Sol Ventrikül Çıkım Yolu ve Aortadan Köken Alan Ventriküler Taşikardiler ve Ablasyonları

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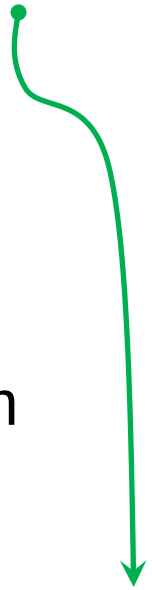
- Sol Ventrikül Çıkım Yolu:

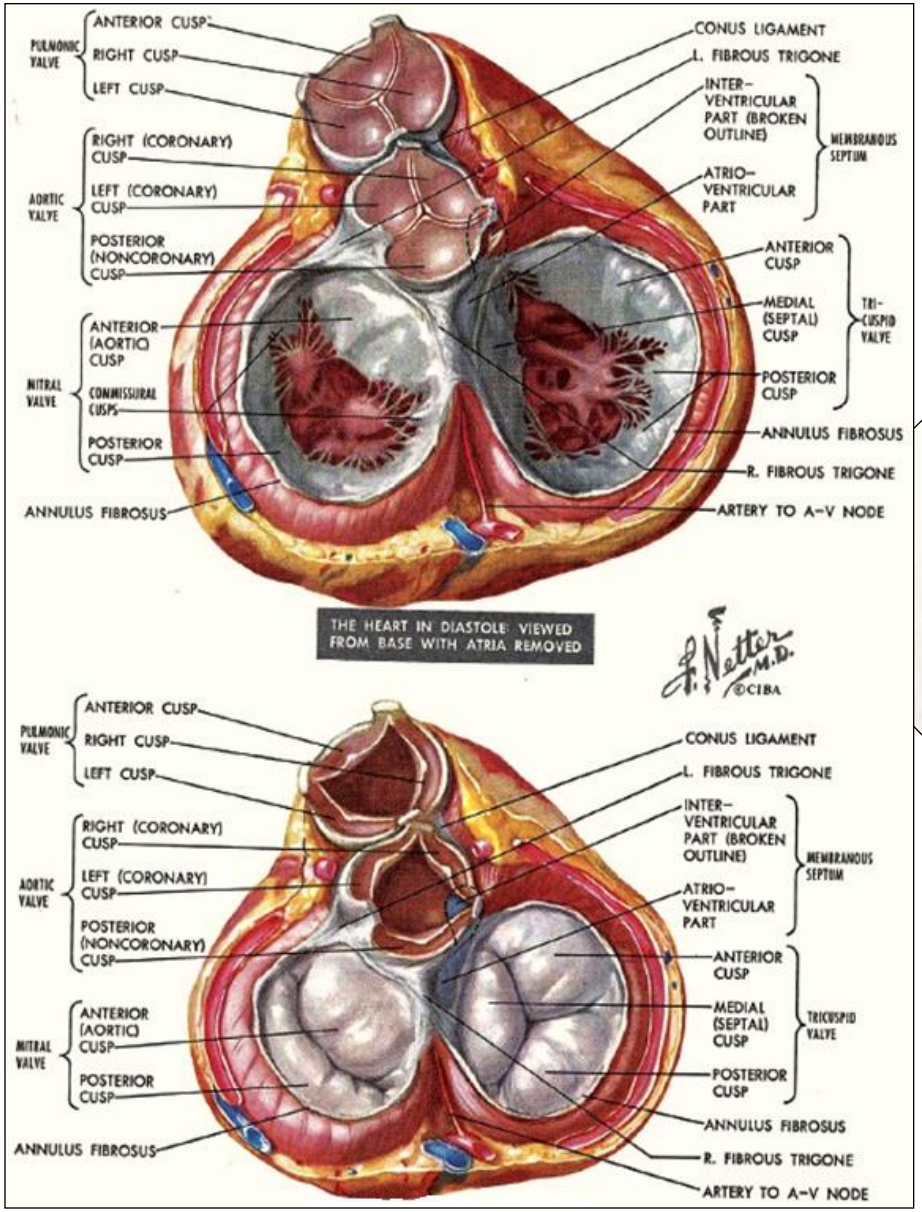
  - Aort Kökü – Valsalva Sinüsleri (**Sol** >> **Sağ** > **Nonkoroner**)
  - Sol Ventrikül Tepesi (LV Summit)
  - AortoMitral Devamlılık (Sol Fibröz Trigon)
  - Mitral Anulus
  - Sol Ventriküler Epikardiyum – Venöz Sistem



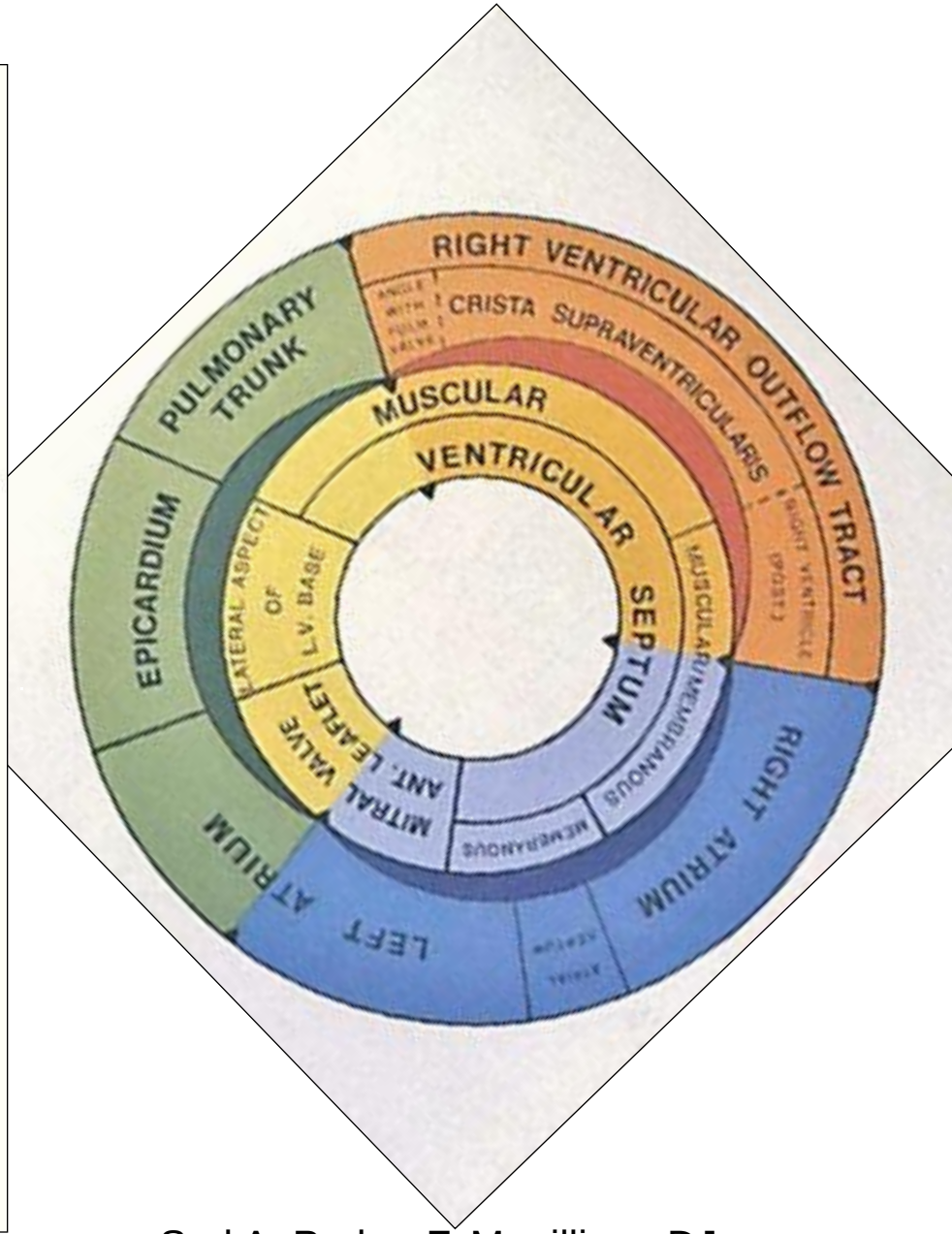
1- Koroner Kuspis Anatomisi/Koroner Arterler/Venöz Sistem

