CARMEL MEDICAL CENTER

Ictal asystole

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Case description

- 40 year-old woman
- Epilepsy since the age of 15
- Currently on 3 anti-epileptic medications.
- Recent episodes Q1month- complex partial seizure, lasting 3-5 min
- Associated with syncope in the last year, and severe trauma
- Received ELR-

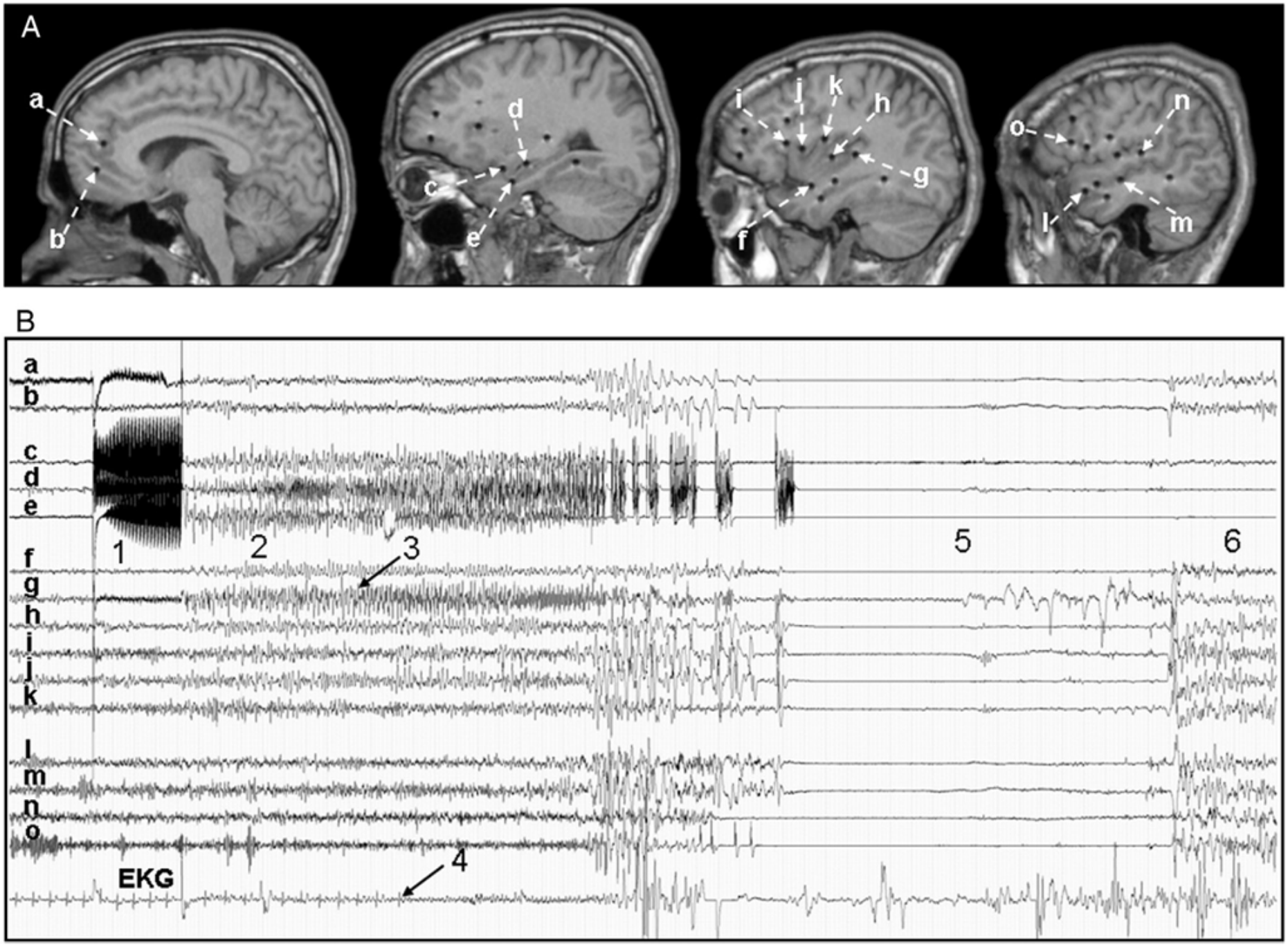

26.06.2023 08:46 (8") Sinus Arrest
Duration: 8.74"
674ms
25 mm/s, 50 mm/mV

Ictal syncope

- Only small series were published
- Usually asystole> 6 sec leads to syncope
- Usually with temporal lobe seizure
- Asystole only after the seizure began
- Asystole terminates the seizure
- Possible mechanism for SUDEP (sudden unexpected death in epilepsy)
- Difficult to distinguish from the seizure
- Traditional treatment options-
  - Treatment for the Epilepsy (drug, surgery)
  - Pacemaker

