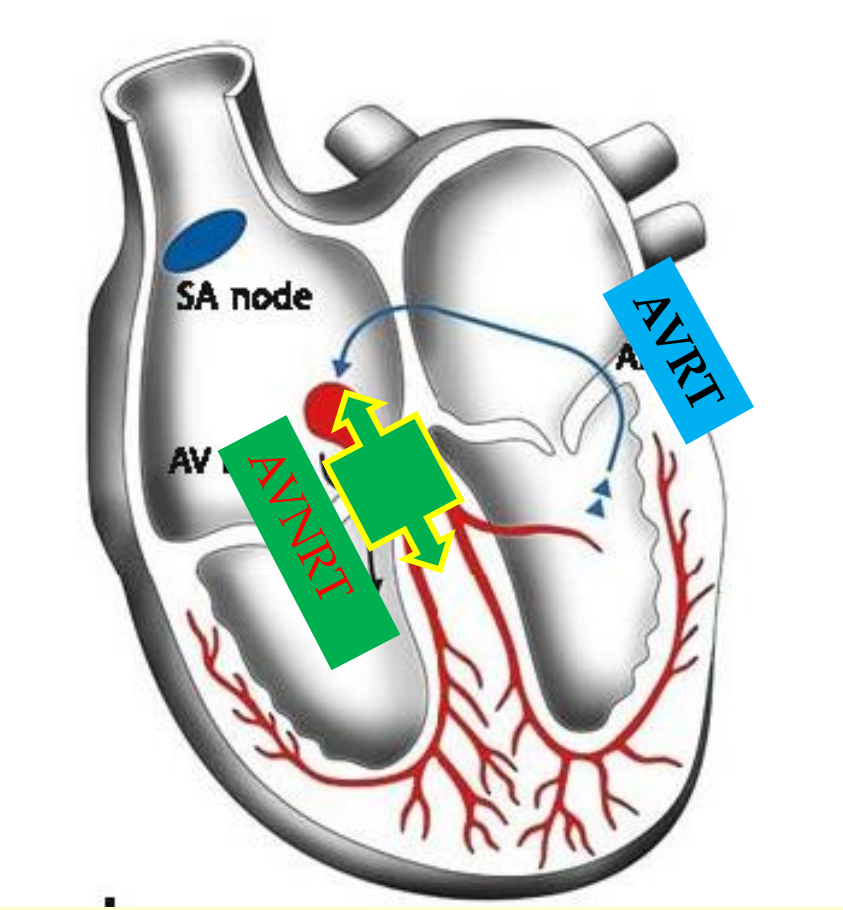


TCL =450 ms hızında V-pace



TCL =450 ms hızında V-pace; VA=111 msn

Taşikardi ve V-pace sırasında VA'nın tayini



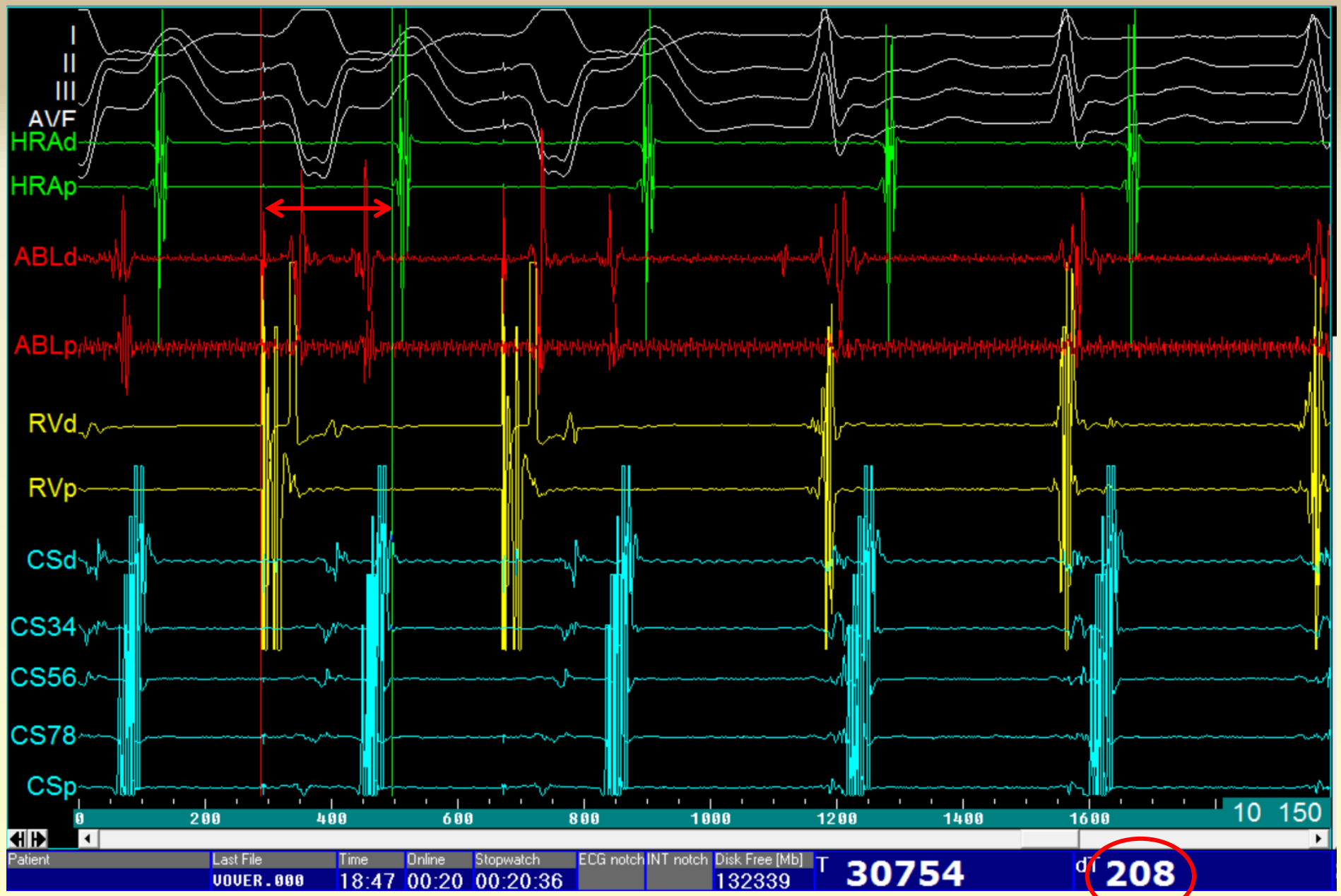
111-84= 27 msn

AVNRT dışlanır

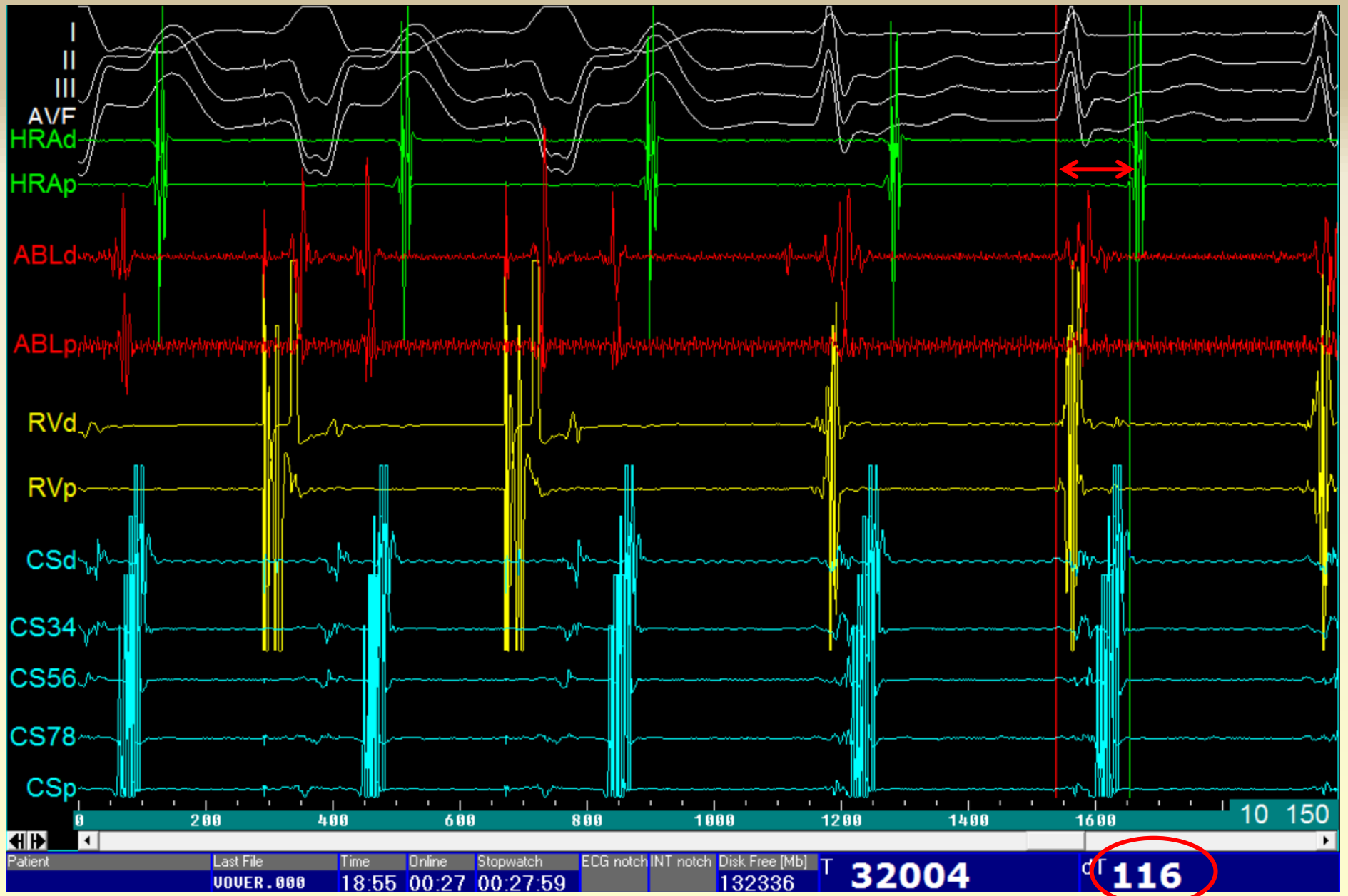
VA_{pacing}-VA_{SVT} < 85 ms

AVNRT'li hastada ise

$VA_{pacing} - VA_{SVT} > 85$ msn



TCL hızında V-pace; VA=208 ms



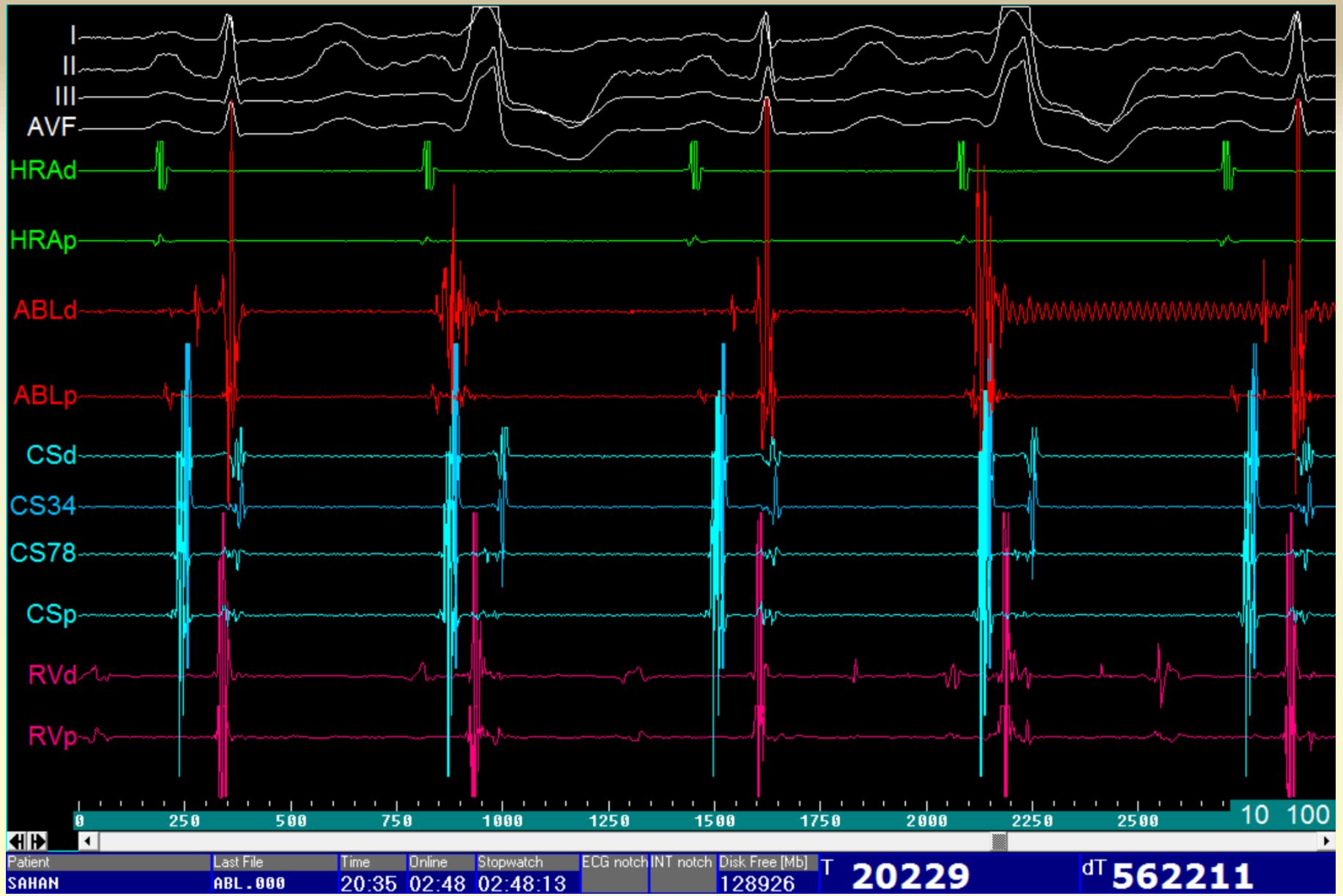
SVT sırasında VA=116 msn

AVNRT'li hastada ise

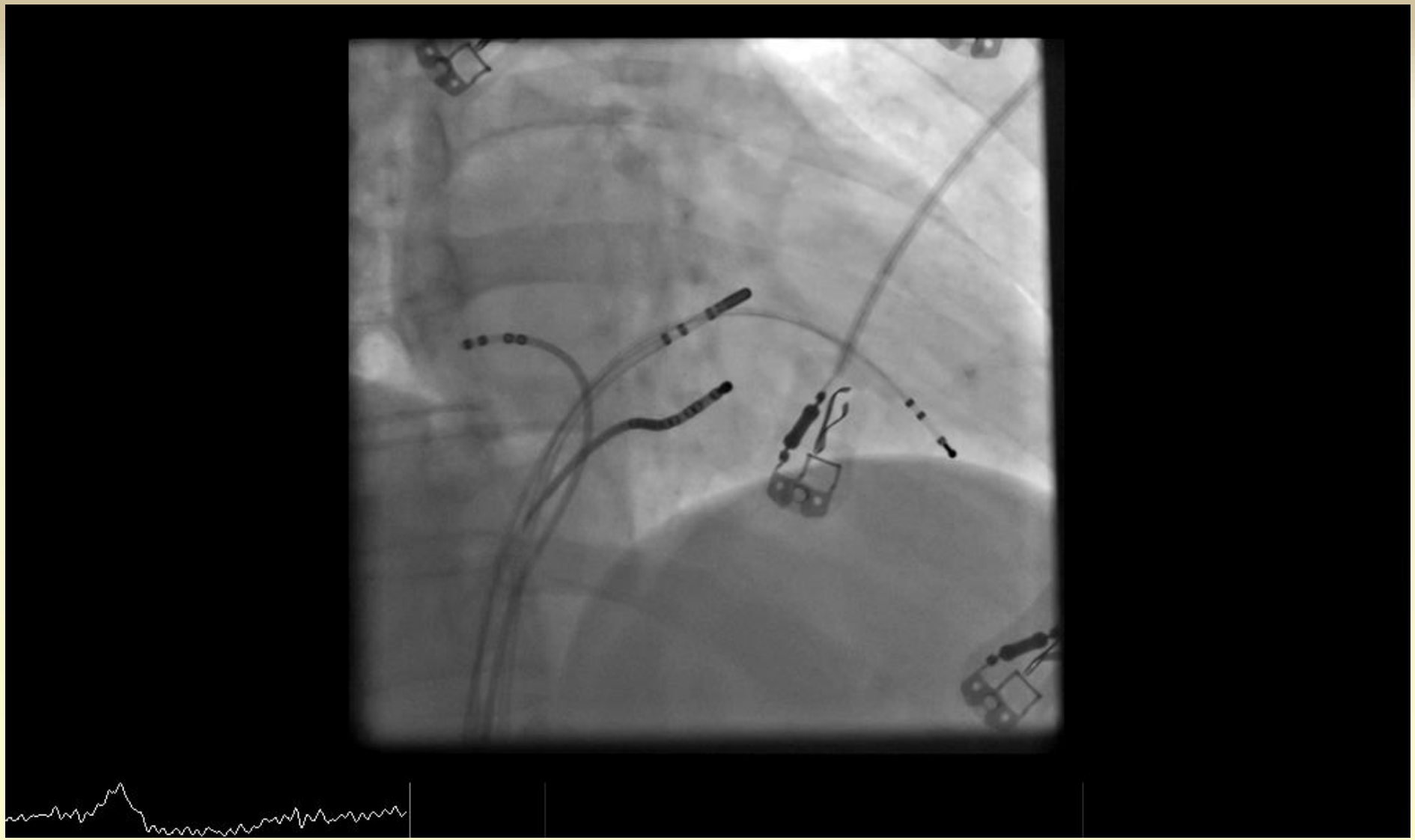
$VA_{pacing} - VA_{SVT} > 85$ msn

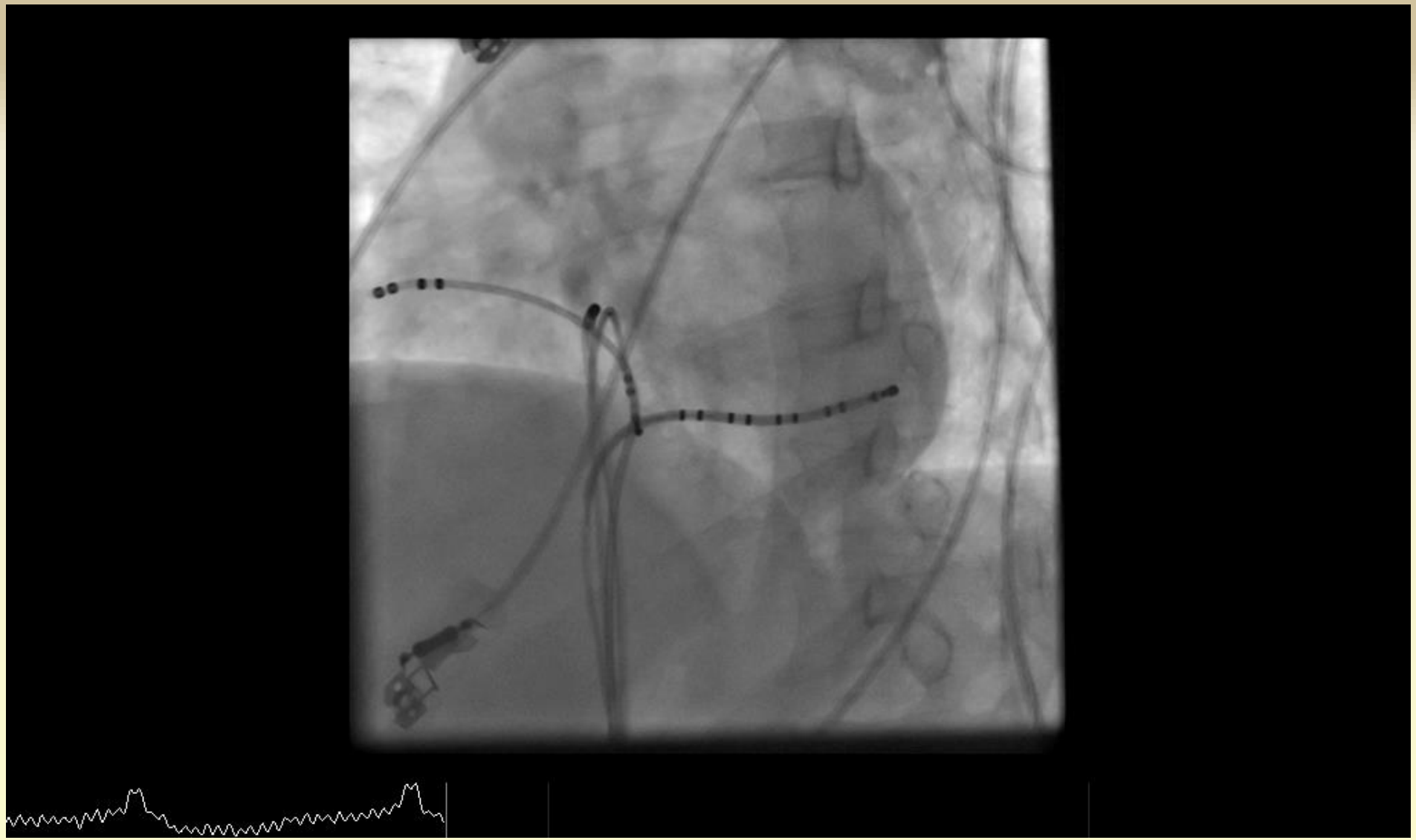
208-116= 92 ms

Anteroseptal yerleşimli aksesuar yola bağlı ortodromik AVRT tanısıyla ablasyon işlemine geçildi

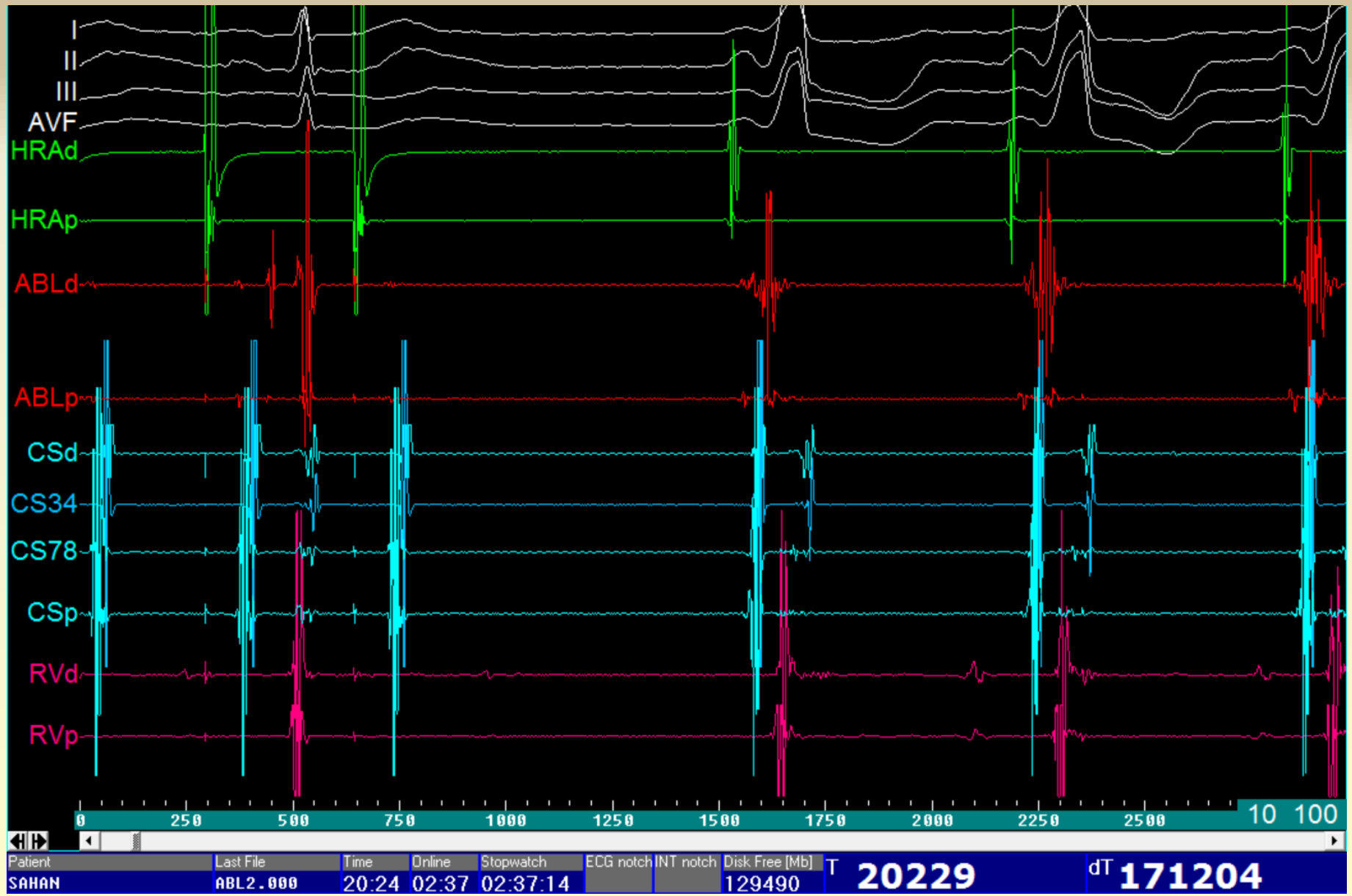


Cryoablasyon-1

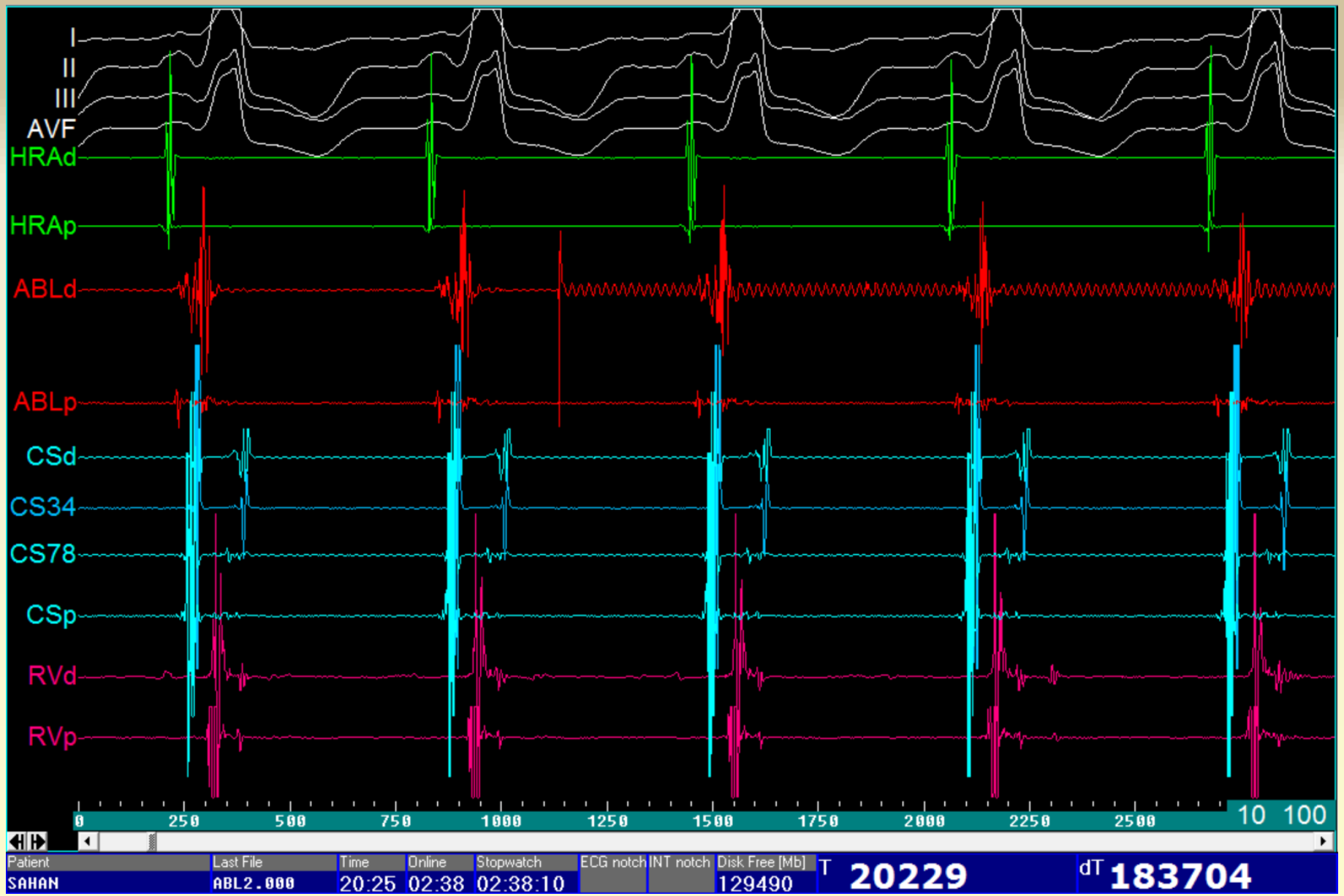




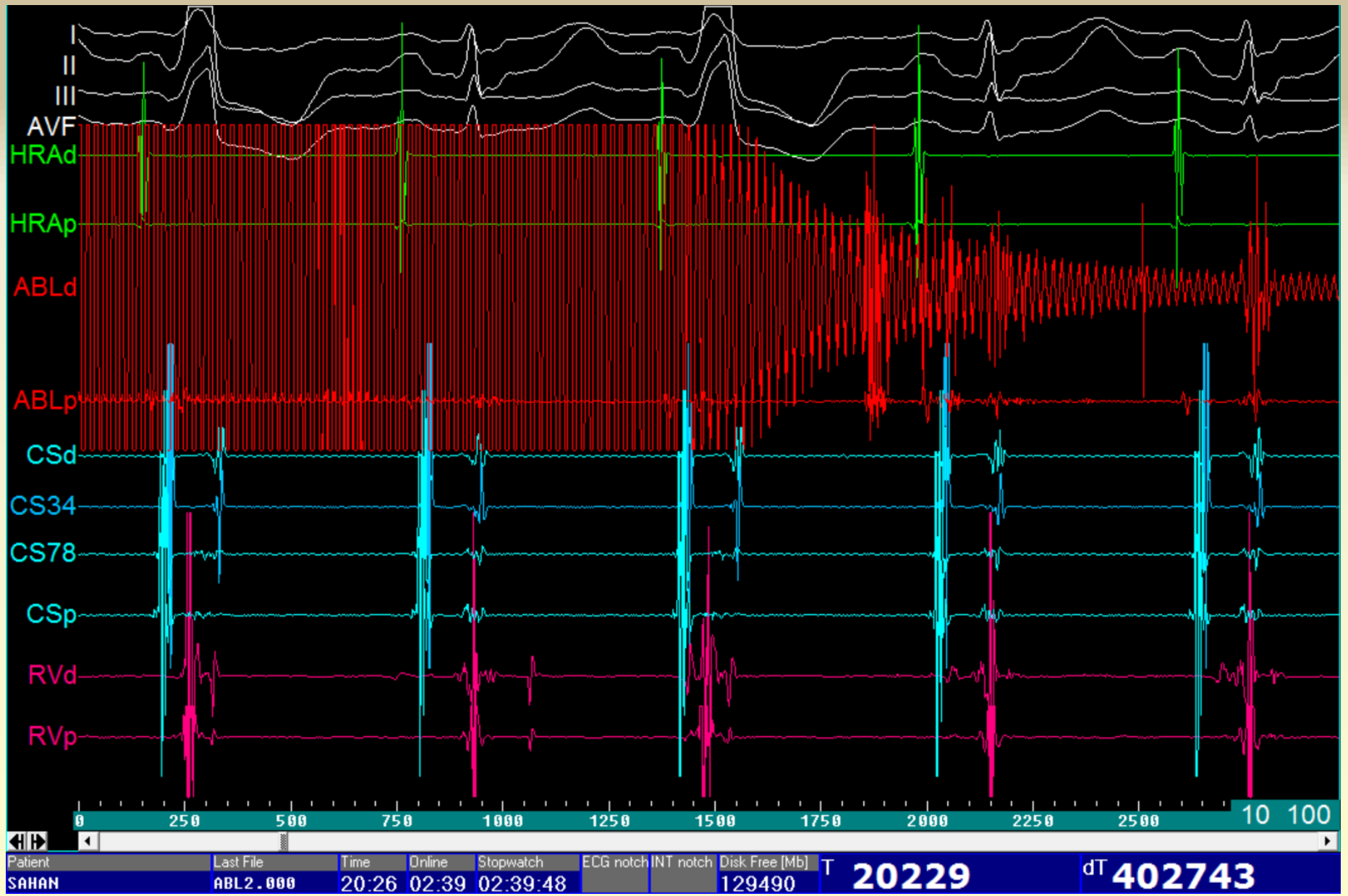
Cryoablasyon-1 mapping….aksesuar yol manfest oldu…ablasyon stoplandı