2- Ablasyon Teknikleri

- Retrograd Transaortik -- Antegrad Transseptal Yaklaşım
  - Kuspis Üstü veya Kuspis Altı Ablasyon
- Aktivasyon Haritalama
- RF – Cryoablation
- Irrigated – Nonirrigated Kateterler

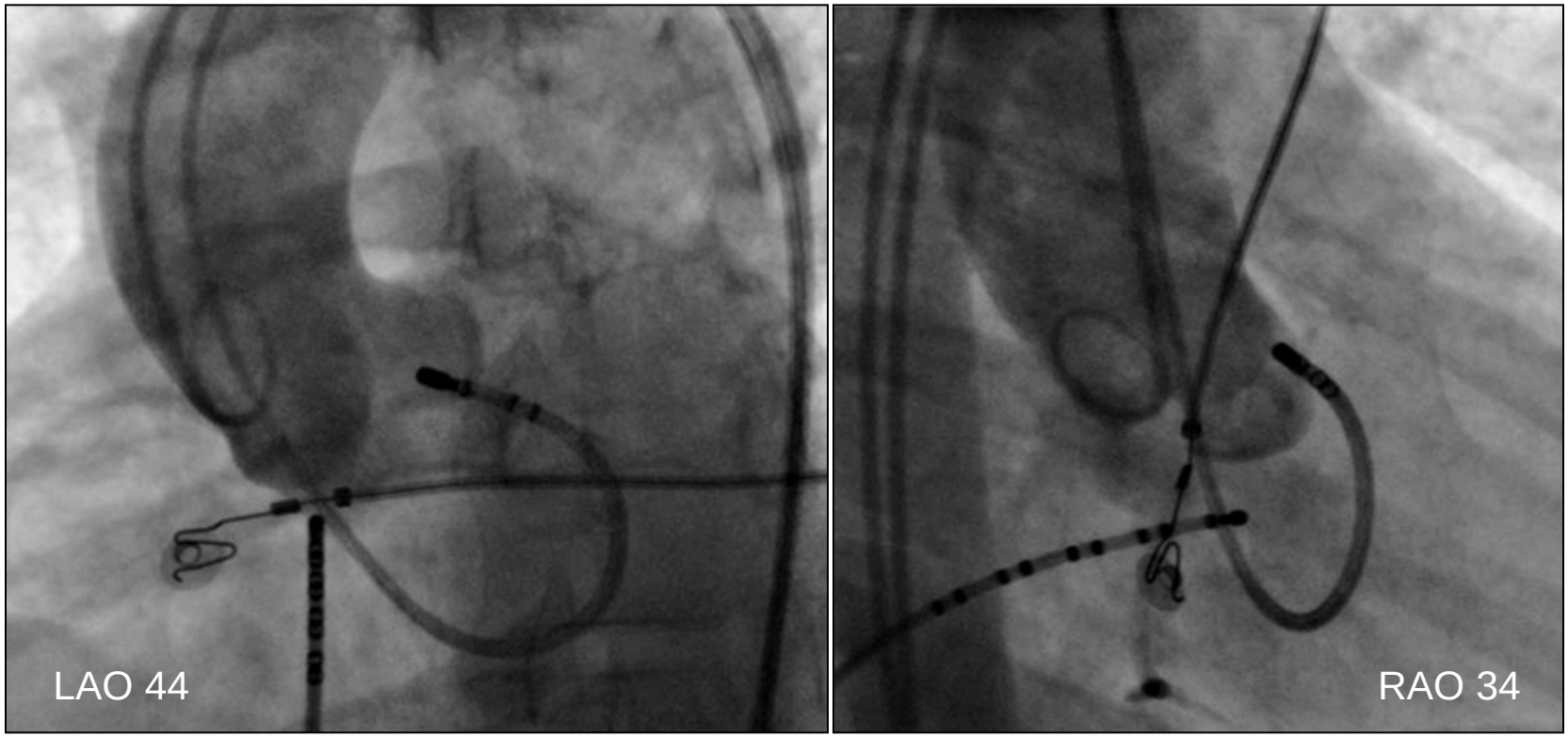


Frank H. Netter



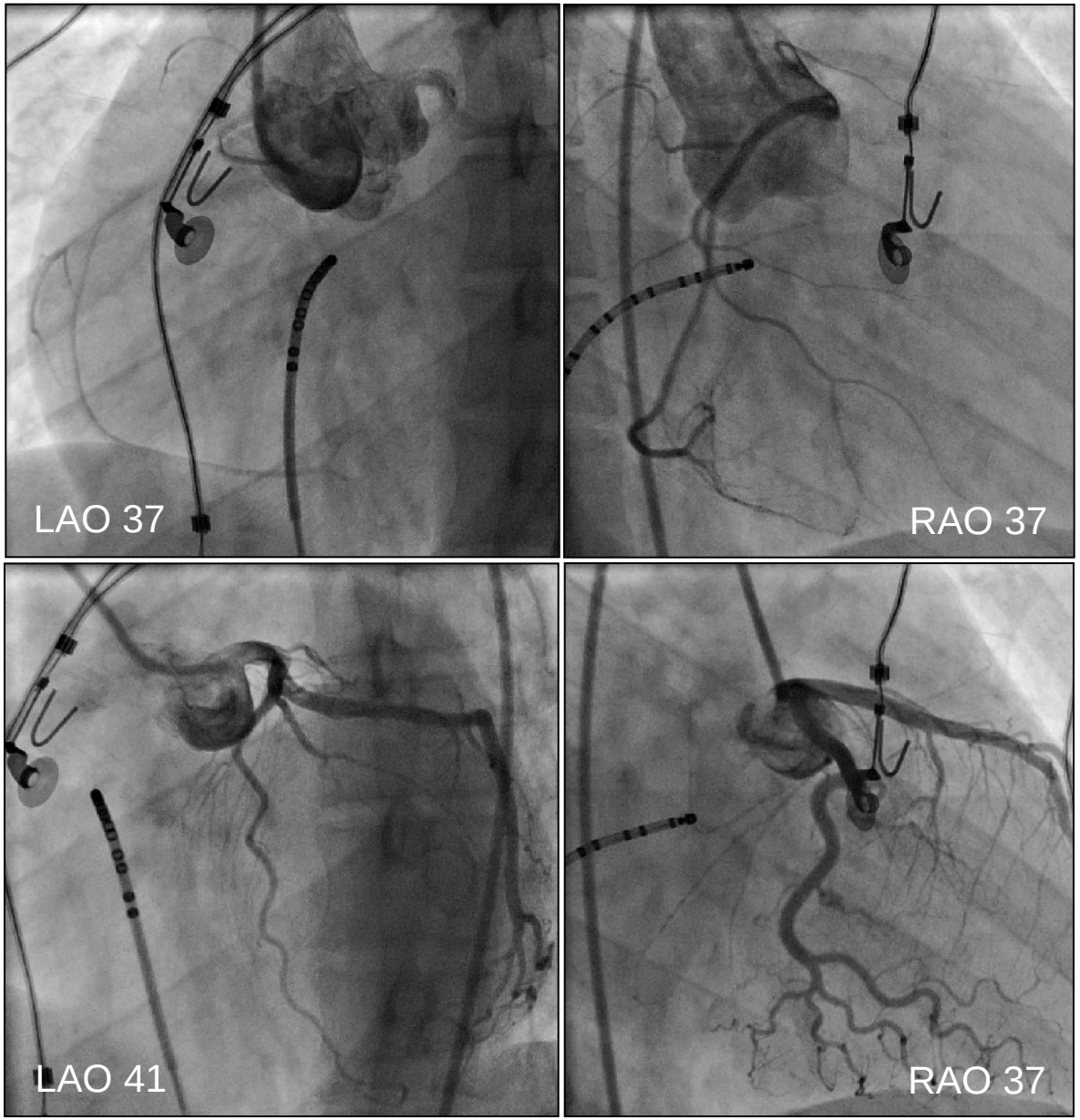
Sud A, Parker F, Magilligan DJ.
Anatomy of the aortic root.
Ann Thorac Surg. 1984;38:76-9.

