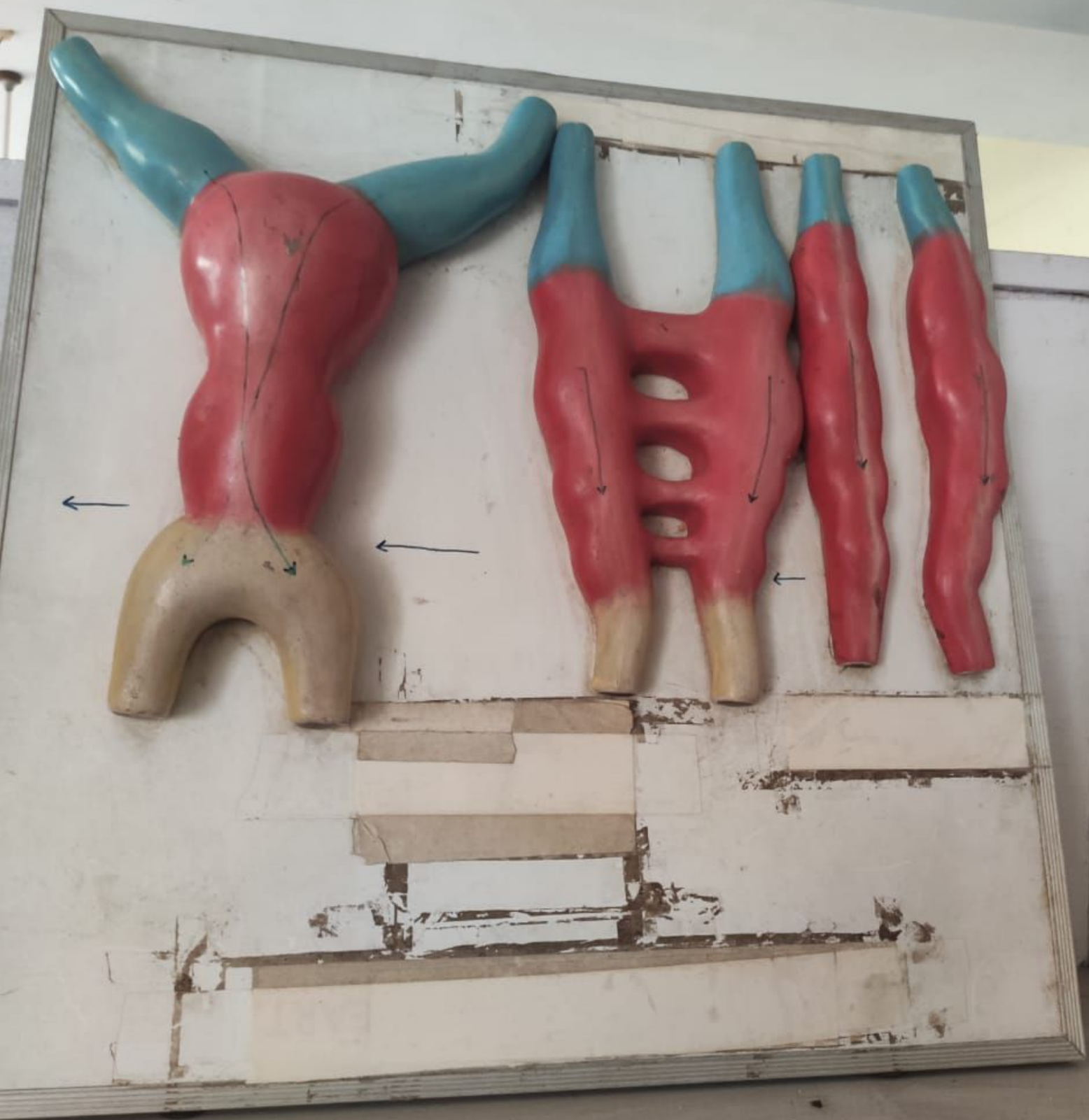


# PHARYNGEAL ARCHES

- 1. Mandibular arch
- 2. Maxillary arch
- 3. Meckel's cartilage
- 4. Mandibular arch
- 5. Maxillary arch
- 6. Meckel's cartilage
- 7. Mandibular arch
- 8. Maxillary arch
- 9. Meckel's cartilage
- 10. Mandibular arch
- 11. Maxillary arch
- 12. Meckel's cartilage
- 13. Mandibular arch
- 14. Maxillary arch
- 15. Meckel's cartilage
- 16. Mandibular arch
- 17. Maxillary arch
- 18. Meckel's cartilage
- 19. Mandibular arch
- 20. Maxillary arch
- 21. Meckel's cartilage
- 22. Mandibular arch
- 23. Maxillary arch
- 24. Meckel's cartilage
- 25. Mandibular arch
- 26. Maxillary arch
- 27. Meckel's cartilage
- 28. Mandibular arch
- 29. Maxillary arch
- 30. Meckel's cartilage







