Anti-Arrhythmic Drugs: Vaughan Williams Classes I-IV

Class 1A

Disopyramide

Procainamide

Quinidine



Rhythm Control

Streamers ⇓ Torsades de Pointes (TdP) ⇓ ↑ Q-T

Na+-K+ Channel Blockers

Wolf means 2 things:

use in pre-existed ① Wolf-Parkinson-White (WPW) Syndrome (IV)

effect: ② Procainamide-induced LUPUS (Lupus means Wolf)

1-Armed pushups = Class 1A

heart ratio = Function at non-pacemaker Cardiomyocytes (~~Nodes~~)

Class 1B



Because it's oral ⇒ ↑ GI upset

Mexiletine (Oral Analogue) = Mexican flag

Rhythm Control

Lidocaine Toxicity (CNS, seizures)

Class 1B = 1st base

Na+ Channel Blocker

Non-Nodal tissue

Usage of Lidocaine: VF, VT, Cardiac Arrest [Acts on ischemic Ventricle]

Lidocaine (IV) = Lighter

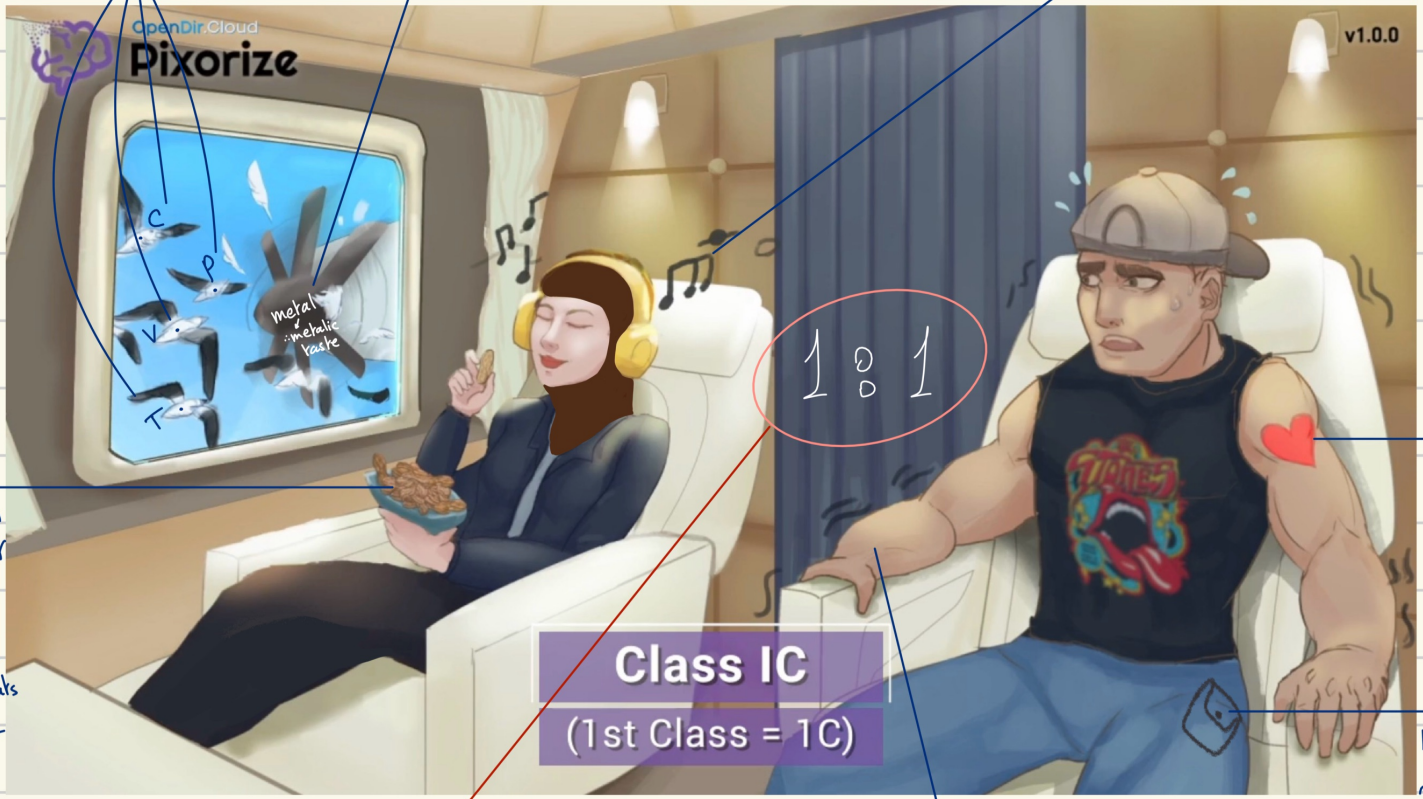
Lowest Use Dependence in Class 1 = lighter goes out fast

Class 1C

Flecainide = flock of birds

Propafenone = propeller

Rhythm Control



Na^+ Channel Blocker (slow) = eating salty peanuts slowly

Non-Nodal tissue

Fill in the pocket for Paroxysmal AF

Prevention → (SVT) (AF)