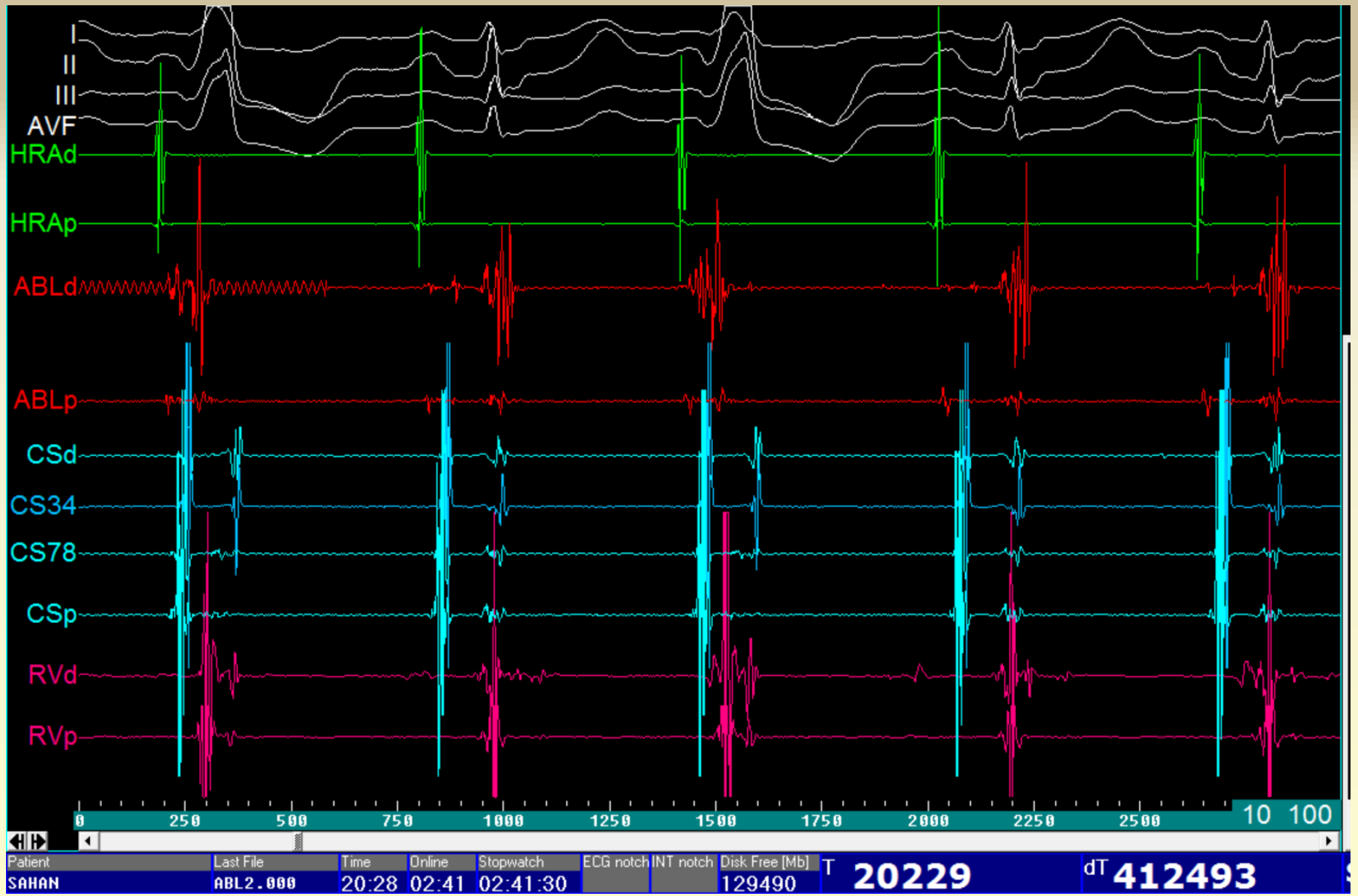
Cryoablasyon-2



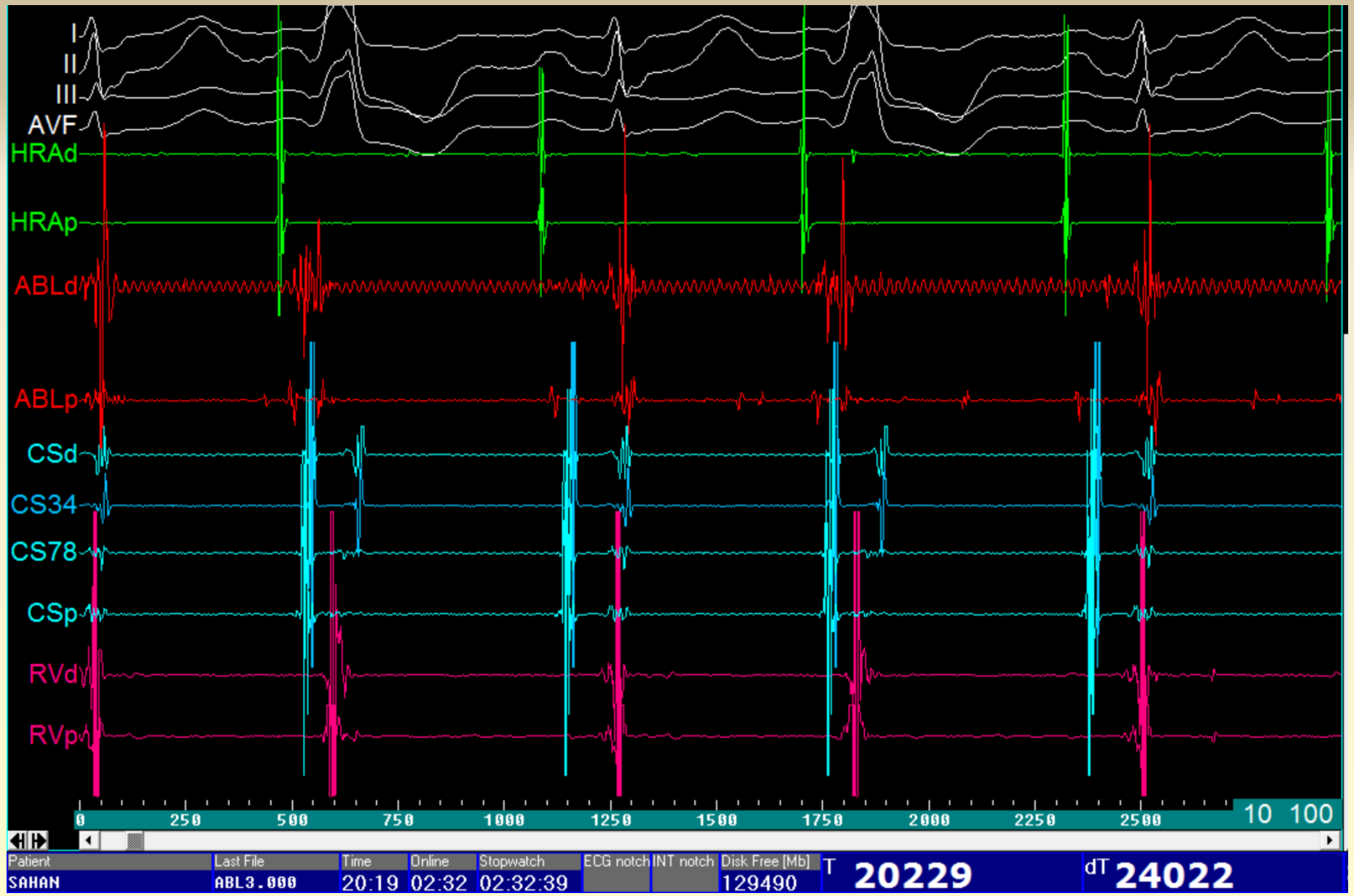
Cryoablasyon-2 mapping



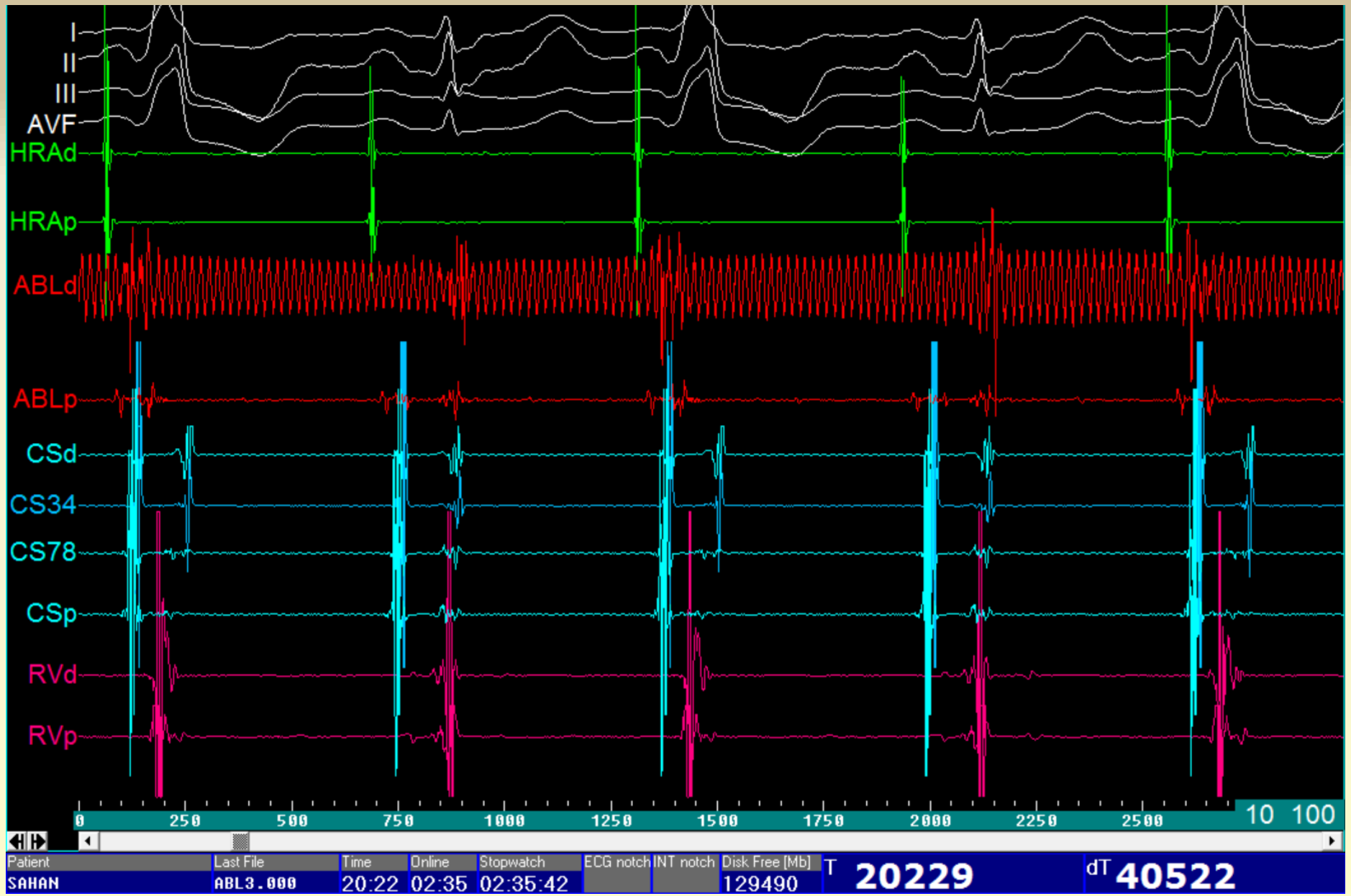
Cryoablasyon-2….ablasyona geçildi...-70 C°.



Cryoablasyon-2….1 dakika sonra sonlandırıldı



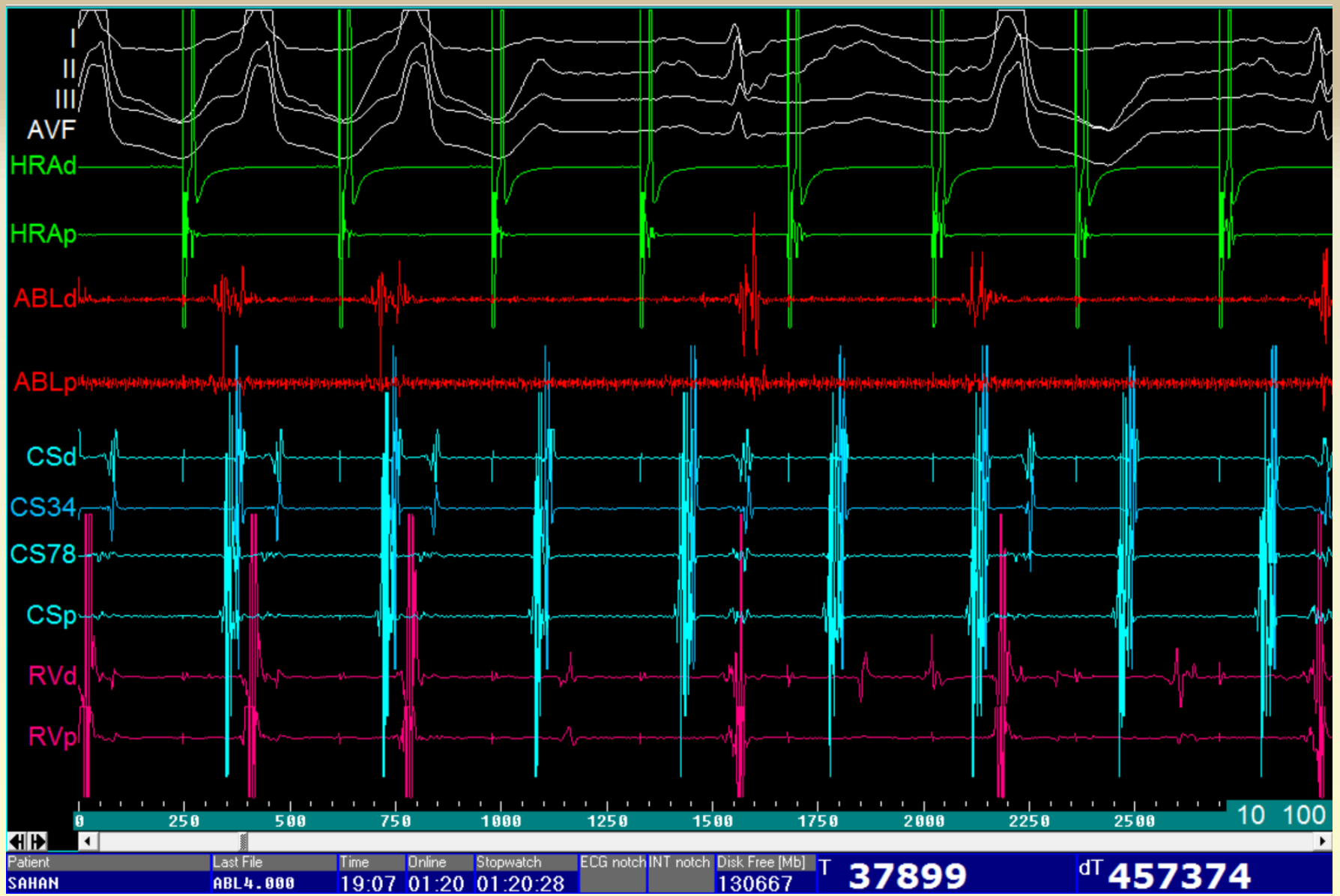
Cryoablasyon-3



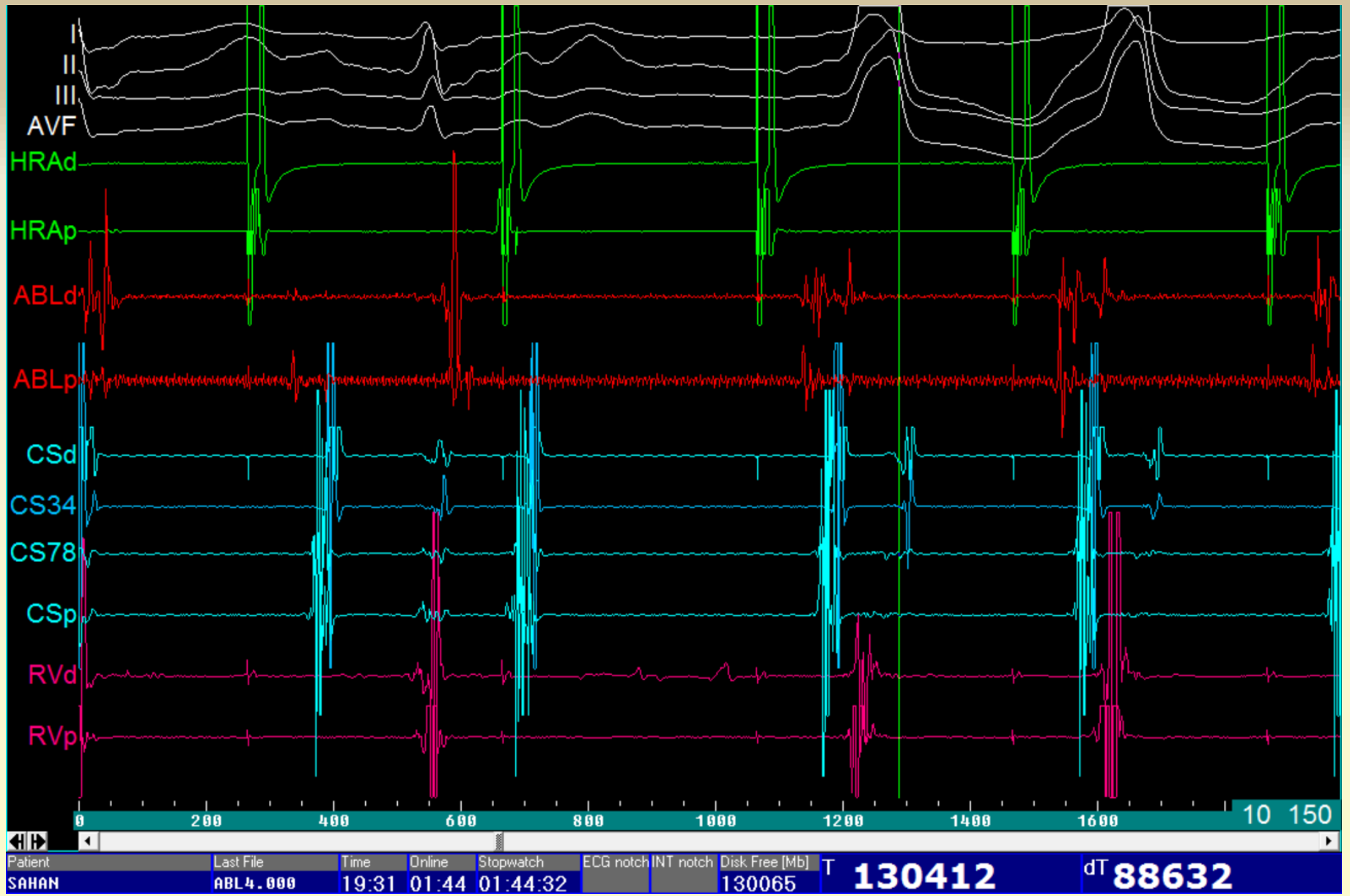
Cryoablasyon-3….mappinge geçildi

RF ablasyona geçildi

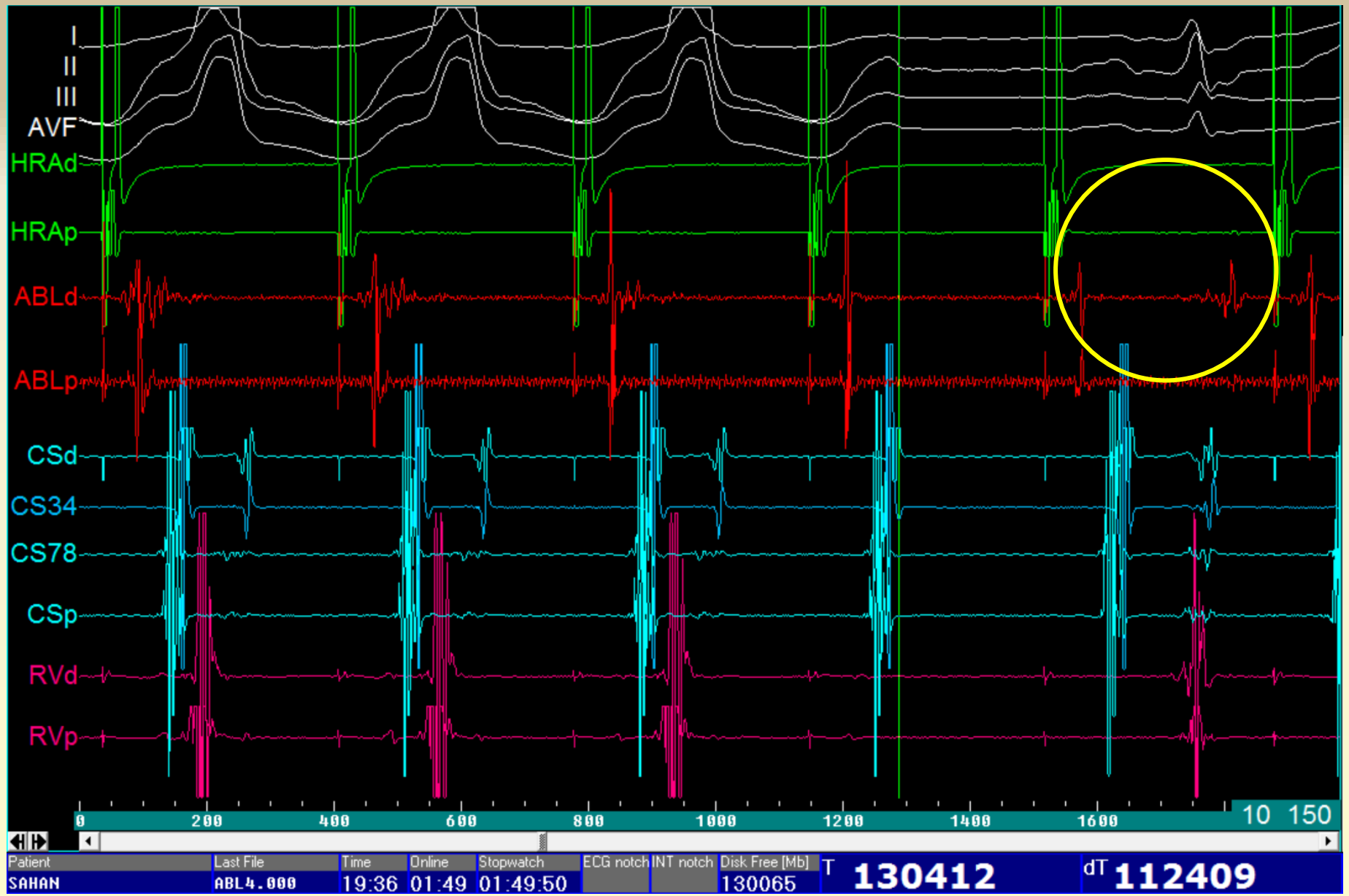
RF ablasyonda çok iyi kayıt bulundu



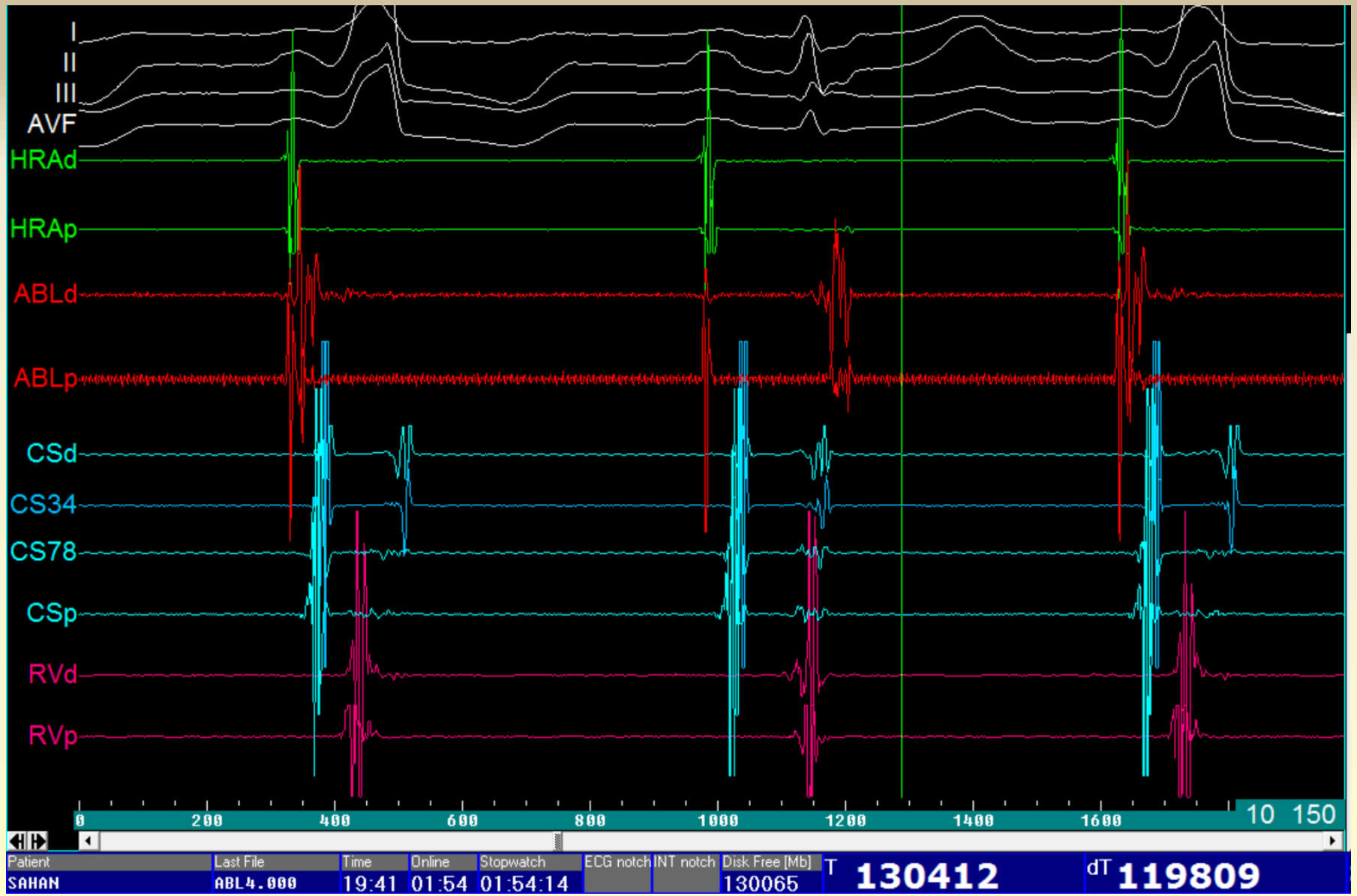
A pace ile His potansiyeli görüldü



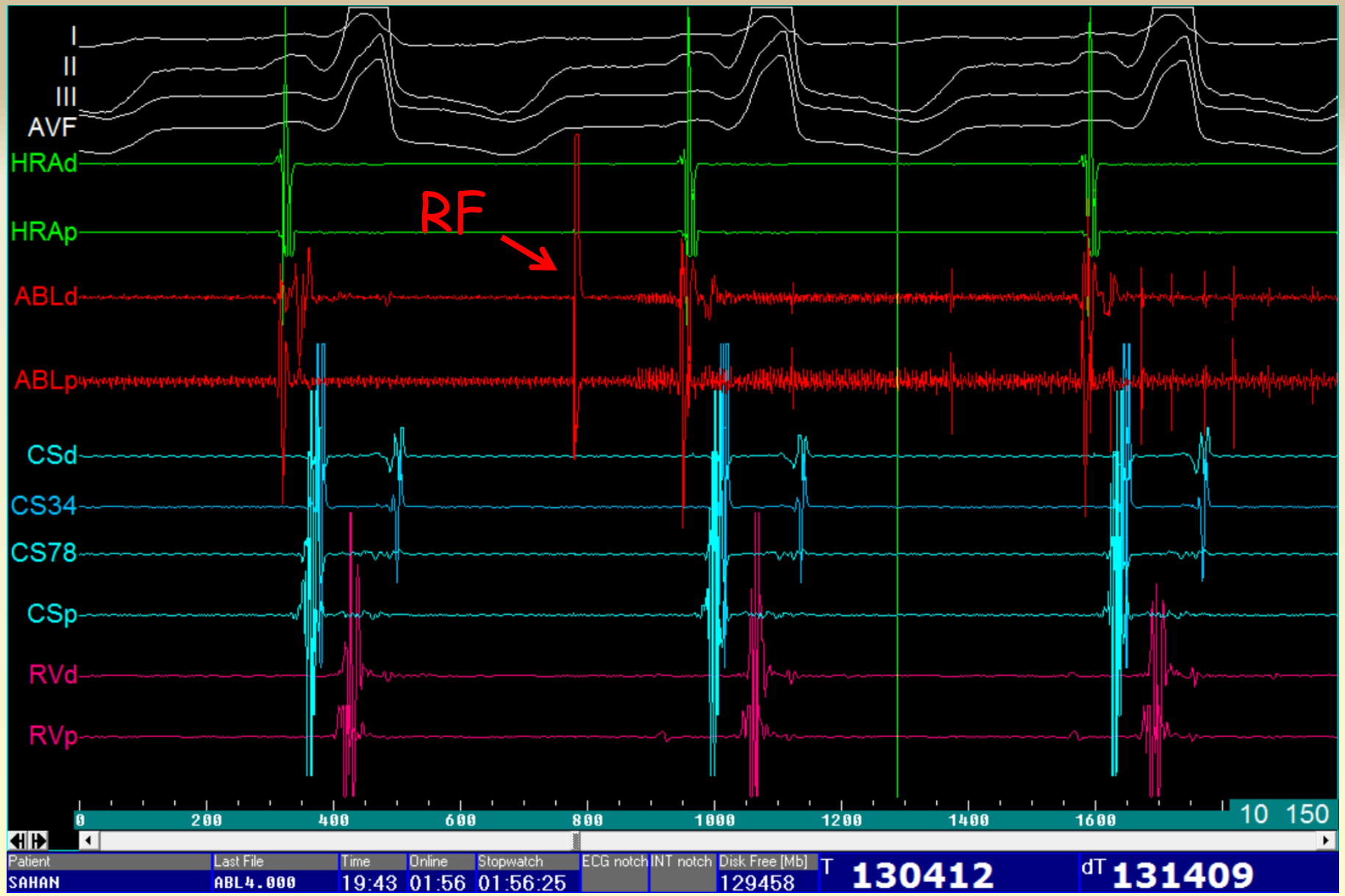
A pace altında His biraz daha küçültülmeye çalışıldı



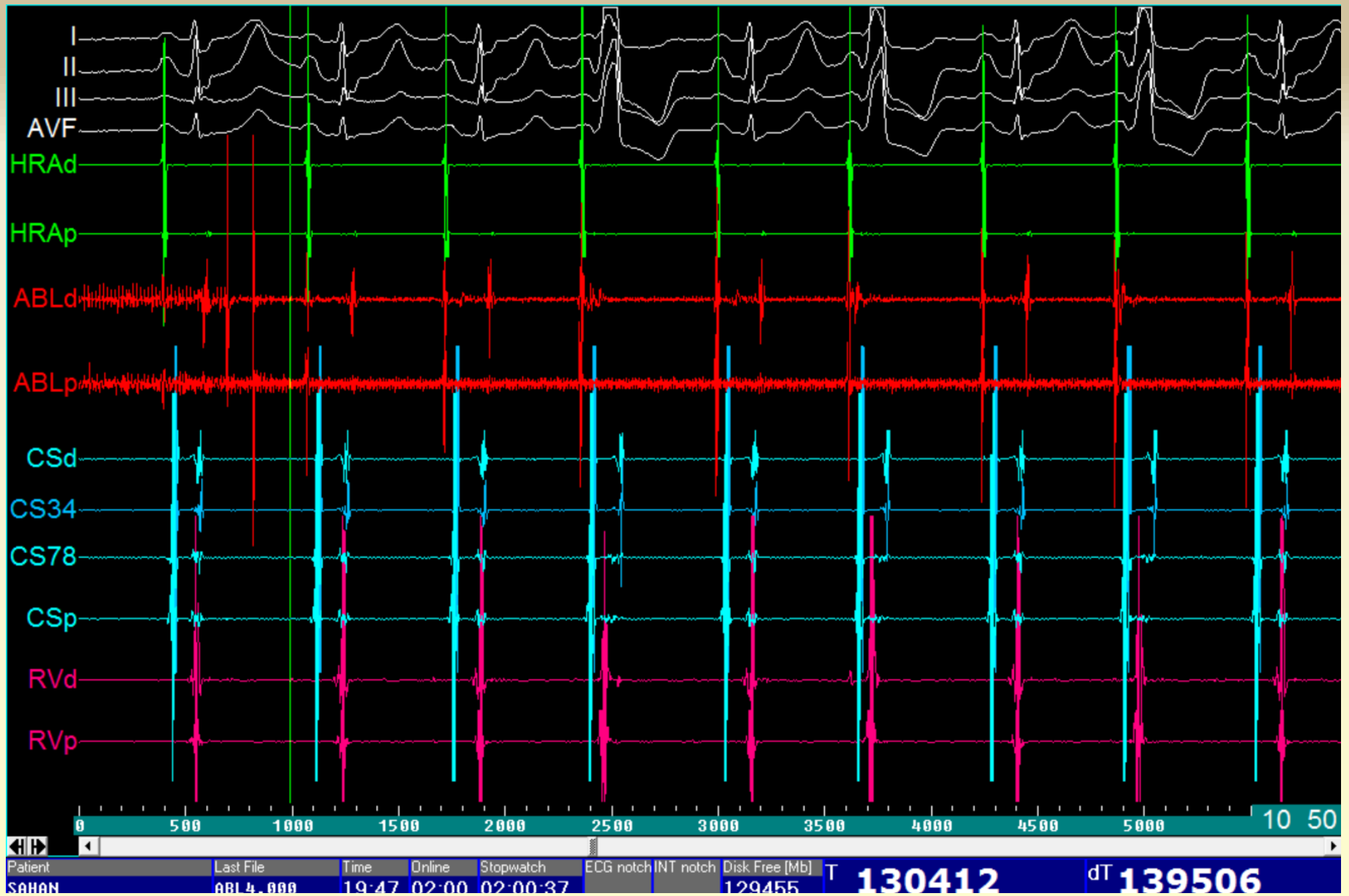
Ablasyon kateteri biraz daha modifiye edildi (atriuma doğru) ve His'in olmadığı bir kayıt bulundu