# Development of Interatrial septum





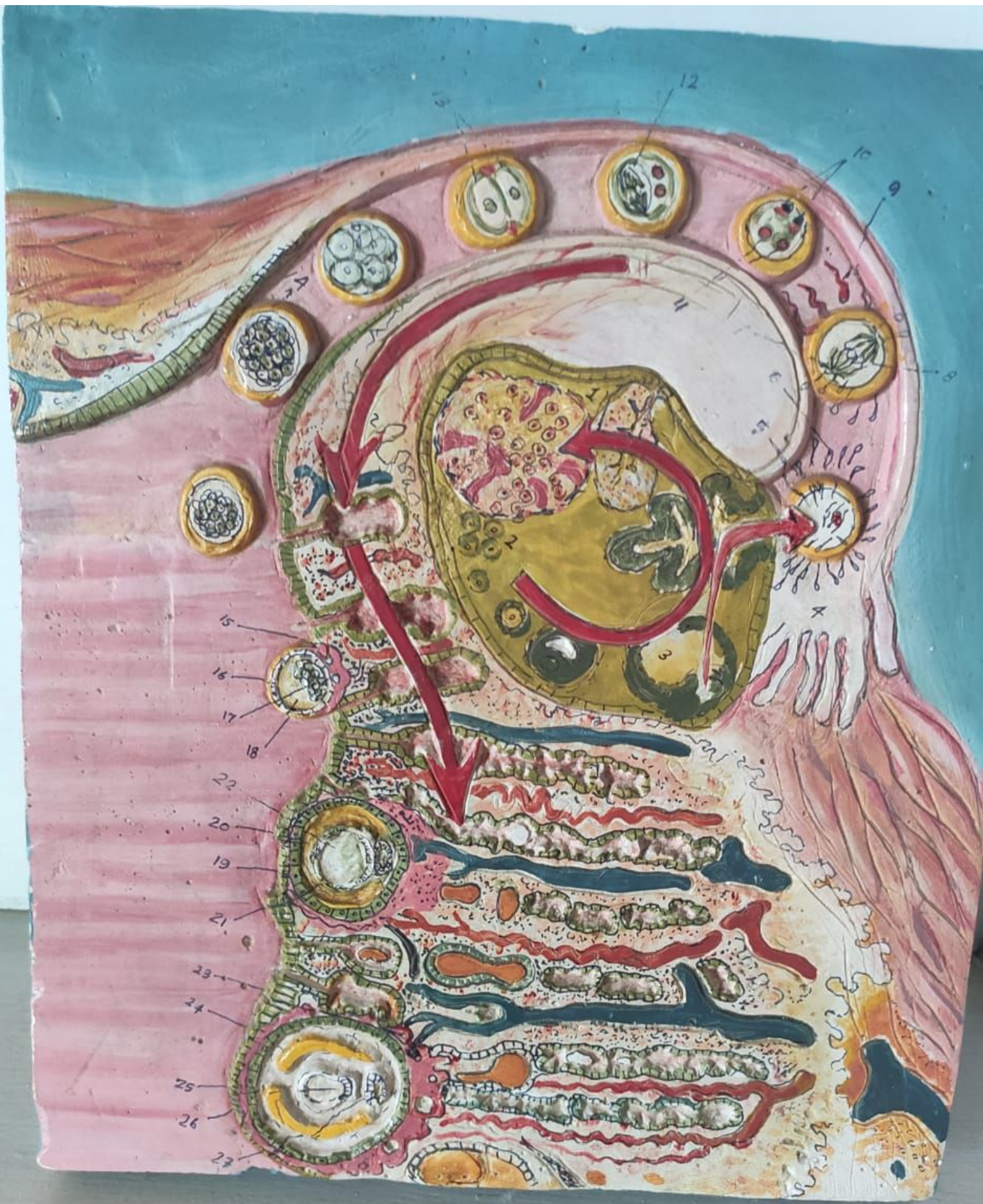








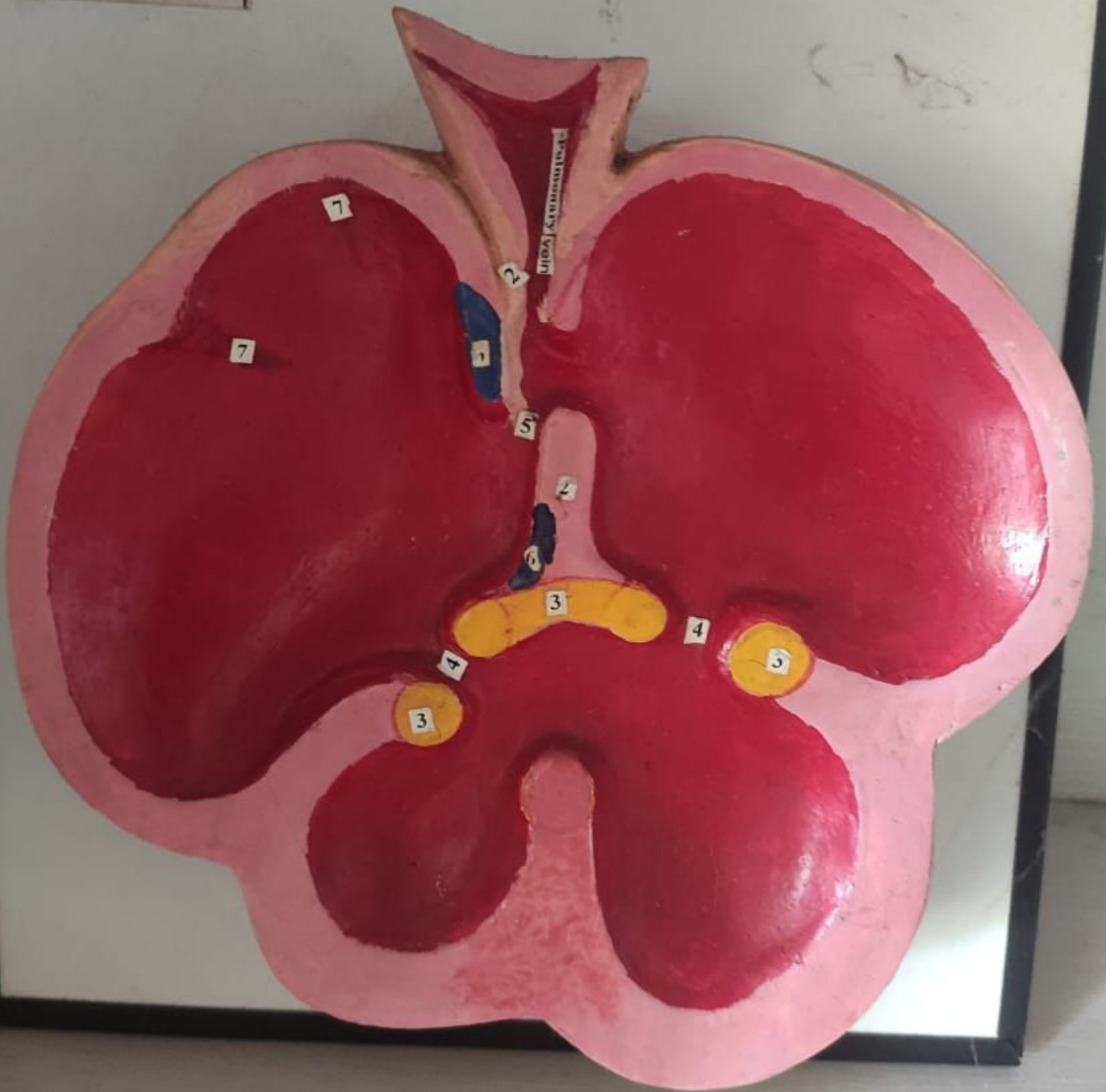




# Development of Interatrial septum-C

C-33 days-(9mm)

- 1-Ostium Primum
- 2-Septum Primum
- 3-Endocardial cushion
- 4-Atrioventricular canal
- 5-Ostium Secundum
- 6-Septum secundum
- 7-Venous valves