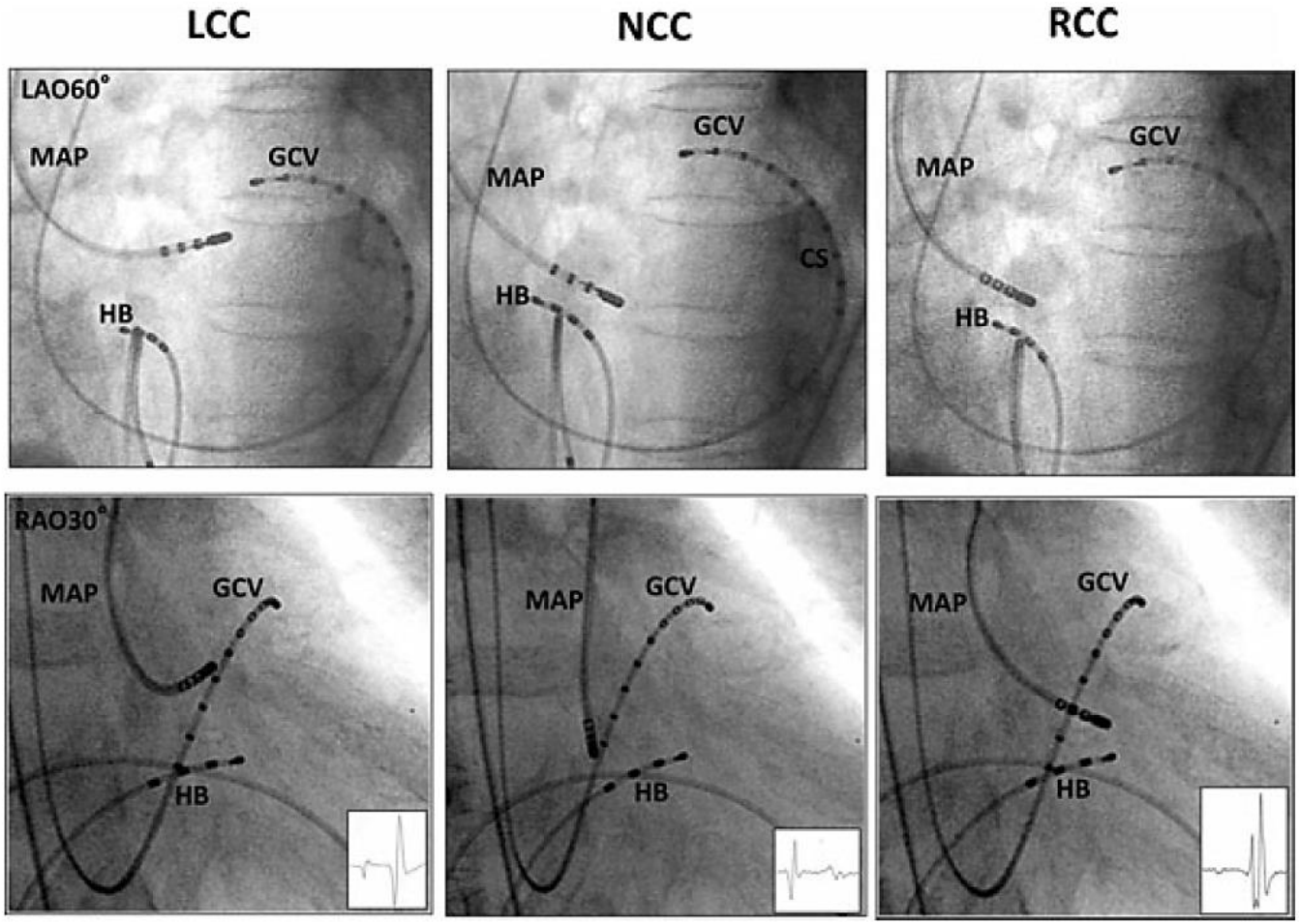
Aortografi



1- His Potansiyeli
2- Uygun LAO ve RAO Açıları
3- Koroner Kuspis Anatomisinin Belirlenmesi (Aortografi veya Koroner Anjiyografi)

