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Section-A

- 1.C
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Section-B

Attempt all questions:

Q:1

Eisenmenger Syndrome: It is the most often complication of having shunt between two heart chambers.

Or

It is the reversal of left to right shunt and development of cyanosis.

1. The magnitude of shunt depends on the defect size.
2. Larger defects = Max flow
Smaller defects = Min flow
3. Suppose there is no pulmonary stenosis over time, a large shunt cause pulmonary artery hypertension which elevate pulmonary artery, right ventricle pressure increases and right ventricular hypertrophy occurs.
4. Increase pulmonary vascular resistance cause shunt direct to back and cause Eisenmenger Syndrome.
5. In simple words, normal Left ventricular pressure is greater than right ventricular pressure.
6. In larger VSD pressure equalize on both sides.
7. Untreated VSD leads to increase pressure in Right ventricle than in left ventricle and shunt is reverse called Eisenmenger syndrome.

Eisenmenger Syndrome is life threatening requiring careful medical monitoring.

Symptoms:

- Blue skin color
- SOB At rest and even during activity

- Chest pain
- Fainting
- Dizziness
- Abdominal swelling
- Headache
- Racing heartbeat

Q:2

Patent ductus arteriosus:

It is a medical condition in which patent ductus arteriosus fails to close after birth.

1. PDA is common cause of morbidity and mortality among low birth weight newborns and it need to treatment.
2. Medications use in PDA depends upon the clinical status of the patient.
3. Among Nonselective COX inhibitors intravenous(IV) indomethacin was the first drug used for PDA treatment.

Reason to use NSAIDs in PDA:

- In neonate, ductal patency appears to be related of continuous production of prostaglandins.
- This is particularly true in non-mature neonates ; therefore prostaglandins inhibitors affect ductal closure.
- NSAIDs inhibit the production of prostaglandins by decreasing the activity of cyclooxygenase .
- Result is the closure of patent ductus arteriosus in 80%patients.
- Prostaglandins E1 (PGE1)is used to keep ductus arteriosus patent and can be lifesaving in infants.

Qus:3

Atherosclerosis is a disease in which plaque form inside arteries.

Plaque is made up of calcium, fat, cholesterol and also some other substances in blood. with the passage of time plaque becomes hard and narrow arteries due to which oxygen and blood becomes low / decreases .

In **coronary artery diseases**, oxygen and blood supply to heart decreases due to arteries blockage.

The most common cause is atherosclerosis which is made of plaque within arteries wall.

Poor Blood flow to heart cause **angina**.

1. **Coronary artery vasospasm:** Temporary constriction of smooth muscle cause coronary artery to become narrow.

This occurs continuously but is for short time and temporary.

It is normally caused by increasing Blood pressure and high cholesterol level.

2. **Thrombosis:** Due to atherosclerosis coronary artery becomes ruptured which leads to formation of blood clots that depend on size and are either completely or partially block the flow of oxygen to heart.
 - Also causing mild to severe symptoms including sudden heart attack.

Qus:4

Classification of MI based on international consensus 2012:

Based on international consensus 2012 classify MI into five types.

Types of MI

1. Type I:

It is termed as spontaneous MI, which is related to ischemia due to a primary coronary event such as the plaque rupture or erosion.

2. Type II:

Ischemia related to other increased oxygen demand or decreased supply.

3. Type III:

Related with sudden unexpected cardiac death and symptoms may be taken out or blood clot if found by angiography.

4. Type IV:

It is associated with percutaneous coronary intervention (PCI).
Also related with thrombosis seen by angiography.

5. Type V:

It is associated with coronary artery bypass graft (CABG).
This is the surgical procedure to restore normal blood flow to an obstructed coronary artery.