**HUMAN HEART**

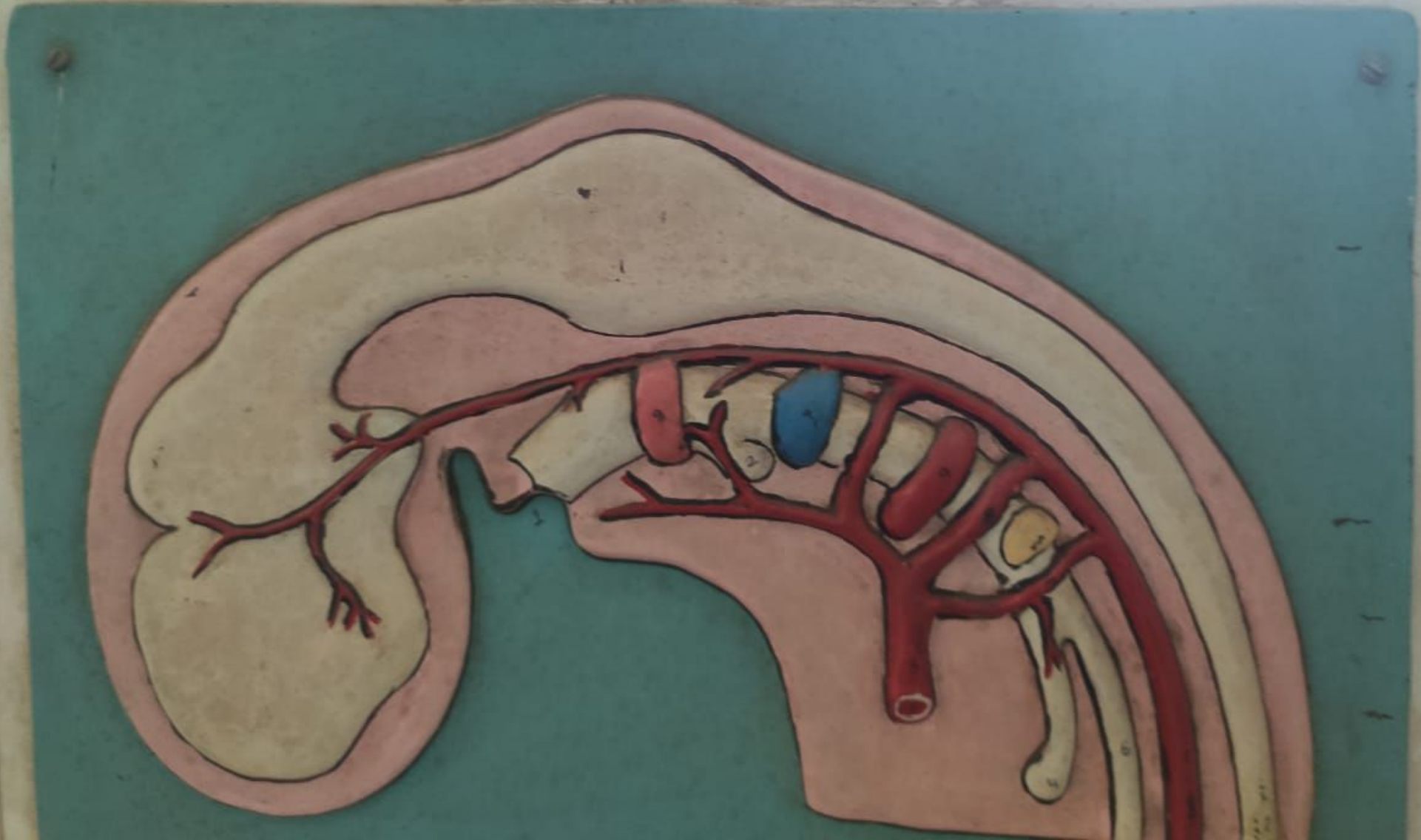
- 9. Brachiocephalic trunk
- 10. Coronary artery
- 11. Subclavian artery
- 12. ...
- 17. Auriculo ventricular septum
- 18. Inter ventricular ...