Koroner Anjiyografi



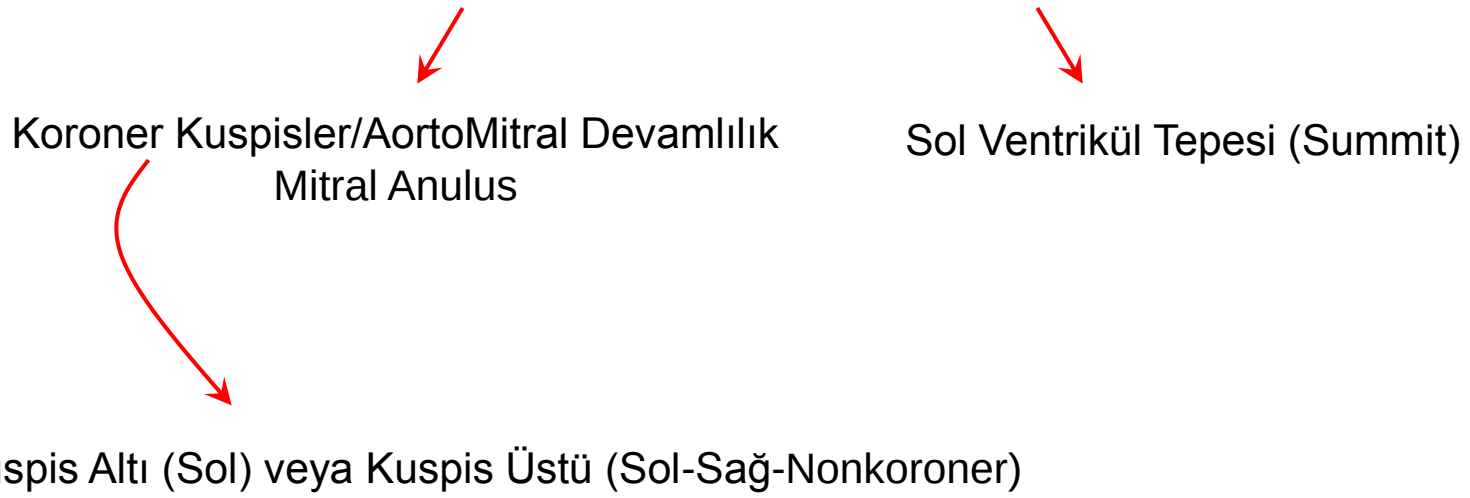


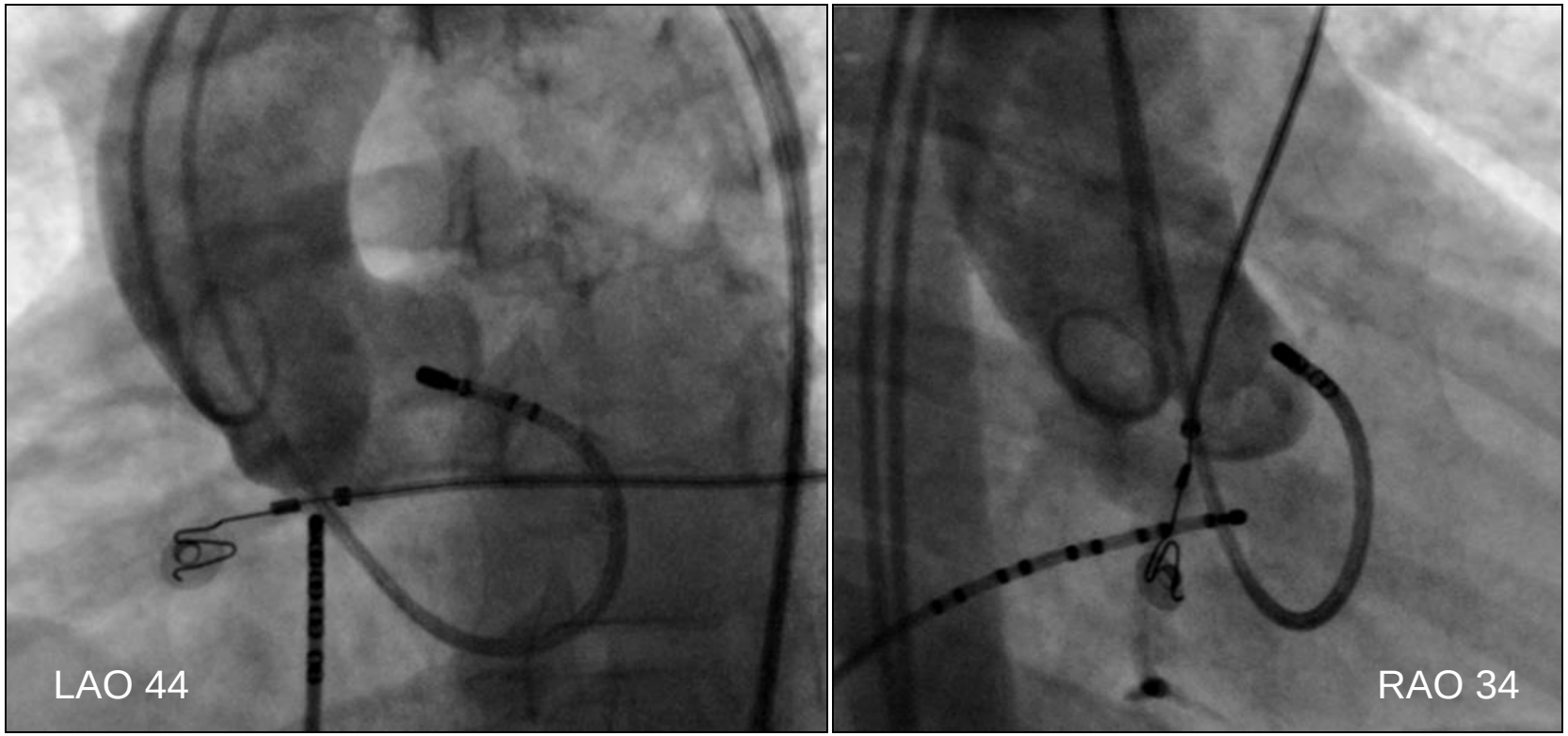
Koroner Kuspisler - His - CS Anatomisi/GCV - AIV

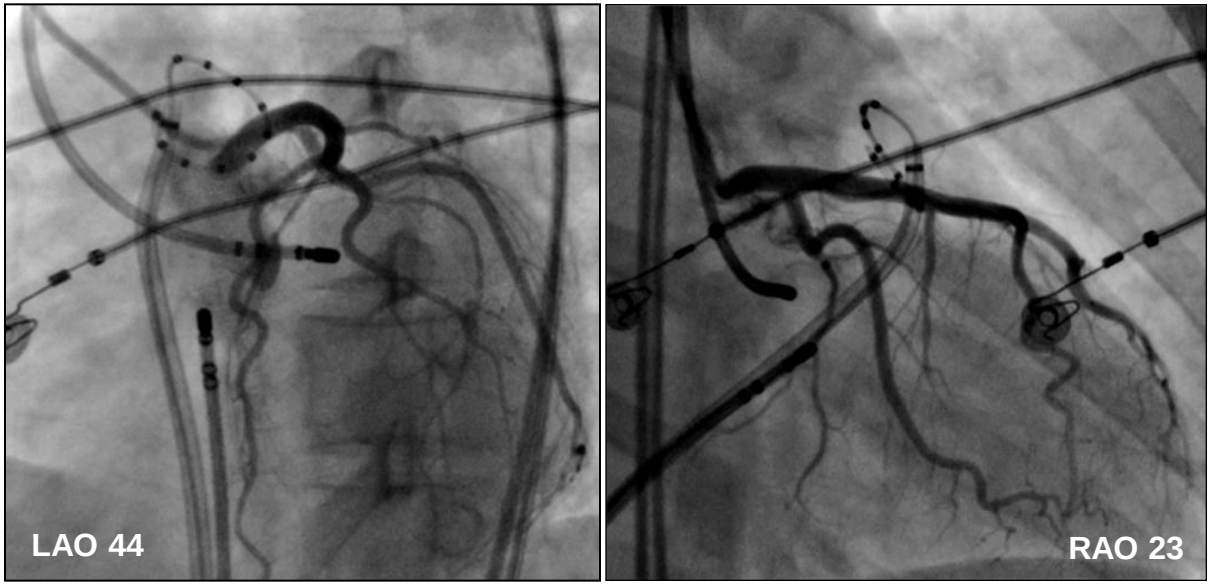
Sasaki T, et al. Utility of distinctive local electrogram pattern and aortographic anatomical position in catheter manipulation at coronary cusps.
J Cardiovasc Electrophysiol. 2011;22:521-9.