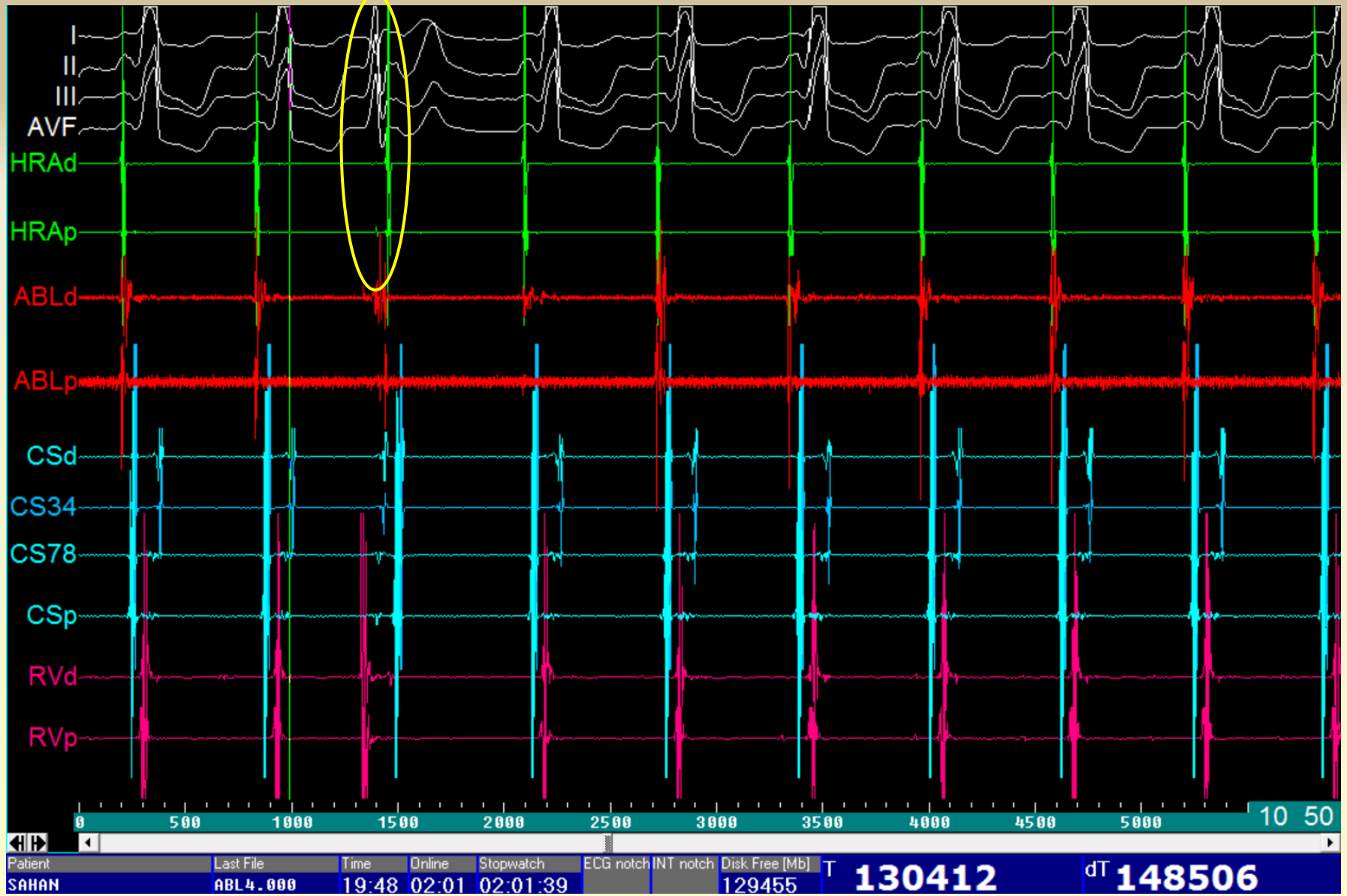
Sinüs ritminde RF uygulama öncesi kayıt



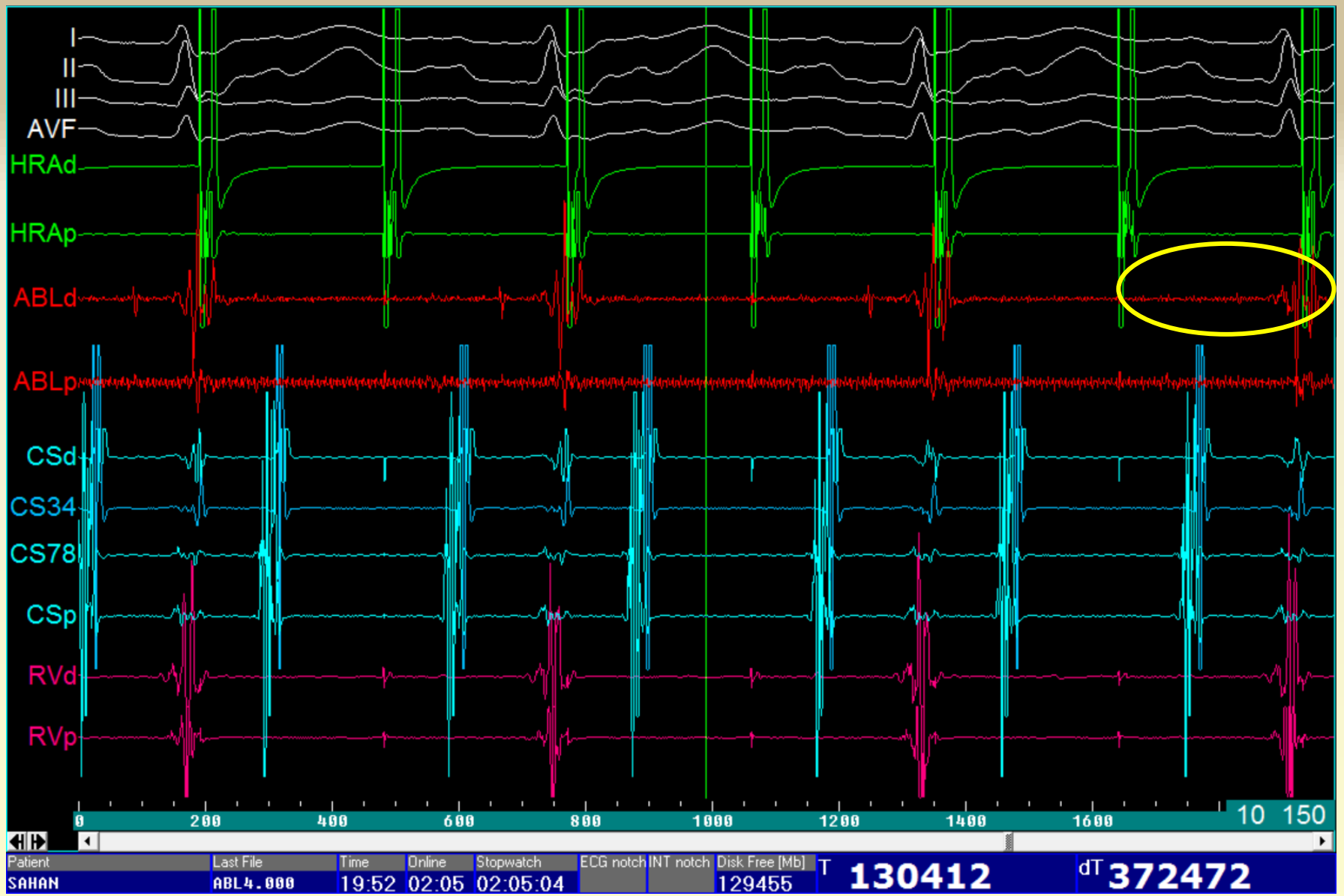
RF-1: 40 W ve sonra 50 W ile max 65 derecede enerji verildi



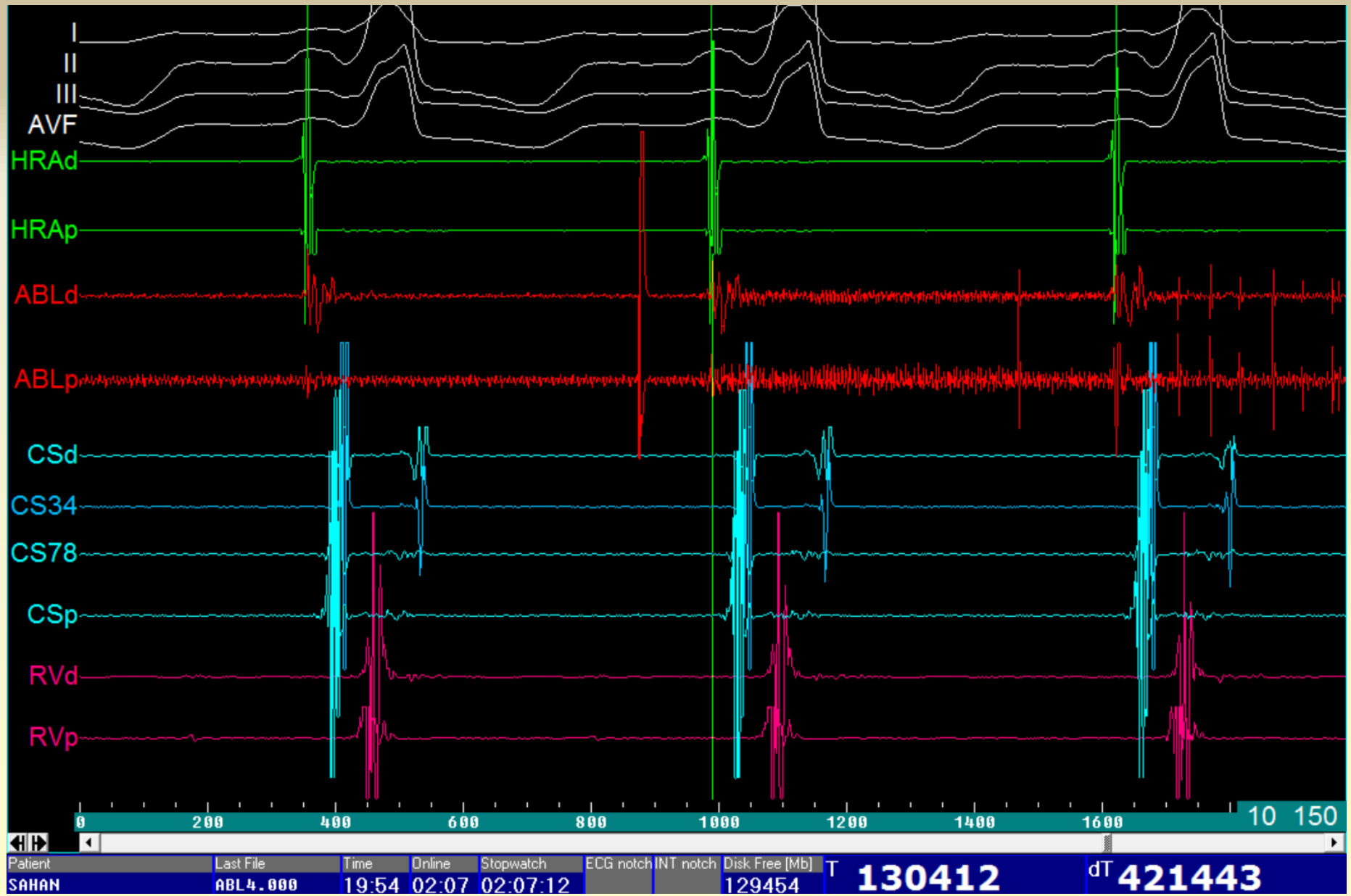
Başarılı olunamadı



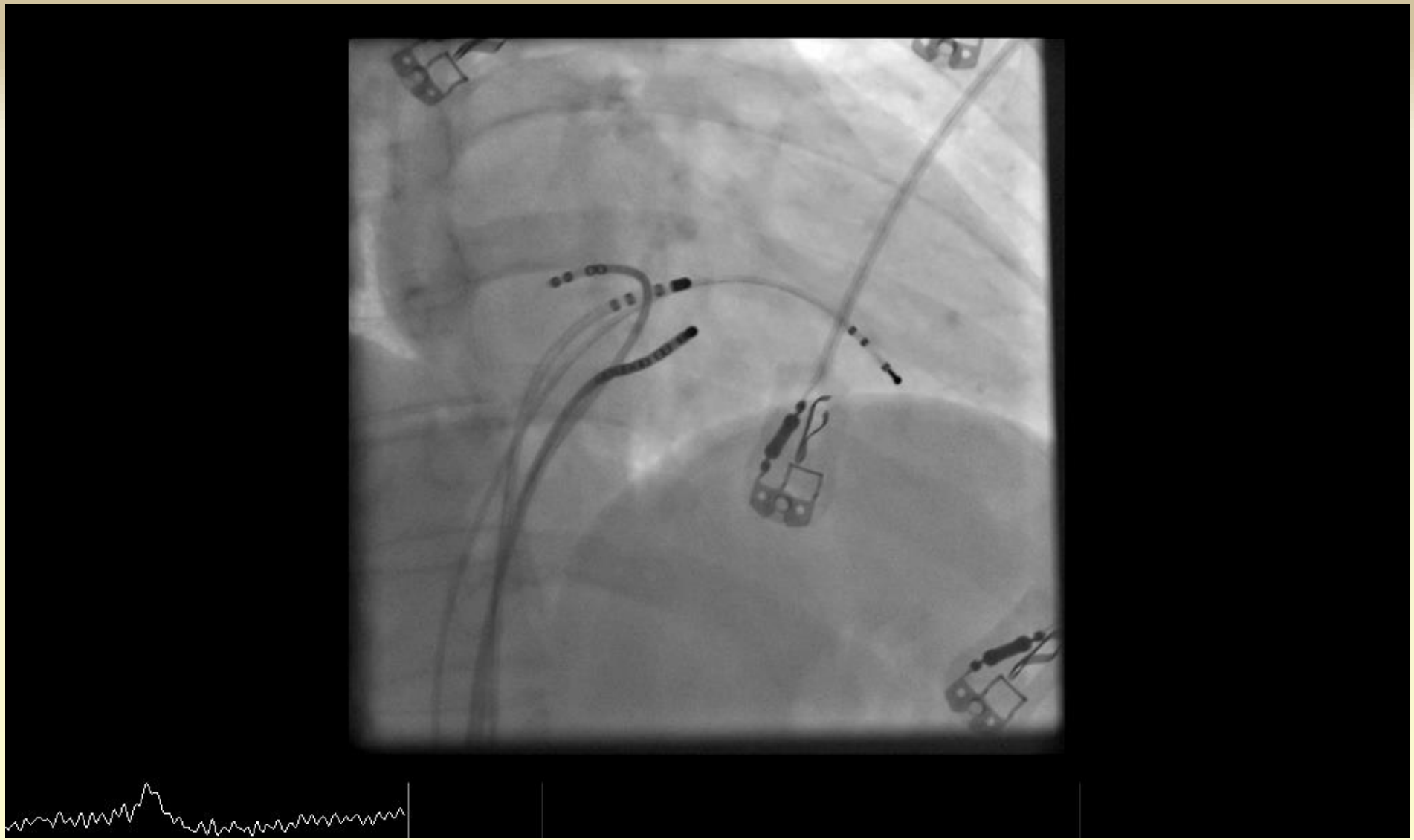
Ara ara junctional ektopik atım gözlendi…devam edildi ancak aksesuar yol iletimi sustained olur olmaz RF sonlandırldı.

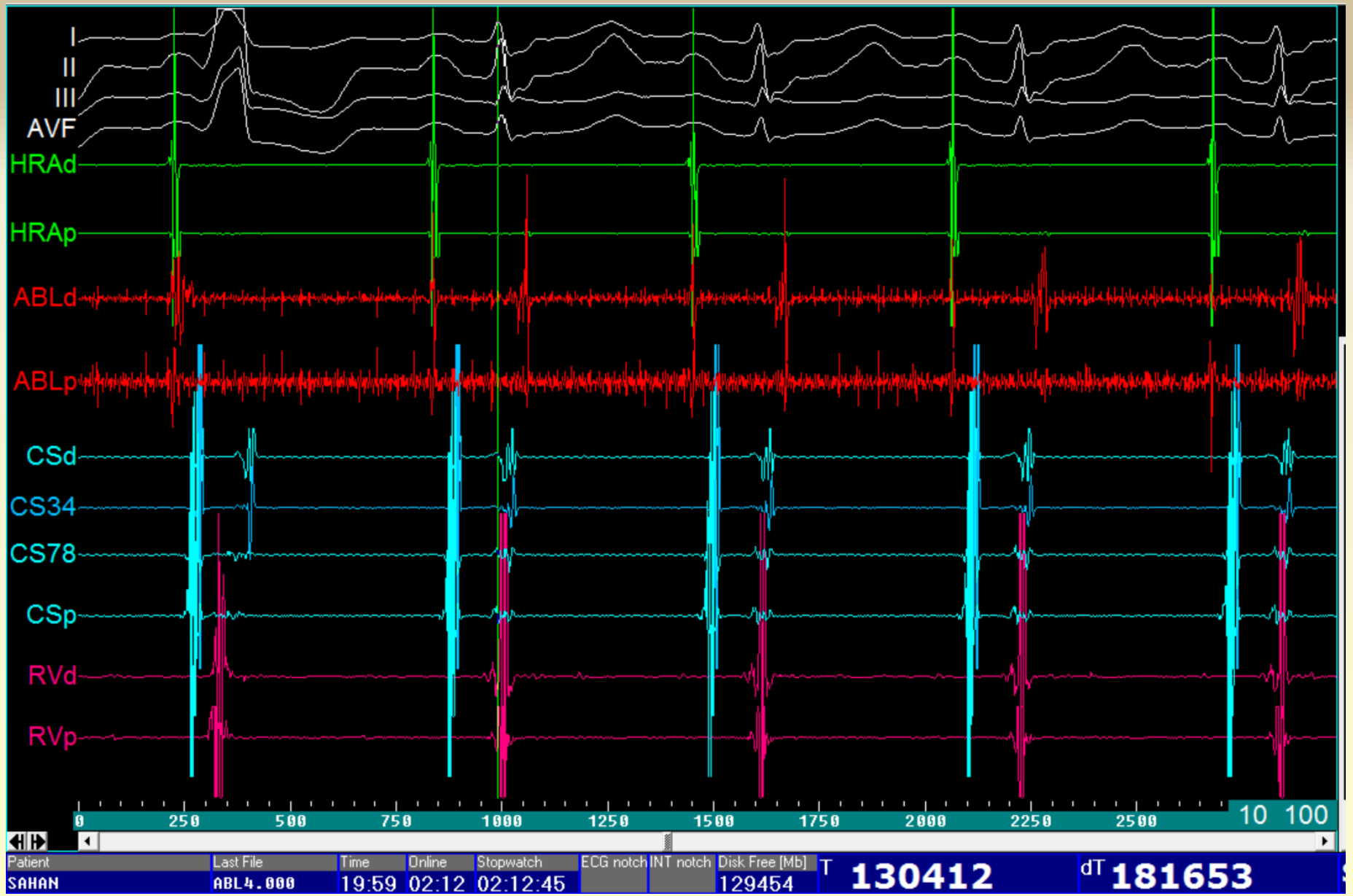


Daha sonra yapılan A pace ile AV iletinin intakt olduğunu görüyoruz ve yeni ablasyon noktası için His potansiyelimizi biraz daha belirginleştirdik

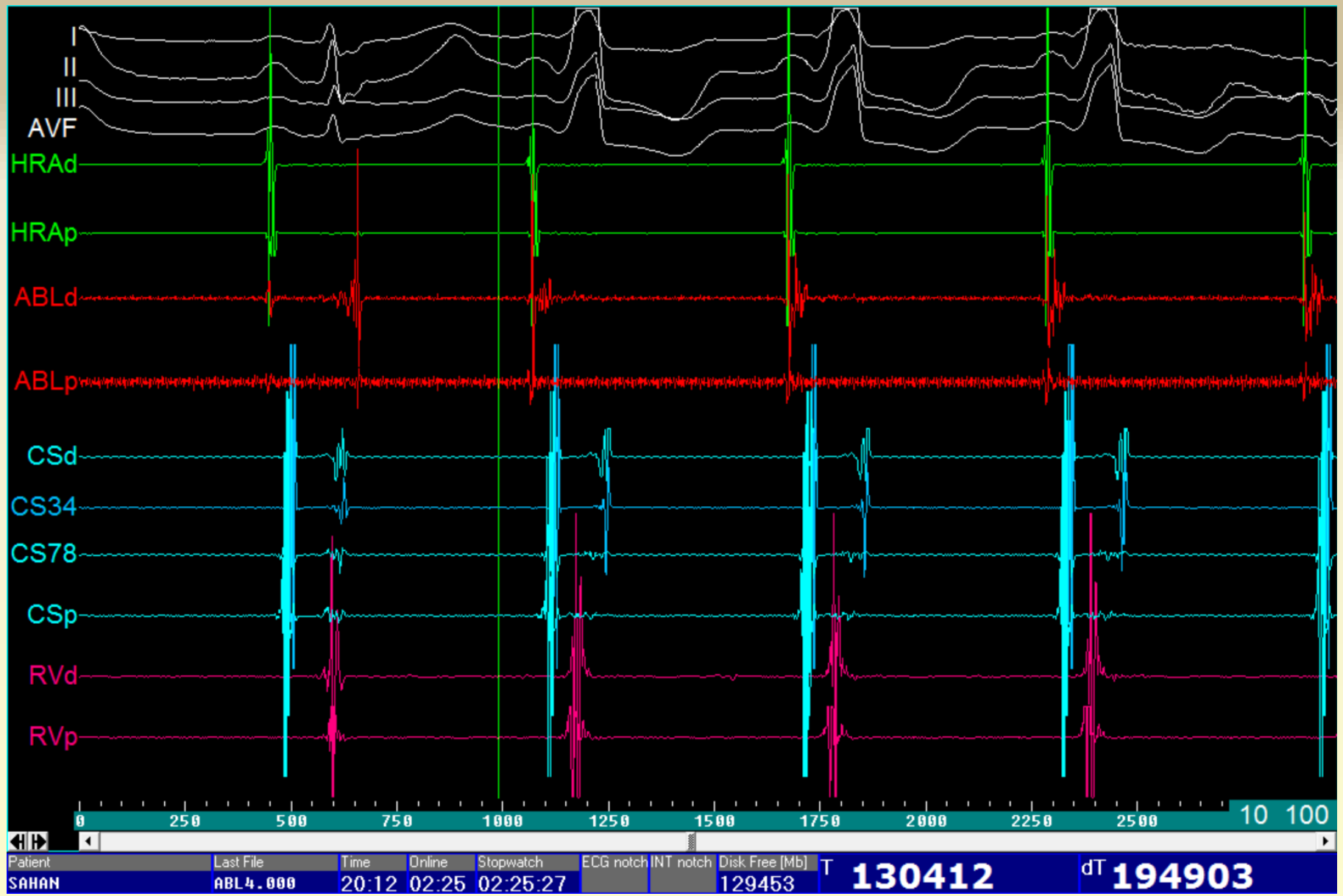


RF ablasyon 2: 50 W ile max 65 derecede enerji verildi

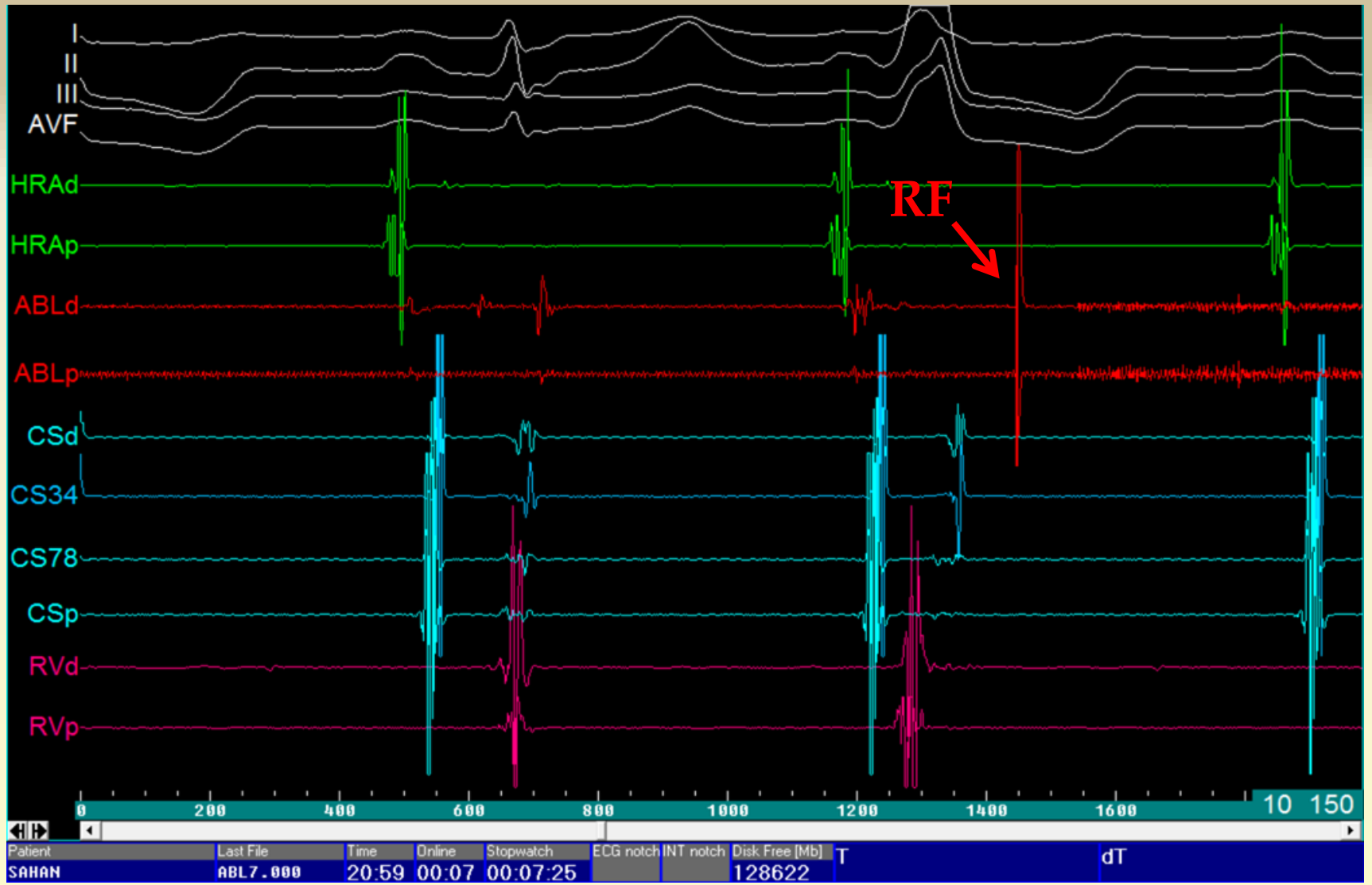




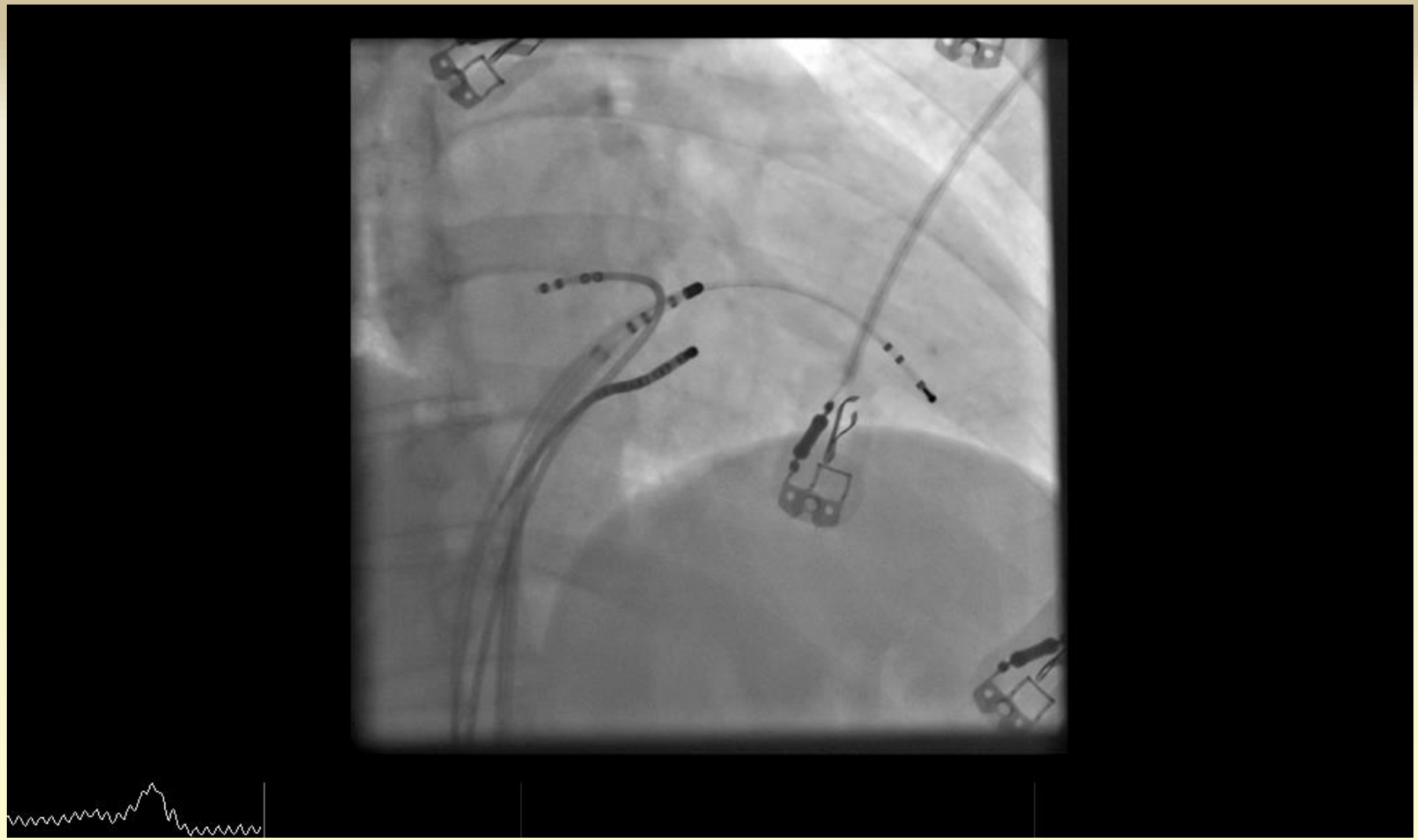
Enerji uygulama sırasında aksesuar yol iletimi ortadan kalktı

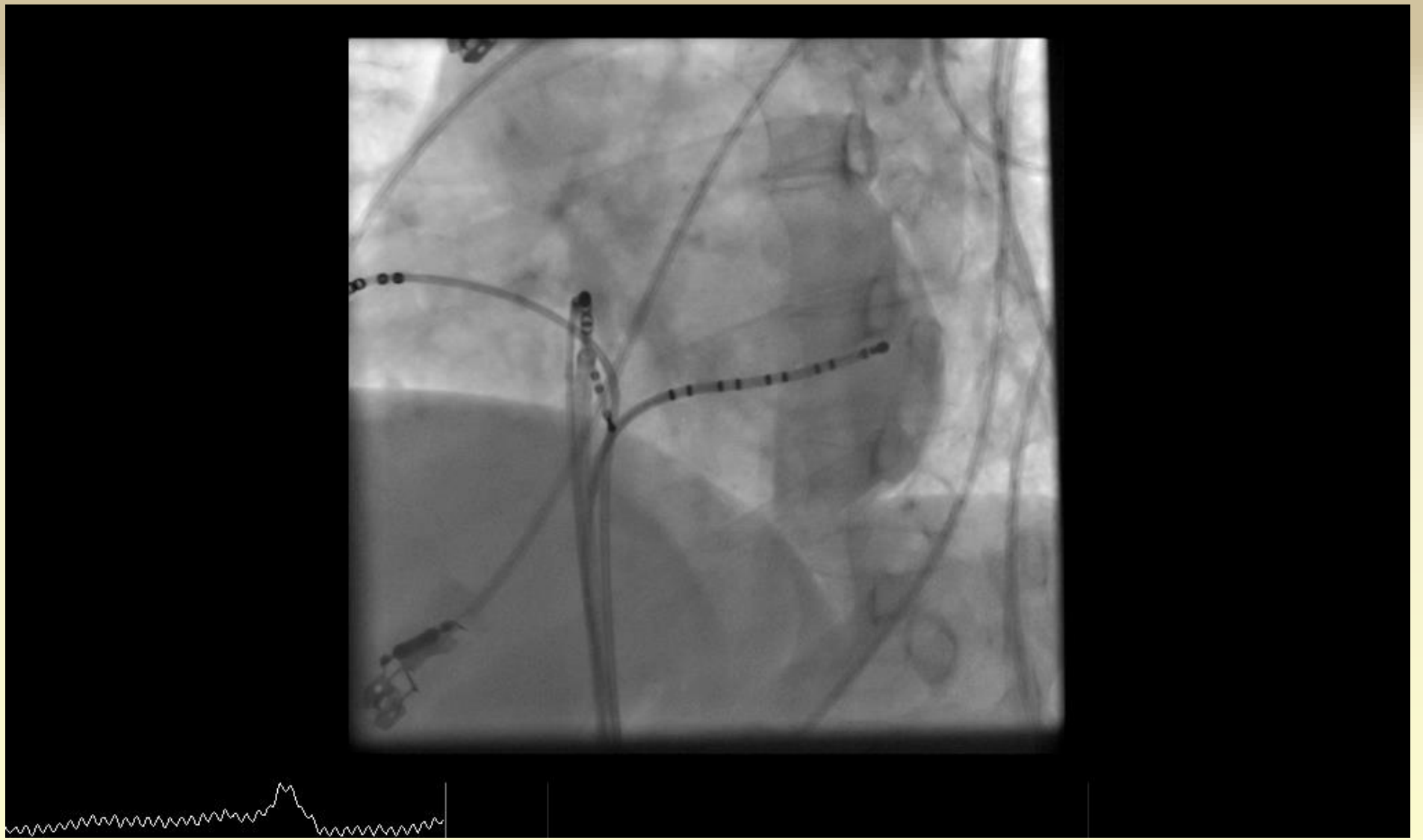


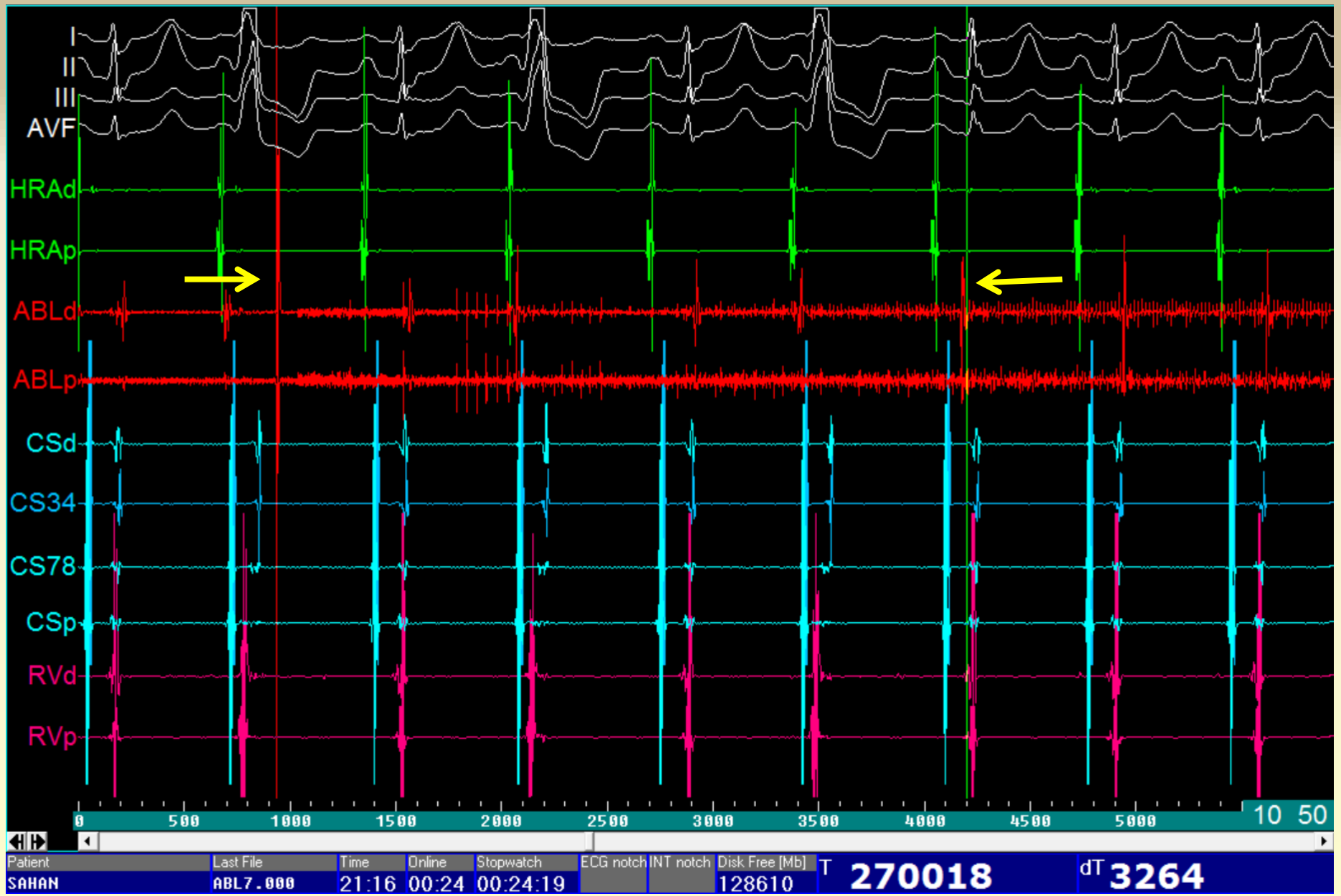
RF kesildikten 2-3 dakika içinde tekrar aksesuar yol iletimi ortaya çıktı