Circ Arrhythm Electrophysiol. 2015 ; 8(1): 159–164


Seizure onset
CGR


A
a
b
c
d
e
f
g
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i
j
k
l
m
n
o
B
a
b
c
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l
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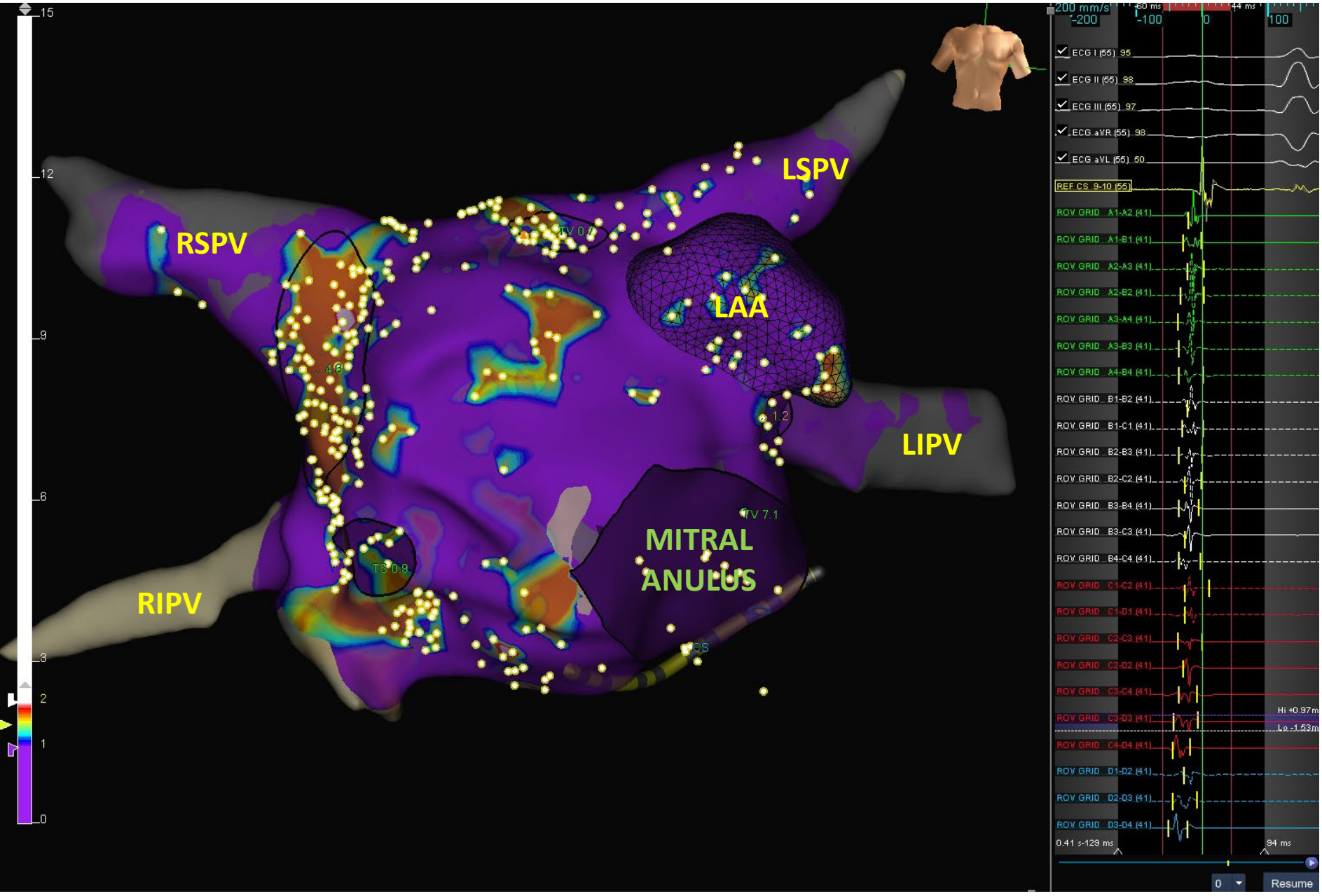
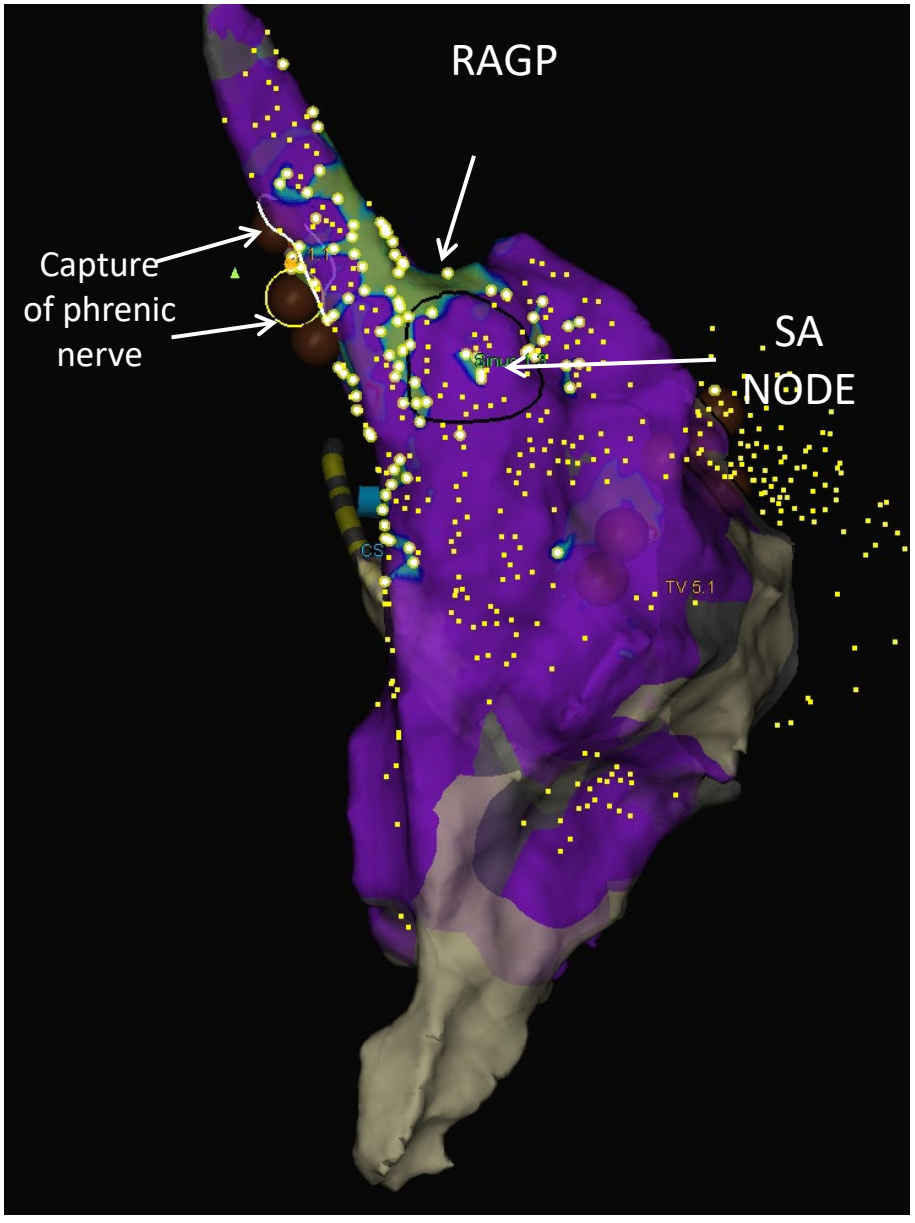
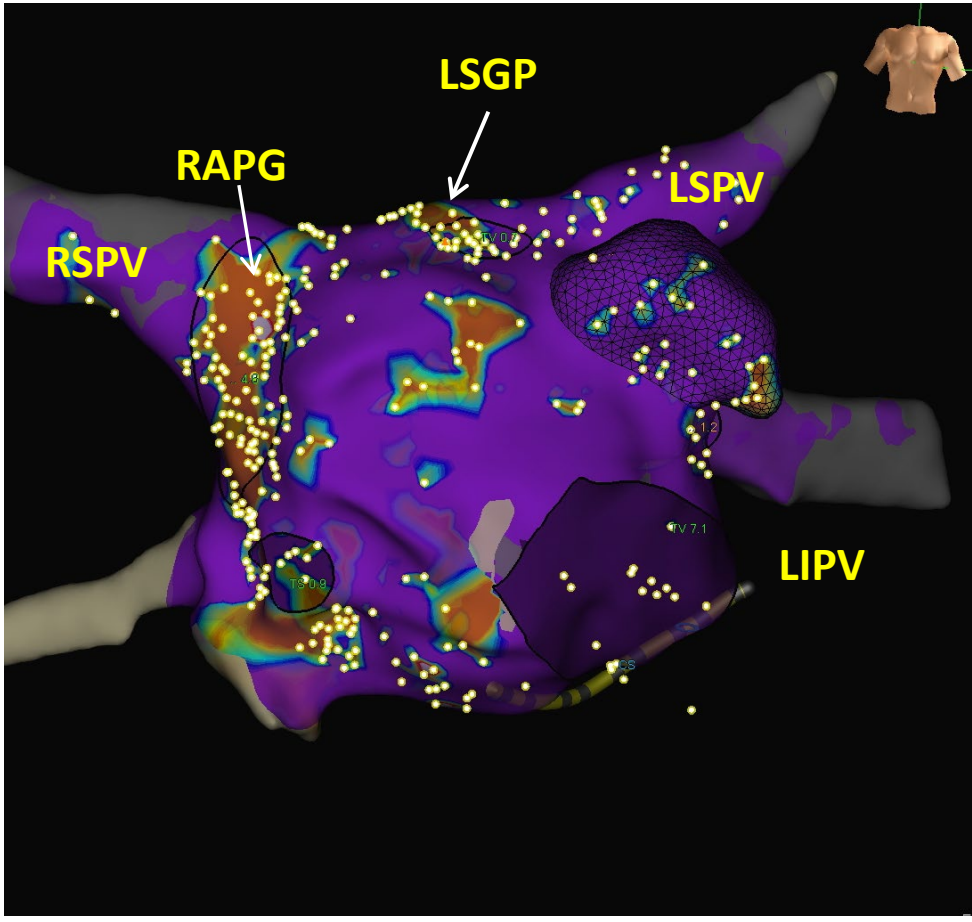
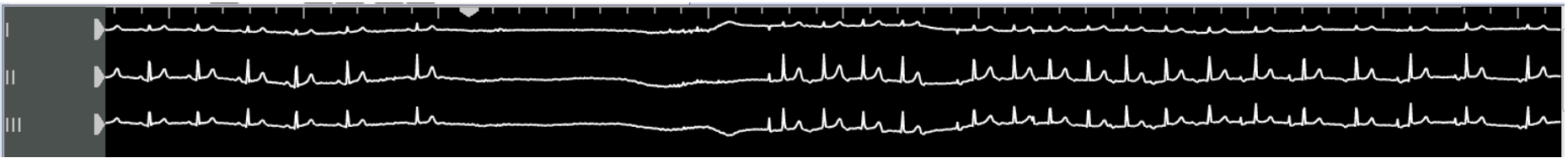
o
EKG
1
2
3
4
5
6