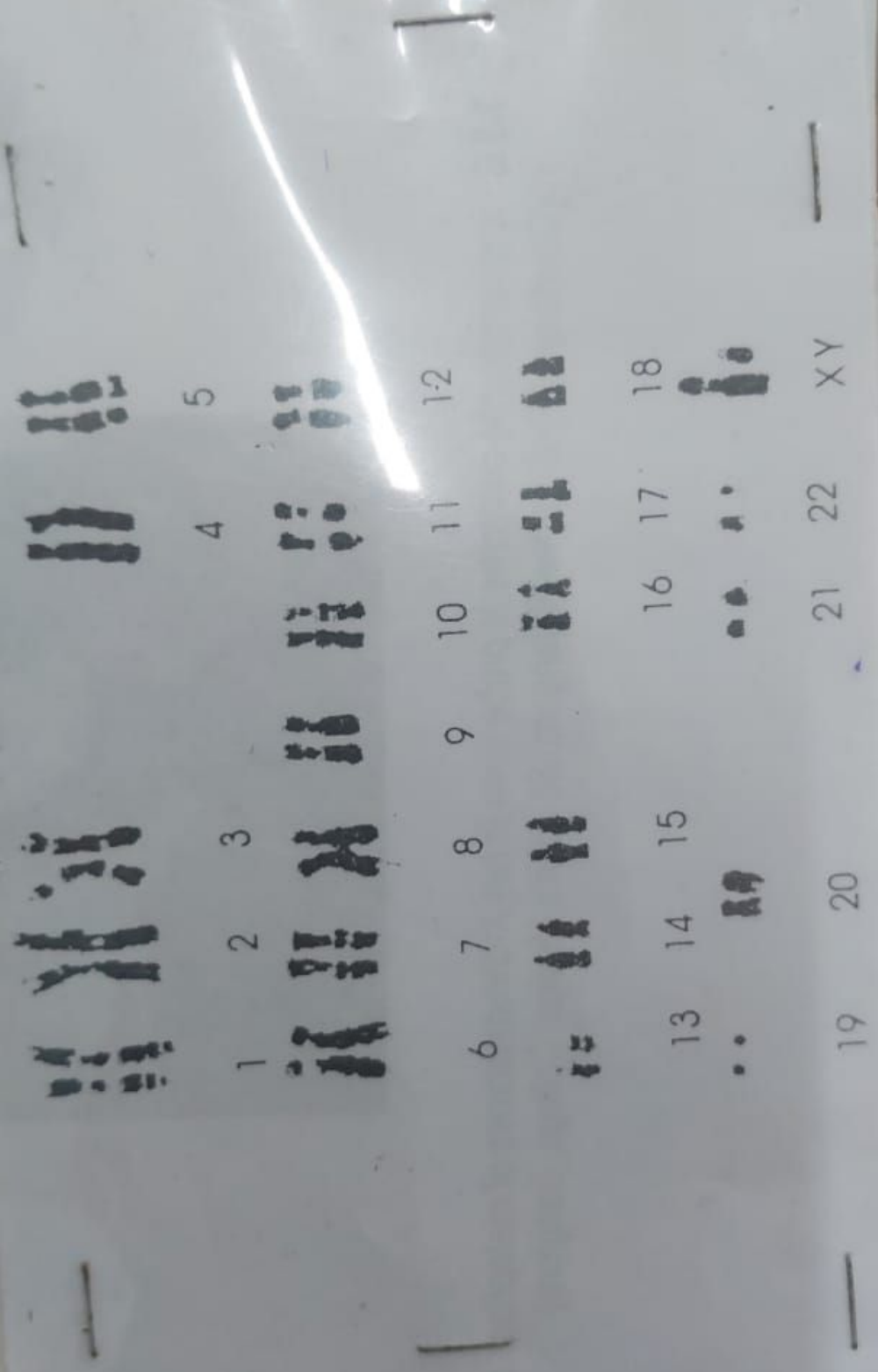


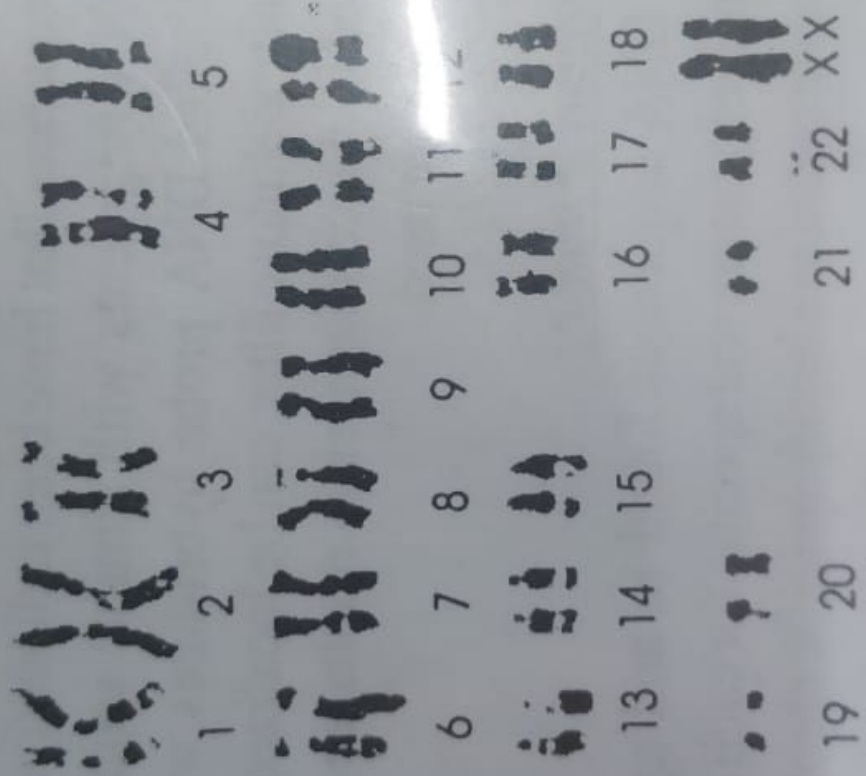
Note : The primordium of the thyroid gland and  
The aortic arches.