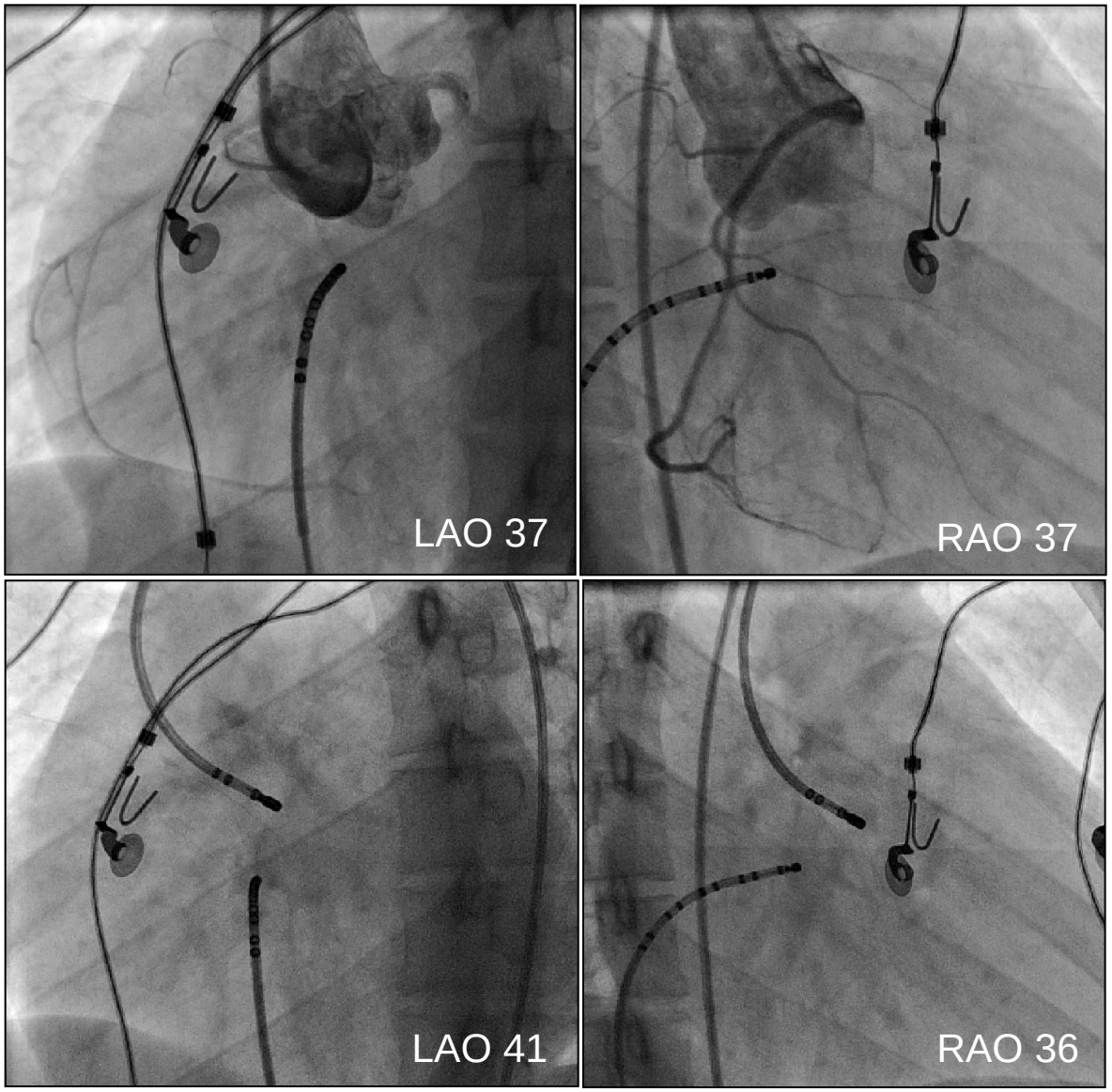
- **Ablasyon Teknikleri:**

  - Retrograd Transaortik --- Antegrad Transseptal Yaklaşım




LAO 44
RAO 34


LAO 44
RAO 23


LAO 37
RAO 37
LAO 41
RAO 36

- **Ablasyon Teknikleri:**

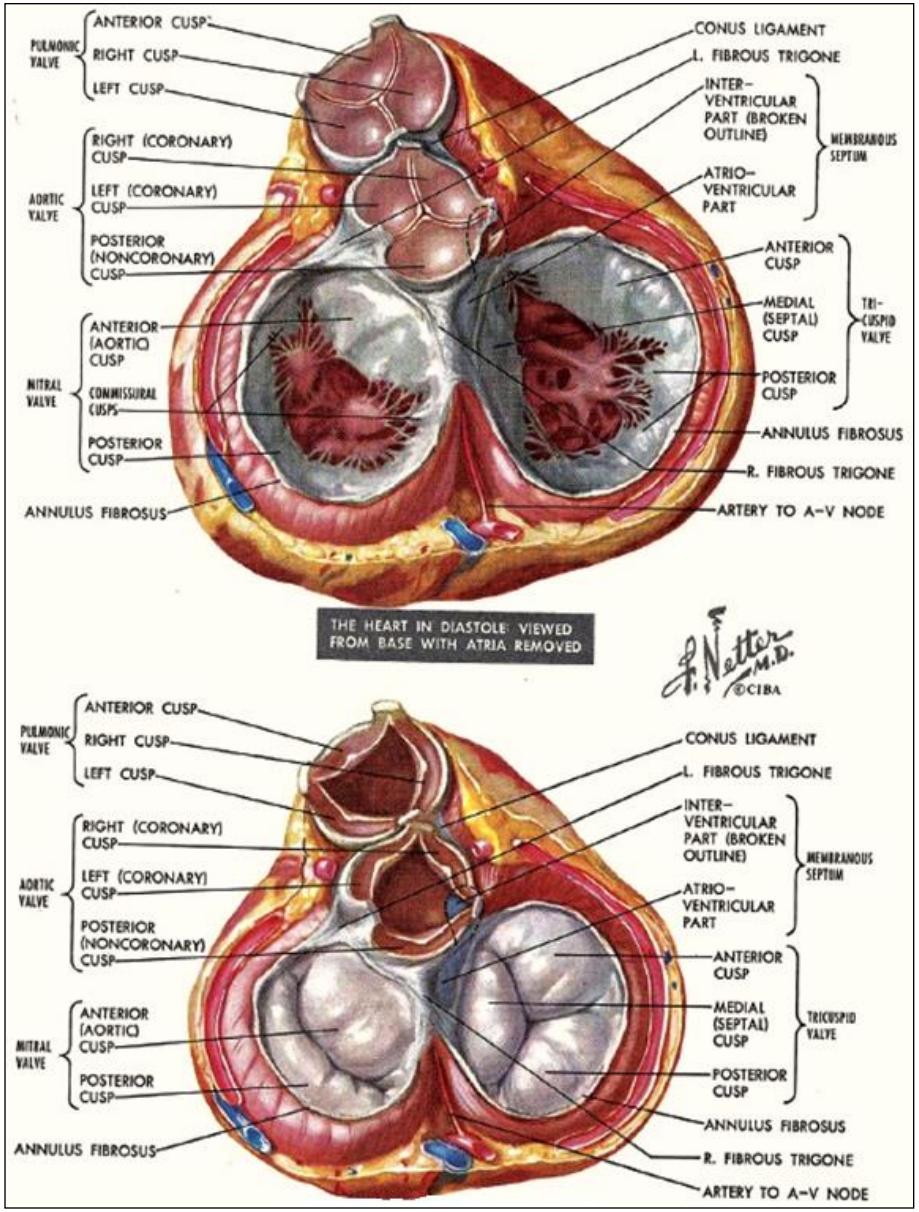
  - Retrograd Transaortik --- Antegrad Transseptal Yaklaşım

Koroner Kuspisler/AortoMitral Devamlılık
Mitral Anulus

Sol Ventrikül Tepesi (Summit)

Ouyang F, et al. Ventricular arrhythmias arising from the left ventricular outflow tract below the aortic sinus cusps: mapping and catheter ablation via transseptal approach and electrocardiographic characteristics.
Circ Arrhythm Electrophysiol. 2014;7:445-55.

Kuspis Altı (Sol) veya Kuspis Üstü (Sol-Sağ-Nonkoroner)



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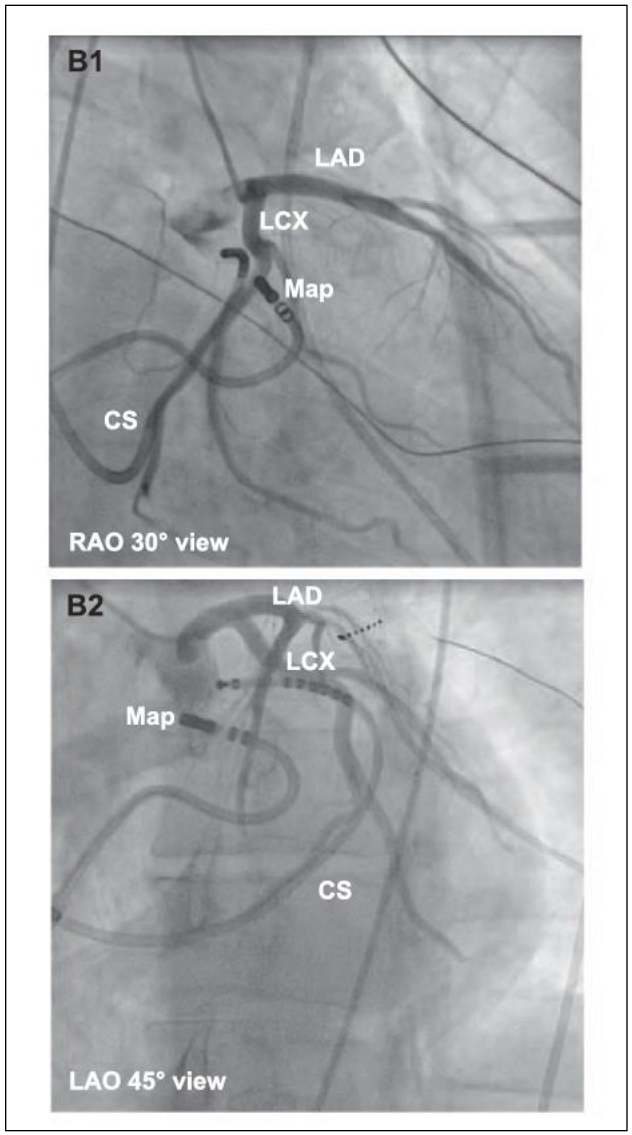


Antegrad Transseptal Yaklaşım
Tersine (Reversed) S Eğrisi

Ouyang F, et al. Ventricular arrhythmias arising from the left ventricular outflow tract below the aortic sinus cusps: mapping and catheter ablation via transseptal approach and electrocardiographic characteristics.
Circ Arrhythm Electrophysiol. 2014;7:445-55.