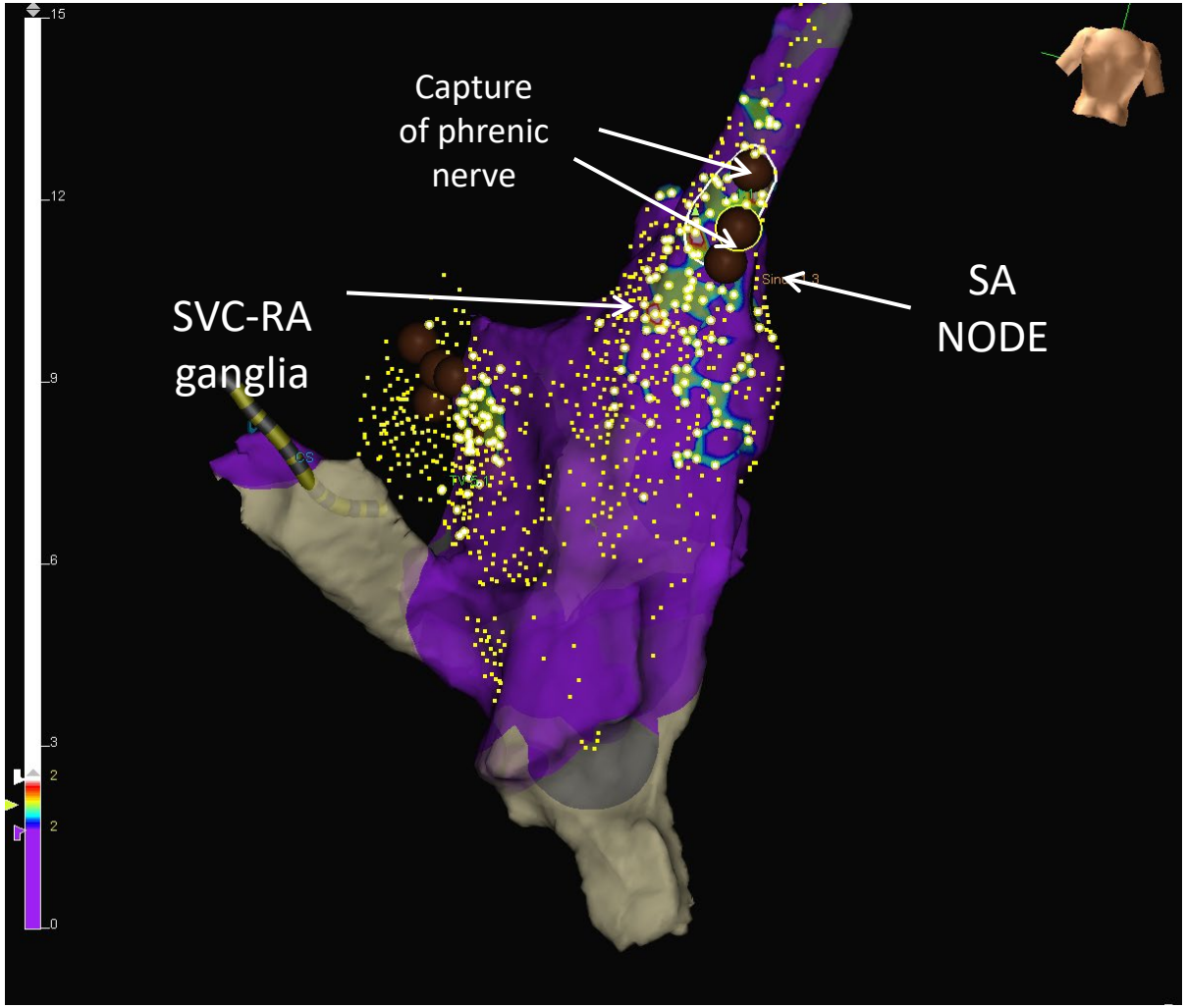

LSPV
RSPV
LAA
LIPV
MITRAL ANULUS
RIPV
TV 0.7
TV 7.1
TS 0.9
CS
15
12
9
6
3
2
1
0
200 mm/s
-200
-100
0
100
ECG I (55) 95
ECG II (55) 98
ECG III (55) 97
ECG aVR (55) 98
ECG aVL (55) 50
REF CS 9-10 (55)
ROV GRID A1-A2 (41)
ROV GRID A1-B1 (41)
ROV GRID A2-A3 (41)
ROV GRID A2-B2 (41)
ROV GRID A3-A4 (41)
ROV GRID A3-B3 (41)
ROV GRID A4-B4 (41)
ROV GRID B1-B2 (41)
ROV GRID B1-C1 (41)
ROV GRID B2-B3 (41)
ROV GRID B2-C2 (41)
ROV GRID B3-B4 (41)
ROV GRID B3-C3 (41)
ROV GRID B4-C4 (41)
ROV GRID C1-C2 (41)
ROV GRID C1-D1 (41)
ROV GRID C2-C3 (41)
ROV GRID C2-D2 (41)
ROV GRID C3-C4 (41)
ROV GRID C3-D3 (41)
ROV GRID C4-D4 (41)
ROV GRID D1-D2 (41)
ROV GRID D2-D3 (41)
ROV GRID D3-D4 (41)
Hi +0.97m
Lo -1.53m
0.41 s-129 ms
94 ms
0
Resume