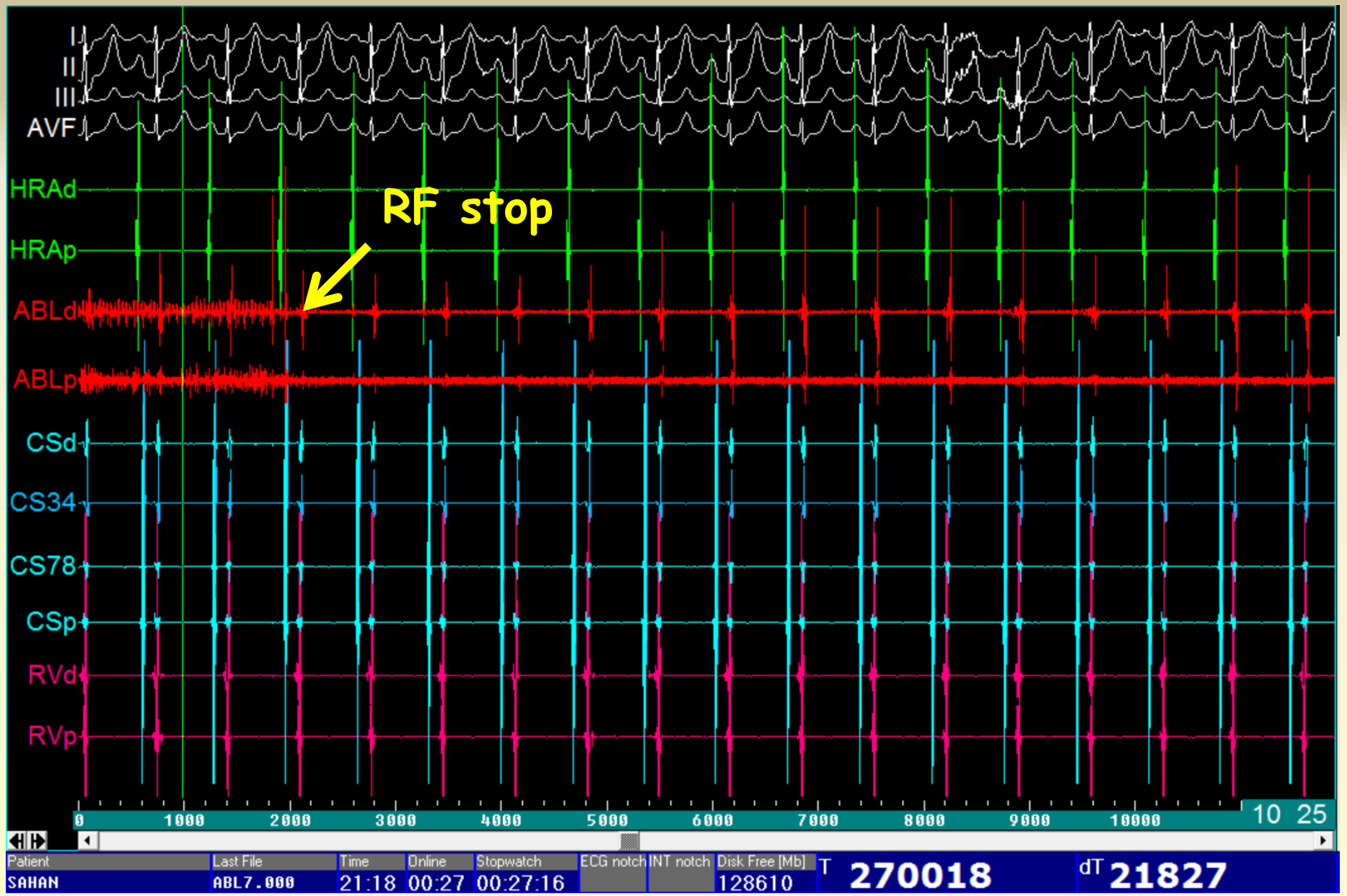
RF-3: His kaydımızı biraz daha büyüttük. 40 W ile max 55 derecede enerji verildi. Uzun Sheat kullanıldı



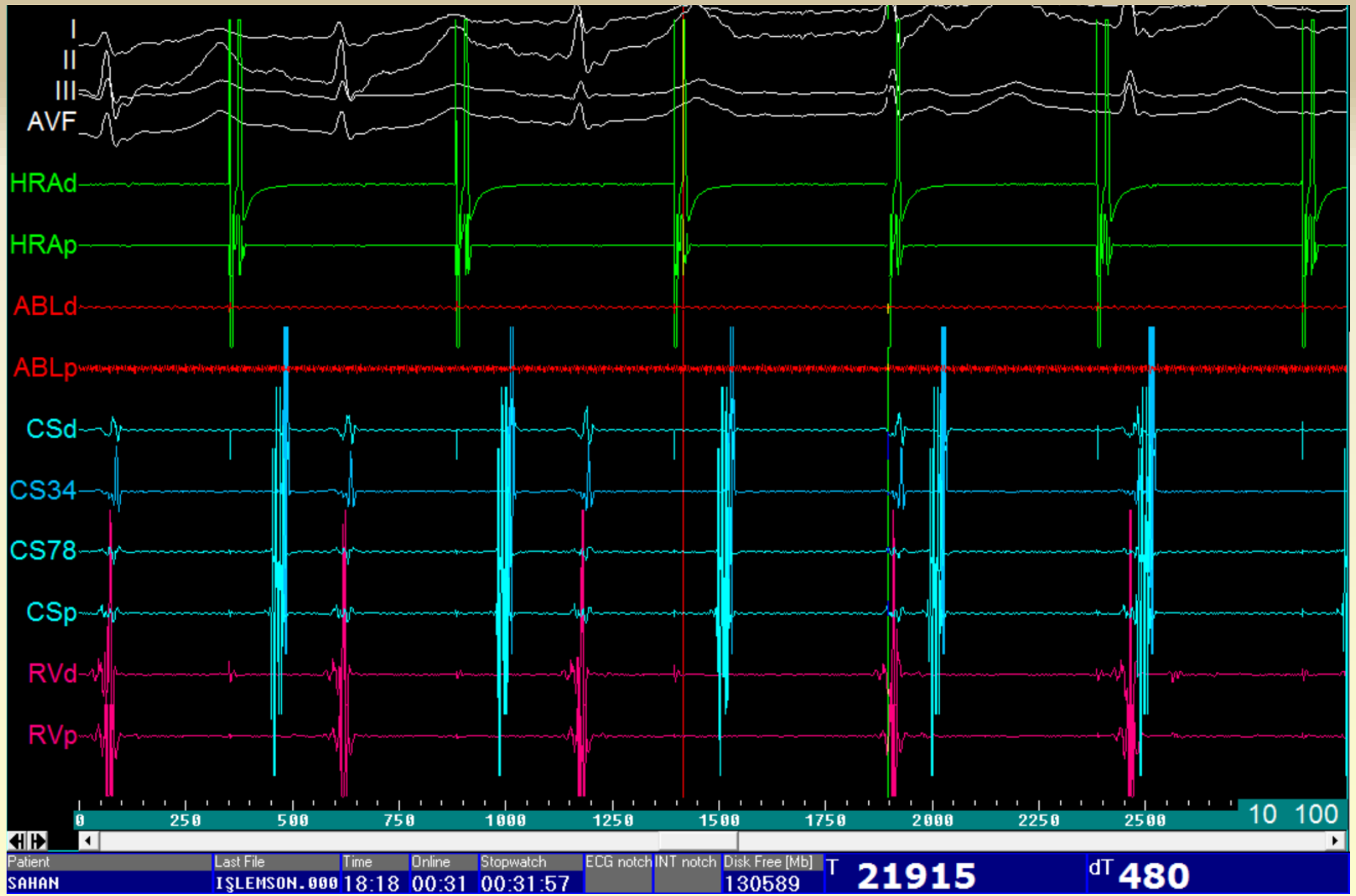




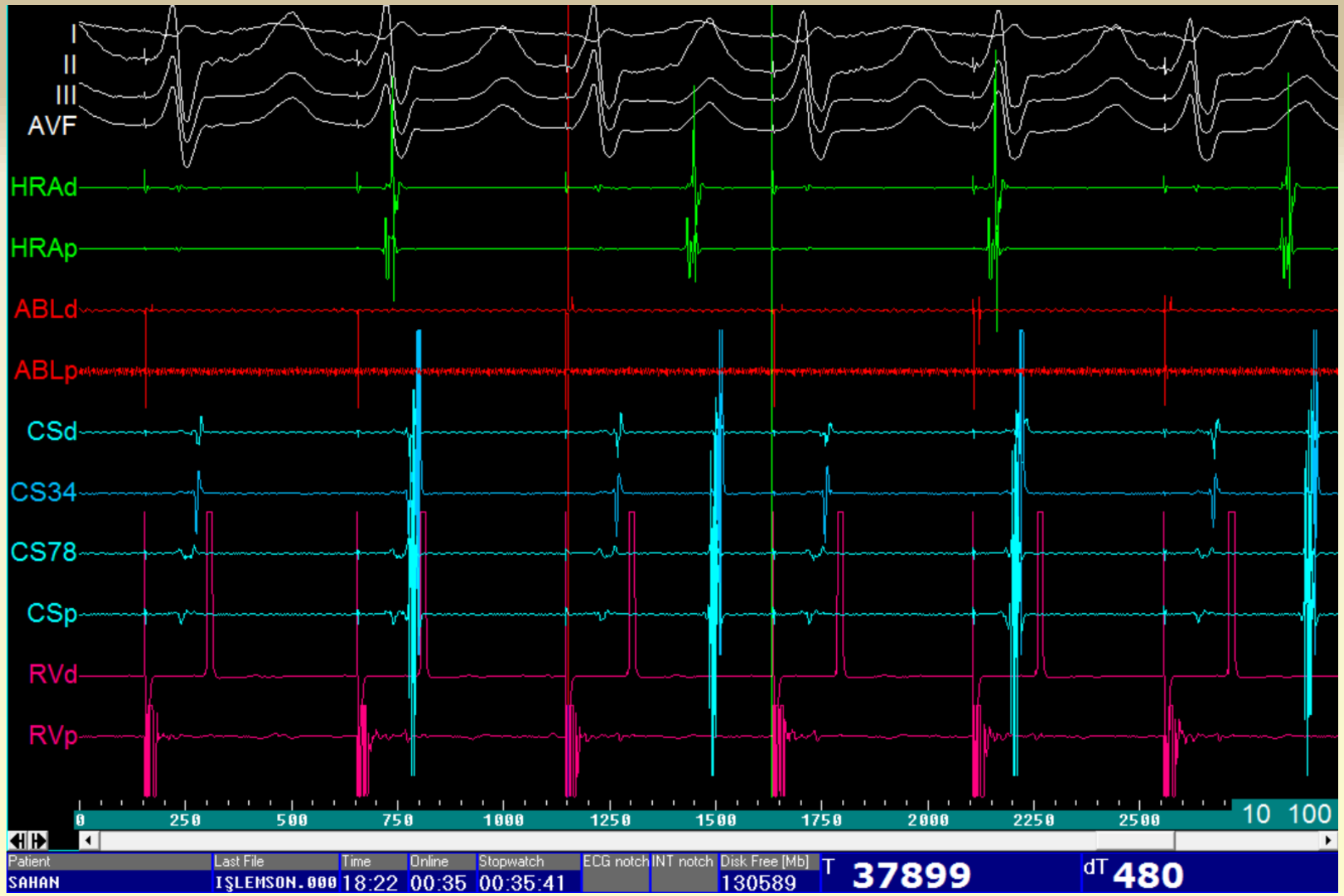
RF başladıktan 3.2 sn sonra aksesuar yol iletimi ortadan kalktı



30 sn RF verildi ve kesildikten sonra aksesuar yol iletimi tekrar gelmedi



Ablasyon sonrası Wenckebach noktası 480 msn



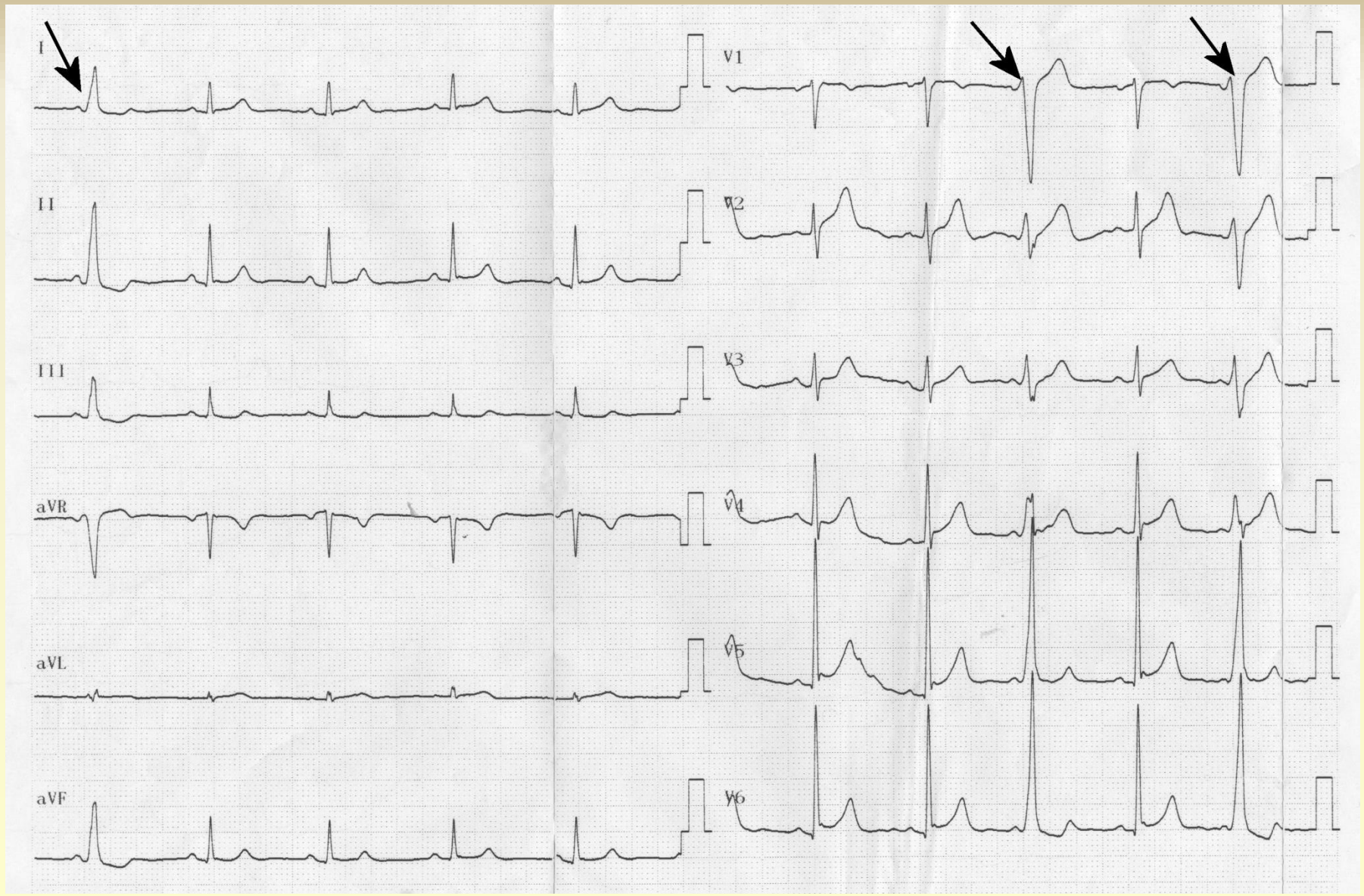
480 msn'de V pace ile VA blok

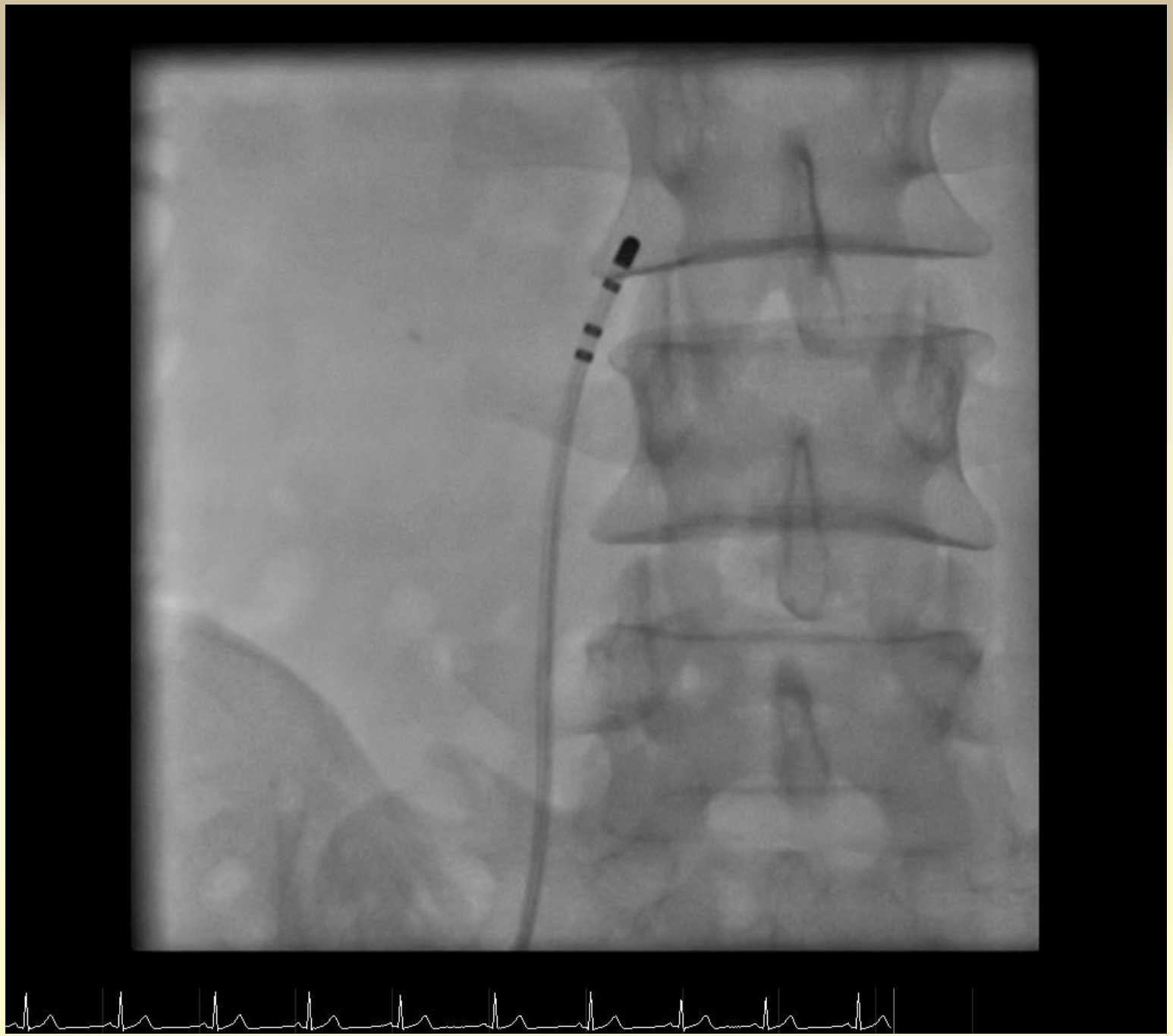
Olgu-2

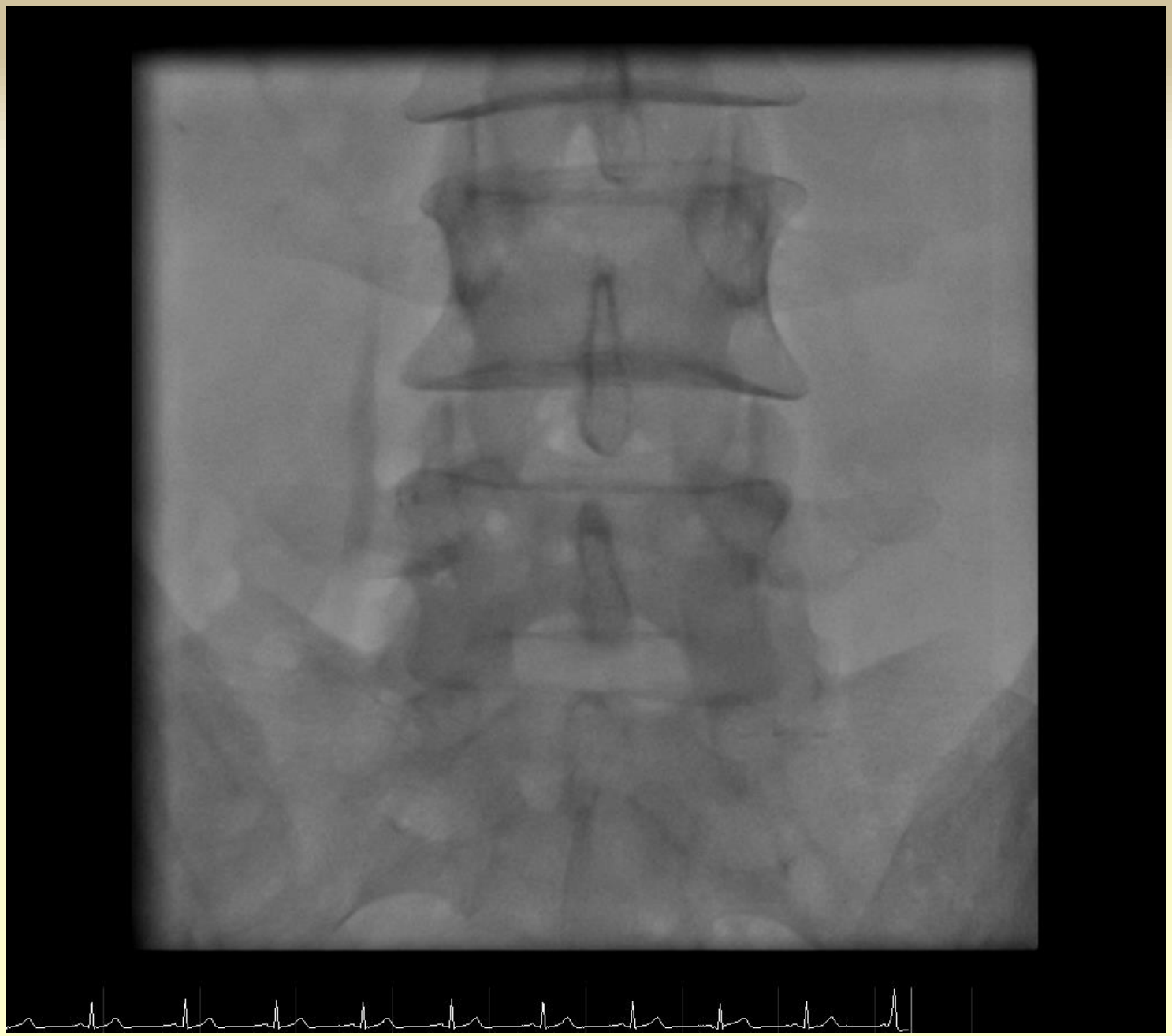
- 45 yaşında erkek,
  - Son 1 yılda sıklığı giderek artan çarpıntı atakları var
  - Son birkaç taşikardi atağına presenkop eşlik etmiş
  - Senkop yok

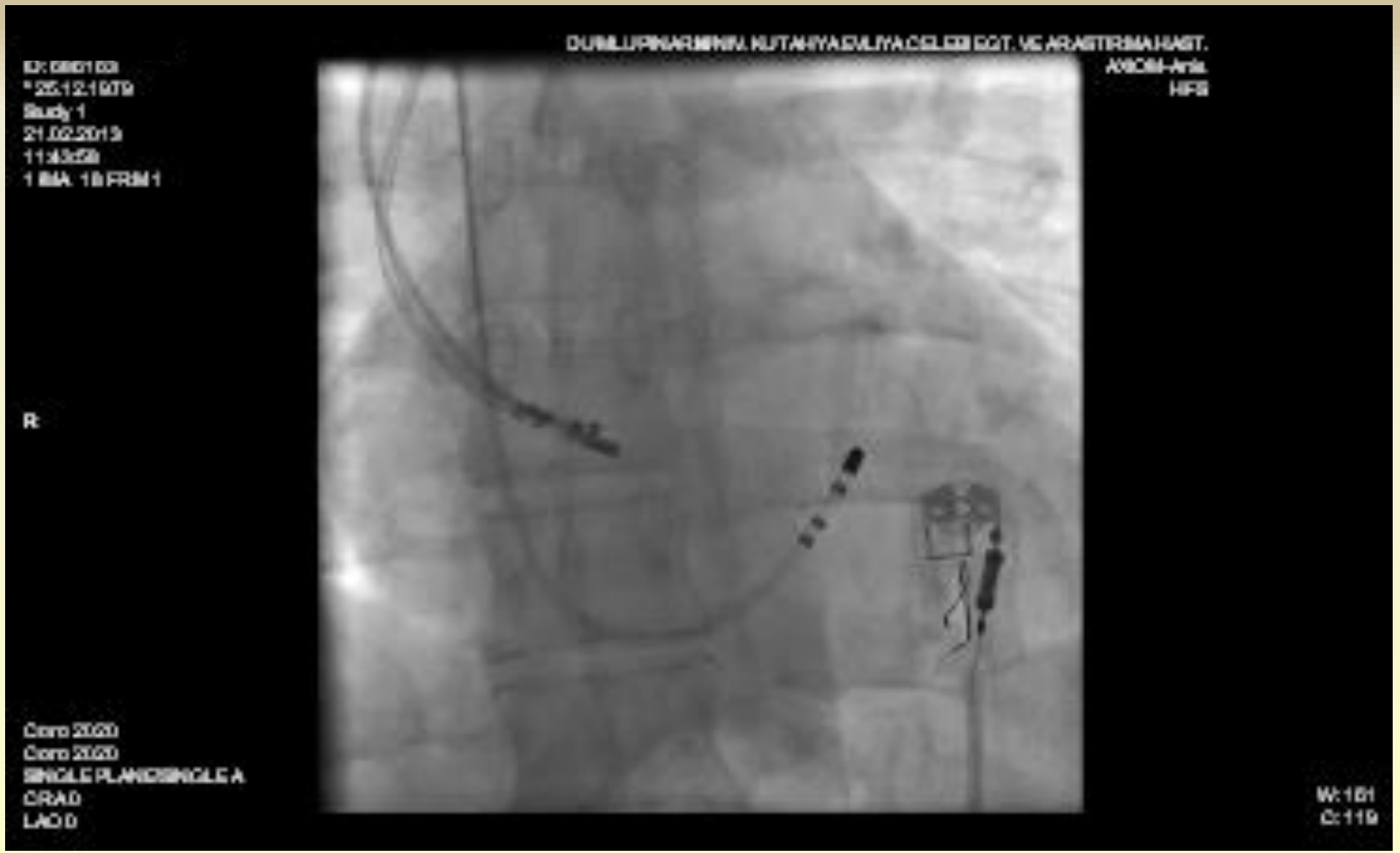
- Öz-Soy geçmiş: Özellik yok

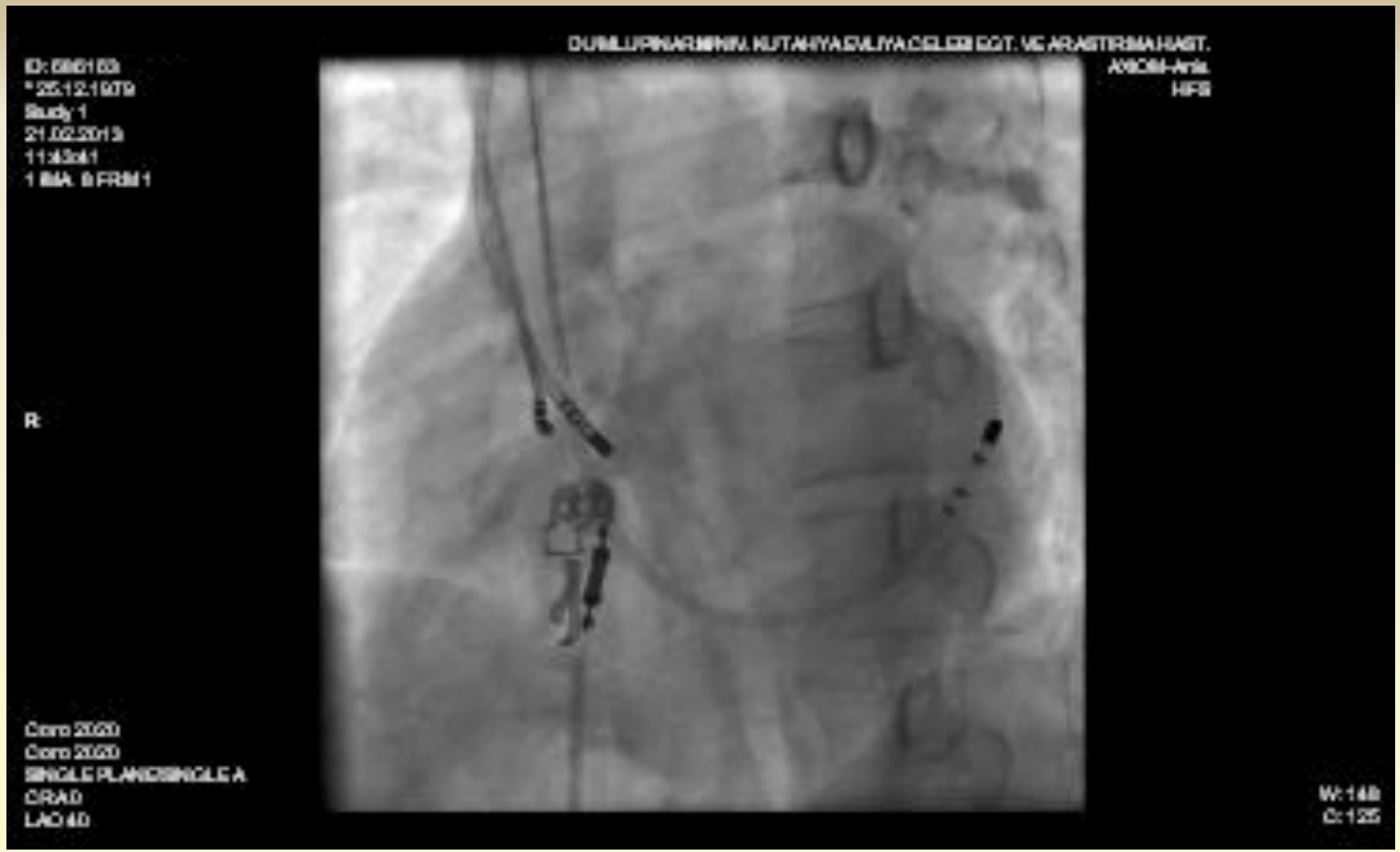
- FM: kalp - akciğer dinlemekle normal. TA: 120/80 mmHg. Nabız ritmik.

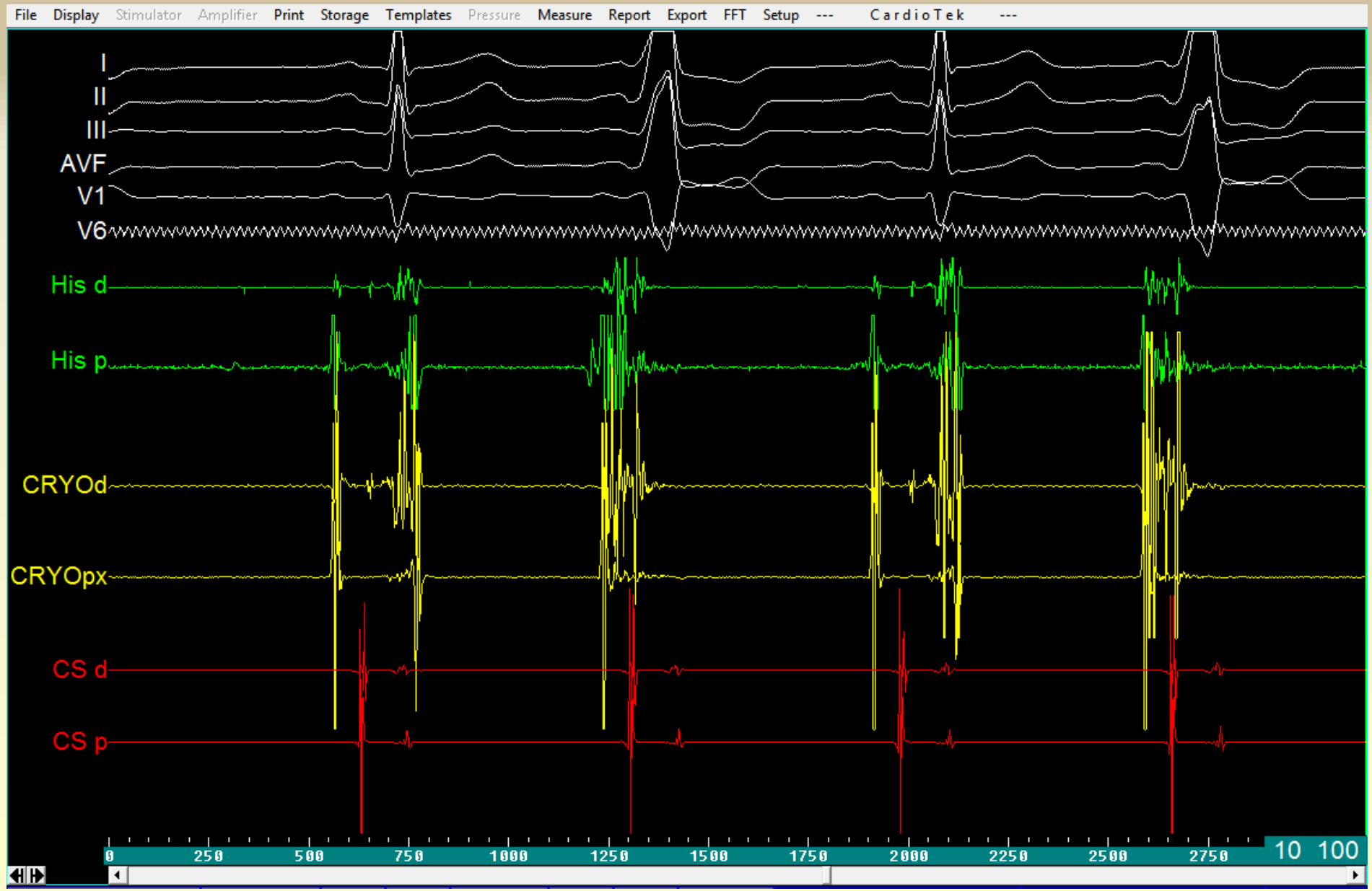

I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6






R
W: 151
C: 119


R
W:148
C:125


File Display Stimulator Amplifier Print Storage Templates Pressure Measure Report Export FFT Setup --- CardioTek ---
I
II
III
AVF
V1
V6
His d
His p
CRYOd
CRYOpx
CS d
CS p
0 250 500 750 1000 1250 1500 1750 2000 2250 2500 2750
10 100