1. Stomodeum.
2. Thyroid primordium.
3. Aortic sac.
4. Trachea and lung bud.
5. Dorsal aorta.
6. Esophagus.
7. 6<sup>th</sup> aortic arch.
8. 4<sup>th</sup> aortic arch.
9. Pharyngeal pouches.



19 20 21 22 XY

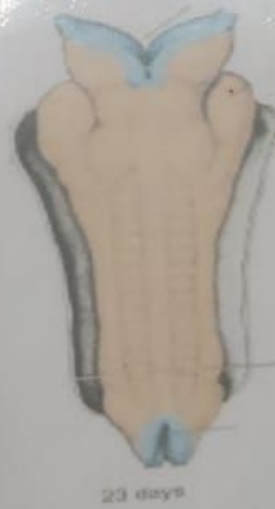
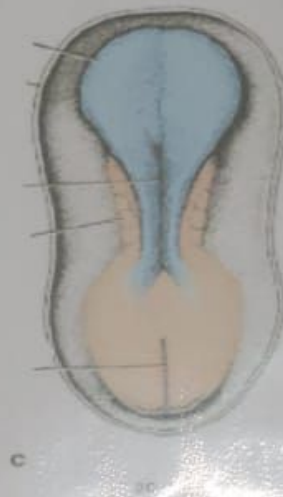
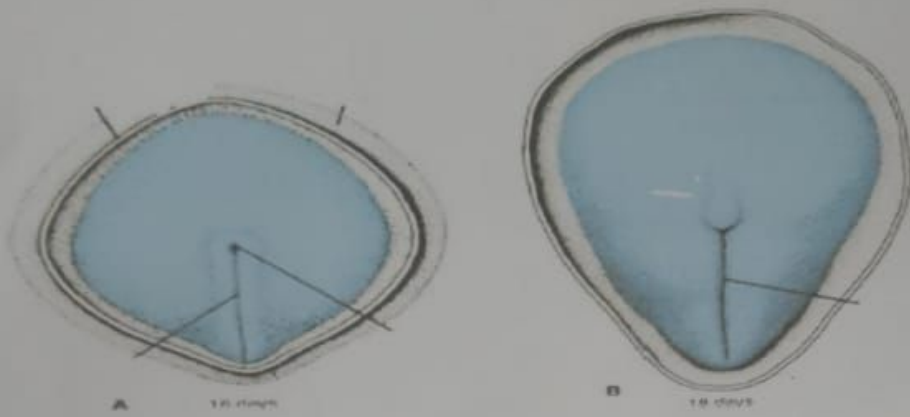




284

15

WAL



1 2 3 4 5

6 7 8 9 10 11 12

13 14 15 16 17 18

19 20 21 22 X

## **TRISOMY 21 (DOWN'S SYNDROME OR MONGOLISM)**

**Incidence :** 1 in 700 live-birth. Incidence increases with the advancing maternal age (at the 45 years of age incidence is as high as 1 in 16). Males are more affected than females.

### **Clinical features :**

- Affected children are mentally retarded - I.Q. scores range from 25 to 75.
- Poor growth, short stature and poor muscle tone.
- Approximately 40% of children suffer from major heart defects.
- Facial features are typical-small head circumference, epicanthic fold, protruding tongue, small ears and sloping palpebral fissures.
- Hands are short and broad. There may be simian crease (single palmar crease resulting because of fusion of heart and head lines).

## Chromosome disorders

- Affected individual has very small testes but normal penis and scrotum.
- Puberty fails to occur normally.
- Secondary sexual characters doesn't develop fully and the pubic and facial hair are scanty. Gynaecomastia (enlarged breast) is seen in some cases.



Fig. 6.4 : Karyotype of Klinefelter Syndrome (47, XXY)

