ATRIAL FIBRILLATION

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OBJECTIVES

- Rate vs. Rhythm control
- Rapid Ventricular Response
- STROKE Prevention

PRACTICAL POINTS

- AFIB vs AFLUTTER
- 2-5% in population >60 y/o, 10% >80 y/o
- RF: HTN, CAD, AGE, Mitral valve d/o, CHF, PE, CA, DM2 ; Normal hearts-Etoh, stress, caffeine, hypoxia, sympathomimetics, infection)
- 3 MAIN TYPES OF AFIB
  - Paroxysmal- terminates <7 d, gen lasting <24 hrs
  - Persistent- sustained beyond 7 d or terminated with treatment
  - Permanent/chronic-continuous and decision has been made not to pursue restoration of SR by any means

AFFIRM (Atrial Fibrillation Follow-up Investigation of Rhythm Management) Study

- Multicenter trial 2002 of Rate control vs Rhythm control strategies
- HYPOTHESIS: Total mortality with primary therapy to maintain SR is equal to that with primary therapy to control HR.
- Randomized 4,060 pts (>65 y/o), primary endpoint total mortality
- No significant difference in mortality, although a strong trend towards better survival in rate controlled arm.
- Study also showed that continued anticoagulation is important even in the rhythm control arm (ie: asymptomatic older patient CVR)

MAINTENANCE OF SR (symptomatic, younger, CMO, 1st time)

- POTENTIAL BENEFITS
  - Better control of symptoms
  - Reduced risk from A/C
  - Avoidance of electrical and structural remodeling
- POTENTIAL RISKS
  - Increased risk of adverse effects (drugs) including death
  - Higher cost

RATE CONTROL

- POTENTIAL BENEFITS
  - Lower risk of adverse events (drugs) including death
  - Possibly lower cost
- POTENTIAL RISKS
  - Poorer relief of symptoms
  - Increased risk from A/C

RATE CONTROL: How low ?

- GOAL HR <120
- BP GOAL >90 MM HG
- No significant benefit of strict HR rate control – RACE II Trial (lenient rate control <110 bpm Class 2b for asymptomatic and LVEF preserved)
- Strict HR control <80 bmp reasonable for symptomatic patients (Class 2a)
- The goal is to make patients feels better and to prevent tachycardia induced cardiomyopathy

RVR MANAGEMENT

PRESERVED LVEF

- IV DILTIAZEM (ND CCB)
- IV VERAPAMIL(ND CCB)
- IV METOPROLOL/ESMOLOL
- IV DIGOXIN

LVEF <35%

- IV AMIODOARONE
- IV DIGOXIN
- IV BETA BLOCKERS

ANTICOAGULATION BEFORE and AFTER ELECTRICAL/PHARMACOLOGUCAL CARDIOVERSION

- CLASS 1
  - >48 HRS: A/C 3 weeks prior and 4 weeks after
  - Hemodynamically unstable-start A/C ASAP and cardiovert
  - <48 HRS: start A/C ASAP and continue long term
- TEE GUIDED
  - Followed by 4 weeks of A/C

PHARMACOLOGIC CONVERSION

- QUINIDINE, PROCAINAMIDE, FLECAINIDE, PROPAFENONE, SOTALOL, AMIODARONE, DOFETILIDE, AND IBUTILIDE showed success rate 31-90%
- All can prolong QT and cause Torsades de pointes

ANTIARRHYTHMIC DRUG (AAD)

CAD/CHF

- AMIODAORNE
- SOTALOL
- DOFETILIDE

NO CAD, CHF

- FLECAINADE
- SOTALOL
- PROPAFENONE

CHADS2 vs CHADSVASc

CHADS2

- 0-1.2%
- 1-3.6%
- 2-5.4%
- 3-9.9%
- 4-13.7%
- 5-12.5%
- 6-17.1%

CHADSVASc (superior NPV)

- 0-0.7%
- 1-1.5%
- 2-2.9%
- 3-4.3%
- 4-6.5%
- 5-10%
- 6-12.5%
- 7-14%
- 8-14.1%
- 9-15.9%
- 98% of TE occurred with score>2

TSOAC

UPSIDES

- Easier to use/FASTER
- Better compliance
- Less frequent monitoring
- Less food/drug interactions

DOWNSIDES

- More expensive
- No reversal agent with Xarelto/Eliquis
- Fear of not knowing INR