File Display Stimulator Amplifier Print Storage Templates Pressure Measure Report Export FFT Setup --- CardioTek ---
I
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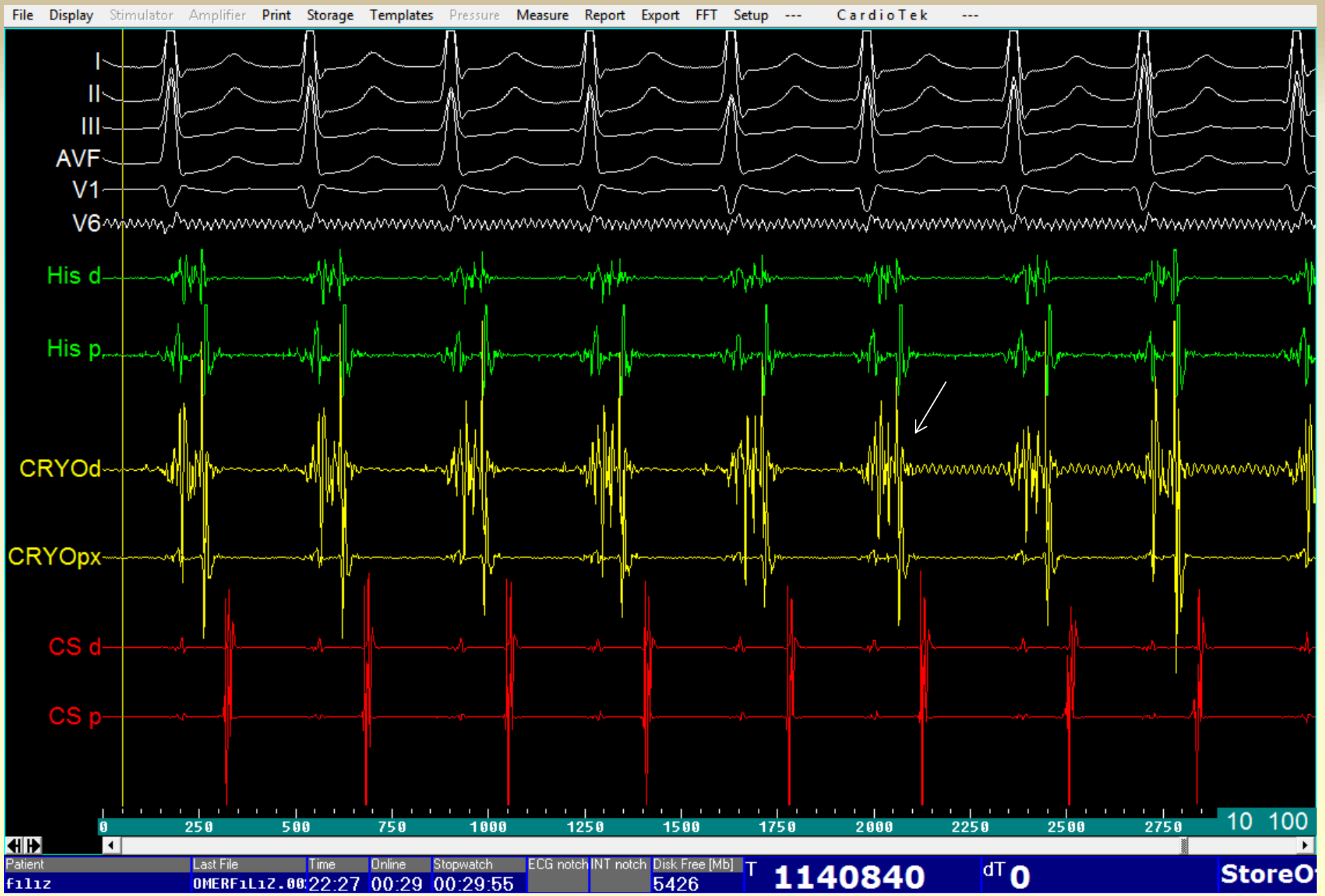
III
AVF
V1
V6
His d
His p
CRYOd
CRYOpx
CS d
CS p
0 250 500 750 1000 1250 1500 1750 2000 2250 2500 2750
10 100


File Display Stimulator Amplifier Print Storage Templates Pressure Measure Report Export FFT Setup --- CardioTek ---
I
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AVF
V1
V6
His d
His p
CRYOd
CRYOpx
CS d
CS p
0 250 500 750 1000 1250 1500 1750 2000 2250 2500 2750
10 100
Patient Last File Time Online Stopwatch ECG notch INT notch Disk Free [Mb]
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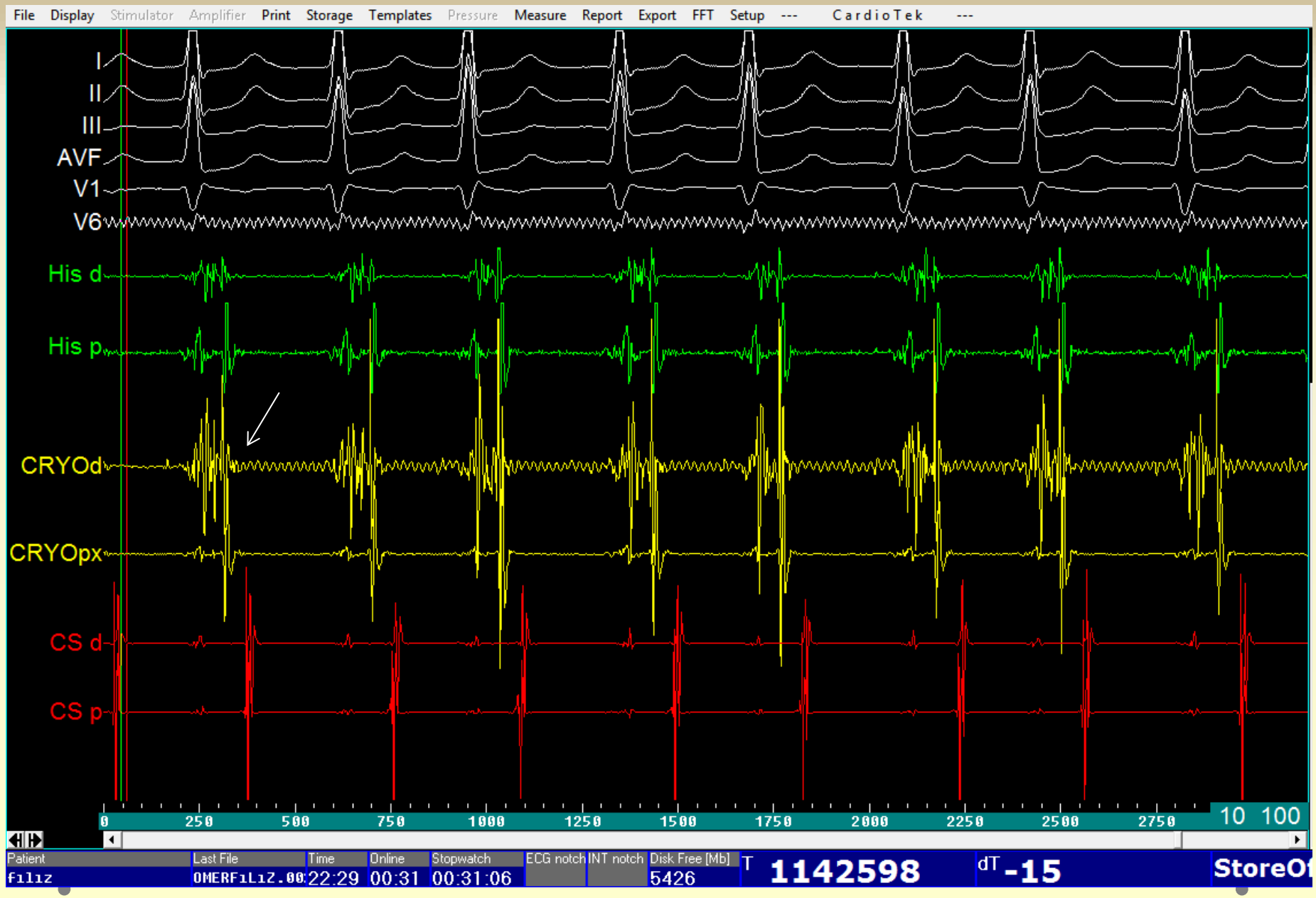
T 1140840
dT 0
StoreO


File Display Stimulator Amplifier Print Storage Templates Pressure Measure Report Export FFT Setup --- CardioTek ---
I
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AVF
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His d
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CRYOd
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CS d
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10 100
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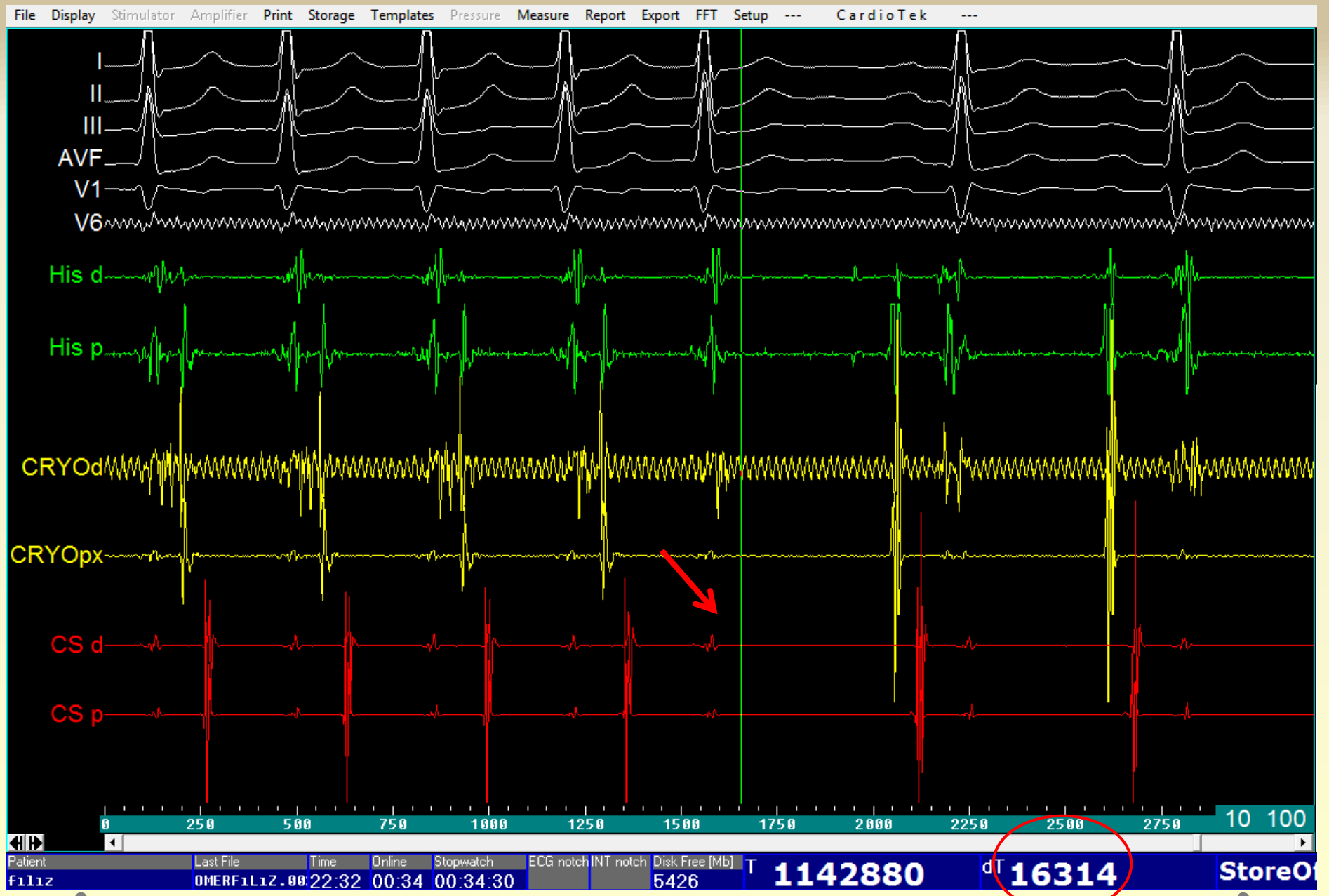
File Display Stimulator Amplifier Print Storage Templates Pressure Measure Report Export FFT Setup --- CardioTek ---
I
II
III
AVF
V1
V6
His d
His p
CRYOd
CRYOpx
CS d
CS p
0 250 500 750 1000 1250 1500 1750 2000 2250 2500 2750
10 100
Patient Last File Time Online Stopwatch ECG notch INT notch Disk Free [Mb]
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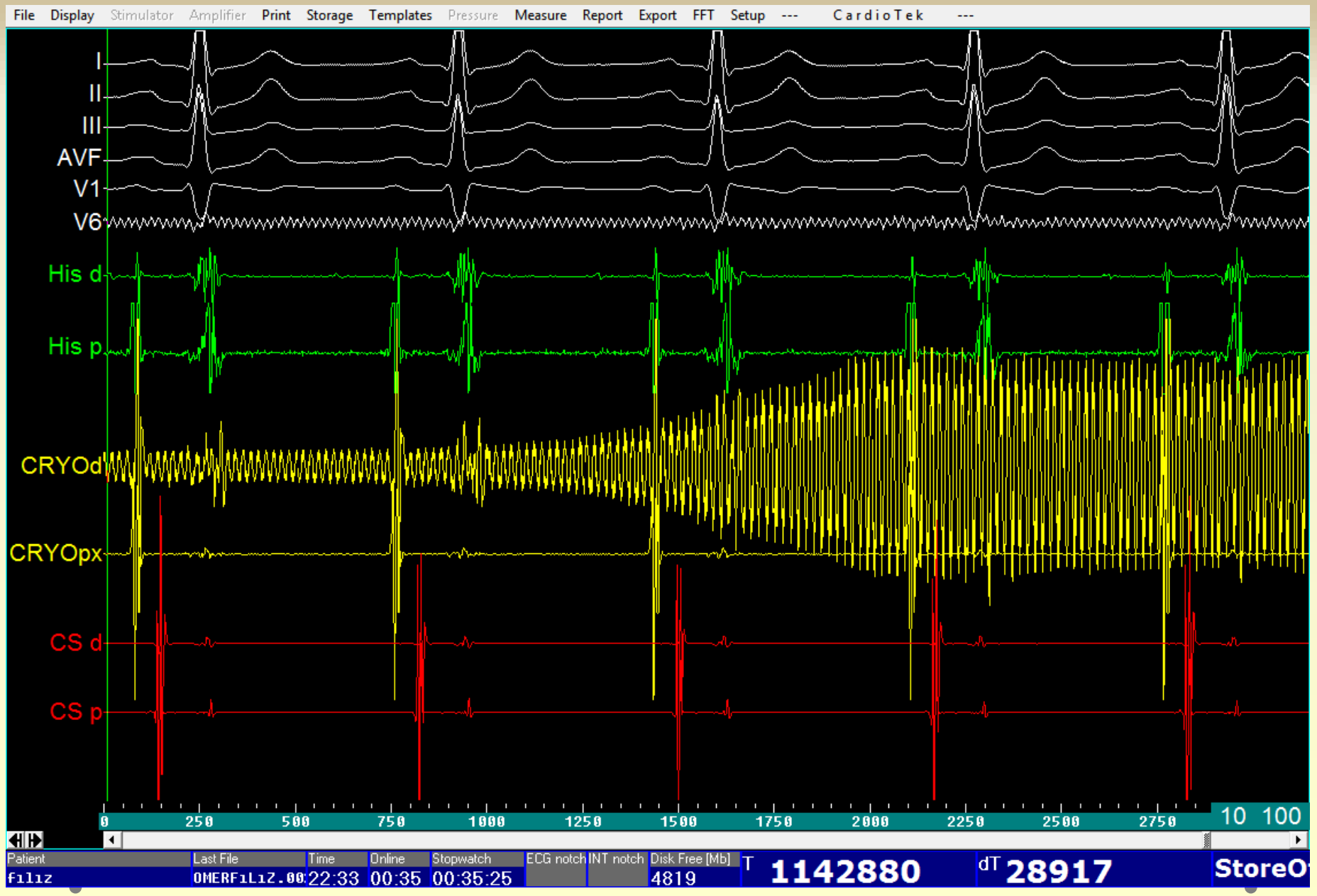
T 1142880
dT 16314
StoreO


File Display Stimulator Amplifier Print Storage Templates Pressure Measure Report Export FFT Setup --- CardioTek ---
I
II
III
AVF
V1
V6
His d
His p
CRYOd
CRYOpx
CS d
CS p
0 250 500 750 1000 1250 1500 1750 2000 2250 2500 2750
10 100
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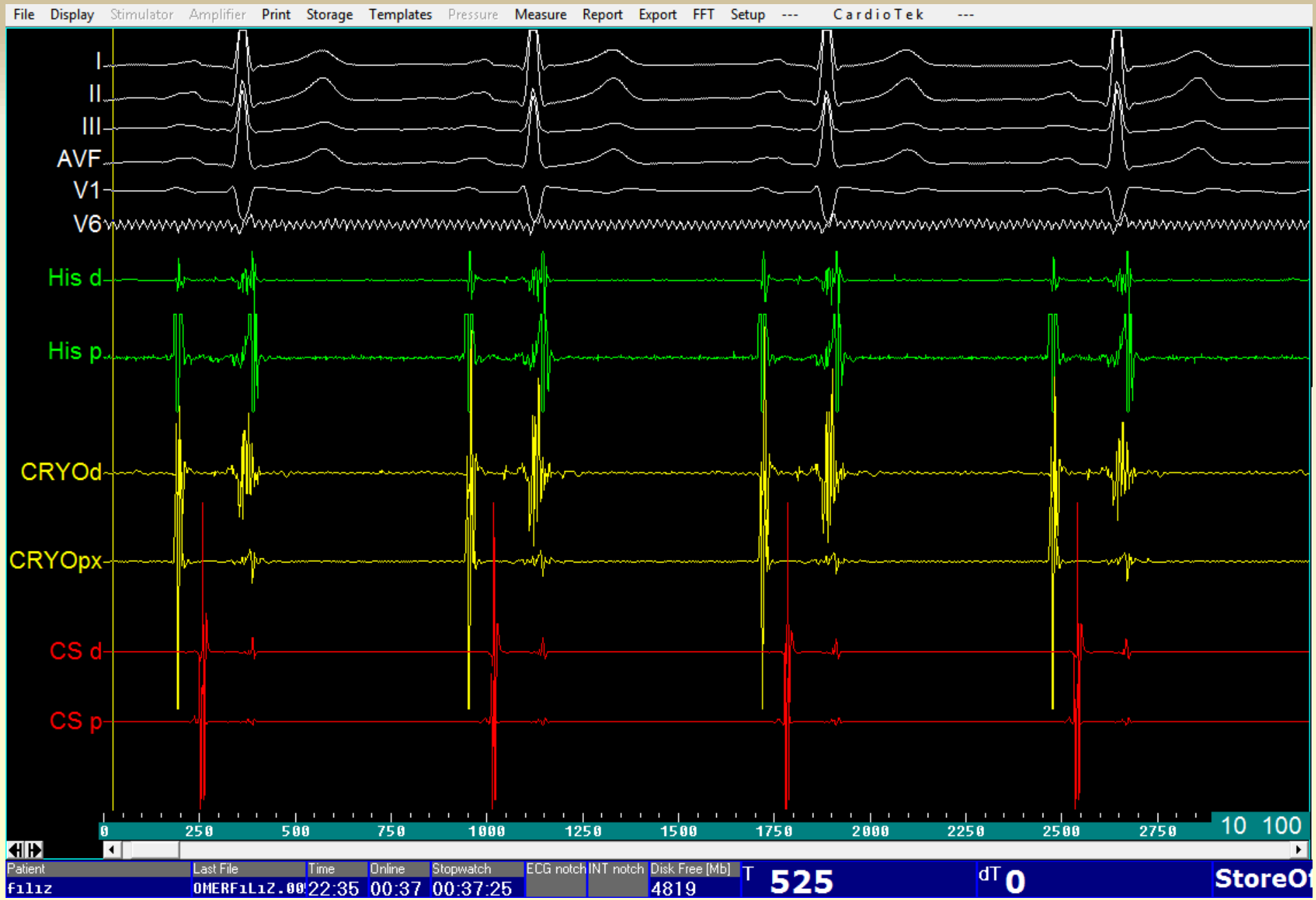
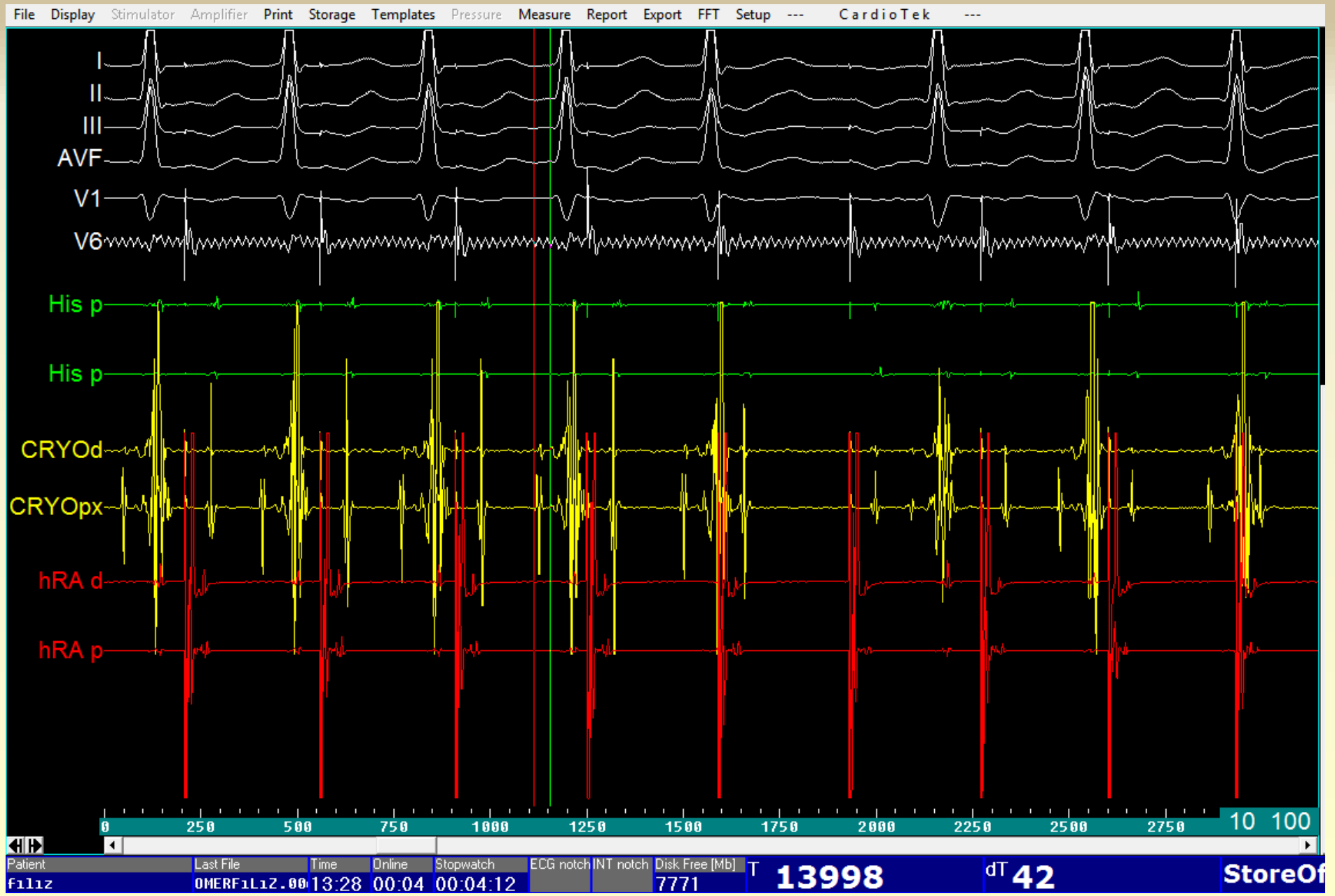
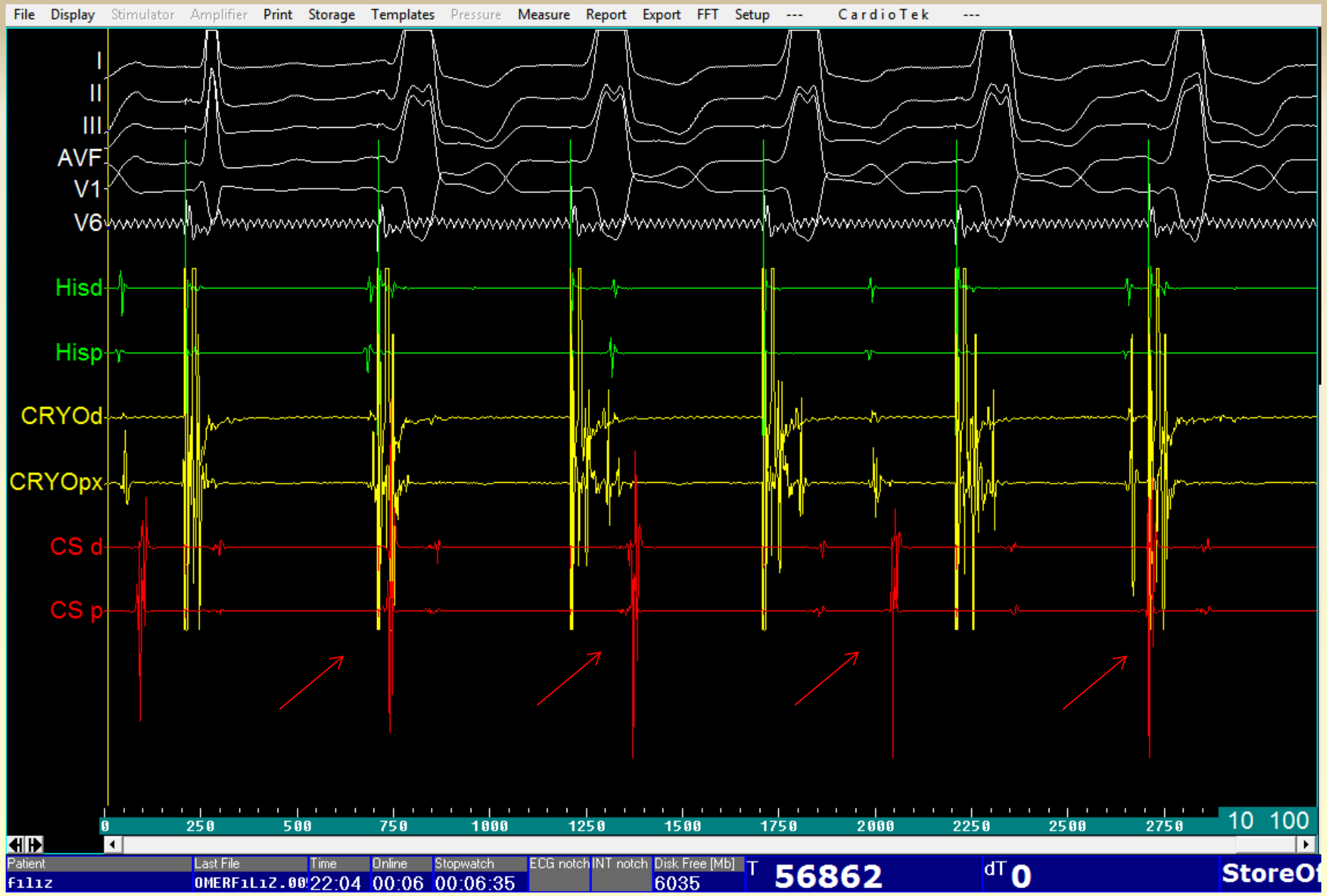
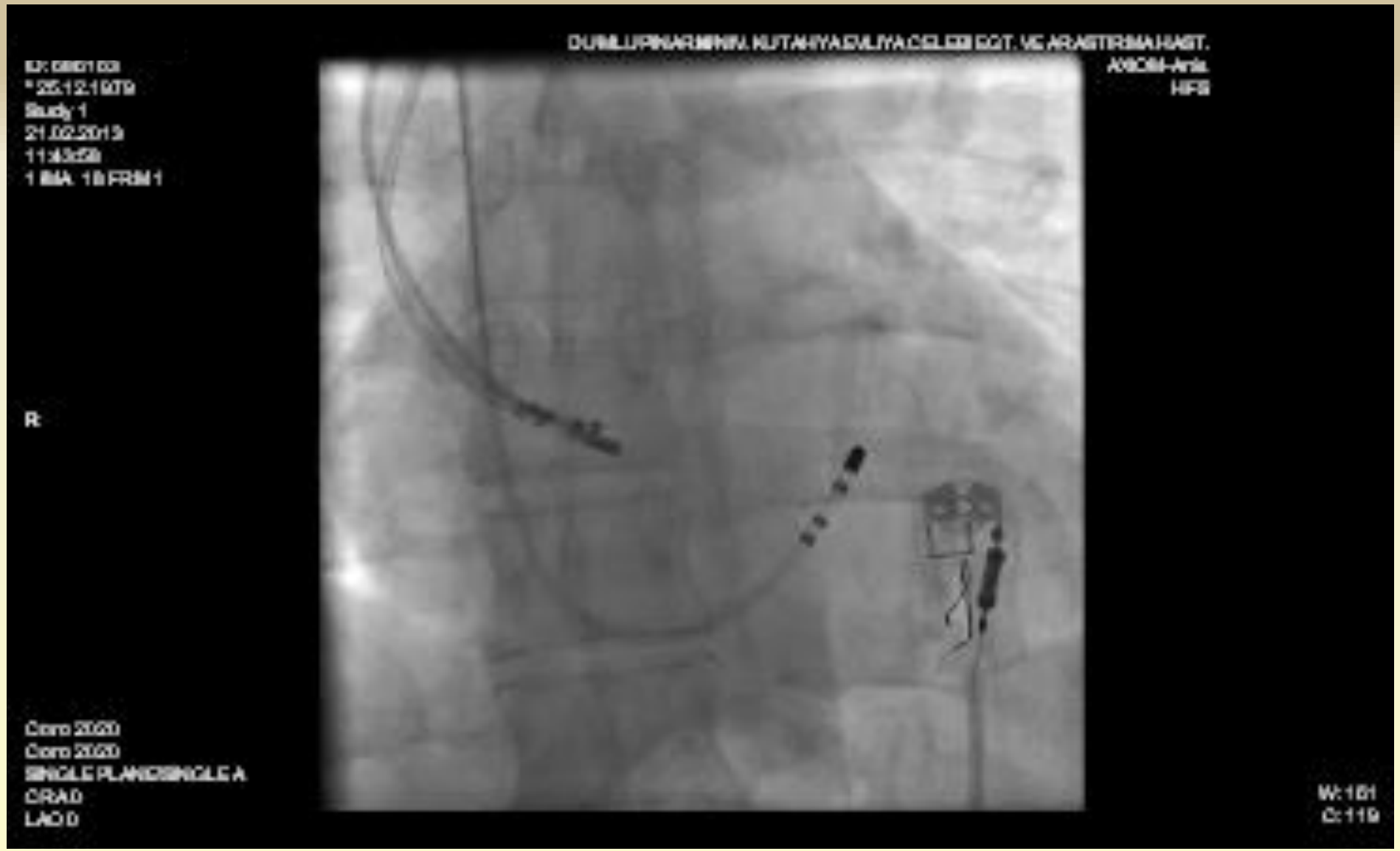
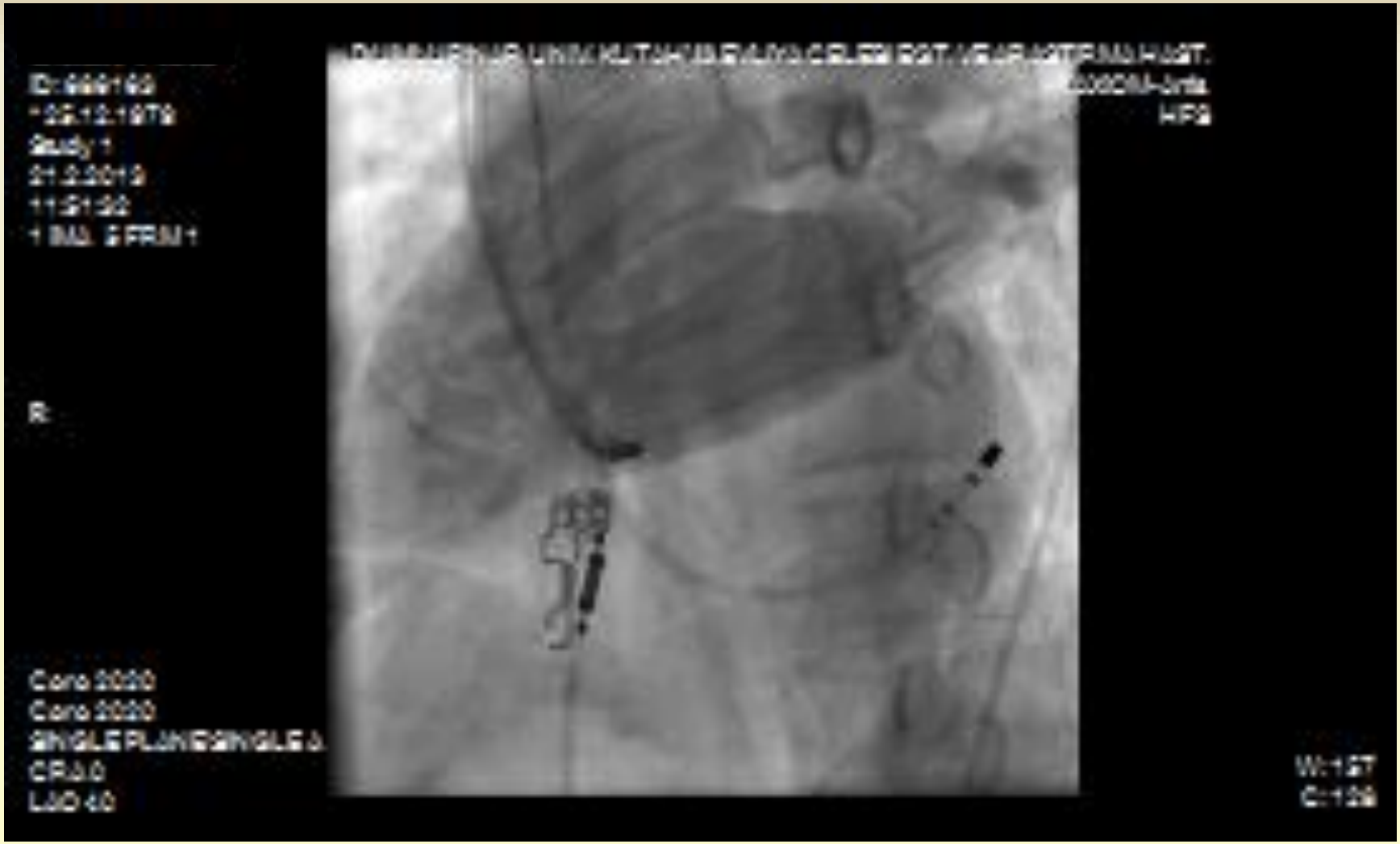
T 1142880
dT 28917
StoreO


File Display Stimulator Amplifier Print Storage Templates Pressure Measure Report Export FFT Setup --- CardioTek ---
I
II
III
AVF
V1
V6
His d
His p
CRYOd
CRYOpx
CS d
CS p
0 250 500 750 1000 1250 1500 1750 2000 2250 2500 2750
10 100
Patient
filiz
Last File
OMERFiLiZ.00
Time
22:35
Online
00:37
Stopwatch
00:37:25
ECG notch
INT notch
Disk Free [Mb]
4819
T 525
dT 0
StoreO


File Display Stimulator Amplifier Print Storage Templates Pressure Measure Report Export FFT Setup --- CardioTek ---
I
II
III
AVF
V1
V6
His p
His p
CRYOd
CRYOpx
hRA d
hRA p
0 250 500 750 1000 1250 1500 1750 2000 2250 2500 2750
10 100
Patient Last File Time Online Stopwatch ECG notch INT notch Disk Free [Mb]
filiz OMERFiLiZ.00 13:28 00:04 00:04:12 7771
T 13998
dT 42
StoreOf


File Display Stimulator Amplifier Print Storage Templates Pressure Measure Report Export FFT Setup --- CardioTek ---
I
II
III
AVF
V1
V6
Hisd
Hisp
CRYOd
CRYOpx
CS d
CS p
0 250 500 750 1000 1250 1500 1750 2000 2250 2500 2750
10 100
Patient Last File Time Online Stopwatch ECG notch INT notch Disk Free [Mb]
filiz OMERFiLiZ.00 22:04 00:06 00:06:35 6035
T 56862
dT 0
StoreO