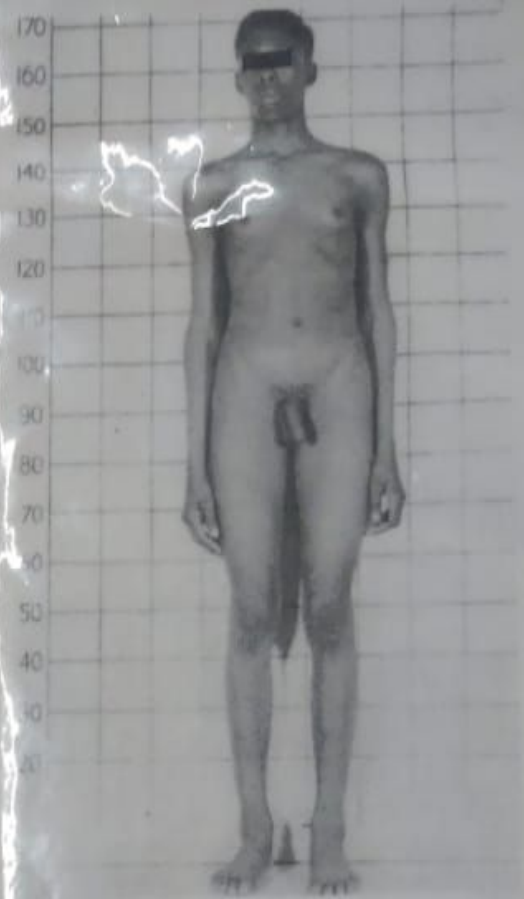


Figure 8.30. The Klinefelter syndrome. Note that the patient has a normal phallus but has gynecomastia (female-like breast development). (This photo appeared in *J Chronic Dis* 1969; 12: 441-443)

### XXY : KLINEFELTER SYNDROME

#### Incidence :

- It occurs in 1 per 1000 new born males.