RAGP
Capture
of phrenic
nerve
SA
NODE
CS
TV 5.1

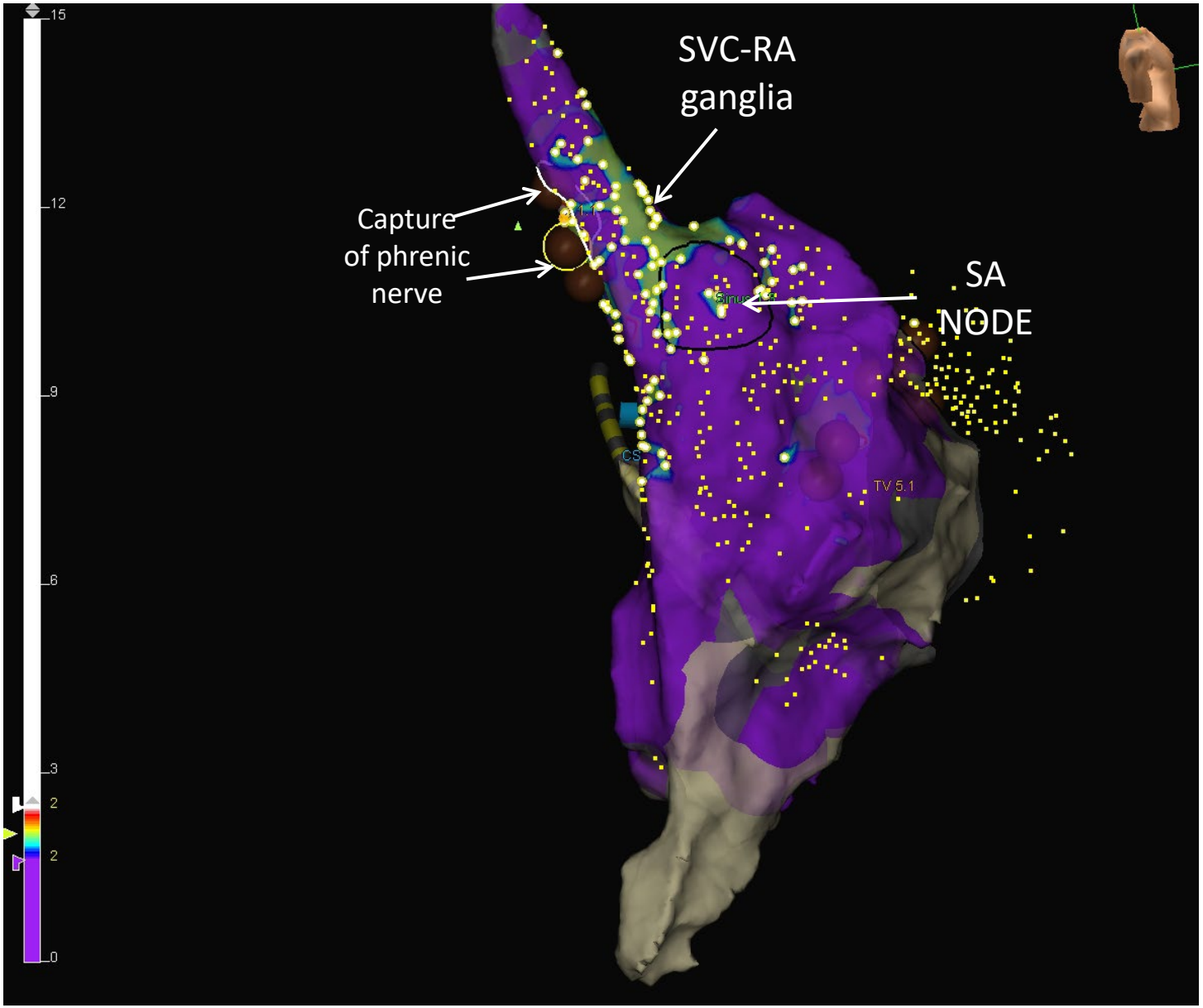

LSGP
RAPG
LSPV
RSPV
LIPV
TV 7.1
CS


I
II
III

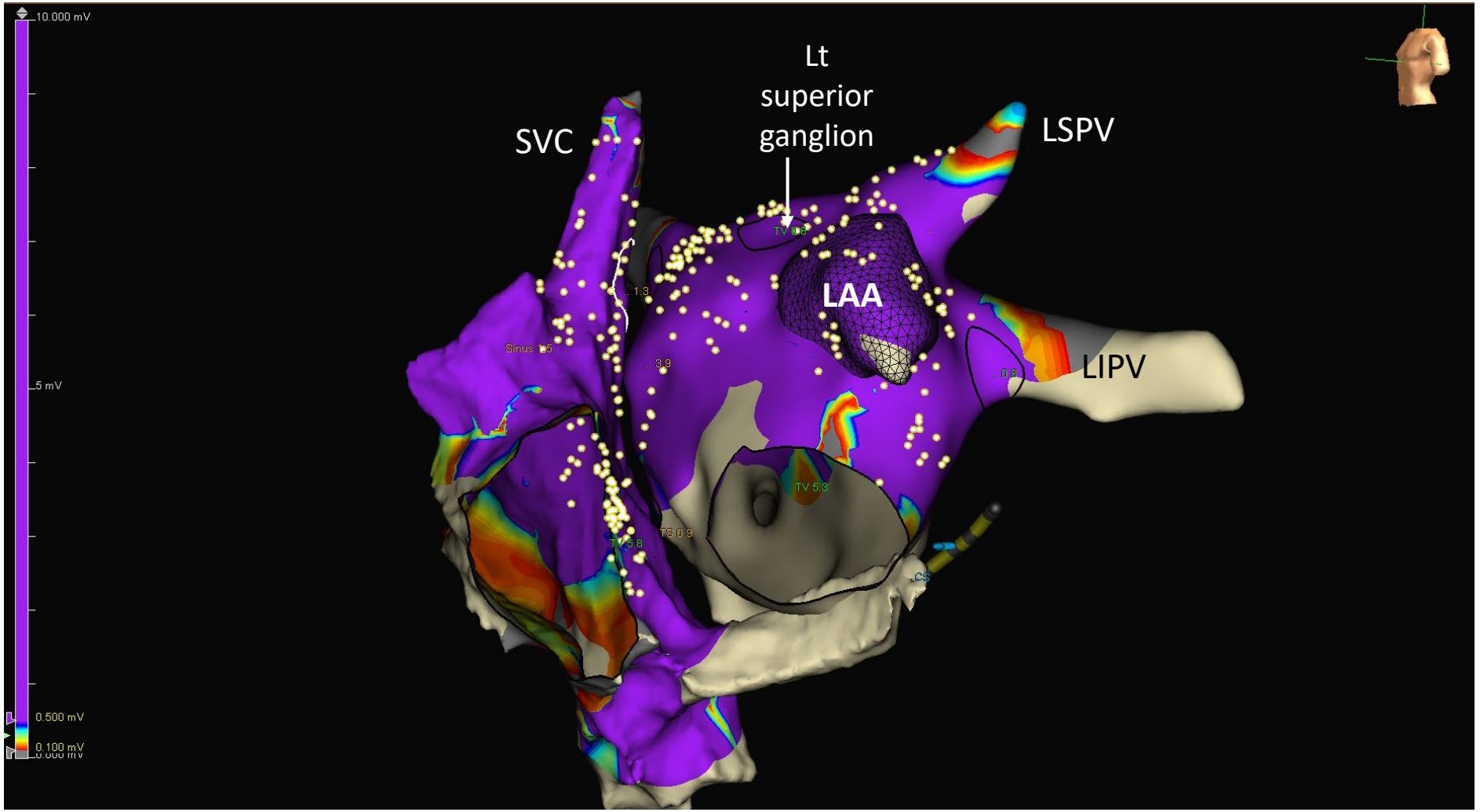
