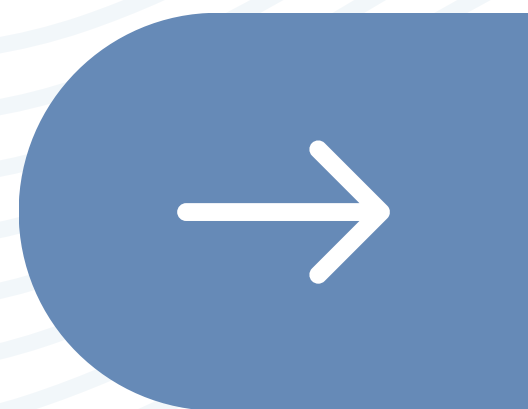


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EMBRYOLOGICAL DERIVATIVES
IN THE GENITAL SYSTEM



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EMBRYOLOGICAL DERIVATIVES IN THE GENITAL SYSTEM

The embryological formation of the intermediate mesoderm derived urogenital system begins as two separate, yet interwoven processes: Development of the urinary system from the nephrogenic cord. Development of the reproductive system from the gonadal ridge The interplay between multiple genes and hormones is essential for both systems to develop properly.



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VISUAL REPRESENTATION



Subcoronal



Midshaft



Penoscrotal





EMBRYOLOGICAL DERIVATIVES IN THE GENITAL SYSTEM

THE NEPHROGENIC CORD

- *urinary system begins forming during the 4th week of gestation.*
- *At the end of week 4, a nephrogenic cord has formed, giving rise to three kidney systems: ➤ The pronephros in the cervical region, nonfunctional and regresses by the end of the fourth week of gestation*
- *➤ Mesonephros in the thoracic and lumbar region, exists as the embryonic kidney in the lumbar region from weeks 4 to 8, and its remnants go on to form several structures in the male genital system. ➤ The metanephros, which will ultimately transform into functional kidneys.*





EMBRYOLOGICAL DERIVATIVES IN THE GENITAL SYSTEM

gonadal ridge

- *The initial appearance of the gonads is the genital (gonadal) ridges formed by the proliferation of the epithelium and condensation of underlying mesenchyme.*
- *The development of testes in males and ovaries in females relies on the induction by primordial germ cells from the yolk sac to the genital (gonadal) ridges during the 4th through 6th weeks.*
- *In females, the absence of anti-Mullerian hormone (AMH).*





EMBRYOLOGICAL DERIVATIVES IN THE GENITAL SYSTEM

GENETIC DEFECTS

- **Gonadal dysgenesis**, the presence of streak gonads instead of functional gonads, with Turner syndrome.
- **Undescended testis**- path of descent from the abdomen or ectopically.
- **cryptorchidism** are crucial as it is associated with infertility.
- **Wilms tumor** is first diagnosed, lung metastases are present in 10 to 20% of cases.





MCQ

Question: Surgery for correction of undescended testies(Cryptorchidism) is best done before?

- A 1 month of age***
- B 6 month of age***
- C 1 year of age***
- D 2 year of age***

Answer: (C) 1 year of age