#### Clinical features :

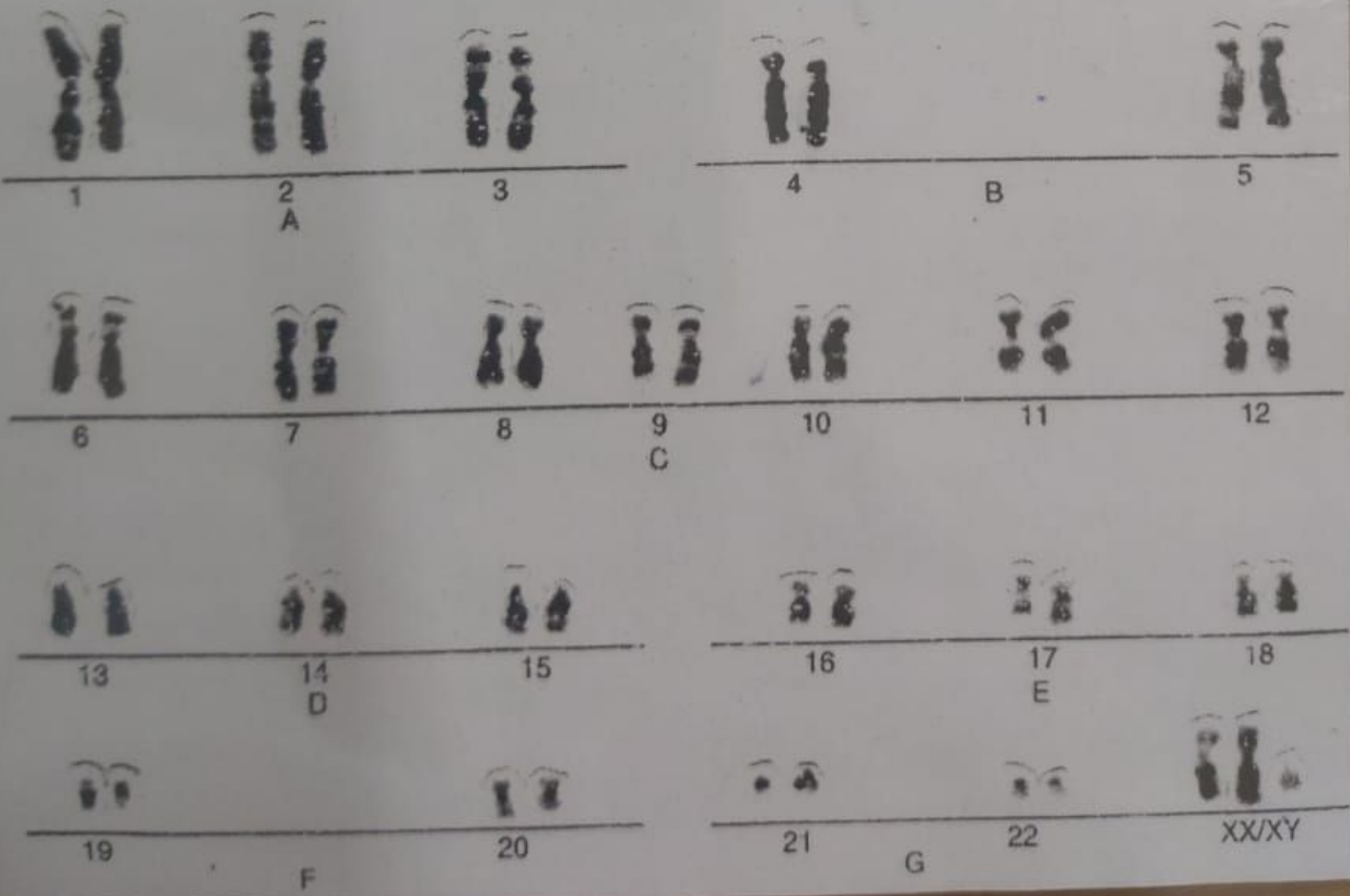
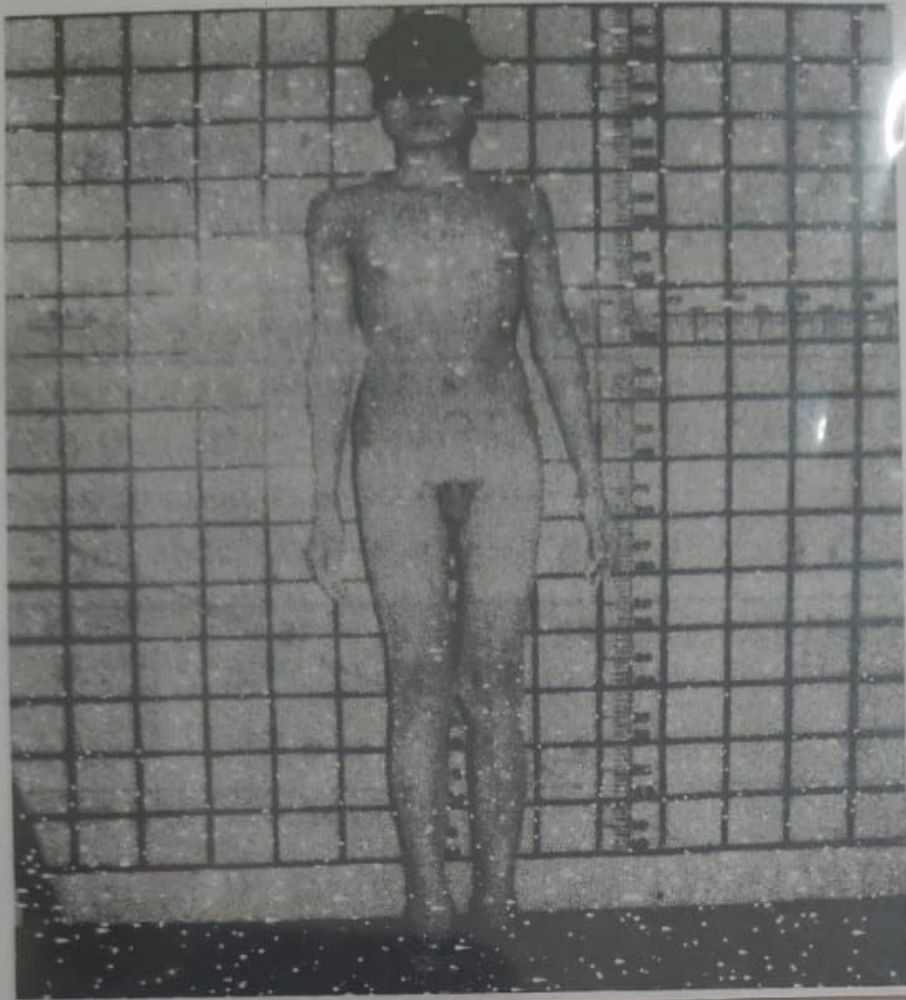
- The sex of affected individual is male.
- Syndrome can not be detected until adolescence age. He usually attends clinic as married person for infertility.
- Though the appearance of person is normal he is tall and have some degree of mental retardation.