RA map, posterior view



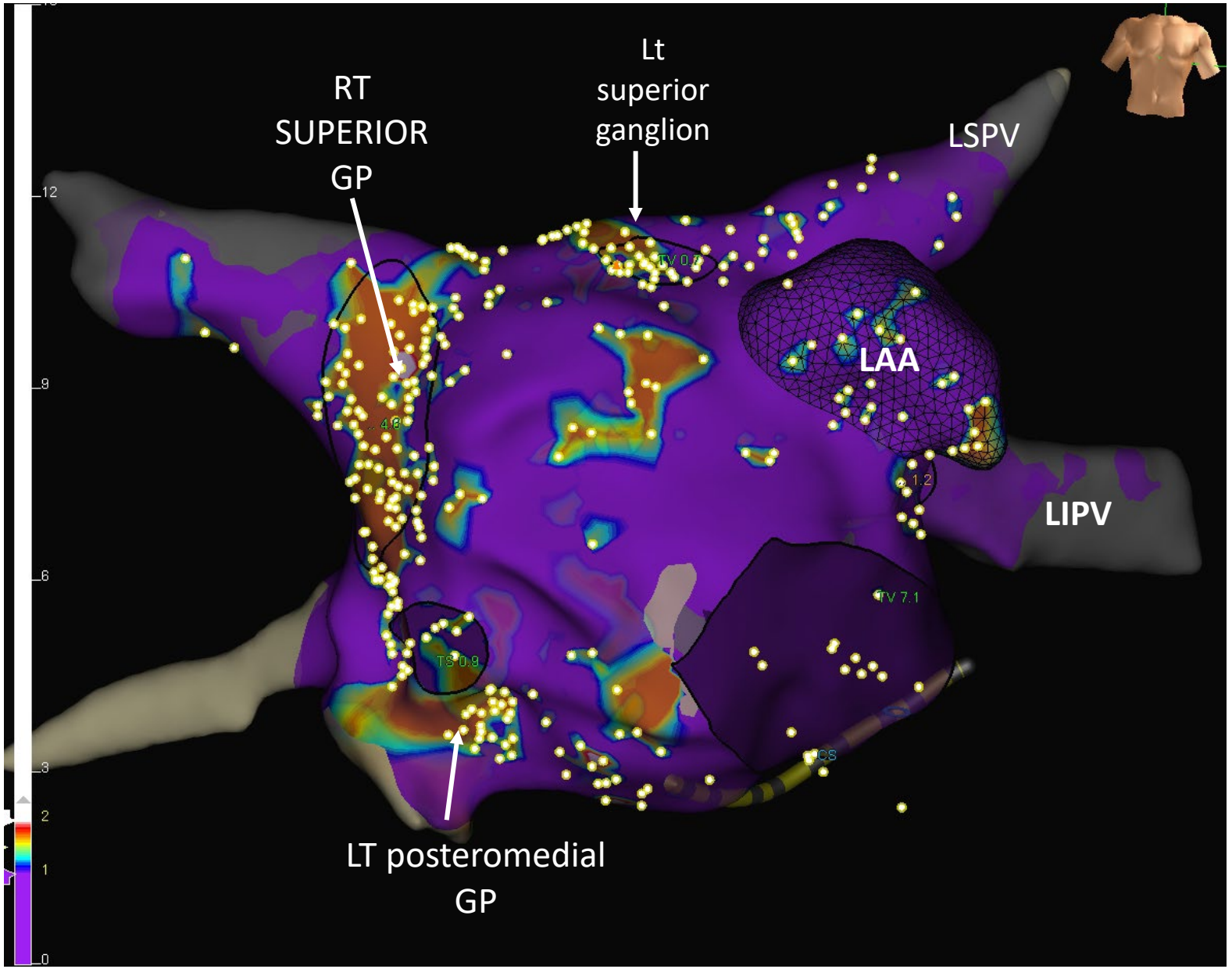
Rt lateral view of RA



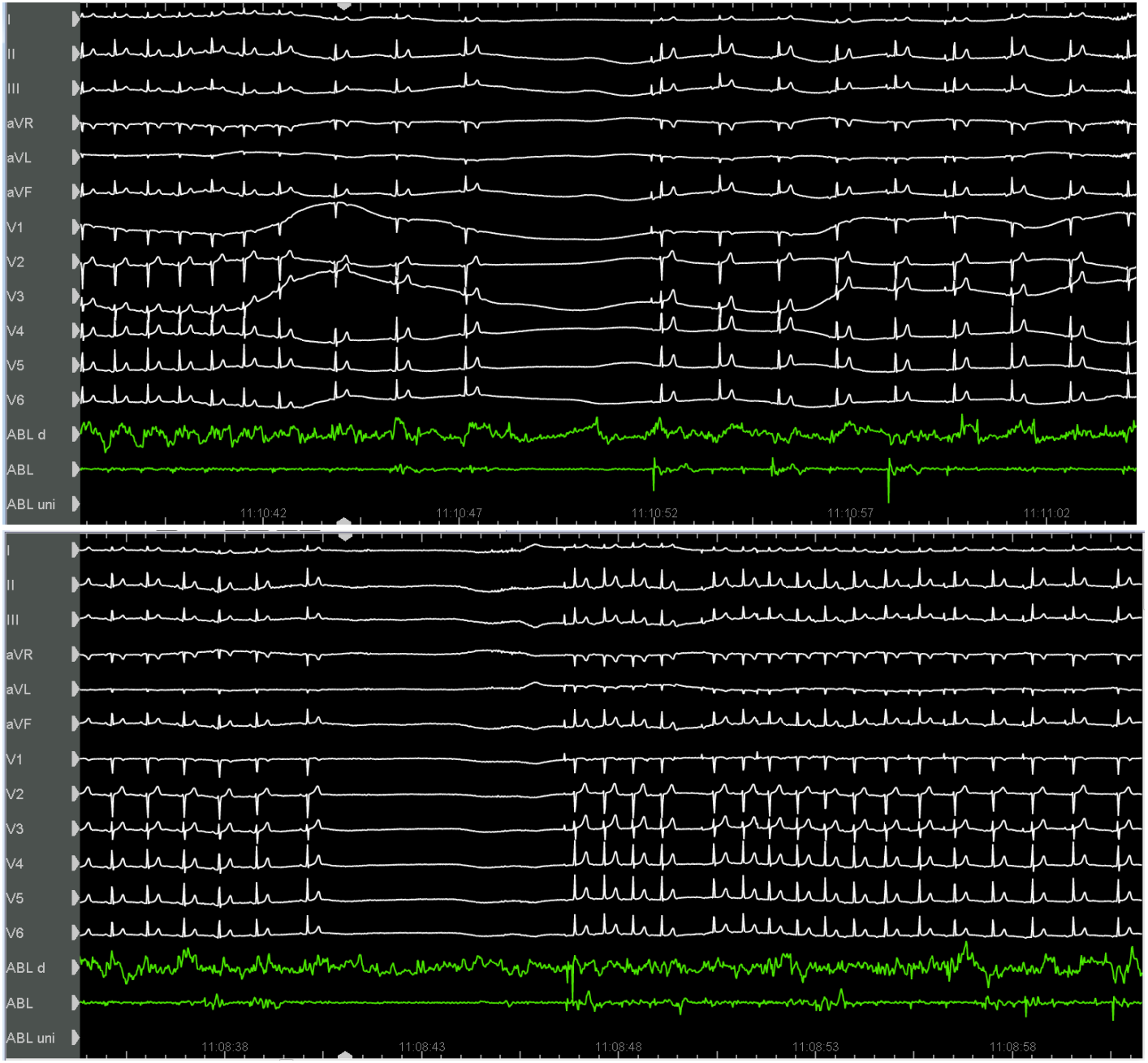
LAO VIEW