- Ablasyon Teknikleri: Başarılı Ablasyon Bölgesi

- Aktivasyon Haritalama – Pace Haritalama – Potansiyeller

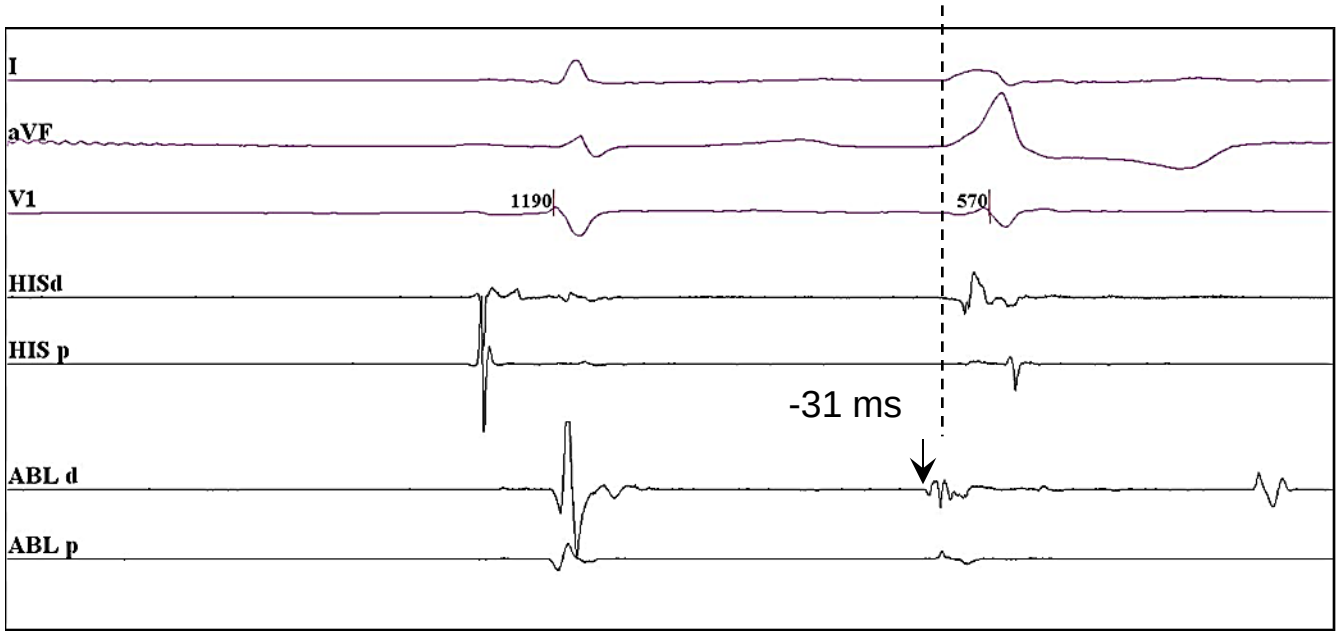
- Lokal aktivasyon zamanı (≤ -20 ms)
- QS patern varlığı (Unipolar elektrogram) – 30 Hz
- Reversed Polarite (Bipolar elektrogram) – 30 to 500 Hz

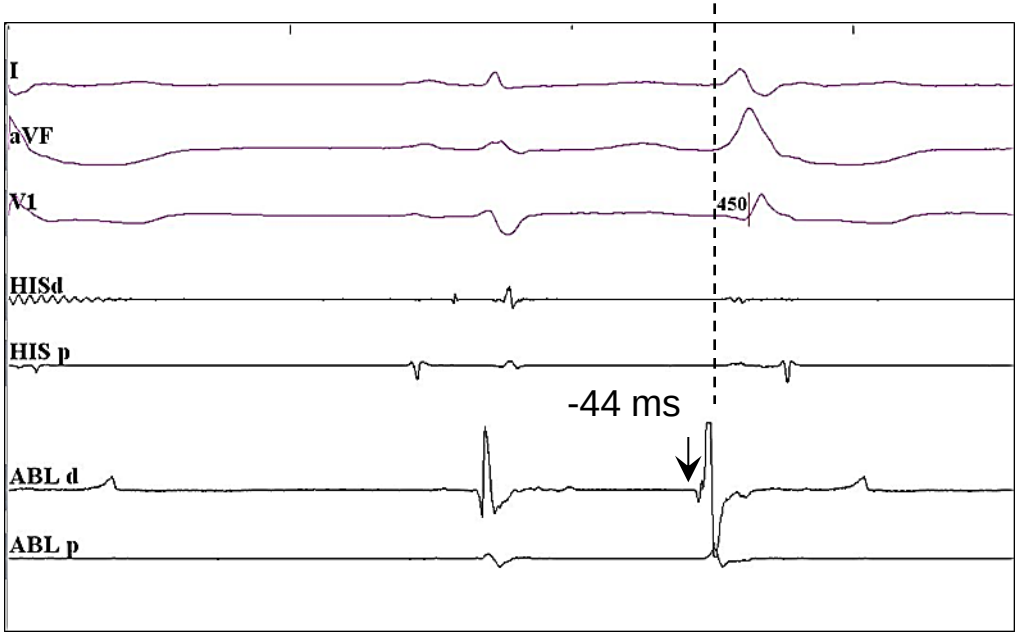
Kas Uzantı Potansiyelleri

Ayrık (Discrete) Potansiyeller (DP)

Ayrık (Discrete) Prepotansiyeller

Bystanders


I
aVF
V1
1190
570
HISd
HIS p
-31 ms
ABL d
ABL p


I
aVF
V1
450
HISd
HIS p
-44 ms
ABL d
ABL p

- **Ablasyon Teknikleri: Başarılı Ablasyon Bölgesi**

- Aktivasyon Haritalama – Pace Haritalama – Potansiyeller

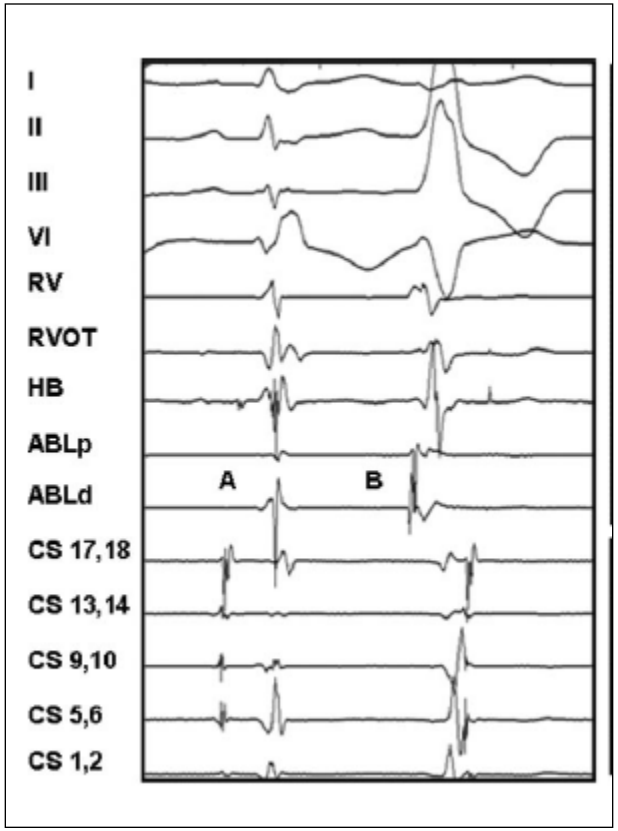
- Lokal aktivasyon zamanı (≤ -20 ms)
- QS patern varlığı (Unipolar elektrogram) – 30 Hz
- Reversed Polarite (Bipolar elektrogram) – 30 to 500 Hz

