

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 bpm reasonable for symptomatic patients (Class 2a)

The goal is to make patients feels better and to prevent tachycardia induced cardiomyopathy

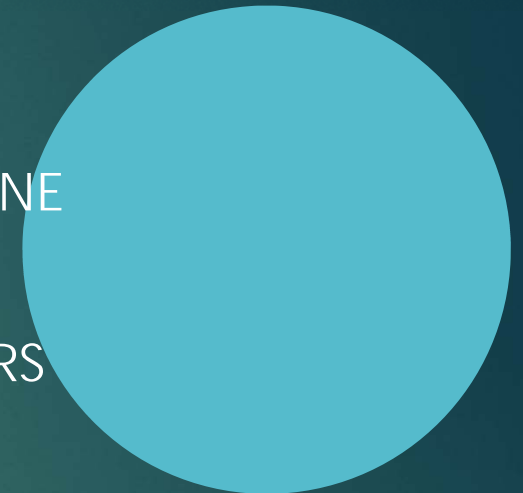
RVR MANAGEMENT

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/PHARMACOLOGICAL 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

- ▶ AMIODARONE
- ▶ SOTALOL
- ▶ DOFETILIDE

NO CAD, CHF

- ▶ FLECAINIDE
- ▶ SOTALOL
- ▶ PROPAFENONE



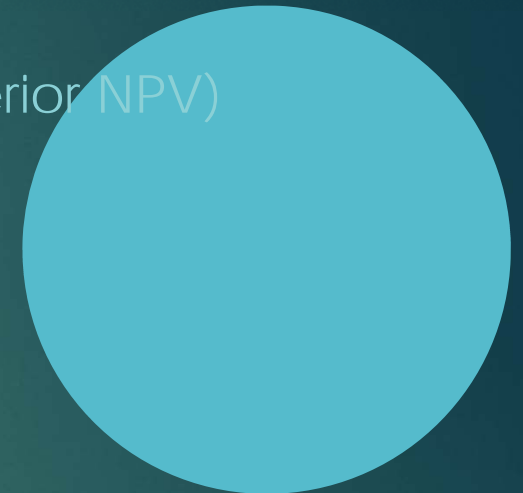
CHADS2 vs CHADSVASc

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