10.000 mV
5 mV
0.500 mV
0.100 mV
SVC
Lt
superior
ganglion
LSPV
LAA
LIPV
CS

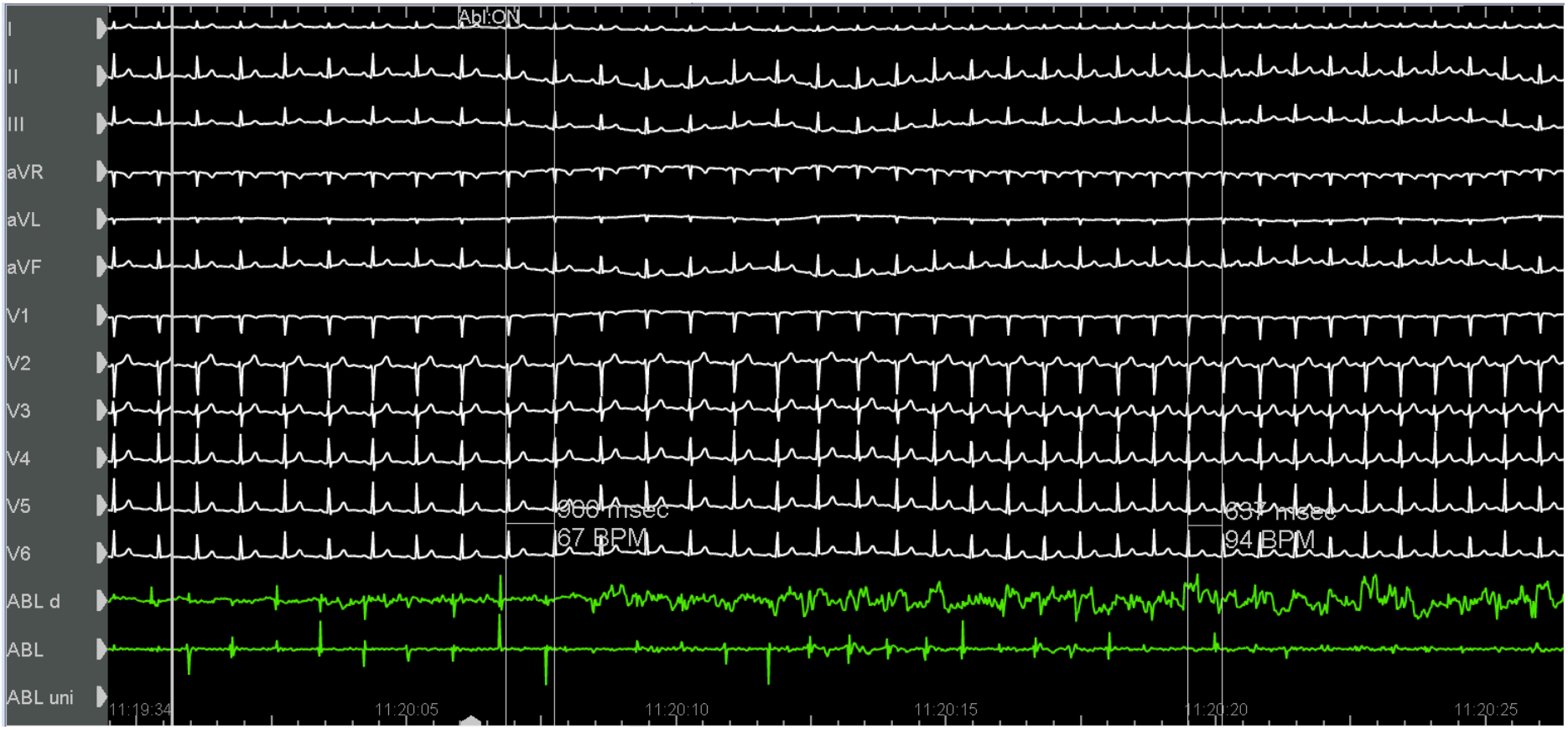
Anterior view of the left atrium



