

21. Atrial Fibrillation

2.2 million Americans, most common significant arrhythmia. Age is biggest predictor:

- 0.5% prevalence in those 50-59 years
- 2.3% incidence, 8.8% prevalence in those >80 years

Classifications:

Paroxysmal: Lasting from seconds to days most episodes terminate spontaneously

Persistent: Converted by medications or DC cardioversion

Permanent: Not possible or is not deemed appropriate to convert

Atrial Flutter: Stable, uniform atrial activation. (EKG-Classifications abandoned)

Type I : Negative Inferior F waves. 240 to 350 bpm. (NASPE has 8 classes of A Flut)

Afib begets Afib: decreased likelihood of success in maintaining NSR if AF > one year.

Uncontrolled rates result in hemodynamic instability and tachycardia-induced cardiomyopathy.

Antiarrhythmic Therapies

Class IA: Quinidine, Procainamide (not used now a days)

30-40% success rate for maintaining NSR. Increased mortality when used in LV dysfunction

Adverse effects: prolonged QT,

Quinidine: tinnitus, headache, diarrhea, N/V "cinchonism"

Procainamide: hypotension w/ IV administration. Lupus-like syndrome

Class IC: Propafenone, Flecainide

Efficacy better than 1A and much better tolerated.

Some used as PRN: Propafenone 600 mg or Flecainide 300 mg (pill in pocket)

Not recommended Ischemic cardiomyopathy.

Class III: Ibutilide-IV, Dofetilide-PO.

Ibutilide 50-70% conversion rate for Afib, esp if recent

onset. 4% incidence of Torsades. Dofetilide requires a 72 hour hospitalization, QTc < 500 ms

Adverse effects: Arrhythmia with long QT, well tolerated maybe headaches and dizziness?

Class III+: **Amiodarone:** IV and oral forms. Some class I and beta blocker action. May help prevent post-cardiac surgery afib.

Adverse effects: Prolonged QT. Potential lung, liver, eye and thyroid toxicities.

Class III+: **Sotalol** has beta blocker effects, but Long QT and at best fair efficacy.

Most Patients Will Tolerate Chronic Atrial Fibrillation

- Treating with Coumadin & rate control
- First line rate control is with beta blockers
- Sudden death with WPW

Anticoagulation of Paroxysmal Atrial Fib : Controversial

PAF without underlying heart disease that does not require anticoagulation

- Frequent short episodes less than 30 seconds on Holter, rare episode less than 24 hour that spontaneous convert, or post op episode

Methods under development for atrial fibrillation management

1. AV node ablation (requires permanent pacemaker)
2. Atrial pacing and atrial defibrillators
3. Atrial surgery (Maze Procedure)
4. EP modification of L atrial pulmonary veins