Current status of ablation therapy for atrial fibrillation
Current status of AF ablation therapy

Recent studies & important messages:

• New study: STAR AF II

• New pathophysiologic concept

• New technology: FIRM (= Rotor) mapping
STAR AF II trial:

589 patients (persistent AF) randomised to:

- PVI alone (n=67)
- PVI + CFAE (n=263)
- PVI + linear lesions (n=259)

12 countries, experienced centers
Current status of AF ablation therapy

STAR AF II trial: Pulmonary vein vein isolation
Current status of AF ablation therapy

STAR AF II trial: PVI + CFAE
Current status of AF ablation therapy

STAR AF II trial: PVI + Linear lesions
Current status of AF ablation therapy

STAR AF II trial:

Documented AF > 30 seconds after one procedure with or without AAD

A. Verma; ESC 2014 Barcelona
STAR AF II trial:

Procedure time: 167min vs. 229min* vs. 223min*

18 months SR (1 proc.): 59% vs. 48% vs. 44%

18 months SR (2 proc.): 72% vs. 60% vs. 58%

A. Verma; ESC 2014 Barcelona
Recent studies & important messages:

- New study: STAR AF II
- New pathophysiological concept
- New technology: FIRM (= Rotor) mapping
Current status of AF ablation therapy

Individualized ablation guided by substrate analysis
Current status of AF ablation therapy

The individually tailored approach

A LVA Distribution Within LA
- septal 72%
- posterior 51%
- roof 49%
- inferior 30%
- posterolateral 6%

B „Healthy“ Left Atrium
- Paroxysmal AF 90%
- Persistent AF 65%

C Left Atrium With Substrate
- Paroxysmal AF 10%
- Persistent AF 35%

Rolf, Sommer et al., Circ AE 2014
The individually tailored approach

Current status of AF ablation therapy

Rolf, Sommer et al., Circ AE 2014
Recent studies & important messages:

- New study: STAR AF II
- New pathophysiologic concept
- New technology: FIRM (= Rotor) mapping
Current status of AF ablation therapy

Focal Impulse and Rotor Modulation: FIRM

A. RA Basket, Ablation Catheter  
B. LA Basket, Ablation Catheter

Implanted ECG Monitor
Left Atrial Basket
Right Atrial Basket

Kawata, Narayan et al. J Inn. CRM 2013
Current status of AF ablation therapy

Focal Impulse and Rotor Modulation: FIRM

Kawata, Narayan et al. J Inn. CRM 2013
Current status of AF ablation therapy

Focal Impulse and Rotor Modulation: FIRM
Current status of AF ablation therapy

Focal Impulse and Rotor Modulation: FIRM
Current status of AF ablation therapy

FIRM visualized in 3D mapping systems
Current status of AF ablation therapy

Rotor mapping: atypical location
Current status of AF ablation therapy

Rotor ablation: CONFIRM study

![Graph showing freedom from atrial fibrillation](image)

- Freedom from Atrial Fibrillation
- Event-Free Survival
- Days
- p = 0.016 1st Ablation
- p = 0.006 All Cases

Narayan et al. JACC 2012
Conclusions

- **Interventional electrophysiology** is still the fastest growing segment in cardiovascular medicine.

- **Many technological options** available reflecting different pathophysiological understanding of AF.

- **Success rates** still approx. 70% after 1 year; probably still due to inability in creating permanent lesions.

- **New technologies** must prove their value in the nearer future.
Current status of AF ablation therapy

Working safe & efficient!
Thank you!

philippsommer@herzzentrum-leipzig.de
Current status of ablation therapy for atrial fibrillation