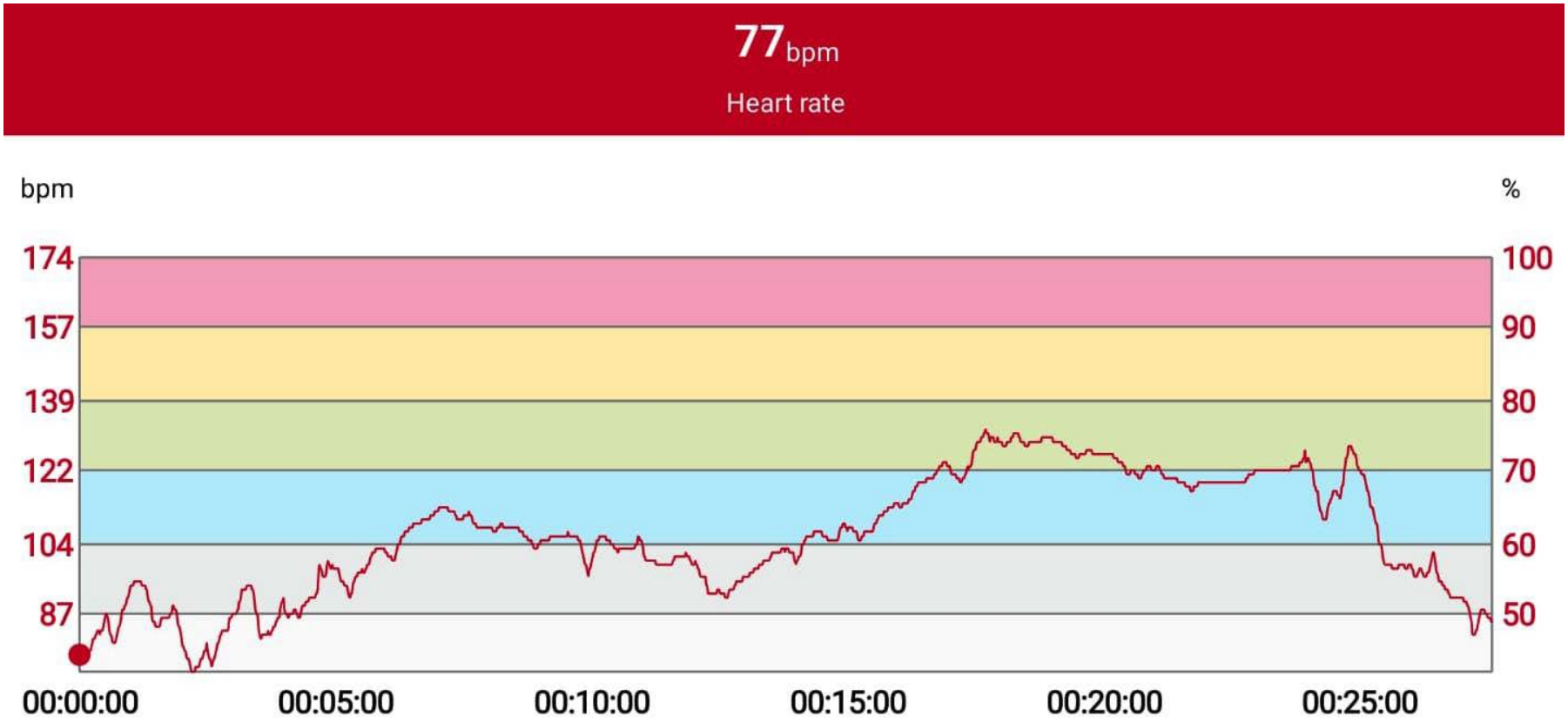
Left superior GP response- vagal



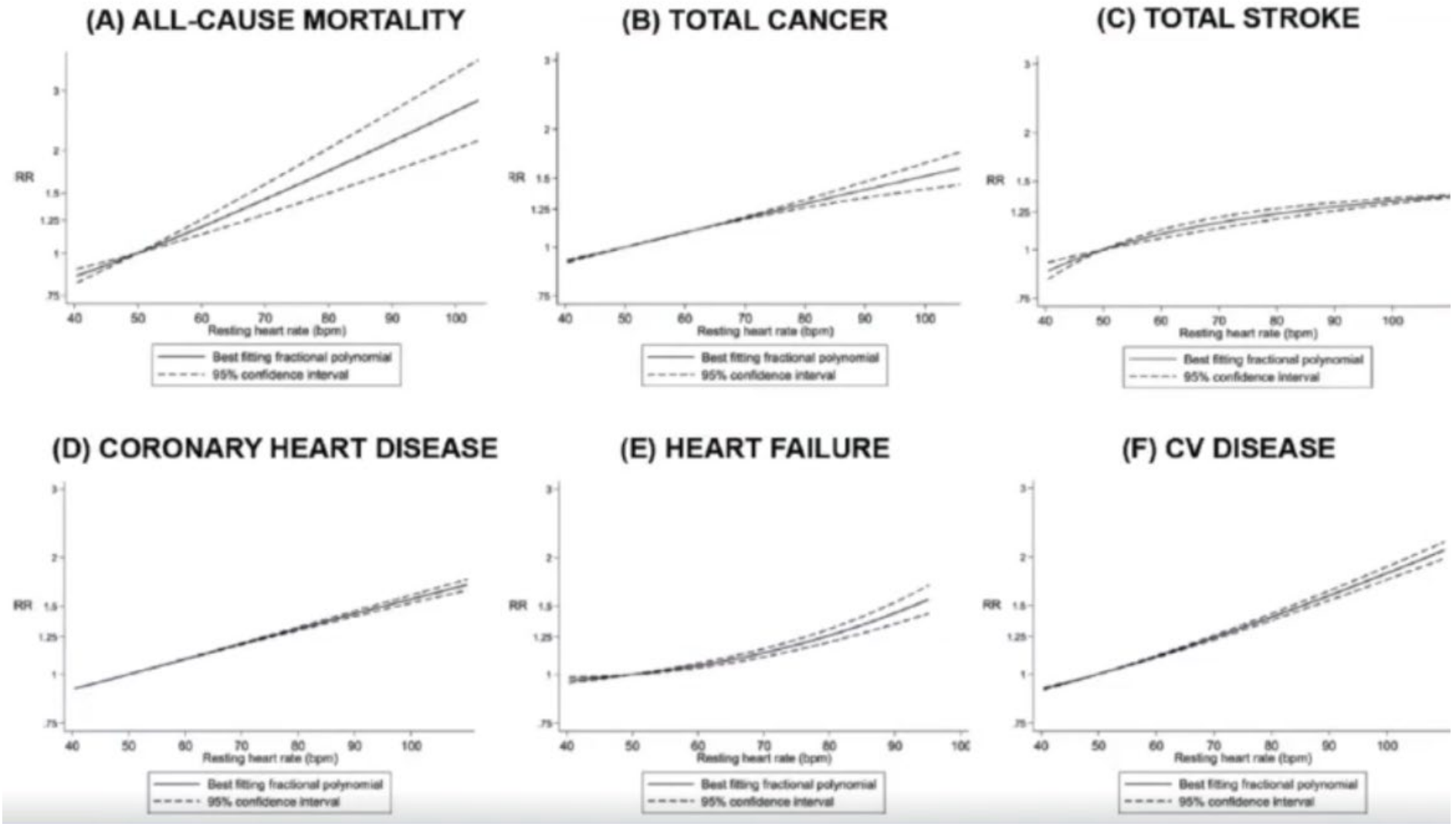
Right superior GP- acceleration response



