Nextillo
THE WONDER HAS A NAME

NEXTILLO_

#MADEEASY

ISCHEMIC HEART DISEASE: PART 1

Nextillo
THE WONDER HAS A NAME

Nextillo
THE WONDER HAS A NAME

ISCHEMIC HEART DISEASE: Part 1

- ***Also known as coronary artery disease.***
- ***Ischemic heart disease includes diseases characterized by low blood supply to the heart resulting in ischemia in the cardiac muscle (myocardium).***

Classification

- ***Chronic stable angina***
- ***Prinzmetal angina***
- ***Acute Coronary Syndrome***
- ***Unstable angina***
- ***NSTEMI (Non-ST Elevation Myocardial Infarction)***
- ***STEMI (ST- Elevation Myocardial Infarction)***
- ***Chronic ischemic heart disease***

Let's discuss each of these one by one in the form of a story.

Imagine coronary arteries as reverse pipelines supplying the pump (heart). In coronary heart disease, there will be a partial or total obstruction in the pipelines because of the garbage.

Nextillo
THE WONDER HAS A NAME

Etiology

Atherosclerosis

- ***Basically, it is the build-up of plaque in blood vessels.***
- ***It is a reversible progressive inflammatory accumulation of fats and cholesterol forming plaques.***

Risk factors

- ***Smoking***
- ***Hypertension***
- ***Diabetes***
- ***Obesity***
- ***Family history***

Pathogenesis

- ***Deposition of plaques makes the vessel stiff.***
- ***Plaque also blocks the flow of blood in these vessels by causing obstruction. For angina, we talk about blockage of coronary artery.***
- ***This leads to low blood supply to the heart, causing subendocardial ischemia.***

Nextillo
THE WONDER HAS A NAME

Clinical Presentation

- ***Pain in chest (angina) on exertion (any physical activity), stress, high emotions***
- ***Radiating to arm, jaw, neck, shoulder.***
- ***Pain can be squeezing, burning, stabbing or associated with tightness.***
- ***Usually lasts less than 20 minutes.***
- ***ECG shows ST depression.***

Management

- ***Nitrates: Sublingual nitroglycerine provides quick relief.***
- ***Aspirin***
- ***Beta blockers***
- ***Statins***
- ***Here there is partial obstruction because of garbage and if less water reaches through this pipeline, the pump starts making noise (angina).***

Nextillo
THE WONDER HAS A NAME

Prinzmetal Angina

It is also known as Vasospastic angina.

Pathogenesis

- Vasospasm of coronary arteries → temporary narrowing of blood vessel → decreased blood flow to the heart → angina (chest pain).

Clinical presentation

- ***Chest pain even at rest.***
- ***It is not influenced by exertion.***

Management

- ***Nitrates***
- ***Here beta blockers are contraindicated.***

Here the pipes are defective, they become narrow on their own when a rat comes and sits on the pipe. And when the pipeline becomes narrow, the water flow becomes very less temporarily.

Nextillo
THE WONDER HAS A NAME

Unstable Angina

Pathogenesis

- In unstable angina, there may be breakage or rupture of vulnerable plaque.
- This triggers platelets activation and aggregation leading to thrombus formation obstructing the flow of blood.

Clinical presentation

- New-onset angina at rest.
- Patient complains that compared to stable angina, now there is a new pain that is worse and occurs at very slight exertion or even at rest.
- ECG does not show ST elevation.

It can be differentiated from NSTEMI as

- Pain relieved by nitrates.
- Very slight or no rise in enzyme levels seen in blood, while in case of NSTEMI enzymes like Troponin rise by 2-3 times.
- However, unstable angina may lead to MI due to increase in obstruction hence, it is also called Pre-infarction angina.

Unstable angina can be imagined as: when the garbage in the pipeline breaks off a little and becomes sticky attracting more garbage, thus obstructing the flow even more and the pumps makes new kind of strong noise now. However here the parts of the pump (enzyme) do not disintegrate.