[Risk] 1:1 Flutter

High Binding Affinity ≡ High use dependence

So, may be Proarrhythmic (~~MI~~, ~~HF~~)

Class II

Lollipop = Metoprolol, Esmolol, Bisoprolol, Landilol (new), Propranolol



AV (Nodal tissue)

Cautions: Asthma (Bronchospasm)

Ca^{2+} Channel Blockers

Caution: Masking hypoglycemia

Action: Slow Down (HR ↓)

⇓

SA node rate ↓

AV node conduction ↓

Prolonged PR interval ↑

A. Depo. → V. Depola.

⇓

Cautions: Bradycardia

Uses:

① Atrial fibrilation (AF) rate control

② SupraVentricular Tachycardia (SVT) prevention

③ VT prevention.

Easy cuz all of these Arrhythmias are caused by Atrial beating, so we want to Block AV node.

∴ β-blocker ✓

Class III (Pt.1, Amidrone)

Next Slide (Class III Sotalol + β-Blocker
Class III Dofetilide
Class III Ibutilide) can cause → TdP ⇒ Monitor: ECG



Class III (Pt. 2 → dofetilide, ibutilide)

Ibutilide (IV)



Dofetilide

Dofetilide:
Pure IKr block

*Both drugs are PERFECT in the Case of AF

Class III (Pt. 3, Sotalol)



TdP
(QT interval ↑)

Tree = 3
+
Banana = K+

Dancing Kid = Rhythm Control

Myocytes
Non-Nodal tissue

Soda = Sotalol

Lollipop = β-blocker
[ends w/ lol]

Class IV

↑PR interval
Rate Control
Slow time = HR↓

Diltiazem

Door = 4
+
4 teeth = IV



Avoid in:
WPW
(Pre-excited AF)
↓
حتّى ما يزيد الطين بلّة

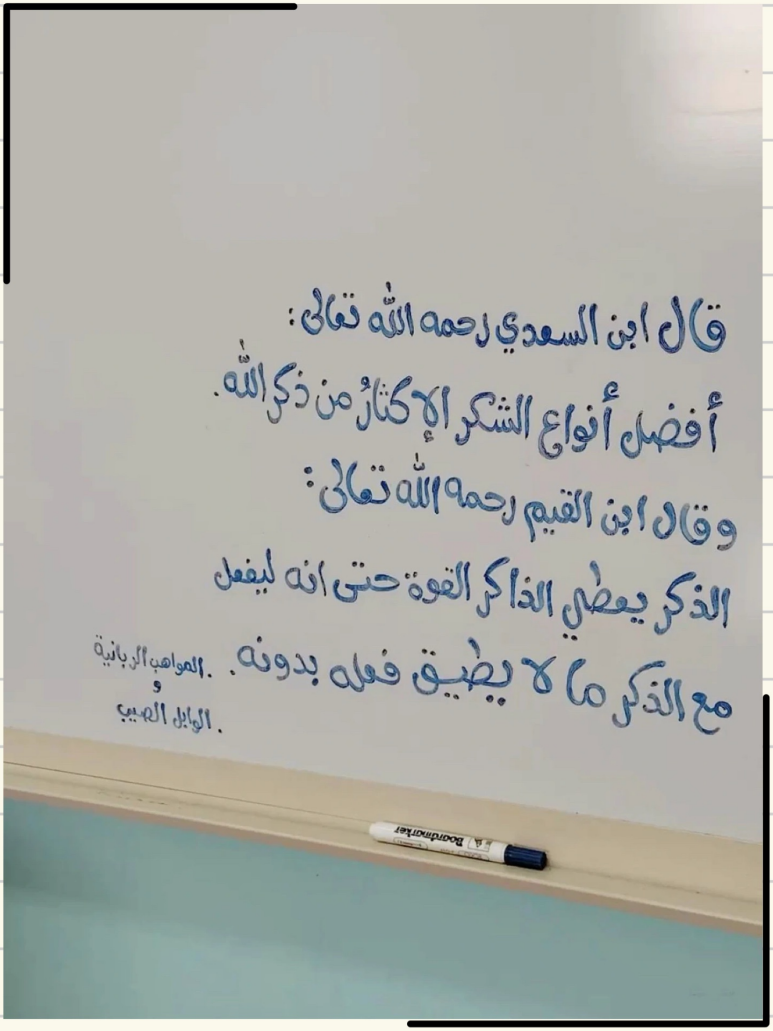
Terminate
PSVT
Paroxysmal
SupraVentricular Tachycardia

Antiarrhythmia
use for AF ✓

Virapamil
causes constipation

Viper = Verapamil

Ca^{2+} Channel blocker
↳ ∴ Nodes. (Phase 0)
↳ ∴ ↑PR interval



لَا إِلَٰهَ إِلَّا اللَّهُ
وَحْدَهُ لَا شَرِيكَ لَهُ،
لَهُ الْمُلْكُ وَلَهُ الْحَمْدُ
وَهُوَ عَلَىٰ كُلِّ شَيْءٍ
قَدِيرٌ