R
W:151
C:119

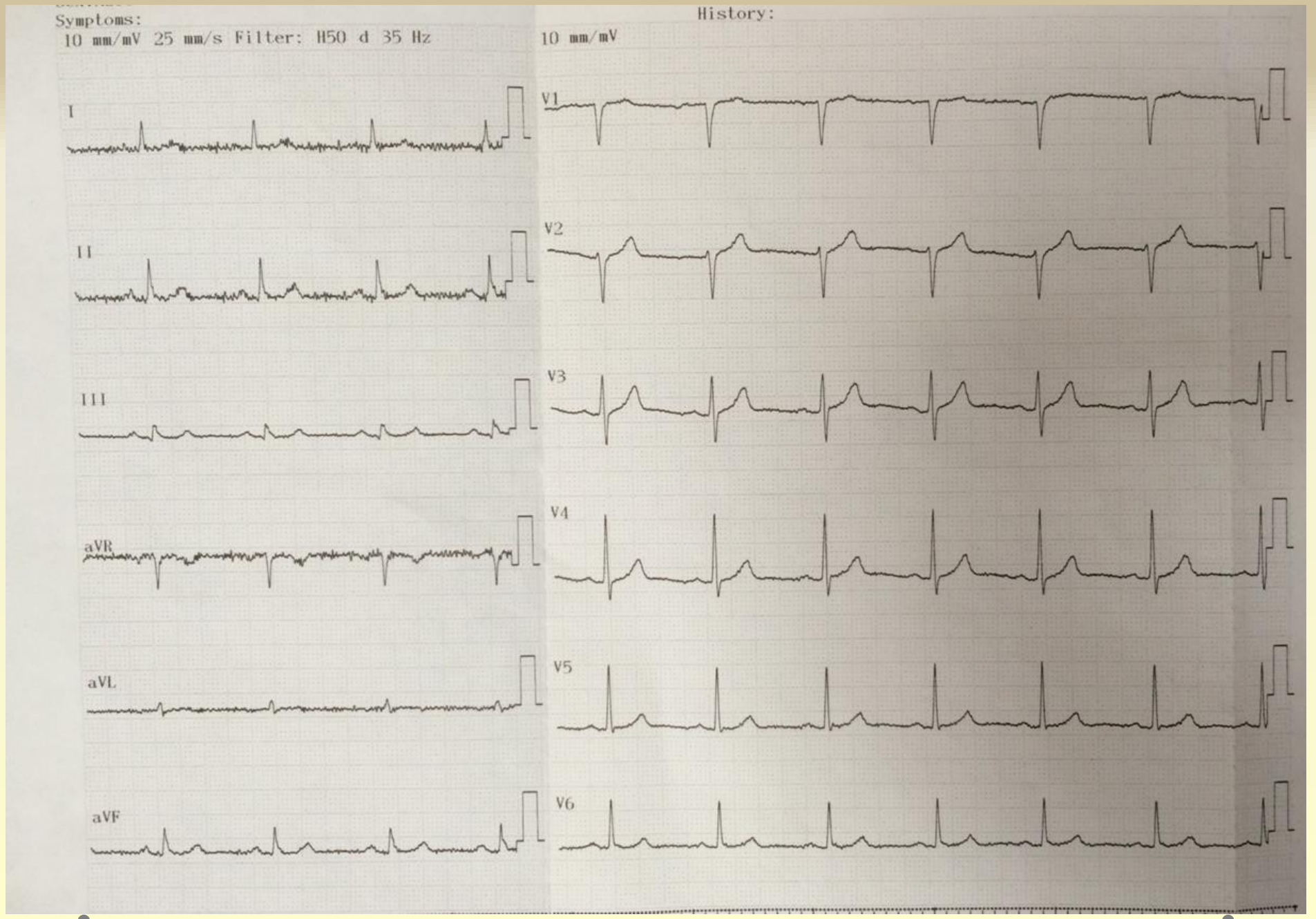


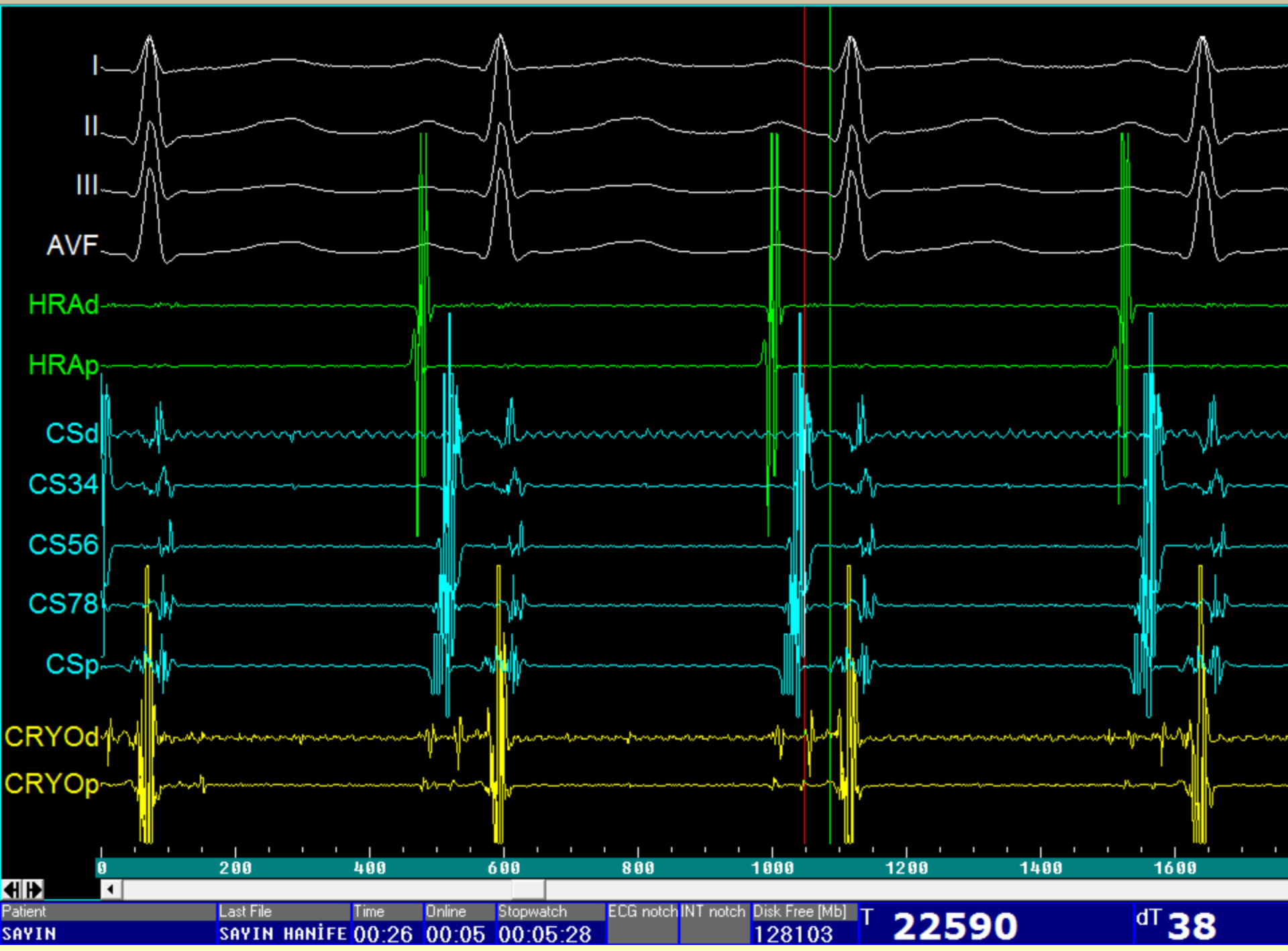
Olgu-3

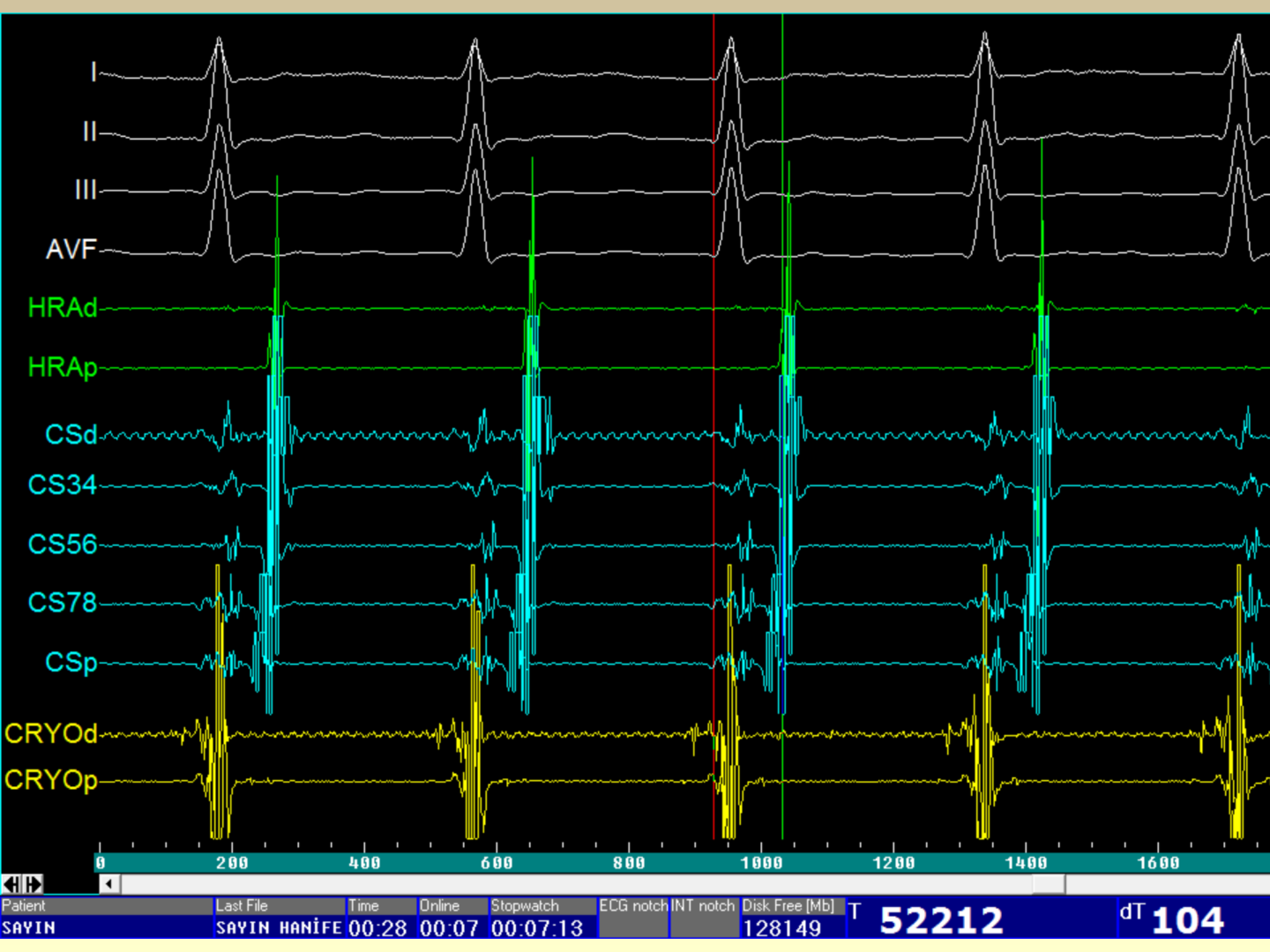
- 16 yaşında bayan hasta,
  - Son 2 yılda sıklığı giderek artan çarpıntı atakları var
  - Son birkaç taşikardi atağına presenkop eşlik etmiş
  - Bir kez senkop

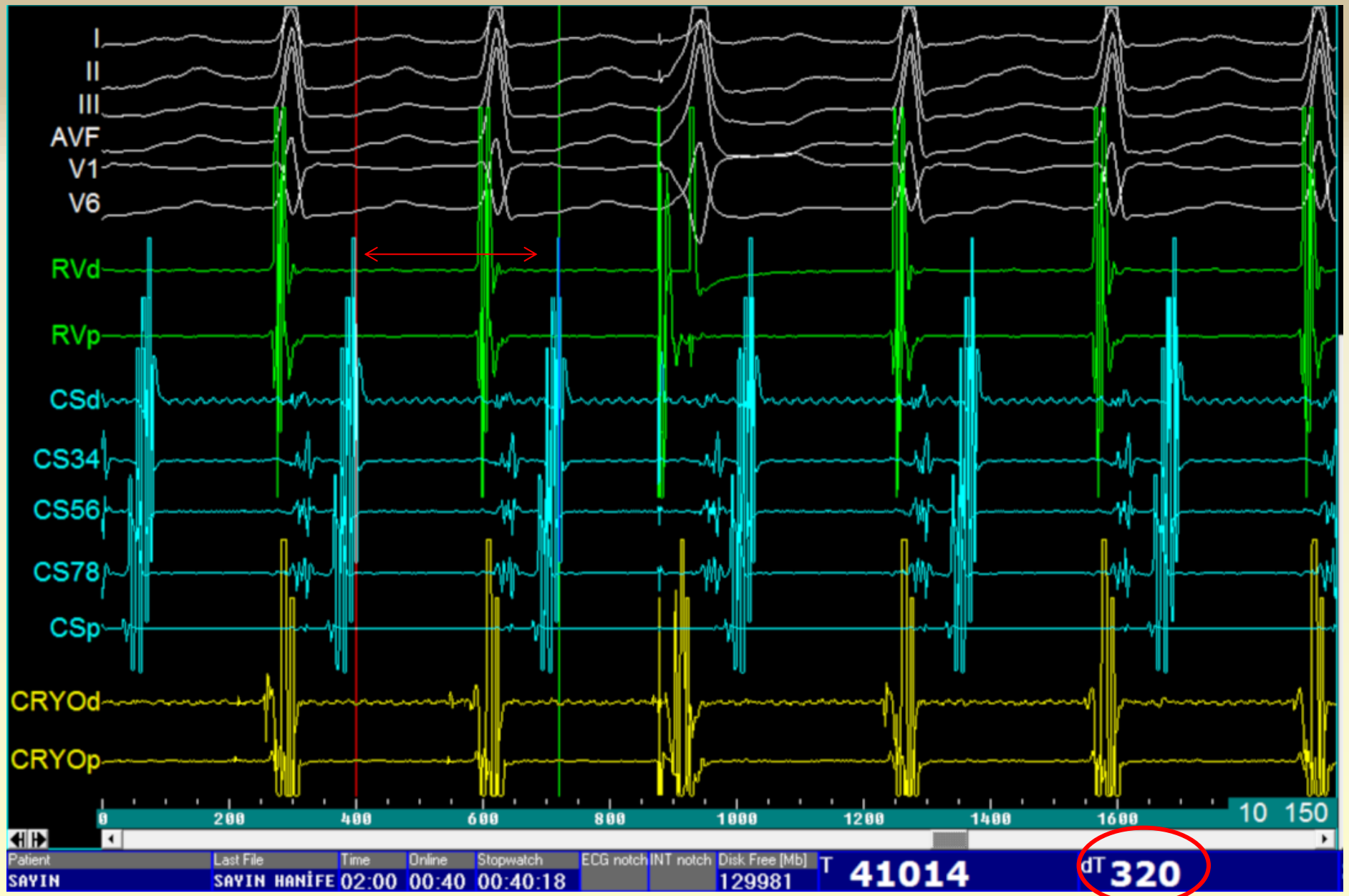
- Öz-Soy geçmiş: Özellik yok

- FM: kalp - akciğer dinlemekle normal. TA: 110/80 mmHg. Nabız ritmik.
- Eko: normal

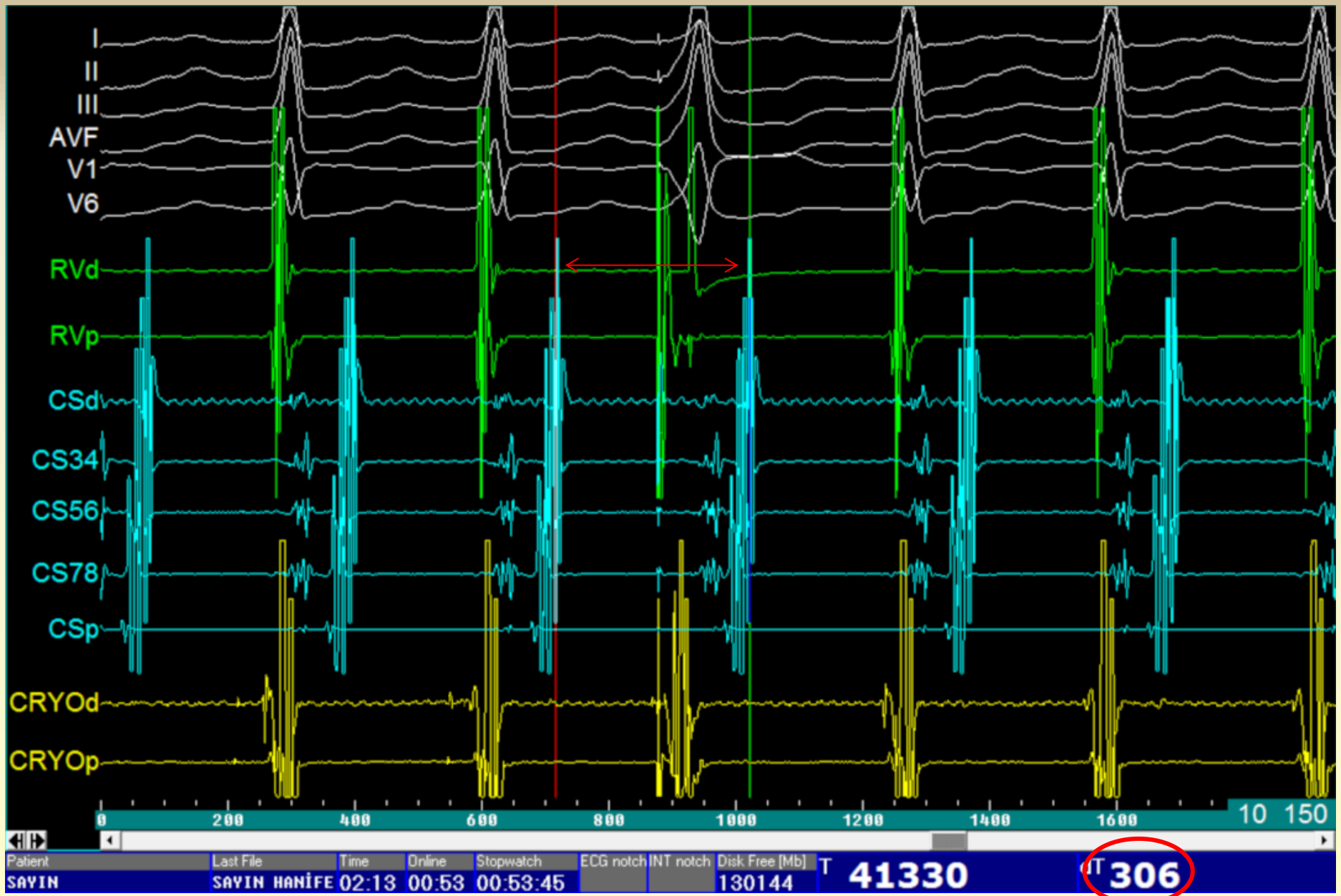

Symptoms:
History:
10 mm/mV 25 mm/s Filter: H50 d 35 Hz
10 mm/mV
I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6

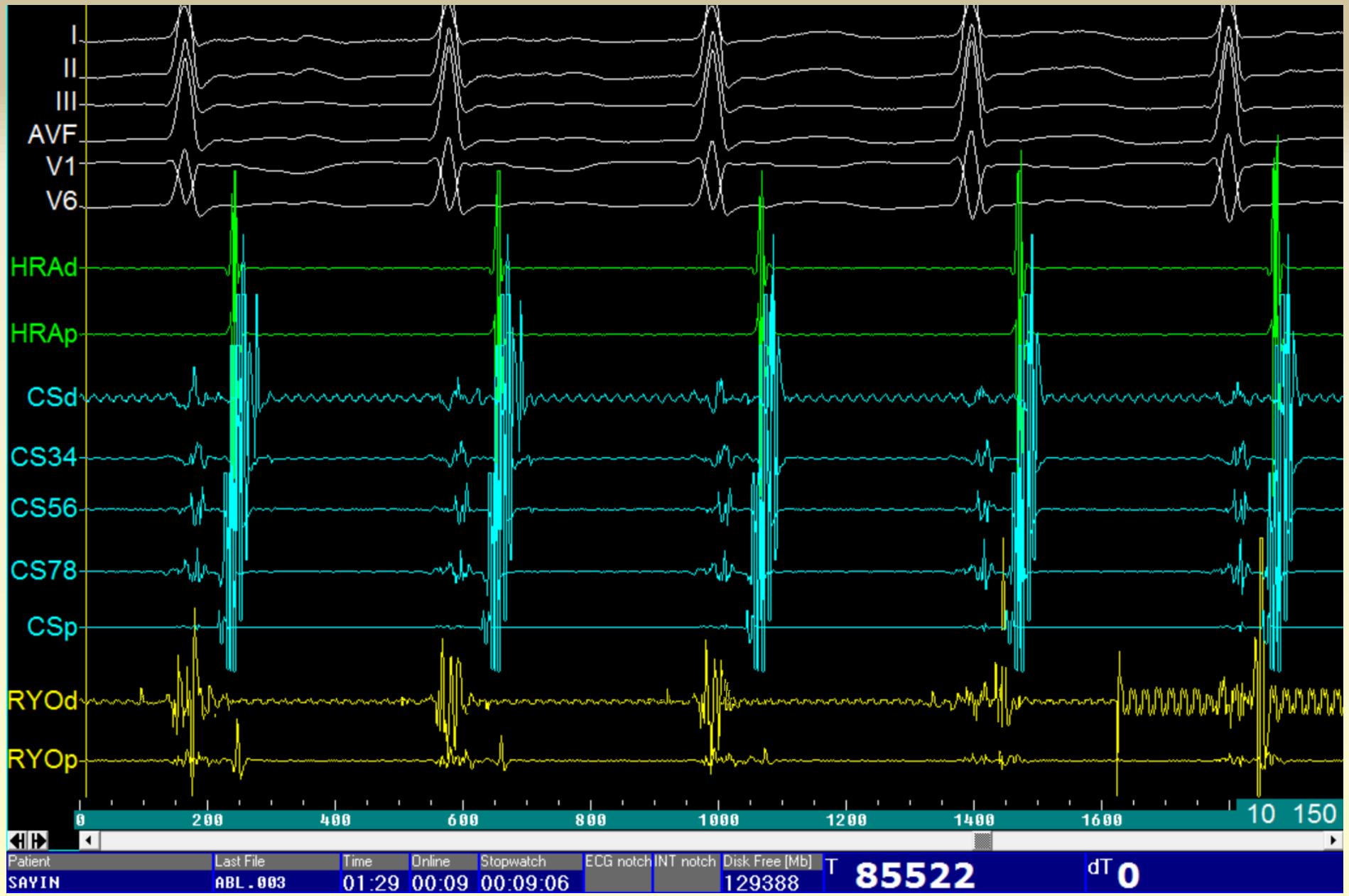

I
II
III
AVF
HRAd
HRAp
CSd
CS34
CS56
CS78
CSp
CRYOd
CRYOp
0
200
400
600
800
1000
1200
1400
1600
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
T
22590
dT
38
SAYIN
SAYIN HANİFE
00:26
00:05
00:05:28
128103

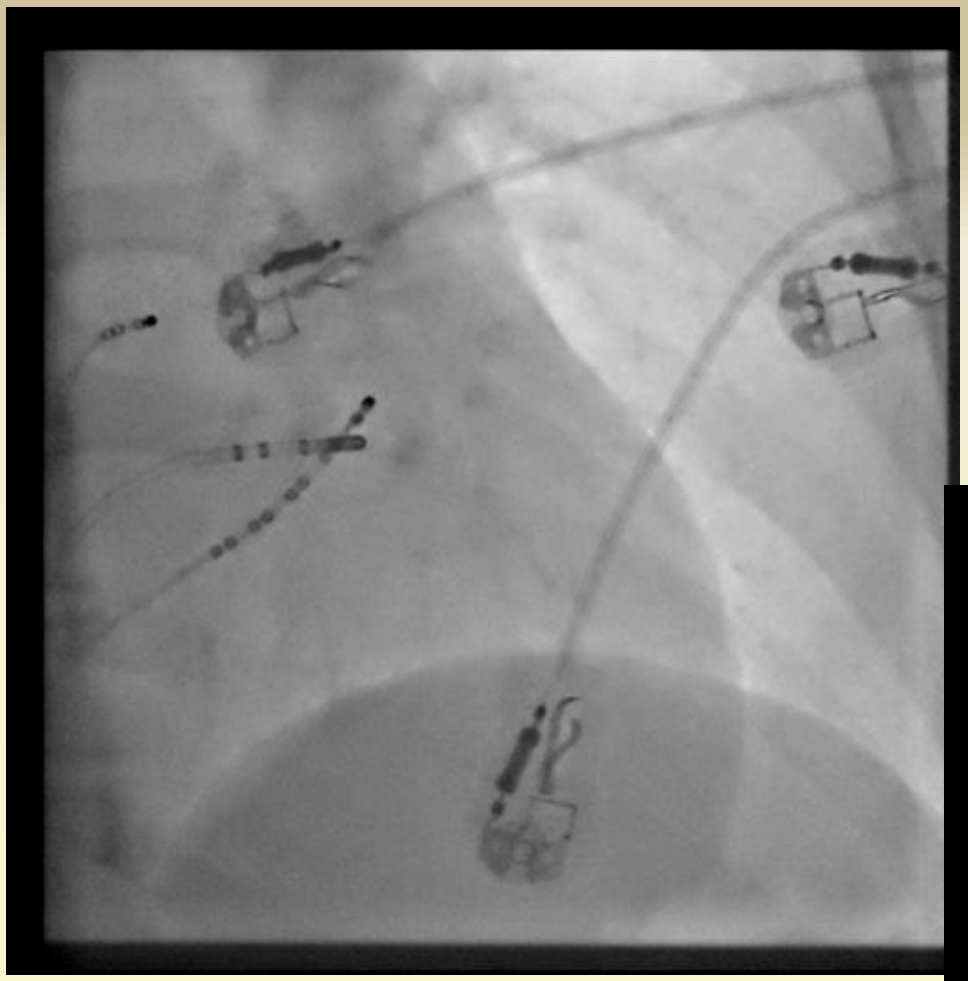

I
II
III
AVF
HRAd
HRAp
CSd
CS34
CS56
CS78
CSp
CRYOd
CRYOp
0
200
400
600
800
1000
1200
1400
1600
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
SAYIN
SAYIN HANİFE
00:28
00:07
00:07:13
128149
T 52212
dT 104

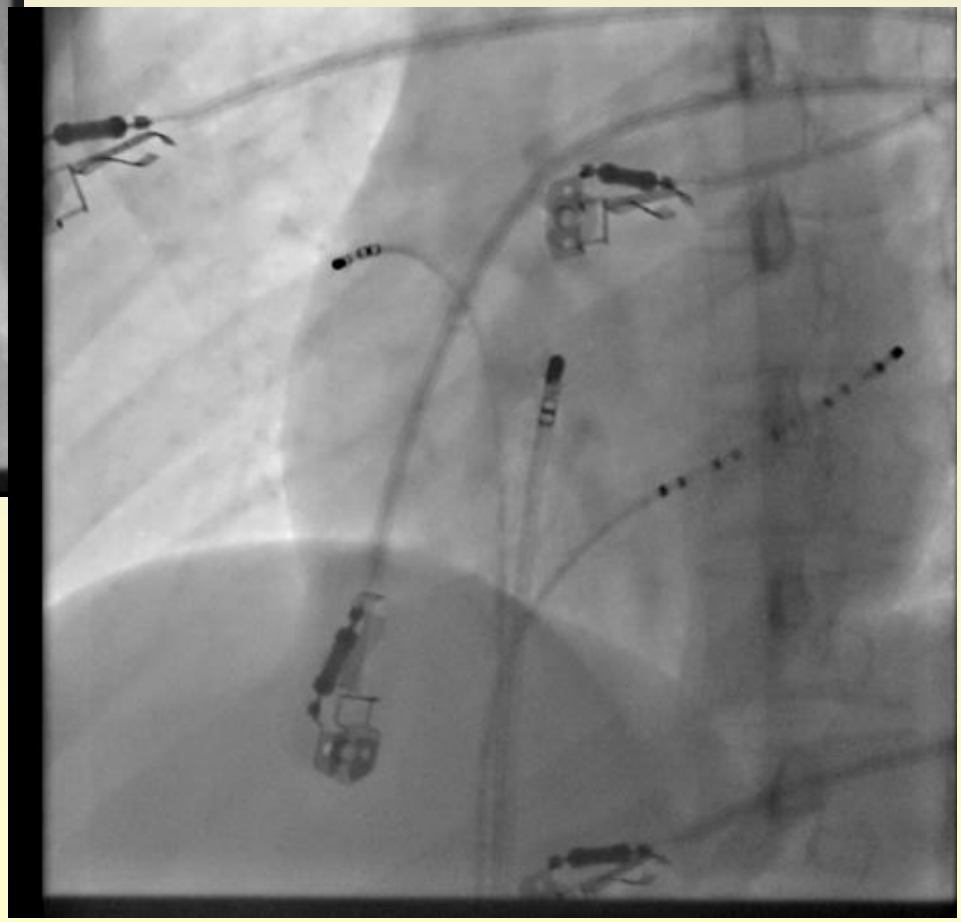


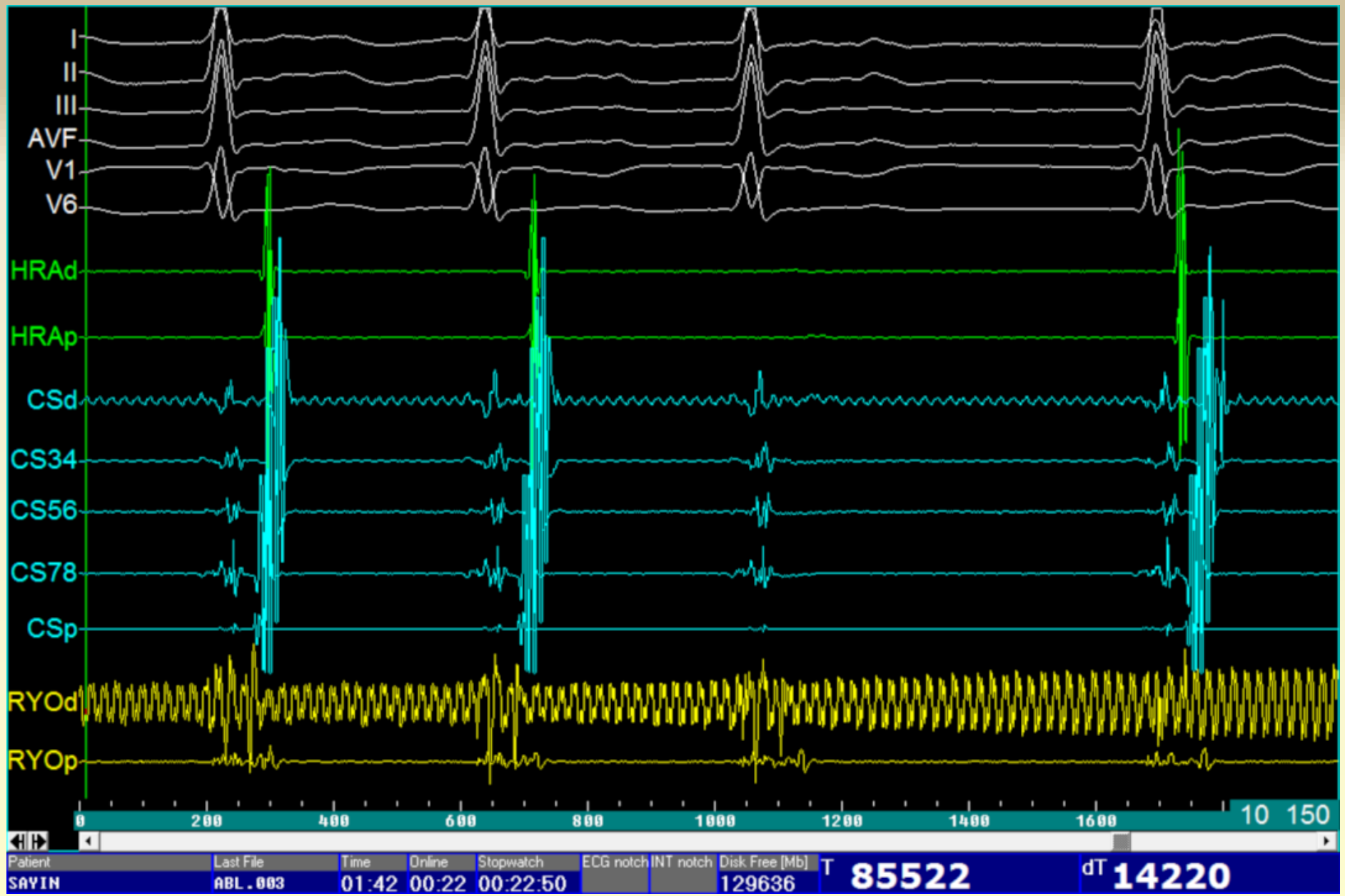
His refrakter iken VES

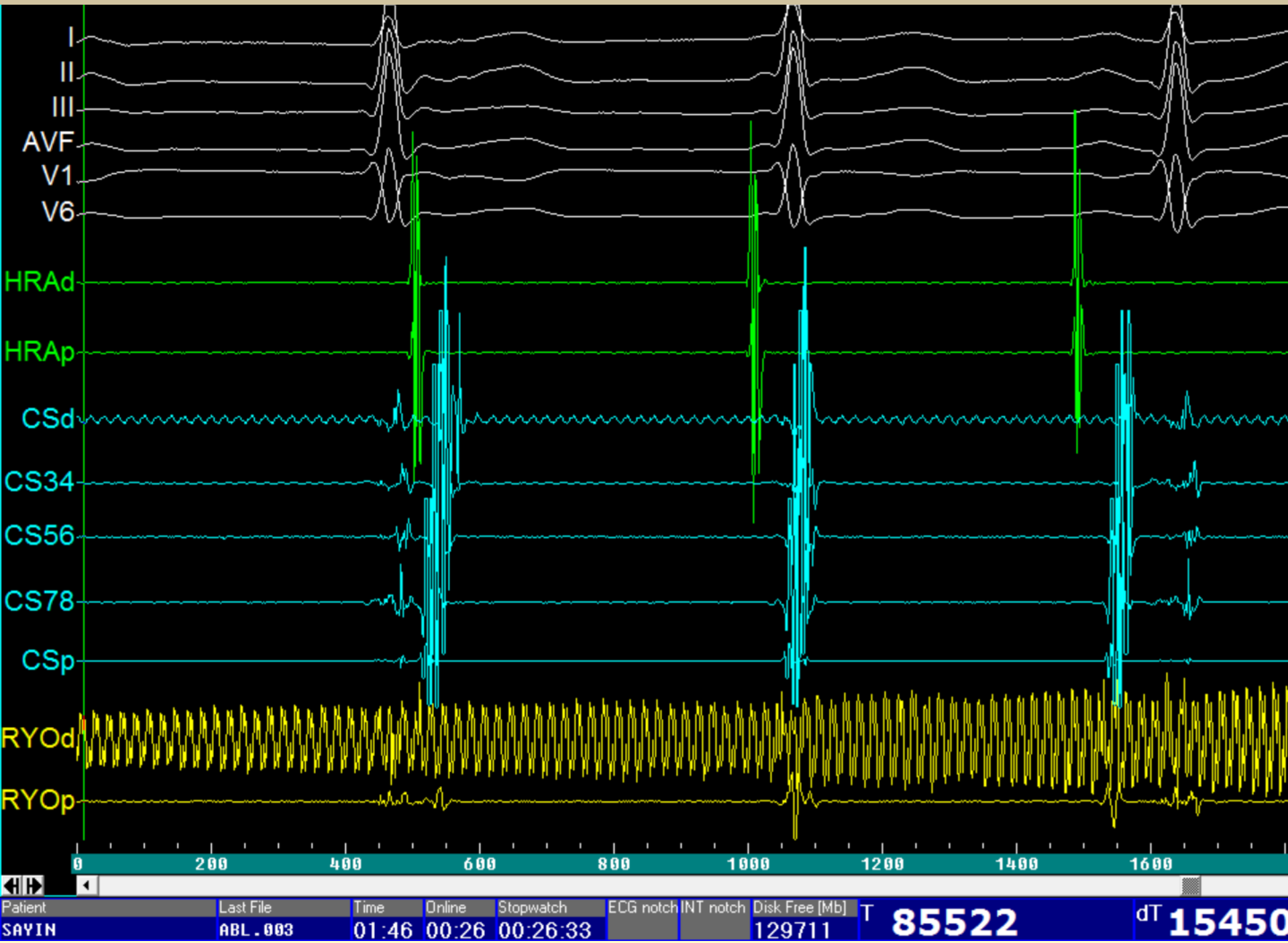

I
II
III
AVF
V1
V6
RVd
RVp
CSd
CS34
CS56
CS78
CSp
CRYOd
CRYOp
0
200
400
600
800
1000
1200
1400
1600
10 150
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
SAYIN
SAYIN HANİFE
02:13
00:53
00:53:45
130144
T 41330
IT 306


