The management of atrial tachyarrhythmias post AF ablation

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Declaration of interests

- Member of BHRS Exam Committee
- Member of AFA Medical Advisory Committee
- Member of Arrhythmia Alliance Executive Committee
- Consultant to BMS
- Sponsorship from Boston Scientific, St Jude Medical, Biosense Webster, Medtronic, BMS, Boeringer Ingleheim
Aim of this talk

- Definition & Incidence
- Characteristics
- Mechanisms
- Context
  - type of procedure
  - timing post procedure
- ECG interpretation
- What does it mean for the patient?
- Management
Left atrial circumferential ablation
Definition & incidence

- Early recurrence of AF (ERAF) is common (up to 40% of patients)
- In the first 3 months it's called the “blanking period” (Oral 2002)
- Reasons for recurrence: inflammation, reconnection of PVs
- Late recurrence may be up to 50% (in persistent AF)
Characteristics & context

- Patient education before any ablation is critical
- Atrial Tachyarrhythmias are common post AF ablation
- 12 lead ECG to document symptoms is crucial
- Timing and context are important in management
- Need to achieve ventricular rate control
- Won’t always need another ablation
- Mechanism not too important until you get to the lab
Characteristics

- Atrial fibrillation - multi-mechanism
- Typical right atrial flutter – macro-reentry
- Perimitral (atypical) flutter – macro-reentry
- Atrial tachycardia - focal
Management

- Diagnosis is crucial
  - is it persistent or paroxysmal
  - Look at V1
  - Are there more P waves?
  - Does it look a bit weird?
  - Does the morphology look odd?
  - Induce AV block – adenosine, CSM
  - Do a 24 hour tape to look at heart rate variability
Atrial fibrillation
Early recurrence of AF

- Paroxysmal
  - ECG diagnosis, either 12 lead during symptoms, or ambulatory
  - Prescribe rate control drugs
  - Prescribe rhythm control drugs
  - Reassure patient

- Persistent
  - 12 lead ECG
  - Rate control initially
  - Prompt cardioversion
  - Reassure patient
  - Then wait & see
Late recurrence of AF

- Paroxysmal
  - ECG diagnosis
  - Rhythm control drugs
  - Further ablation in 30% of patients

- Persistent
  - ECG diagnosis
  - Offer further ablation, in 50% of patients
  - Cardiovert in meantime
  - Consider short term Amiodarone
  - AF may become paroxysmal

Consider short term Amiodarone
Typical right atrial flutter
Typical right atrial flutter
Typical Right Atrial Flutter
Early or late recurrence of typical atrial flutter

- ECG: “Sawtooth” pattern in leads II, III, and AVF
- Counterclockwise macro-reentry in right atrium
- Ablate an “isthmus” between tricuspid annulus and IVC
- Efficacy >90%
- Recurrence <10%
- Complications: 0.5% risk of AV block, requiring pacemaker, 1 in 200 mortality risk
Atypical/perimitral flutter
Perimitral flutter
Mitral isthmus line to interrupt perimitral flutter
Recurrence of perimitral flutter

- **Early**
  - Rate control with beta blockers and/or Ca channel blockers
  - Amiodarone or high dose Sotalol may be useful in short term
  - Cardioversion
  - Consider anticoagulation issues

- **Late**
  - Rate control
  - Check anticoagulation status
  - Redo ablation
Atrial tachycardia
Focal or Micro Re-entry

- Maps to a single area of early activation
- More common:
  - Post PVI
  - Post CFEs

Heck, Rosso & Kistler JCE 2011; 22: 832-8
Atrial tachycardia
Atrial tachycardia
Early recurrence of atrial tachycardia

- **Paroxysmal**
  - ECG diagnosis
  - May need ambulatory monitoring
  - Rate control +\- rhythm control drugs
  - Avoid Flecainide due to risk of 1:1 conduction

- **Persistent**
  - ECG diagnosis
  - If difficult, 24 hour tape or give adenosine
  - Rate control if tolerable
  - Cardiovert promptly if highly symptomatic or impaired LV function
Atrial tachycardia
Late recurrence of atrial tachycardia

- **Paroxysmal**
  - Assess patient’s symptom burden
  - Further monitoring
  - Check rate control
  - Consider rhythm control
  - Consider further ablation

- **Persistent**
  - If possible, leave in AT, but rate control
  - Use of CARTO or Precision and ablate focus using activation mapping
An example of an AT
Advice to patients

- Manage expectations before the procedure
  - Inform the patient about the blanking period
  - Ensure they have a first point of contact
  - Obtain ECG of symptoms (either 12 lead or ambulatory/AliveCor)
- Keep in contact with the patient
- Close liaison with primary care colleagues
Advice to healthcare professionals

- Obtain ablation report
- Be aware of LV function, as prompt CV may be required
- Instigate rate control initially
- Consider short-term use of AADs, including Amiodarone
- Check anti-coagulation status
- Rhythm control may be necessary
When to switch to permanent rate control

- If ongoing atrial tachyarrhythmias, with multiple procedures
- Check rate control is optimised
- Consider AV node ablation + pacemaker
- Manage expectations
- Informed consent
Conclusion

- Atrial tachyarrhythmias are common post AF ablation
- Most will be left atrial in origin
- AT/AFL may be less well tolerated than AF
- Rate control of atypical flutter & ATs can be difficult with AADs
- It is common to need more than one ablation procedure
- Local contacts in primary and secondary care are crucial
- Close communication and reassurance of the patient is often required
For further advice

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Any questions?