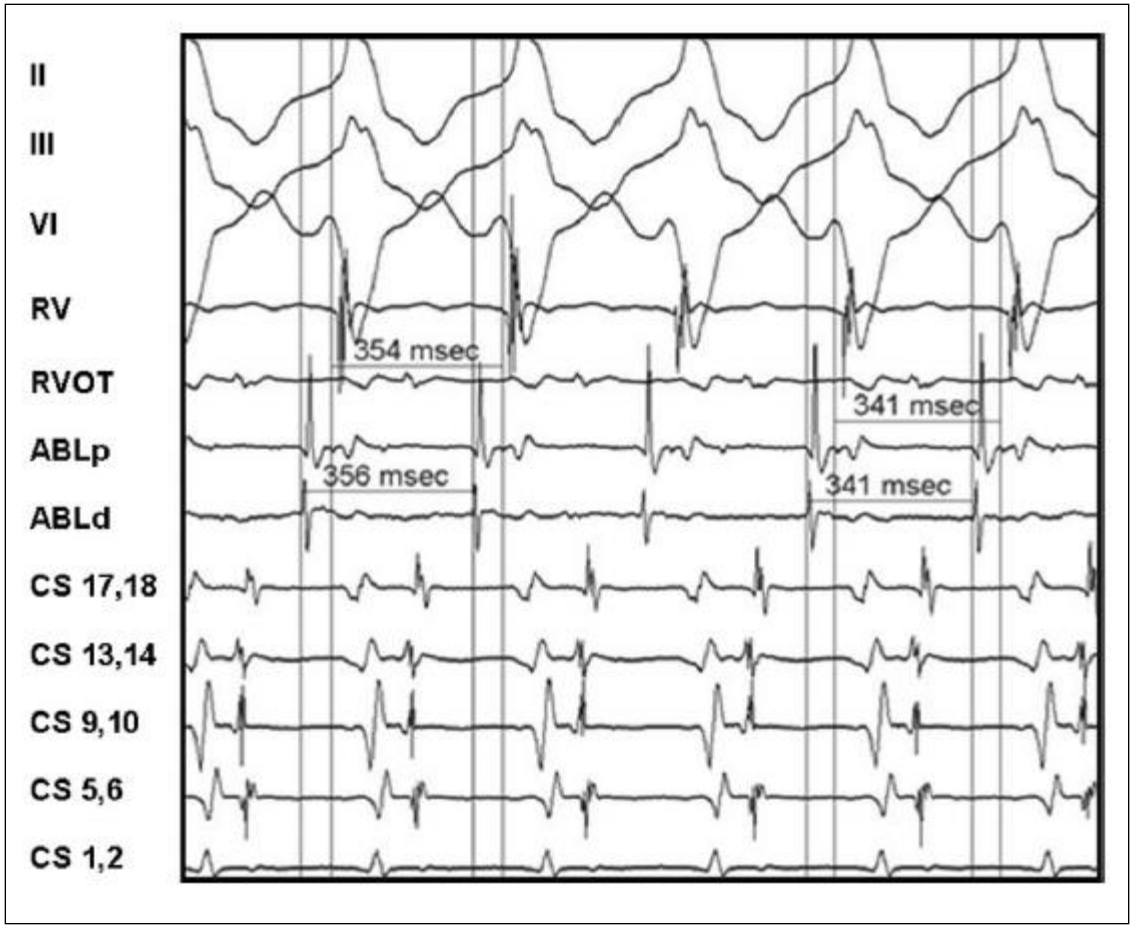
Kas Uzantı Potansiyelleri

Ayrık (Discrete) Potansiyeller (DP)

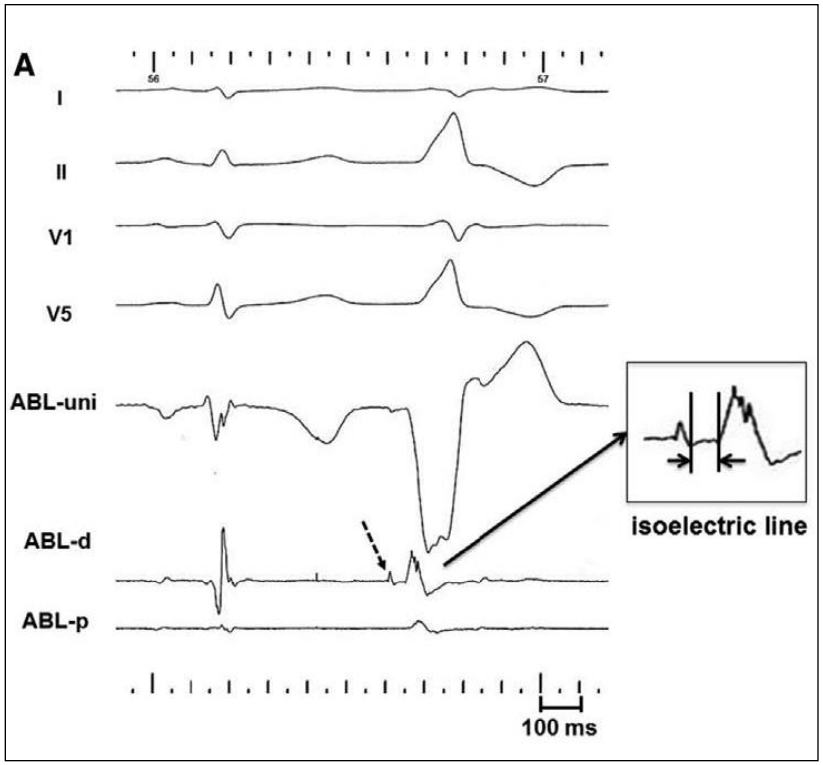
Ayrık (Discrete) Prepotansiyeller

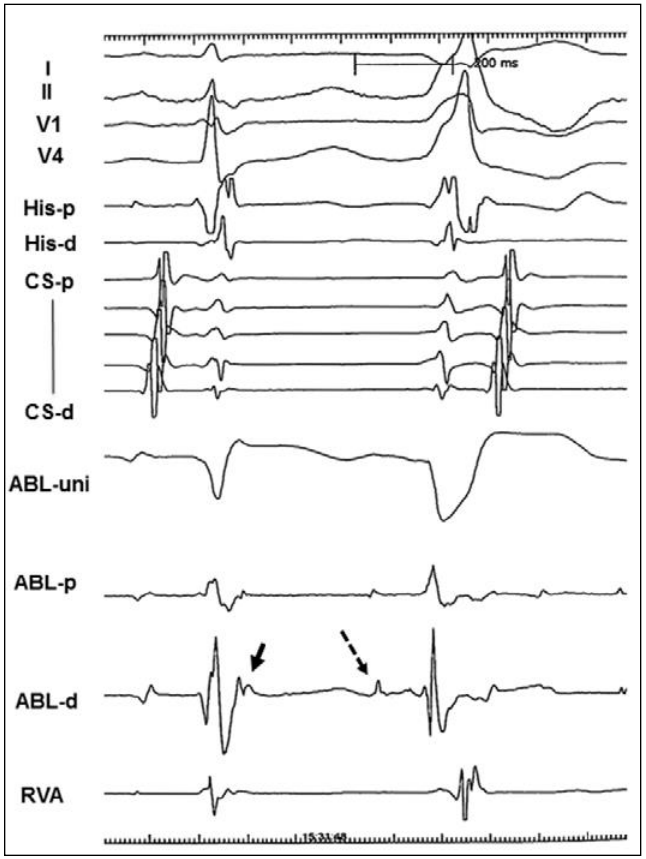
Bystanders





Srivathsan KS, et al. Mechanisms and utility of discrete great arterial potentials in the ablation of outflow tract ventricular arrhythmias. Circ Arrhythm Electrophysiol. 2008;1:30-8.





≥50-ms aktivasyon zamanlı (100-ms kadar olabilir) ayrık (discrete) prepotansiyeller başarılı ablasyon bölgelerinin göstergesi olabilir. Sadece 25% olguda gösterilebiliyorlar!

Hachiya H, et al. Discrete prepotential as an indicator of successful ablation in patients with coronary cusp ventricular arrhythmia.
Circ Arrhythm Electrophysiol. 2013;6:898-904.