I
II
III
AVF
V1
V6
HRAd
HRAp
CSd
CS34
CS56
CS78
CSp
RYOd
RYOp
0
200
400
600
800
1000
1200
1400
1600
10 150
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
SAYIN
ABL.003
01:29
00:09
00:09:06
129388
T 85522
dT 0






I
II
III
AVF
V1
V6
HRAd
HRAp
CSd
CS34
CS56
CS78
CSp
RYOd
RYOp
0
200
400
600
800
1000
1200
1400
1600
10
150
Patient
SAYIN
Last File
ABL.003
Time
01:42
Online
00:22
Stopwatch
00:22:50
ECG notch
INT notch
Disk Free [Mb]
129636
T
85522
dT
14220

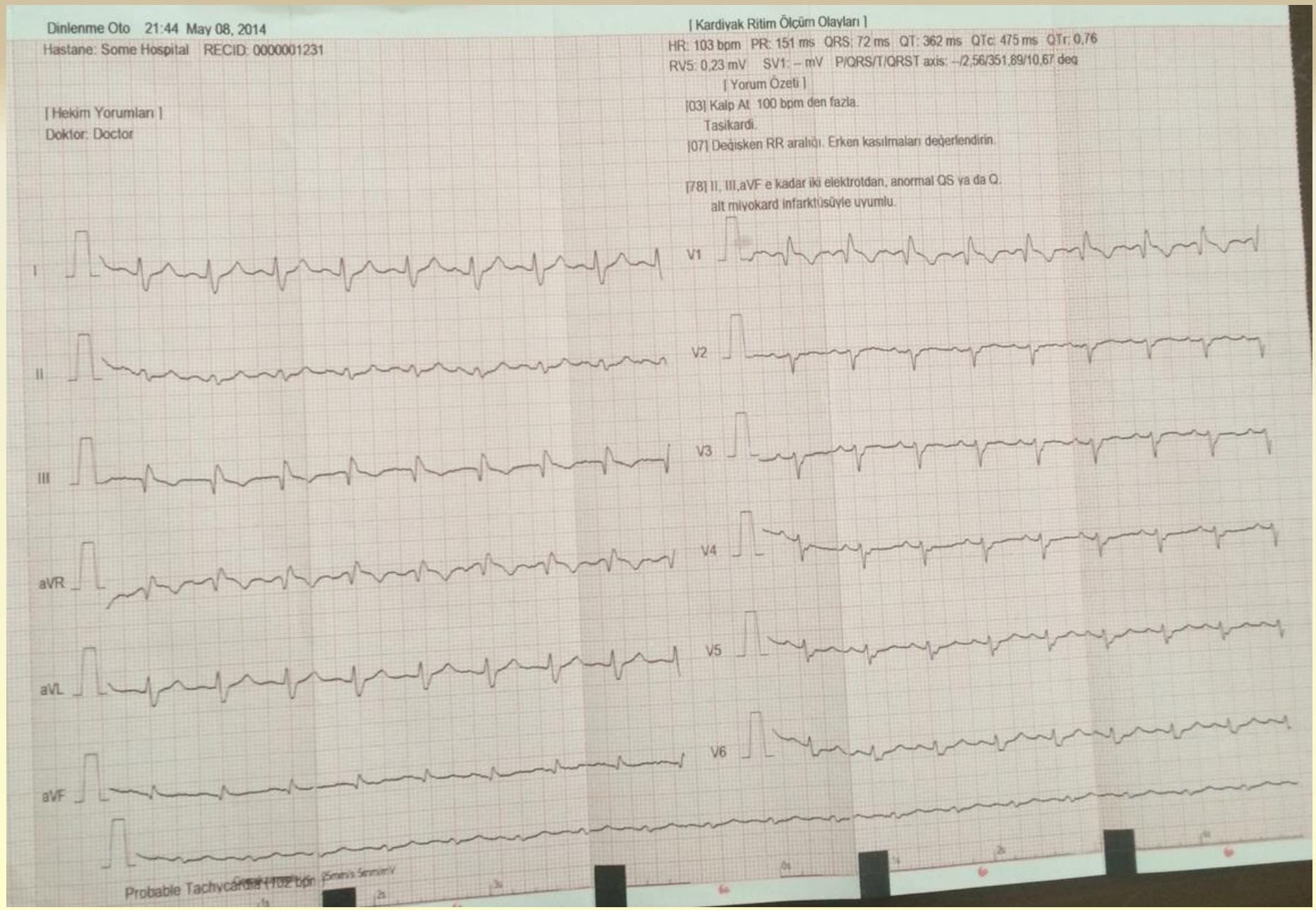

I
II
III
AVF
V1
V6
HRAd
HRAp
CSd
CS34
CS56
CS78
CSp
RYOd
RYOp
0
200
400
600
800
1000
1200
1400
1600
Patient
SAYIN
Last File
ABL.003
Time
01:46
Online
00:26
Stopwatch
00:26:33
ECG notch
INT notch
Disk Free [Mb]
129711
T
85522
dT
15450

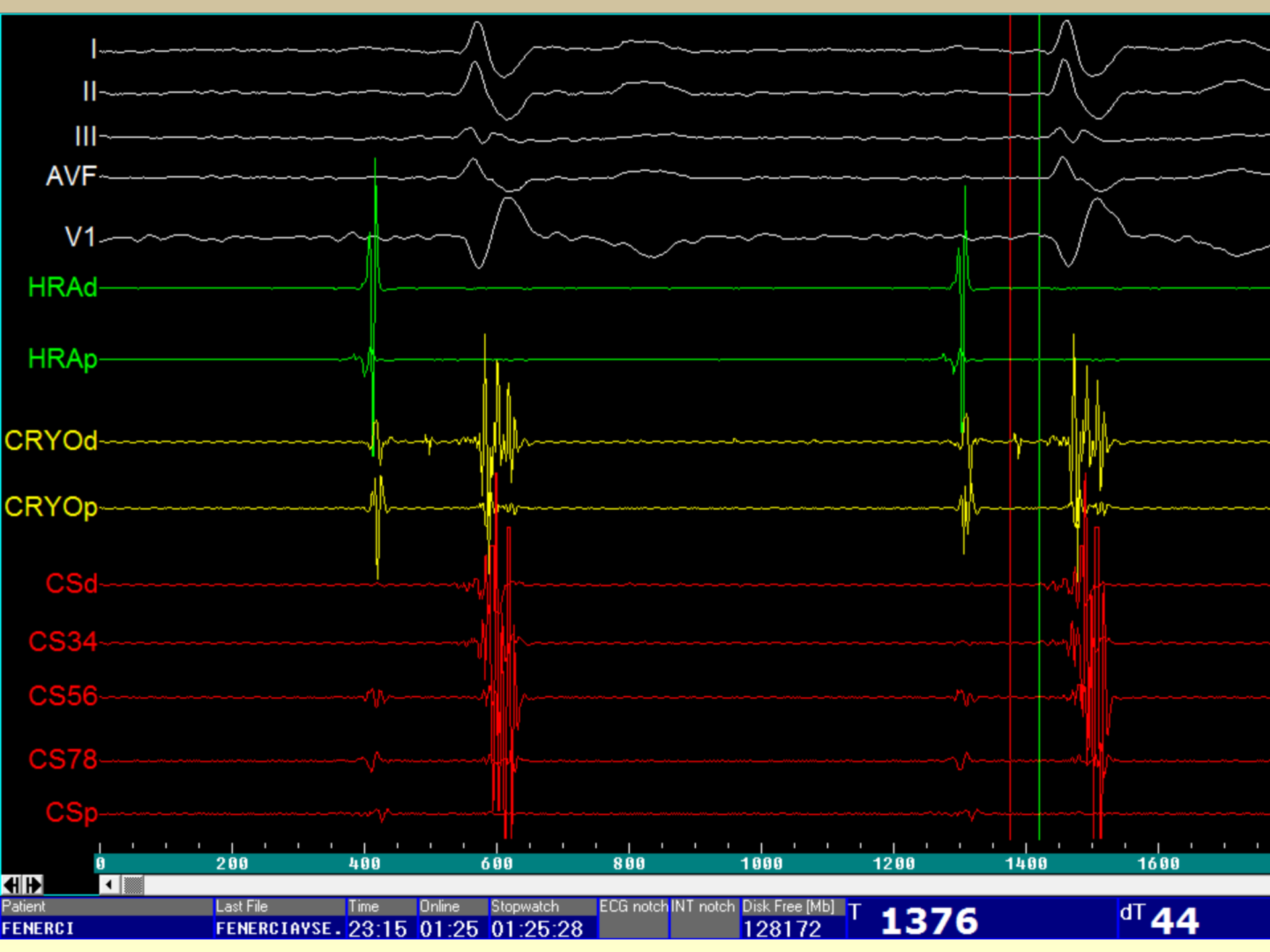
Olgu-4

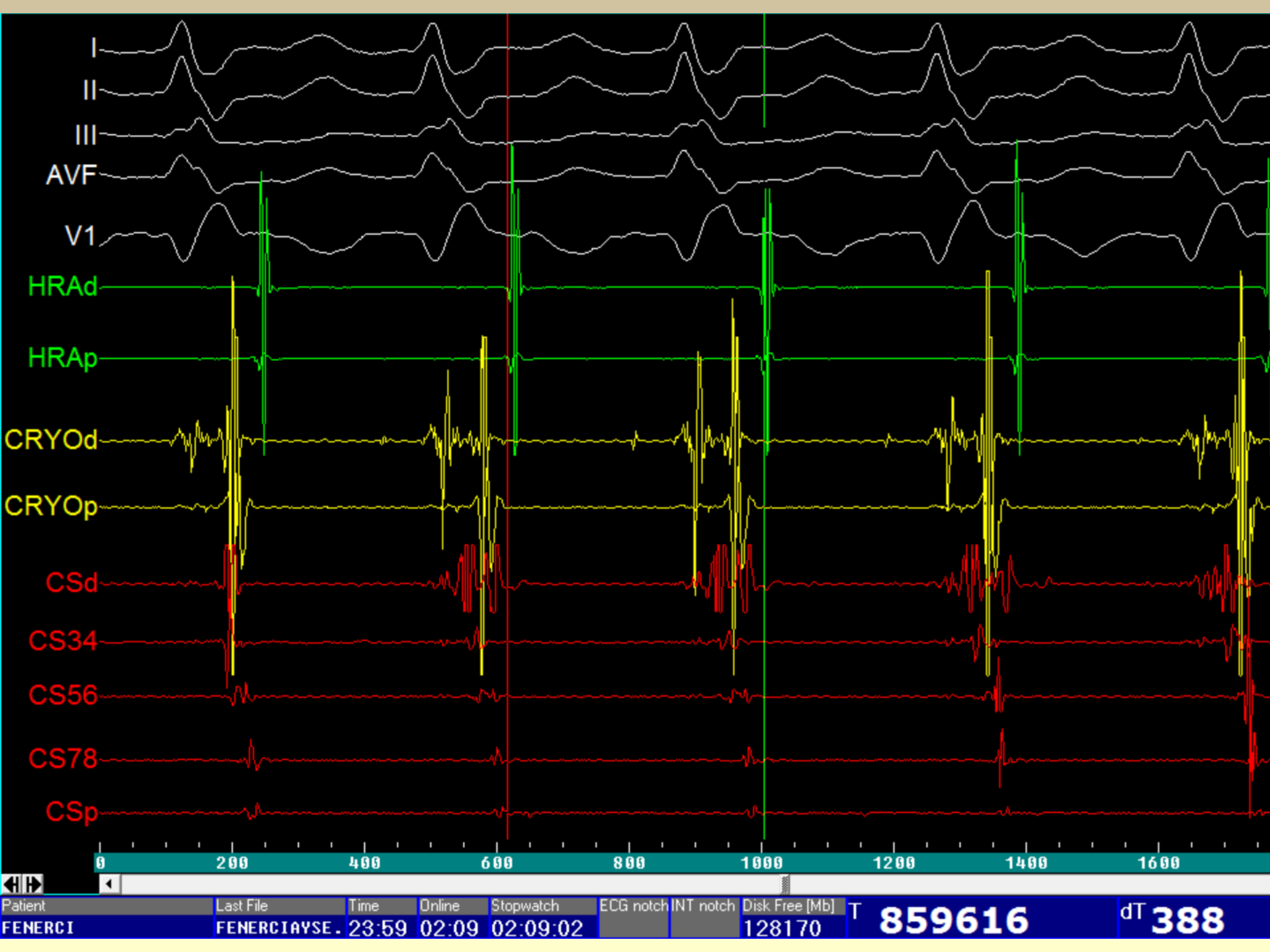
- 53 yaşında bayan,
  - 5 yıldır çarpıntı atakları var
  - Zaman zaman çarpıntılarına presenkop eşlik etmiş
  - Senkop yok

- Öz-Soy geçmiş: Özellik yok

- FM: kalp - akciğer dinlemekle normal. TA: 150/80 mmHg. Nabız ritmik.
- EKO: normal


Dinlenme Oto 21:44 May 08, 2014
Hastane: Some Hospital RECID: 0000001231
[Hekim Yorumları]
Doktor: Doctor
[Kardiyak Ritim Ölçüm Olayları]
HR: 103 bpm PR: 151 ms QRS: 72 ms QT: 362 ms QTc: 475 ms QTr: 0,76
RV5: 0,23 mV SV1: -- mV P/QRS/T/QRST axis: --/2,56/351,89/10,67 deg
[Yorum Özeti]
[03] Kalp At 100 bpm den fazla.
Taşikardi.
[07] Değisken RR aralığı. Erken kasılmaları değerlendirin.
[78] II, III,aVF e kadar iki elektrotdan, anormal QS ya da Q.
alt miyokard infarktüsüyle uyumlu.
I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6
Probable Tachycardia 102 bpm


I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
Patient
FENERCI
Last File
FENERCIAYSE.
Time
23:15
Online
01:25
Stopwatch
01:25:28
ECG notch
INT notch
Disk Free [Mb]
128172
T
1376
dT
44

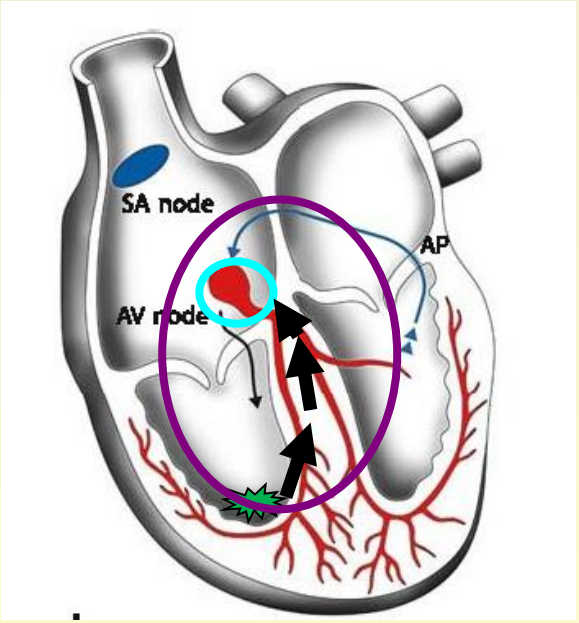

I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
Patient
FENERCI
Last File
FENERCIAYSE.
Time
23:59
Online
02:09
Stopwatch
02:09:02
ECG notch
INT notch
Disk Free [Mb]
128170
T
859616
dT
388

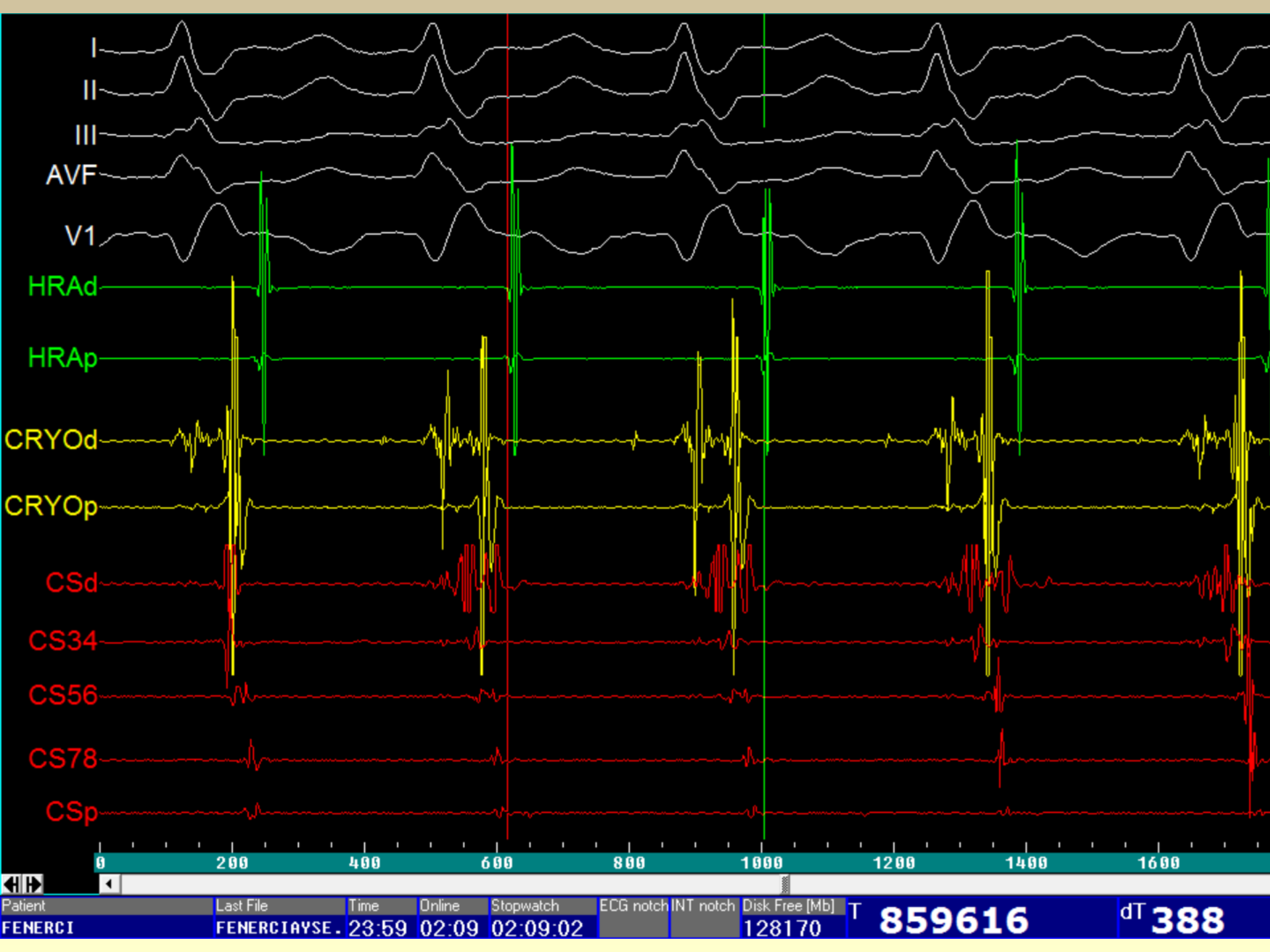
Taşikardi siklus hızında HRA'dan yapılan pacing ile delta AH: $AH_{atriyal\ pacing} - AH_{SVT}$

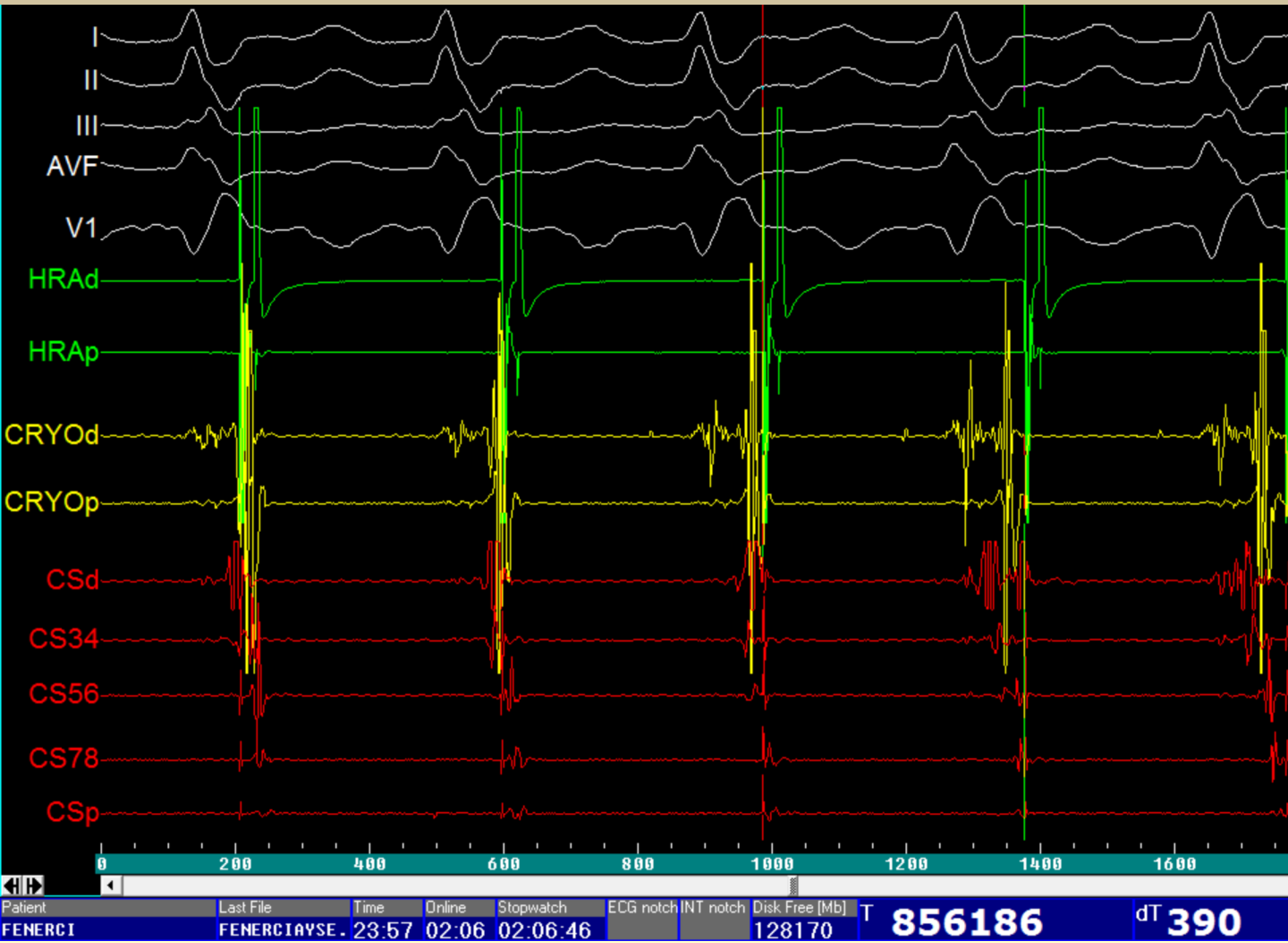
- $AH_{atriyal\ pacing} - AH_{SVT}$ > 40 ms ise AVNRT

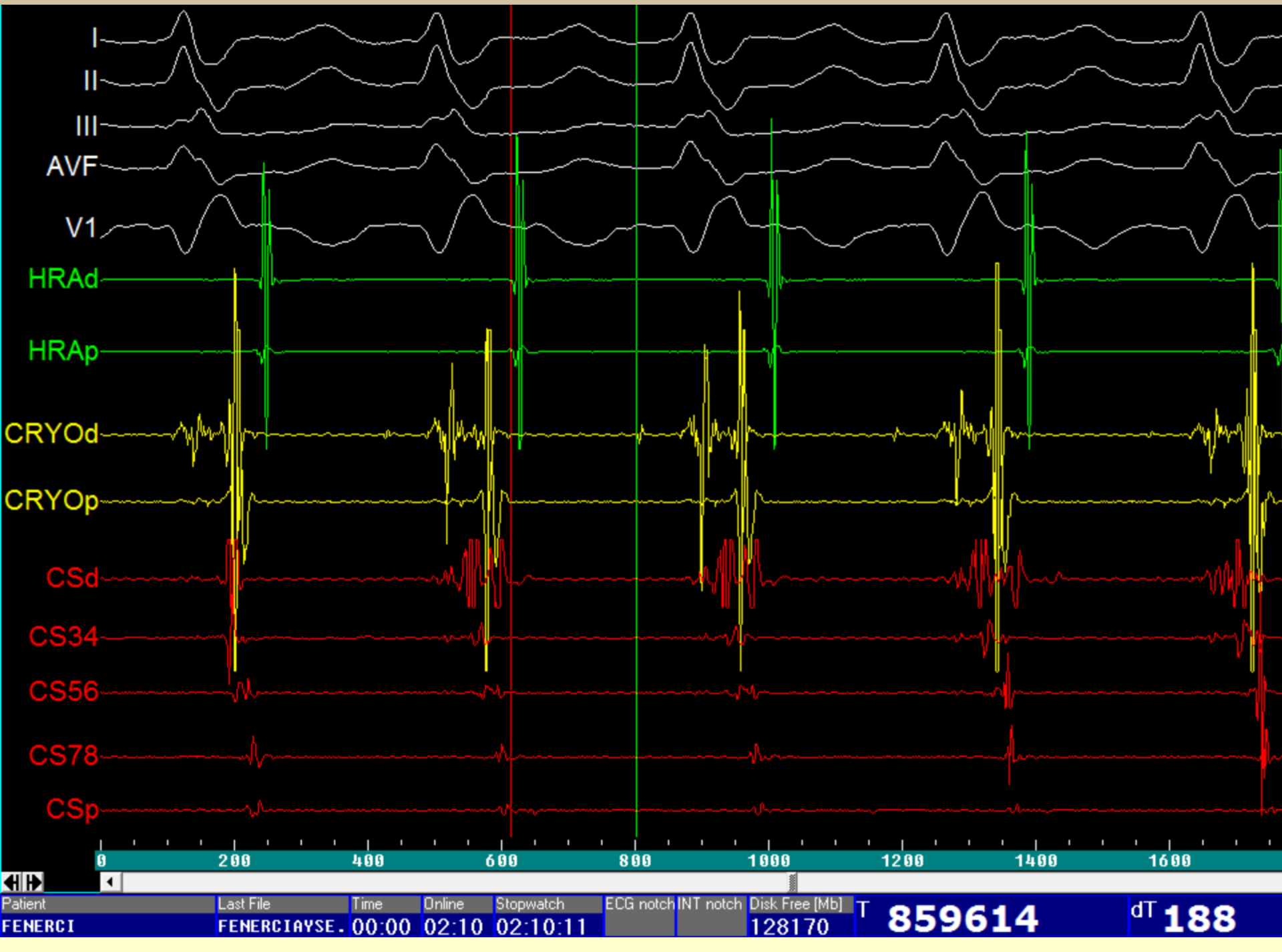
  (AVNRT'de His ve atrium aktivasyonu simultan oluyor)

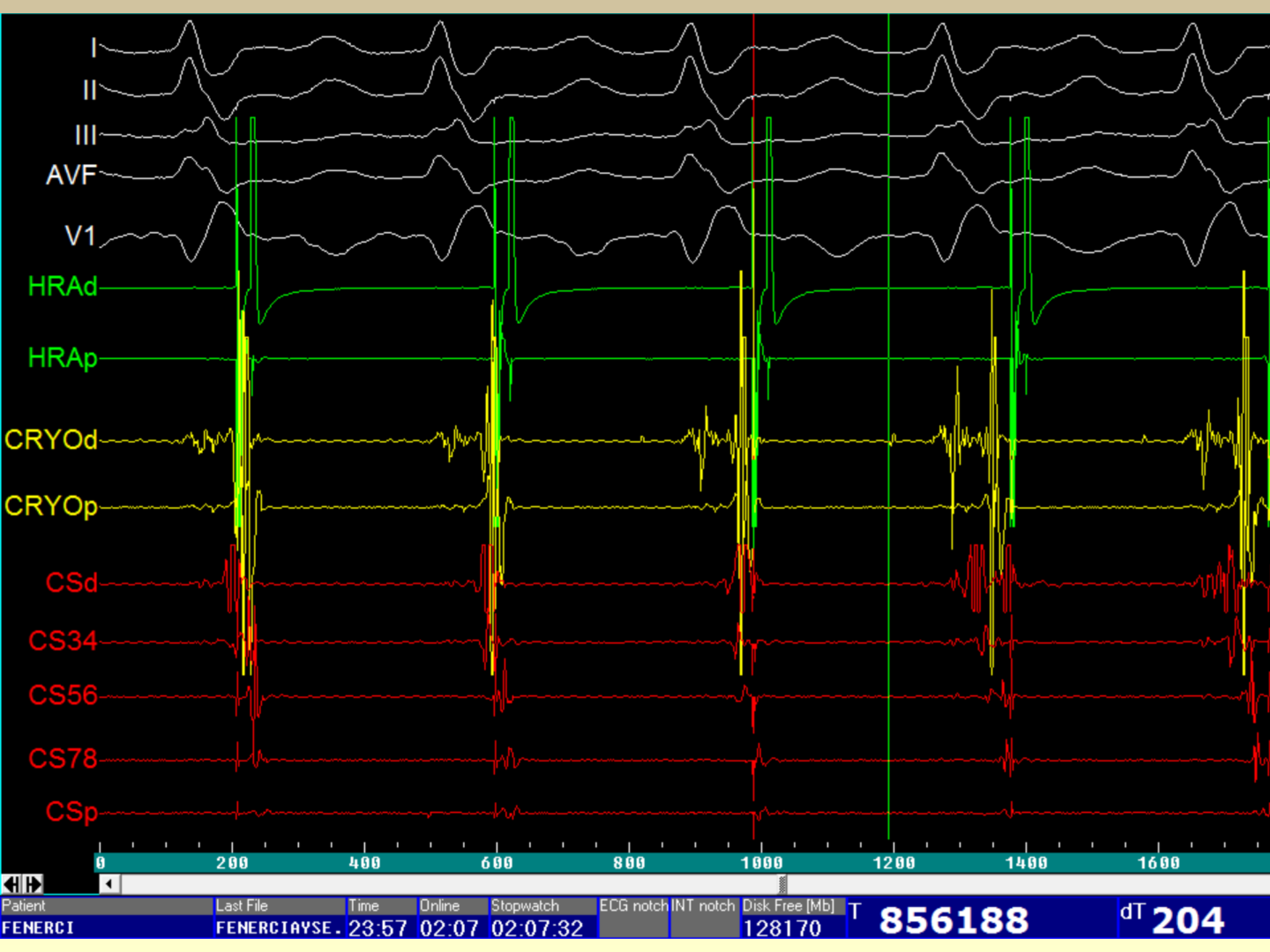
- $AH_{atriyal\ pacing} - AH_{SVT}$ < 20 ms ise AT veya AVRT




I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
Patient
FENERCI
Last File
FENERCIAYSE.
Time
23:59
Online
02:09
Stopwatch
02:09:02
ECG notch
INT notch
Disk Free [Mb]
128170
T
859616
dT
388


I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
FENERCI
FENERCIAYSE.
23:57
02:06
02:06:46
128170
T 856186
dT 390

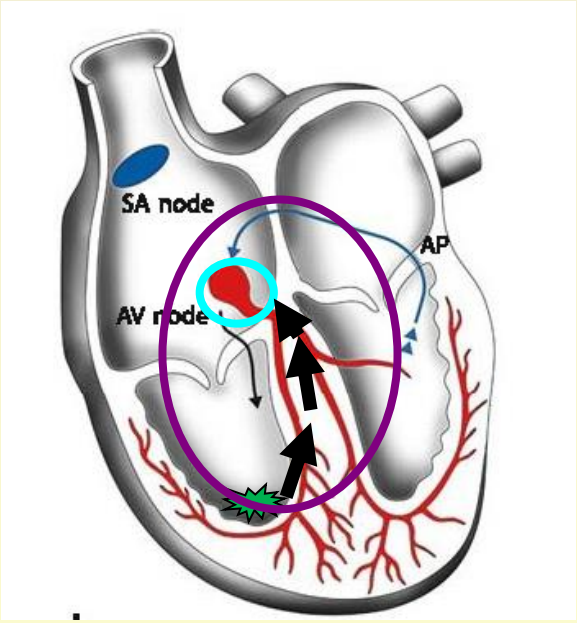

I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
Patient
FENERCI
Last File
FENERCIAYSE.
Time
00:00
Online
02:10
Stopwatch
02:10:11
ECG notch
INT notch
Disk Free [Mb]
128170
T
859614
dT
188


I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
Patient
FENERCI
Last File
FENERCIAYSE.
Time
23:57
Online
02:07
Stopwatch
02:07:32
ECG notch
INT notch
Disk Free [Mb]
128170
T
856188
dT
204

