



وَلَقَدْ خَلَقْنَا الْإِنْسَانَ مِنْ سَلَالَةٍ مِّن طِينٍ {١٢} ثُمَّ جَعَلْنَاهُ نَظْفَةً فِي فَرَارٍ مَّكِينٍ {١٣} ثُمَّ خَلَقْنَا النَّطْفَةَ عَلَقَةً فَخَلَقْنَا الْعَلَقَةَ مُضْغَةً فَخَلَقْنَا الْمُضْغَةَ عِظَامًا فَكَسَوْنَا الْعِظَامَ لَحْمًا ثُمَّ أَنشَأْنَاهُ خَلْقًا آخَرَ فَتَبَارَكَ اللَّهُ أَحْسَنُ الْخَالِقِينَ {١٤}

# Development of the heart

## MCQ'S & NOTES

### The Embryology Team

- Afnan Almalki
- Sarah Almutawa
- Lamya Alsaghan
- Razan Alsabti
- Lames Al-tamimi
- Helmi M Alswerki
- Nasser Almujaivel
- Gassan Almeqbel
- Mohammed Algarny
- Naif Alziyadi
- Saeed Alshehry

# Dr. Jamila El medany

- the spiral septum divides the truncus arteriosus in three ways:

(lower - middle - upper) imagine that we are moving from the heart into the arteries that's why we start with the lower.

1- the lower part into right and left (in the right: pulmonary artery. in the left: aorta )

2- the middle part into anterior and posterior (anterior: pulmonary artery . posterior: aorta)

3- the upper part into right and left (in the right: aorta. in the left: pulmonary artery) and that's why we said in **physiology** heart sound lecture that we can hear the heart sound from aorta region in the right 2th intercostal space at left sternal margin . and from the pulmonary region in the right 2th intercostal space.

- primum: a latin word that means primary.

- secundum: a latin word that means secondary

# Prof. Saeed Abuel Makarem

- in the ventricle: we have rough part due to the presence of trabecule muscles and a smooth part due to the absence of the trabecule muscle and this will help to control the movement velocity of the blood, so it will be slower in the rough part **يدعس** ويفرمل and faster in the smooth part

-one of the characteristic of tetralogy of fallot is aorta overriding: and this means that the aorta is like a man that rides a horse and puts one of his foot in the right ventricle and the other in the left ventricle.

**- VERY IMPORTANT NOTE from dr.abualmakarim!!!!!!**

a child has a transposition of great arteries anomaly can not live unless he has another anomaly which is persistence truncus arteriosus

what do we mean of this?

a child with transposition of great arteries will bump non oxygenated blood to all his tissue, so the doctor should cut the membranous part or the foramen ovalus has be opened or truncus arteriosus has be opened, so the non oxygenated blood will mix with the oxygenated blood and it will be distributed to the body as mixed blood instead of poorly non oxygenated blood.

if we didn't do the other anomaly and mix the blood: he will die shortly before birth.

but if we do it: he will hopefully live for about 4 months untill the doctor do a suitable surgery.

# MCQ'S

1- When does The heart primordium is first evident?

- A- 19 days.
- B- 18 days.
- C- 17 days.
- D- 21 days.

2- At witch day does the heart of the embryo begins to beat?

- A- 17 to 20 days.
- B- 17 to 19 days.
- C- 22 to 23 days.
- D- 27 to 30 days.

3- the U shaped heart tube is caused by the growth of 2 of the dilations faster than the others witch tow are they?

- A- Common Ventricle and Bulbus Cordis.
- B- Bulbus Cordis and Truncus Arteriosus.
- C- Truncus Arteriosus and Common Atrium.
- D- Common Atrium and Common Ventricle.

4- witch of the flowing septums form the floor of the fossa ovalis?

- A- septum primum.
- B- septum secundum.
- C- subendocardial cushions.
- D- septum intermedium.

5- what is **Roger's disease**

- A- Pulmonary stenosis
- B- Right ventricular hypertrophy
- C- Overriding of the aorta
- D- Absence of the membranous part of interventricular septum

6- Which of the follow is NOT part of TETRALOGY OF FALLOT:

- A- Pulmonary stenosis
- B- Overriding of the aorta
- C- Thicked right ventricle wall
- D- ASD

7. The right horn of sinus venosus forms :

- A- The Rough Anterior wall of the right atrium.
- B- The smooth Posterior wall of the right atrium.
- C- Atrophy and forms coronary sinus
- D- The oblique vein

## Answers

1- B

2- C

3- A

4- A (C and D are the same thing)

5- D

6- B

7- D