רישום של הדופק משעון ספורט בזמן אירועים חוזרים של פרכוס לאחר הצריבה- ללא אסיסטולה



Relation between HR and various conditions



HeartRhythm

The Official Journal of the Heart Rhythm Society, The Cardiac Electrophysiology Society, and The Pediatric & Congenital Electrophysiology Society

Heart Rhythm Society SM

Contemporary Review

Check for updates

Potential consequences of cardioneuroablation for vasovagal syncope: A call for appropriately designed, sham-controlled clinical trials

Praloy Chakraborty, MD, MSc,[1,2] Peng-Sheng Chen, MD,[3] Michael H. Gollob, MD,[2] Brian Olshansky, MD,[4] Sunny S. Po, MD, PhD[1]

ABSTRACT

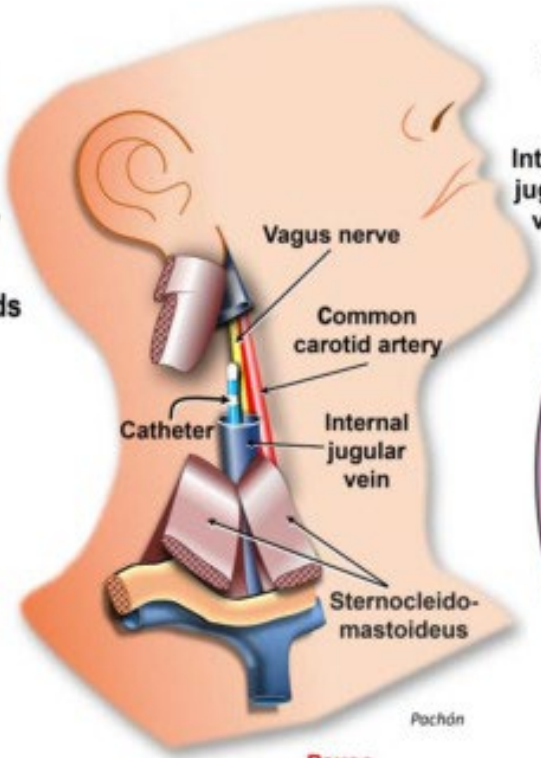
Cardioneuroablation (CNA) is being increasingly used to treat patients with vasovagal syncope (VVS). Bradycardia, in the cardioinhibitory subtype of VVS, results from transient parasympathetic overactivity leading to sinus bradycardia and/or atrioventricular block. By mitigating parasympathetic overactivity, CNA has been shown to improve VVS symptoms in clinical studies with relatively small sample sizes and short follow-up periods (<5 years) at selected centers. However, CNA may potentially tip the autonomic balance to a state of sympathovagal imbalance with attenuation of cardiac parasympathetic activity. A higher heart rate is associated with adverse cardiovascular events and increased mortality in healthy populations without cardiovascular dis-

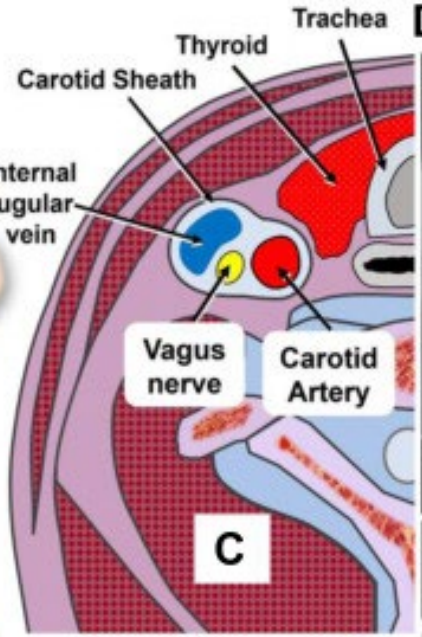
Heart Rhythm J 2024

A

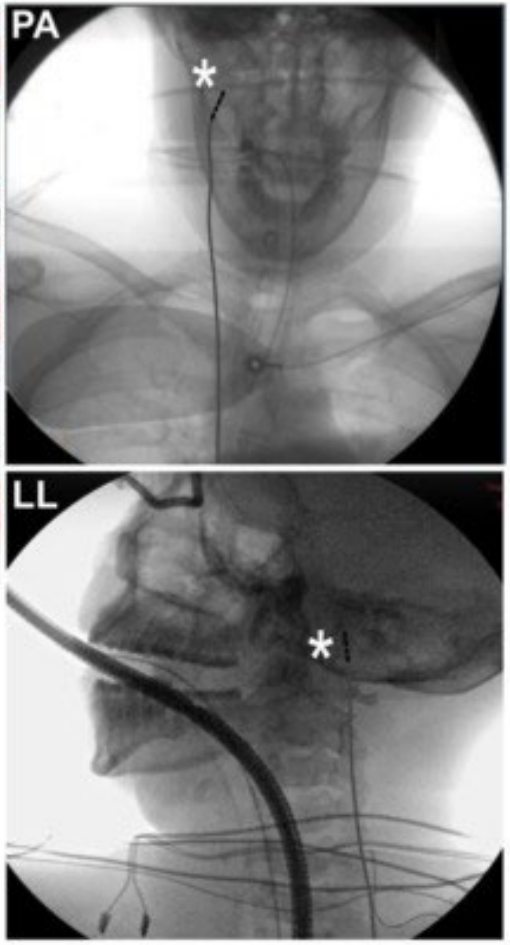
Amplitude 1V/Kg up to 70V
Frequency 50 Hz
Pulse Width 50 microseconds

B





D



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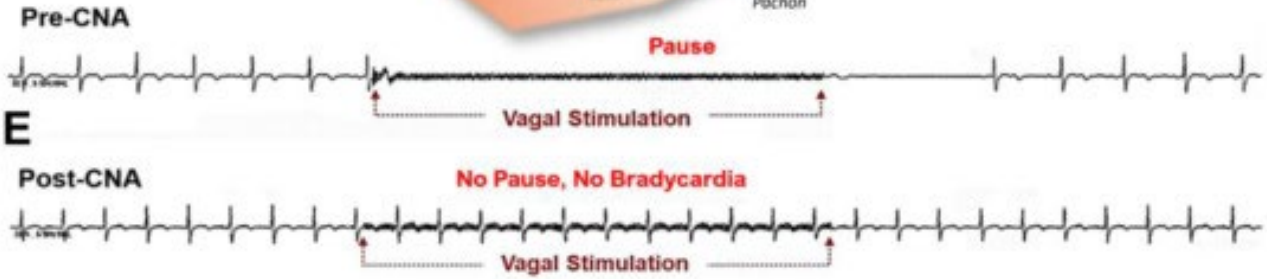

Summary

- Patients with ictal syncope do not have any prodrome and may suffer severe injury during asystole.
- CNA is an option for patients with ictal syncope that cannot be controlled with anti-epileptic treatment.
- Many “unknowns” including where and how to ablate, duration of the effects…
- Long term risks of decreased parasympathetic tone are expected