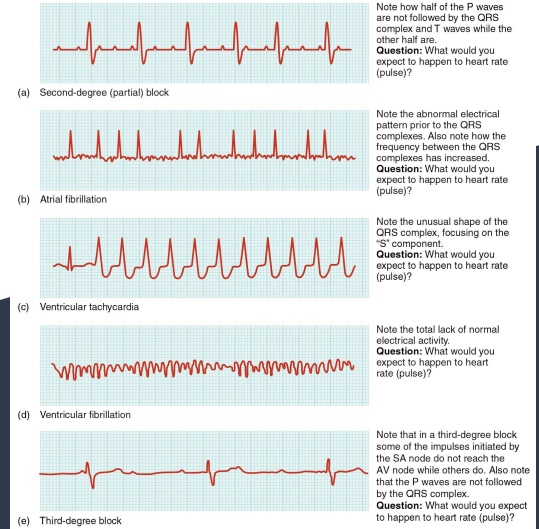


Arrhythmias

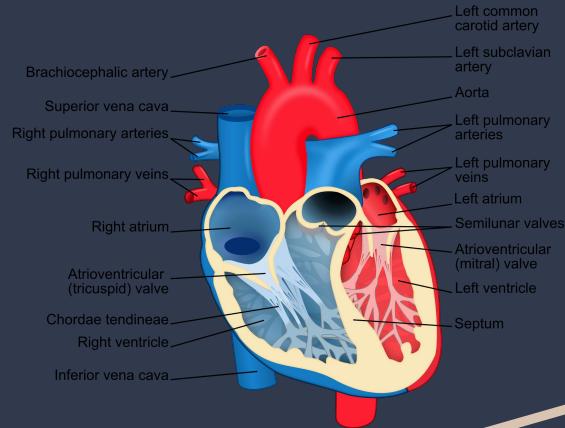
By: Joseph Sada

Kins 1000-003

Nov 23, 2023

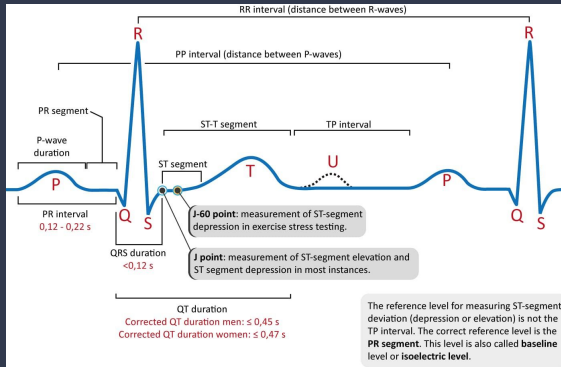


Introduction



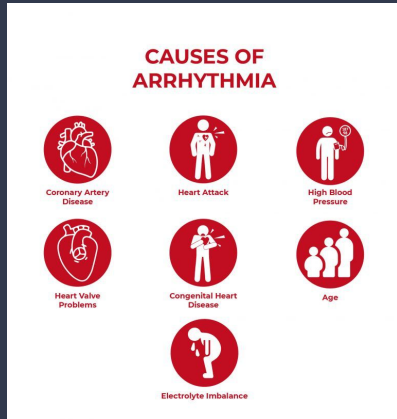
- Arrhythmias are abnormalities in the hearts rhythm.
- The heart has two nodes, the Sinus and AV node.
- Caused by heartbeat starting outside sinus node.
- Also when a block prevents signal travel.
- Multiple types of arrhythmias can occur.
- Some causing fast or slow heart beats.

History



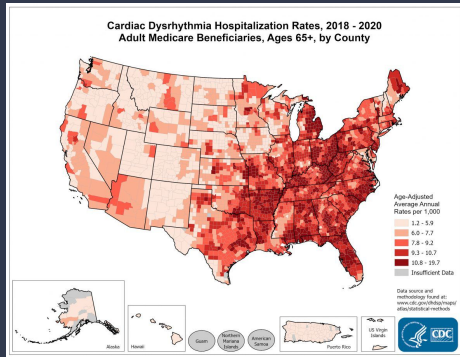
- The study of arrhythmias explosively developed.
- Through string galvanometer electrocardiograms were recorded.
- Created in 1901 by Einthoven.
- Throughout the years this technology advanced.
- Initiation of tachycardia through stimuli developed in 1960-70.
- Later in the 1980s optical mapping became available.