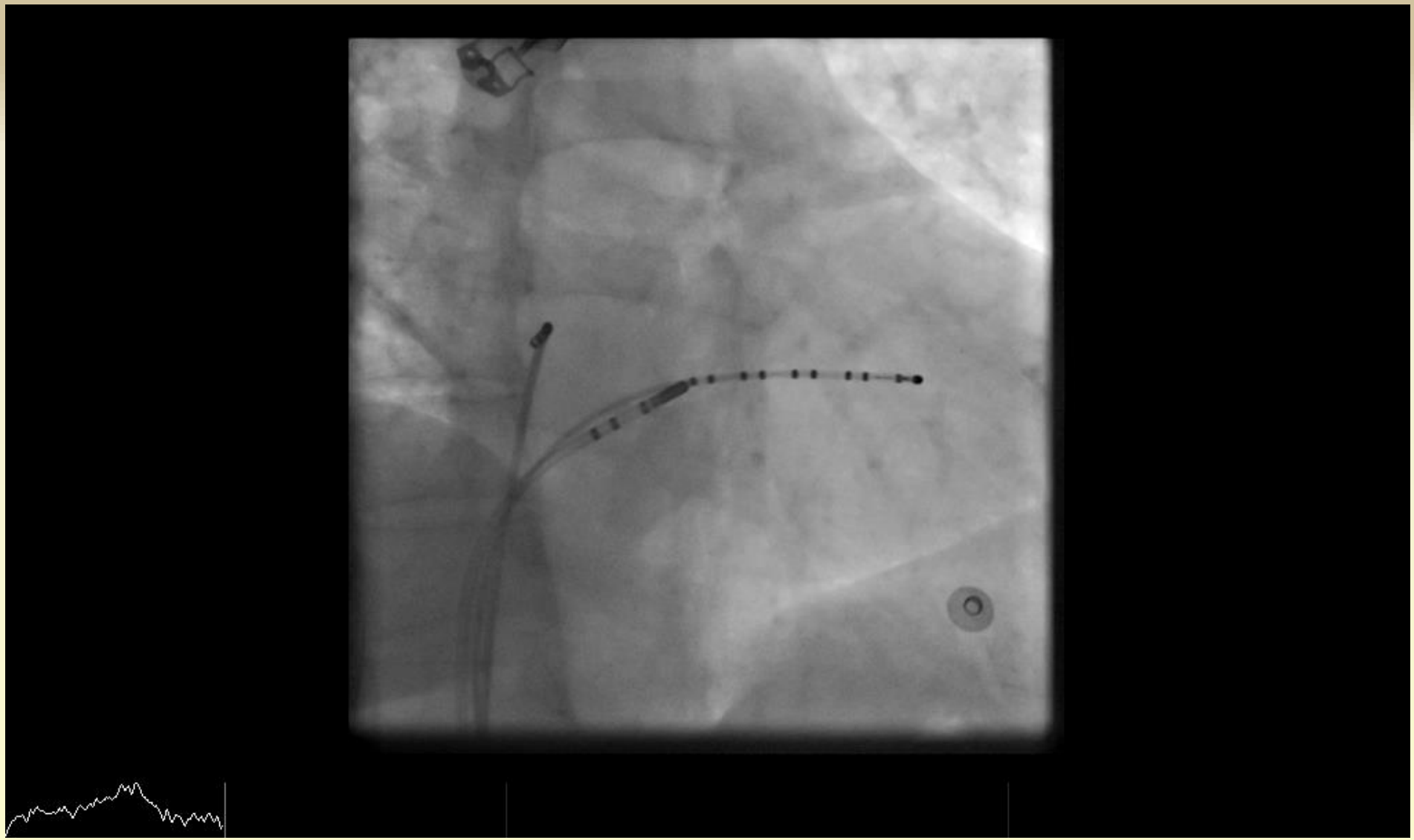
Taşikardi siklus hızında HRA'dan yapılan pacing ile delta AH: $AH_{atriyal\ pacing} - AH_{SVT}$

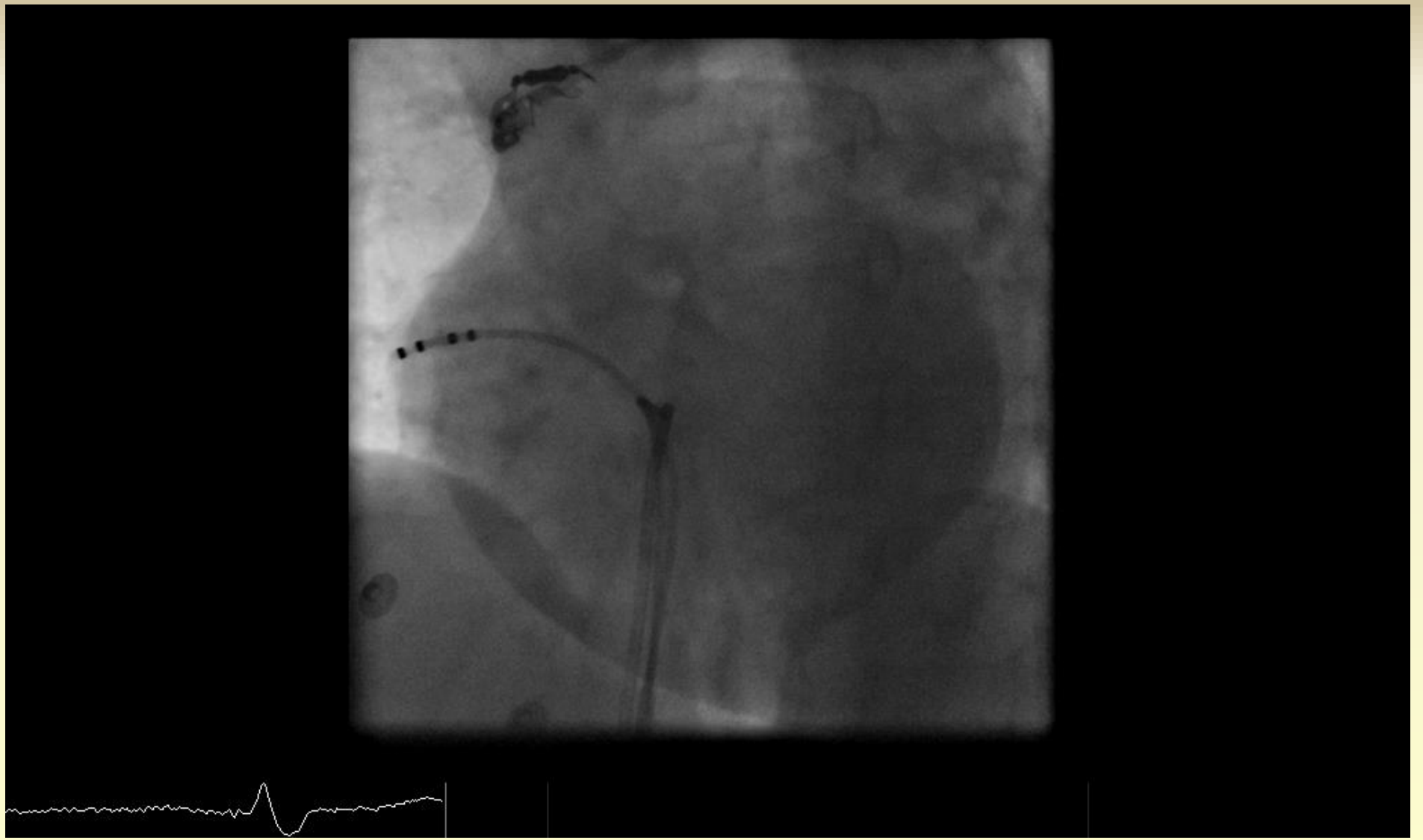
- $AH_{atriyal\ pacing} - AH_{SVT}$ < 20 ms ise AT veya AVRT

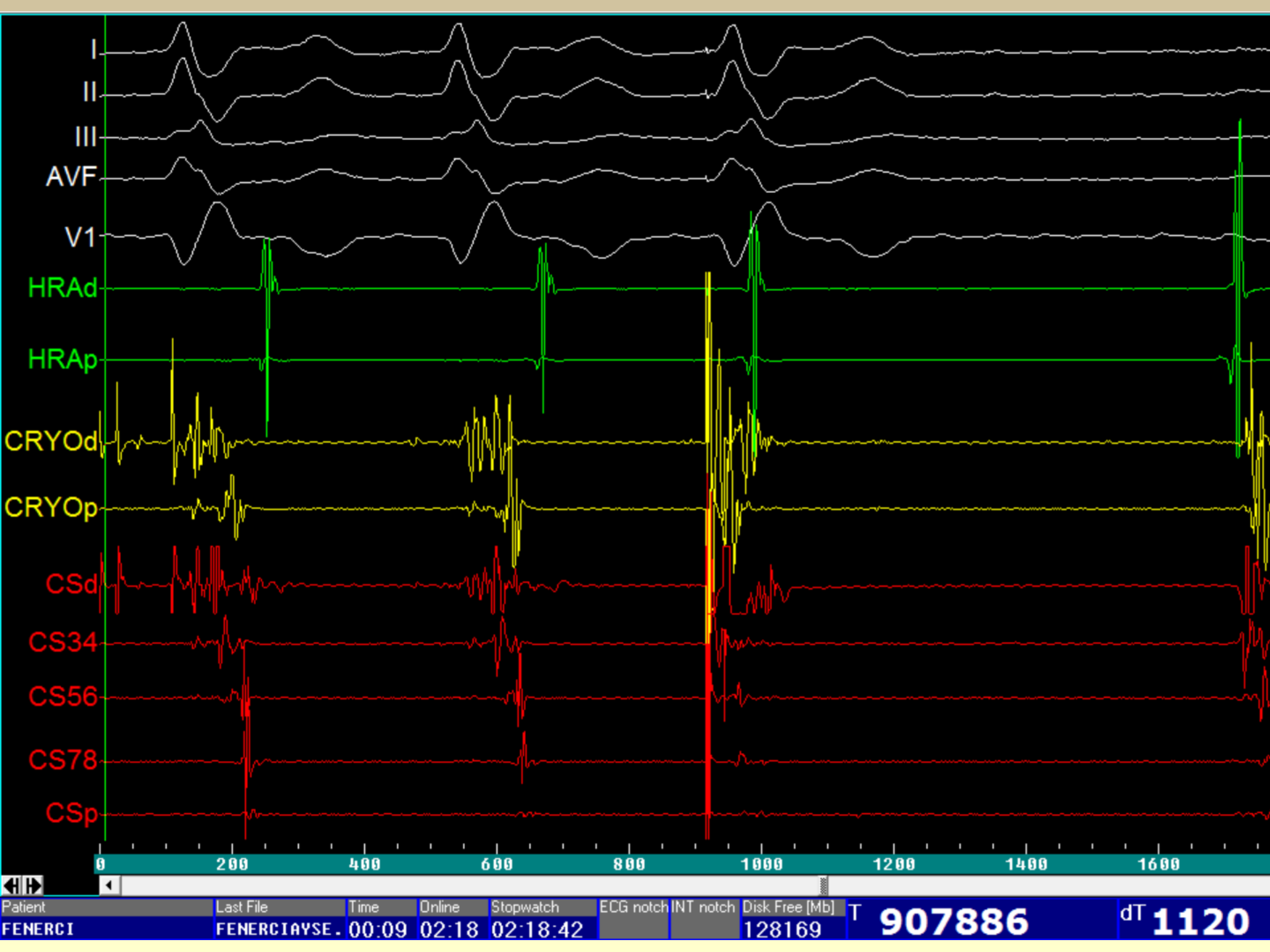
- 204-188= 16

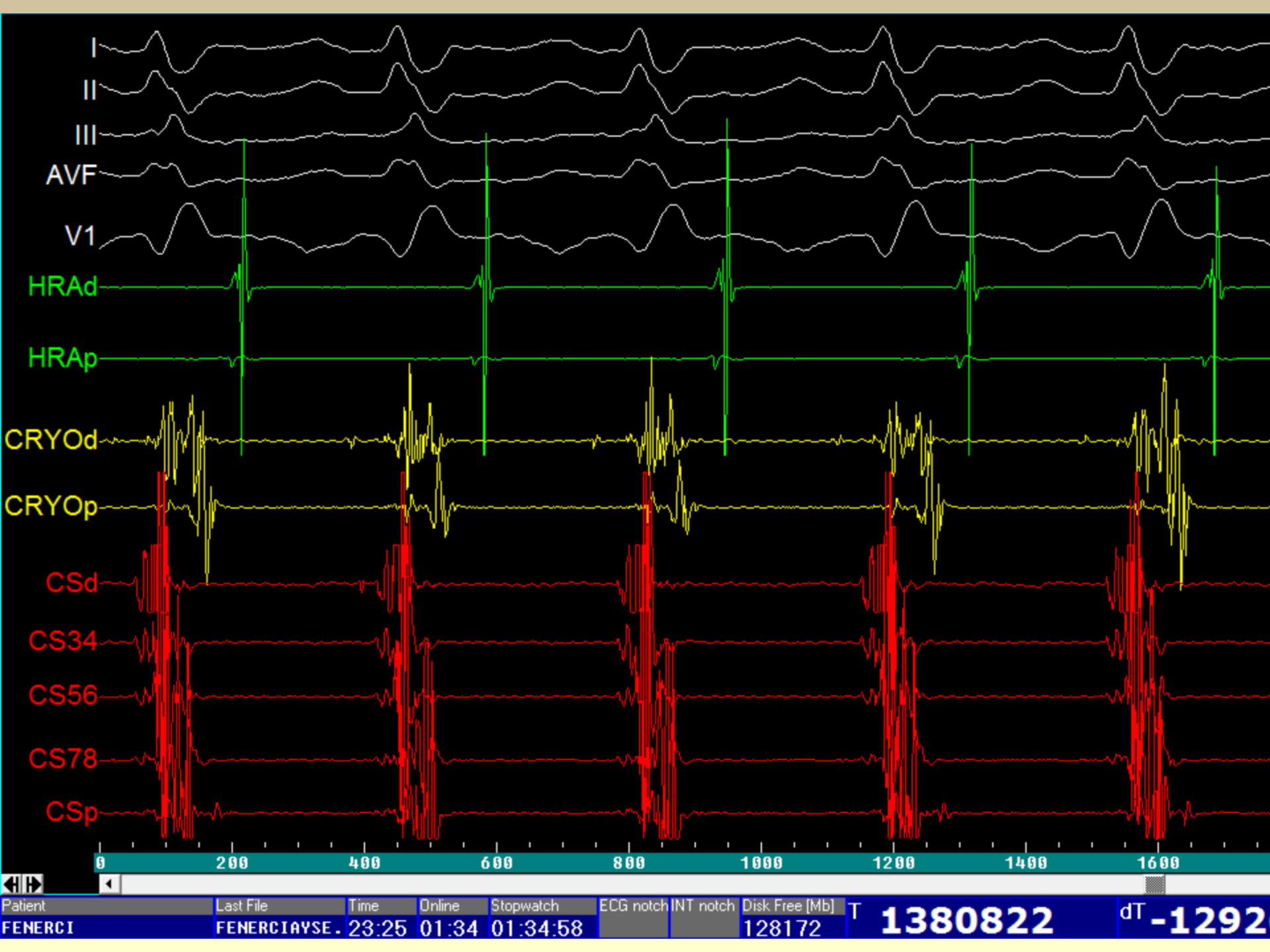


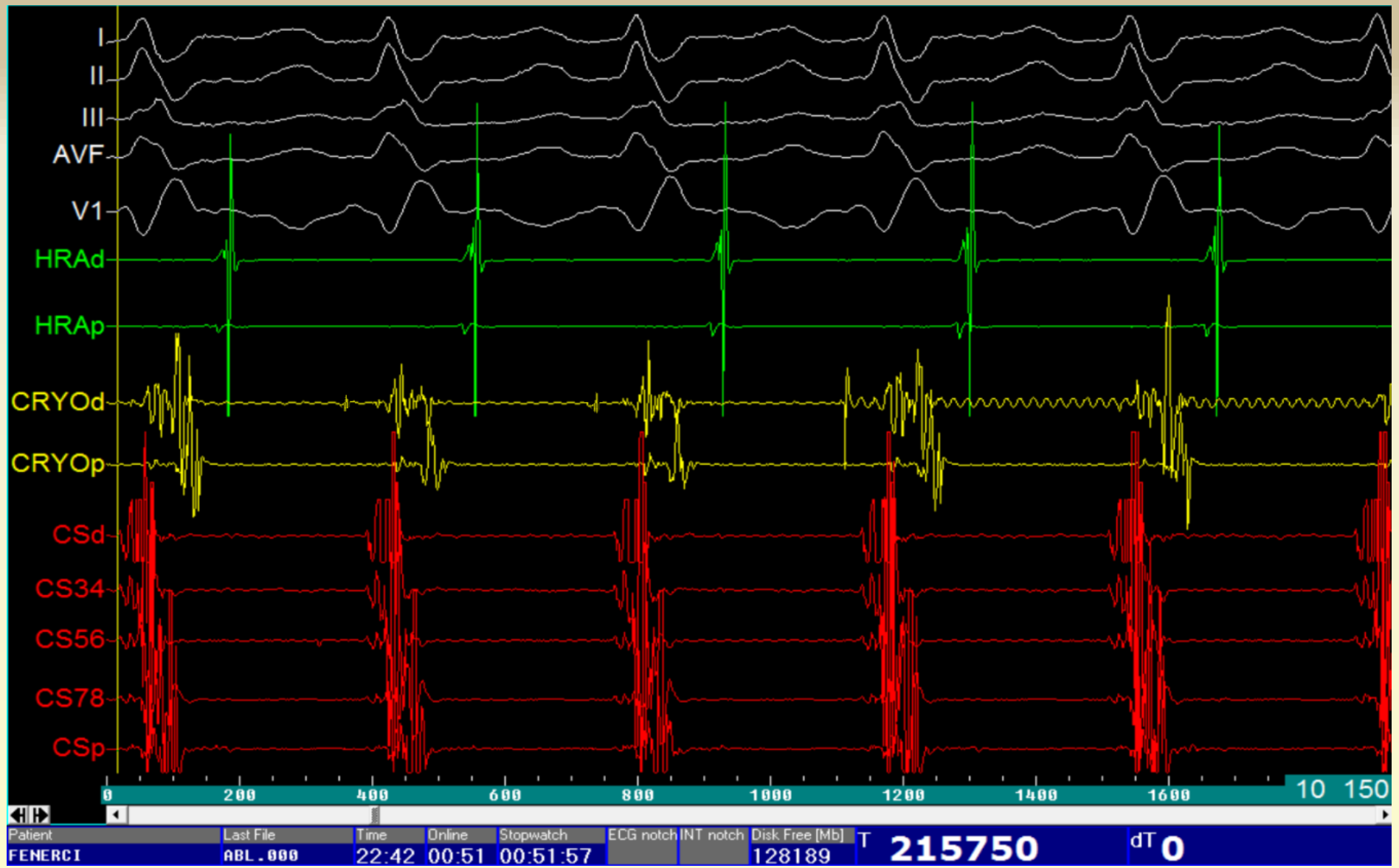
His refrakter iken VES

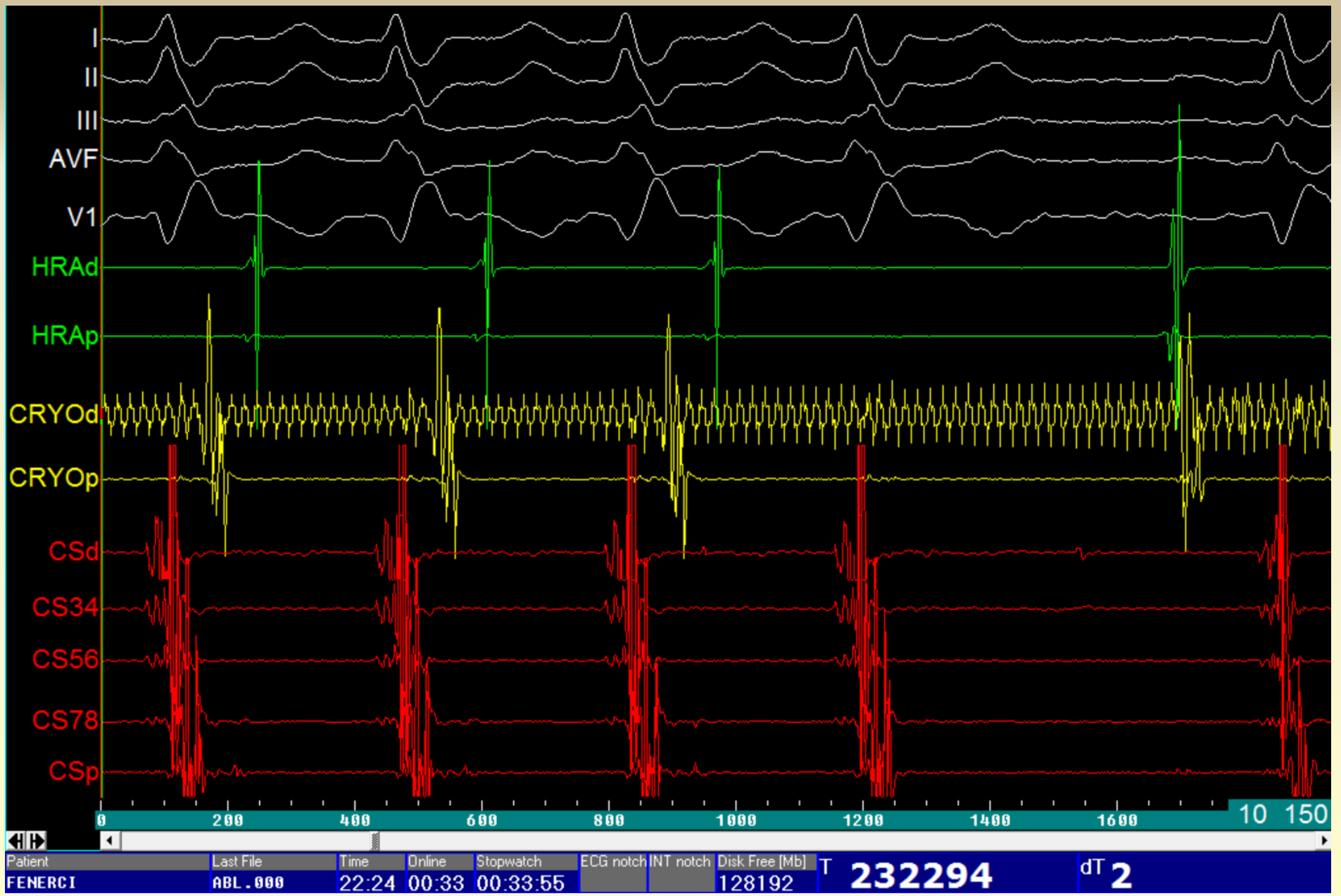


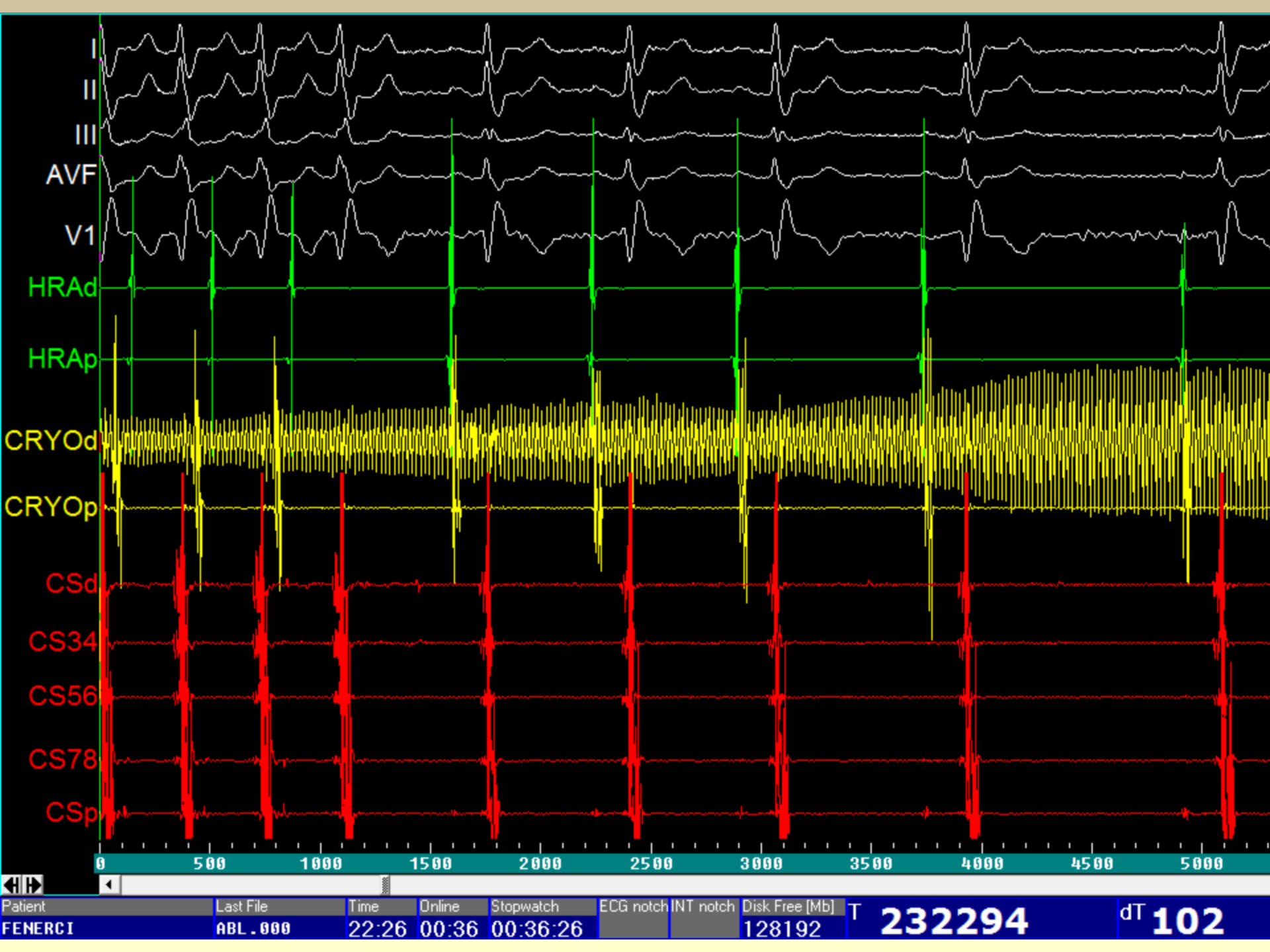


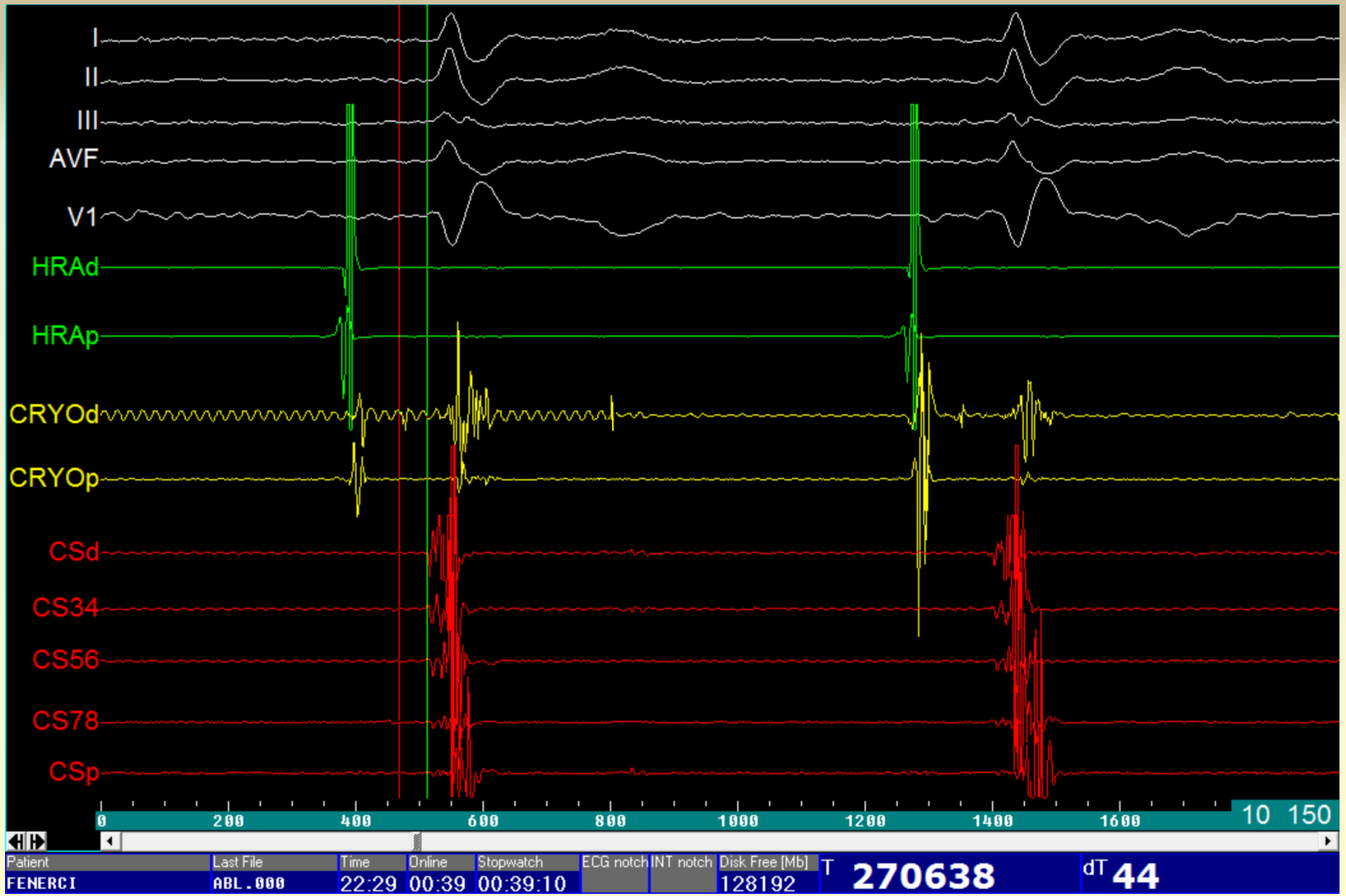

I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
Patient
FENERCI
Last File
FENERCIAYSE.
Time
00:09
Online
02:18
Stopwatch
02:18:42
ECG notch
INT notch
Disk Free [Mb]
128169
T
907886
dT
1120

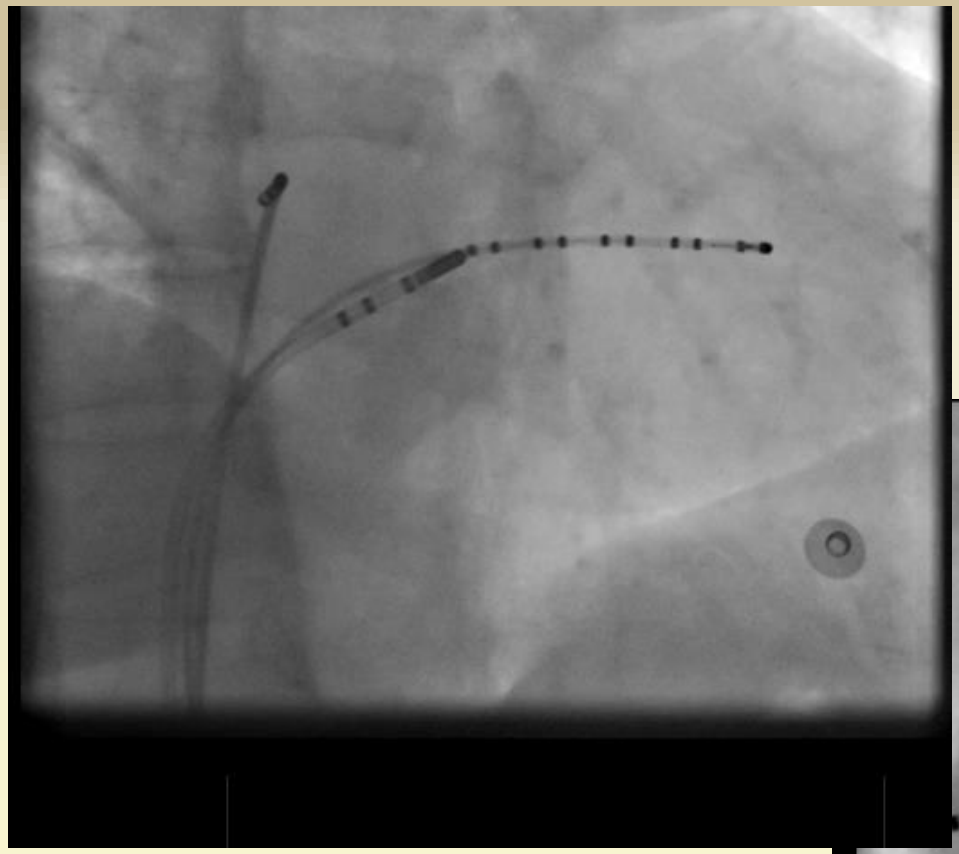

I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
FENERCI
FENERCIAYSE.
23:25
01:34
01:34:58
128172
T 1380822
dT -1292

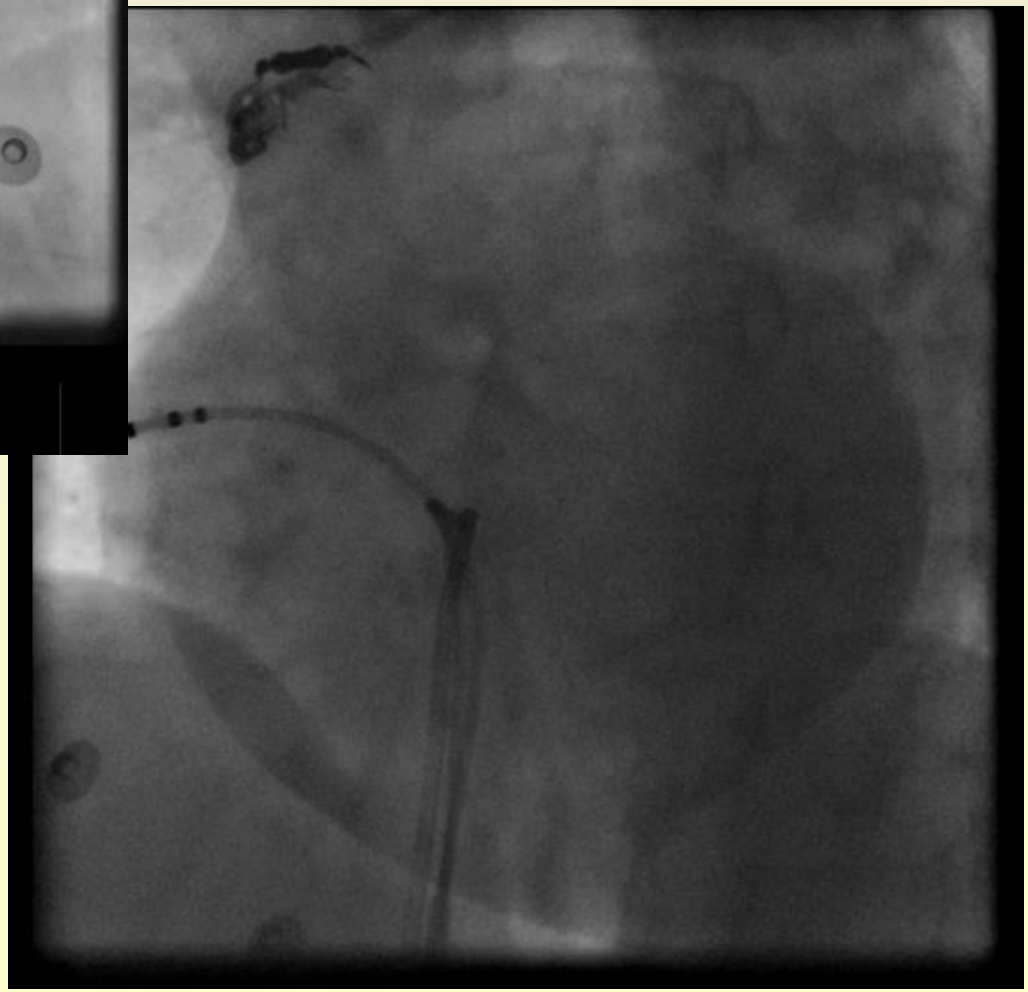

I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
10
150
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
T
dT
FENERCI
ABL.000
22:42
00:51
00:51:57
128189
215750
0


I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
10 150
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
T
dT
FENERCI
ABL.000
22:24
00:33
00:33:55
128192
232294
2


I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Patient
FENERCI
Last File
ABL.000
Time
22:26
Online
00:36
Stopwatch
00:36:26
ECG notch
INT notch
Disk Free [Mb]
128192
T
232294
dT
102


I
II
III
AVF
V1
HRAd
HRAp
CRYOd
CRYOp
CSd
CS34
CS56
CS78
CSp
0
200
400
600
800
1000
1200
1400
1600
10
150
Patient
Last File
Time
Online
Stopwatch
ECG notch
INT notch
Disk Free [Mb]
FENERCI
ABL.000
22:29
00:39
00:39:10
128192
T
270638
dT
44





DİKKATİNİZ İÇİN

TEŞEKKÜR EDERİM