- **Ablasyon Teknikleri:**

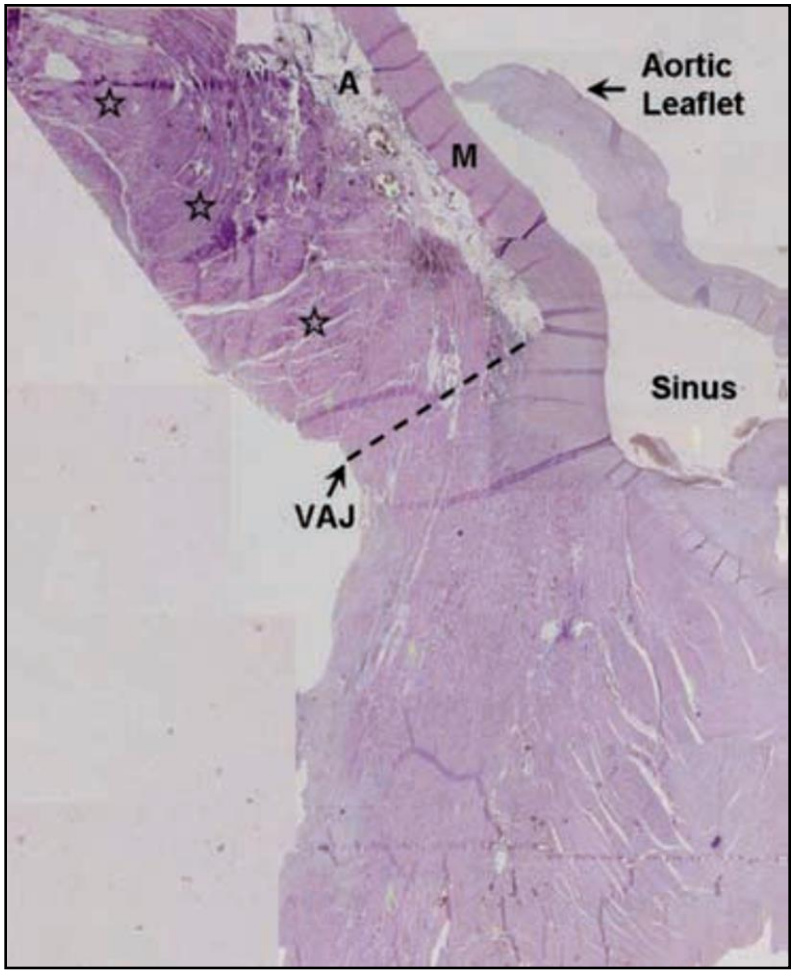
  - **RF** – Cryoablation

  - Irrigated – Nonirrigated Kateterler

Irrigated (3.5-mm)
Güç: 30-35W
Isı Sınrı: 45°C
İnfüzyon hızı: 20 mL/dak

Nonirrigated (4-mm)
Güç: 30-50W

ACT: 250 – 300 arası tutulmalı



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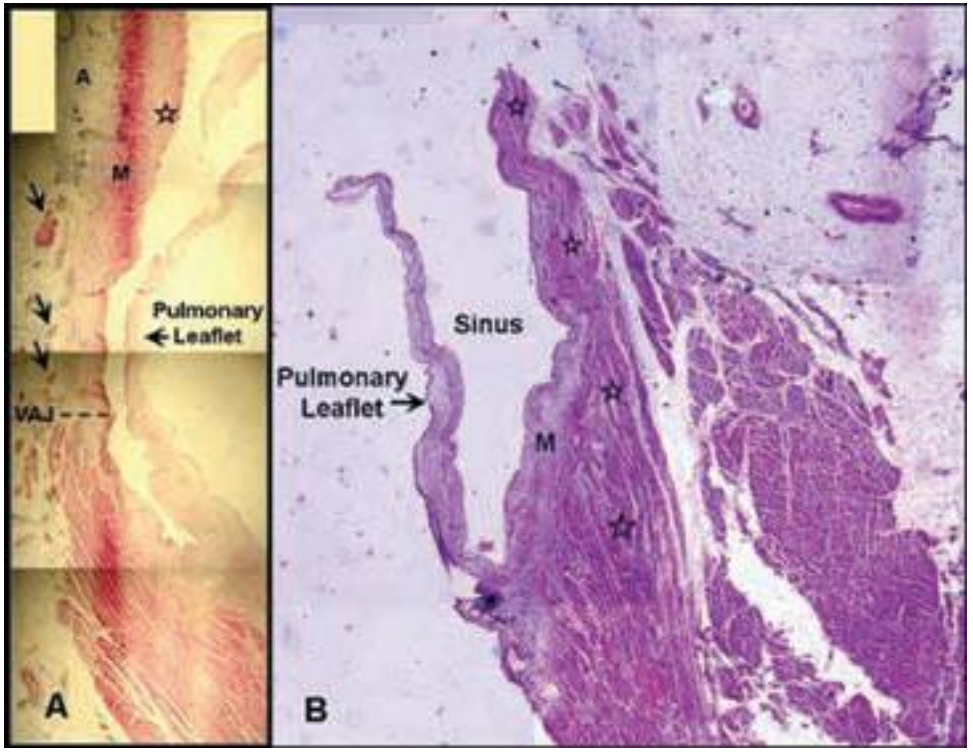

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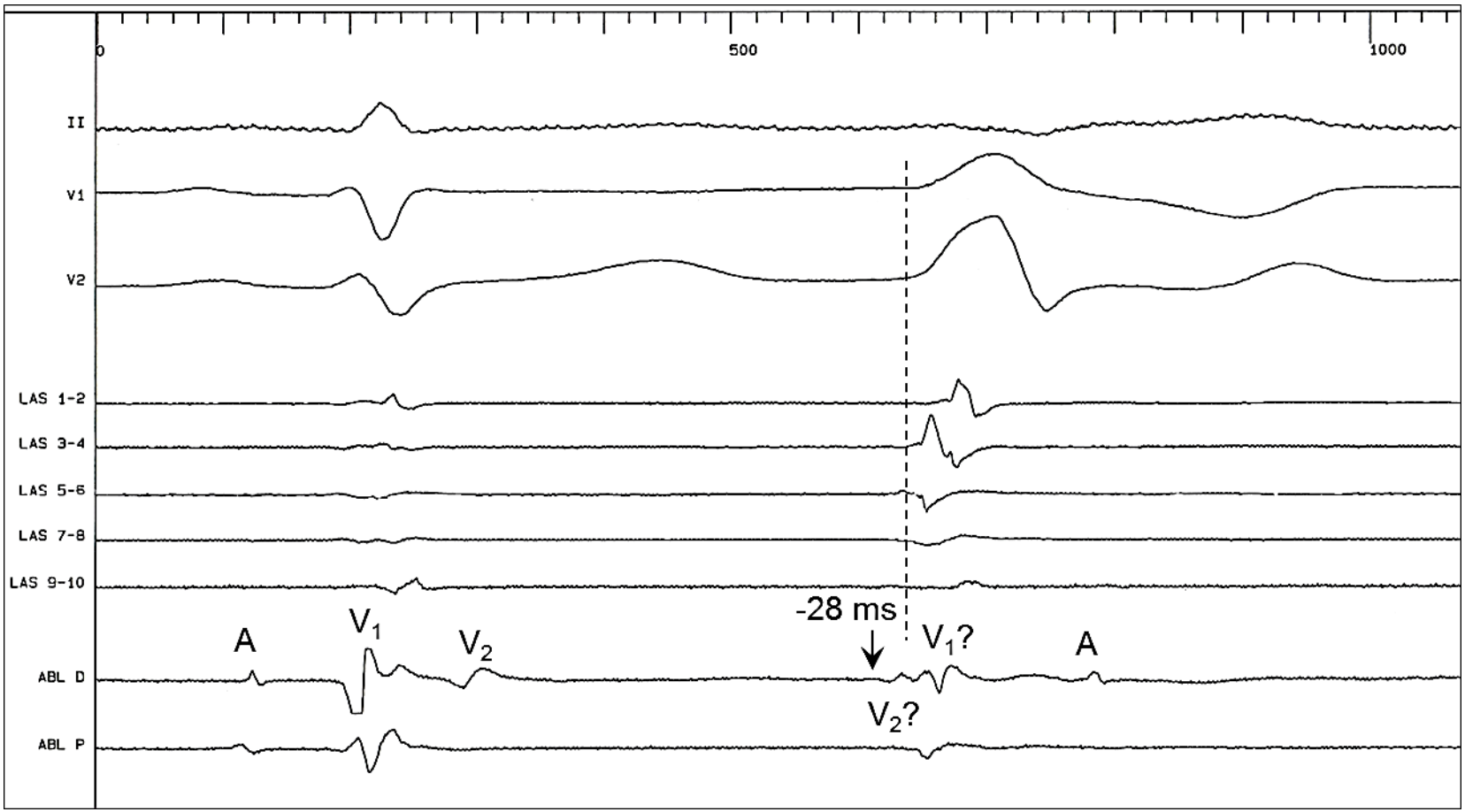
Hasdemir C et al. PACE 2007;30:534-9.

- Left Ventricular Outflow Tract:

  - Aortic Root -- Sinus of Valsalvas (**L >> R > Noncoronary**)

  - Left Ventricular Summit (LVS)
  - AortoMitral Continuity (LFT)
  - Mitral Annulus


0
500
1000
II
V1
V2
LAS 1-2
LAS 3-4
LAS 5-6
LAS 7-8
LAS 9-10
A
V1
V2
-28 ms
V1?
A
V2?
ABL D
ABL P