Causes



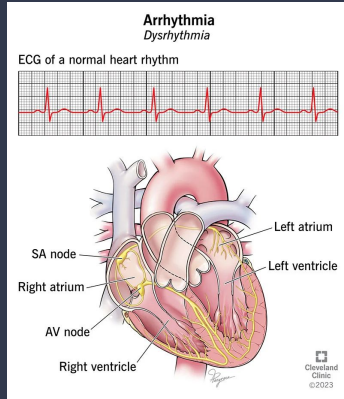
- In many cases causes are unknown.
- Stress could be an inducer for arrhythmias.
- Tobacco and alcohol could also be a cause.
- Sometimes medicine could cause this side effect.
- Fast heartbeat, fluttering and pounding are signs.
- Faintness, dizziness and chest pain are indicators aswell.

Statistics



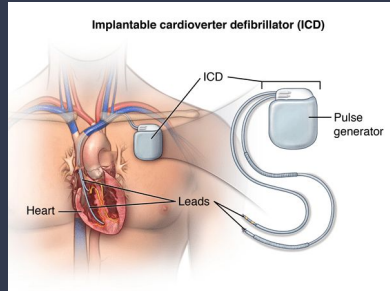
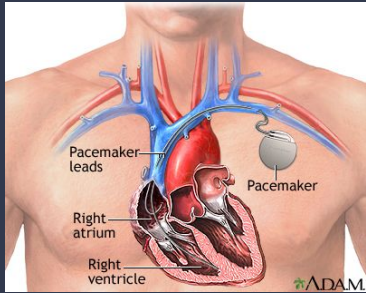
- Arrhythmias entail a spectrum of disorders.
- Each divided by origin, transmission and syndromes associated.
- Prevalence in 1.5 to 5% of general population.
- Loop recorders record 2 mins of heart rhythm.
- Atrial fibrillation effects 20% of general population.
- 10% of cases are spontaneous, causes unknown.

Diagnosis



- Diagnosed via electrocardiography, electrophysiologic studies, and stethoscope.
- For ECG tests normally last about 10 minutes.
- There are even 24-hour monitoring for precise diagnosis.
- Stress tests also measure heart activity during exercise.
- Other studies use procedures to measure activity.
- Use of catheters and drugs can induce arrhythmias.

Treatment



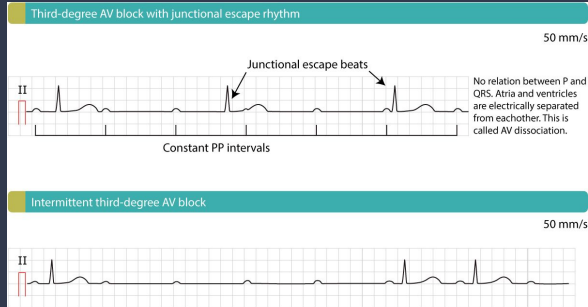
- Many arrhythmias do not require treatment.
- Controlled by treating underlying heart disease.
- Use of drugs could treat arrhythmias.
- Implantable defibrillator and pacemaker used for treatment.
- Surgeries such as ablations are performed.
- Procedures involve catheters to perform ablations.

Prognosis



- Diagnostic techniques help physicians identify arrhythmias.
- Advanced technology are then used for treatment.
- Either pacemakers or implantable defibrillator are used.
- Not only technology advanced but surgical techniques.
- Ablative techniques offer efficient treatment.
- Some may not be curable but they're treatable.

My Experience



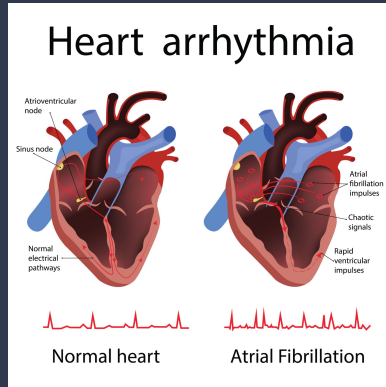
- Diagnosed with Complete Atrioventricular Heart Block.
- AV node doesn't receive signal from Sinus node.
- Pacemaker used to correct arrhythmia.
- Varying degrees of blockage from one to three.
- One being most mild and three being complete.
- Some are mild and go undetected.

Prevention



- Some arrhythmias cannot be prevented.
- Some maybe treatable but can never be lost.
- If it is preventable you can manage stress.
- Controlling anxiety can also prevent arrhythmias.
- Prevention through avoiding alcohol and caffeine.
- Also stopping the use of drugs prevent arrhythmias.

Conclusion



- Wide variety of arrhythmias caused by underlying diseases.
- Throughout the years there's been advancements in treatment.
- Many different methods to perform diagnostics.
- Treatment tailored depending on the severity.
- Could be induced by stress and anxiety.
- Could be prevented by avoiding caffeine and drugs.

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