1 2 3 4 5

6 7 8 9 10 11 12

13 14 15 16 17 18

←





1

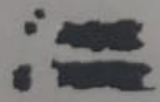
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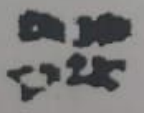
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22

X Y

1 2 3 4 5

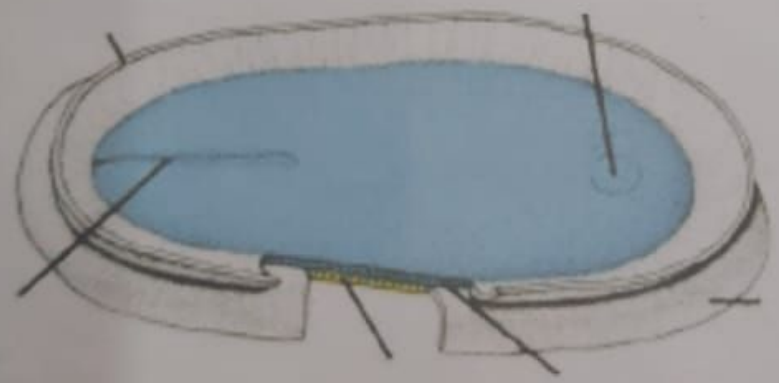
6 7 8 9 10 11 12

13 14 15 16 17 18

19 20 21 22 X ←



A



B