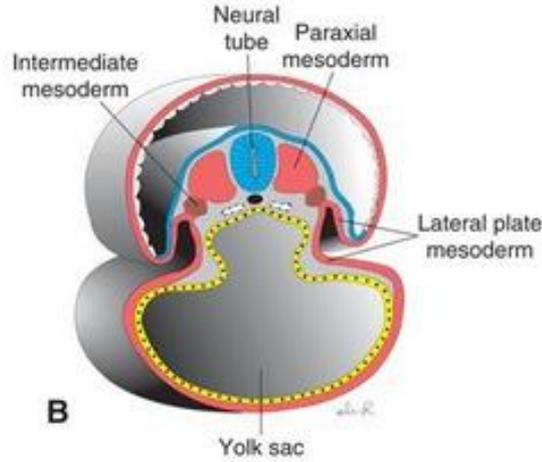
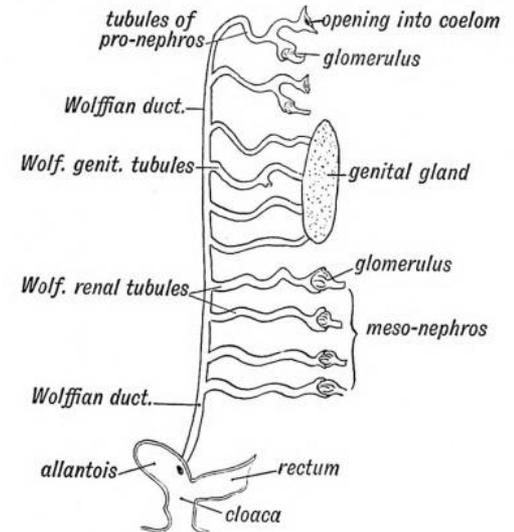
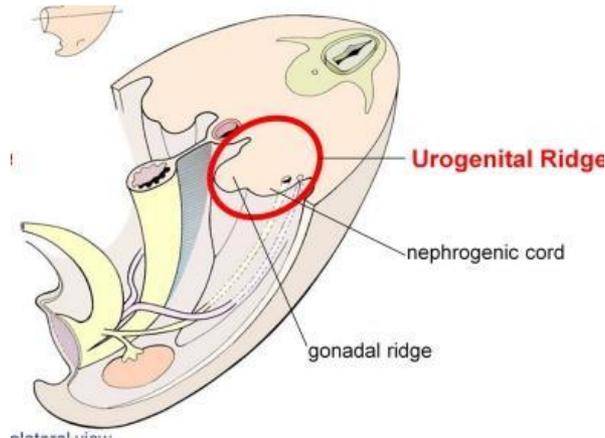
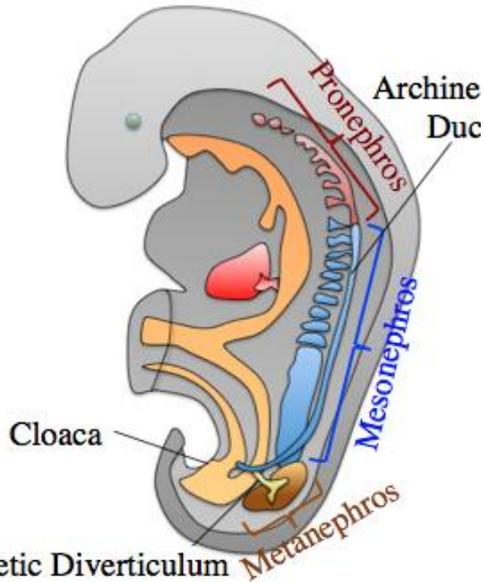


مشتقات الأدمة الوسطى

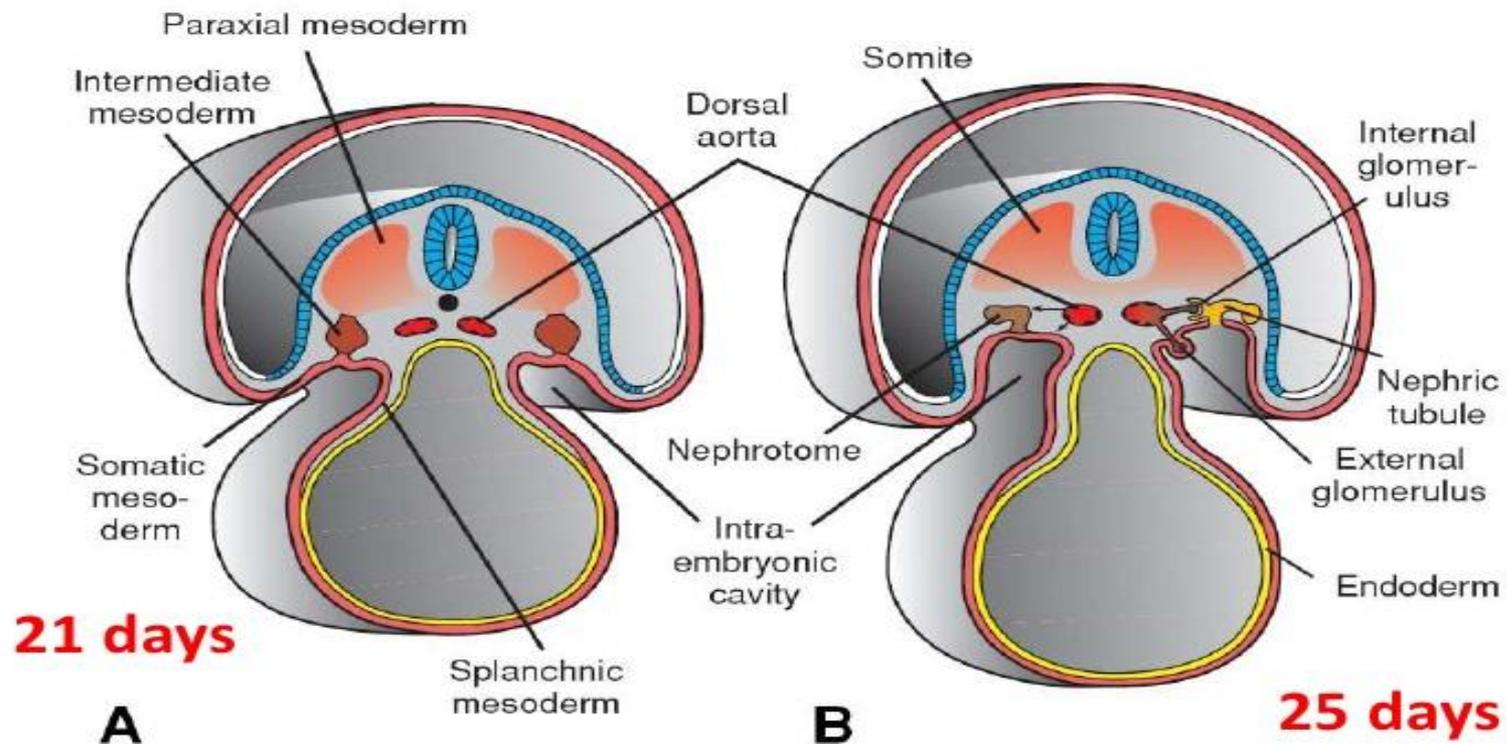
development of the urogenital system تكون الجهاز البولي التناسلي

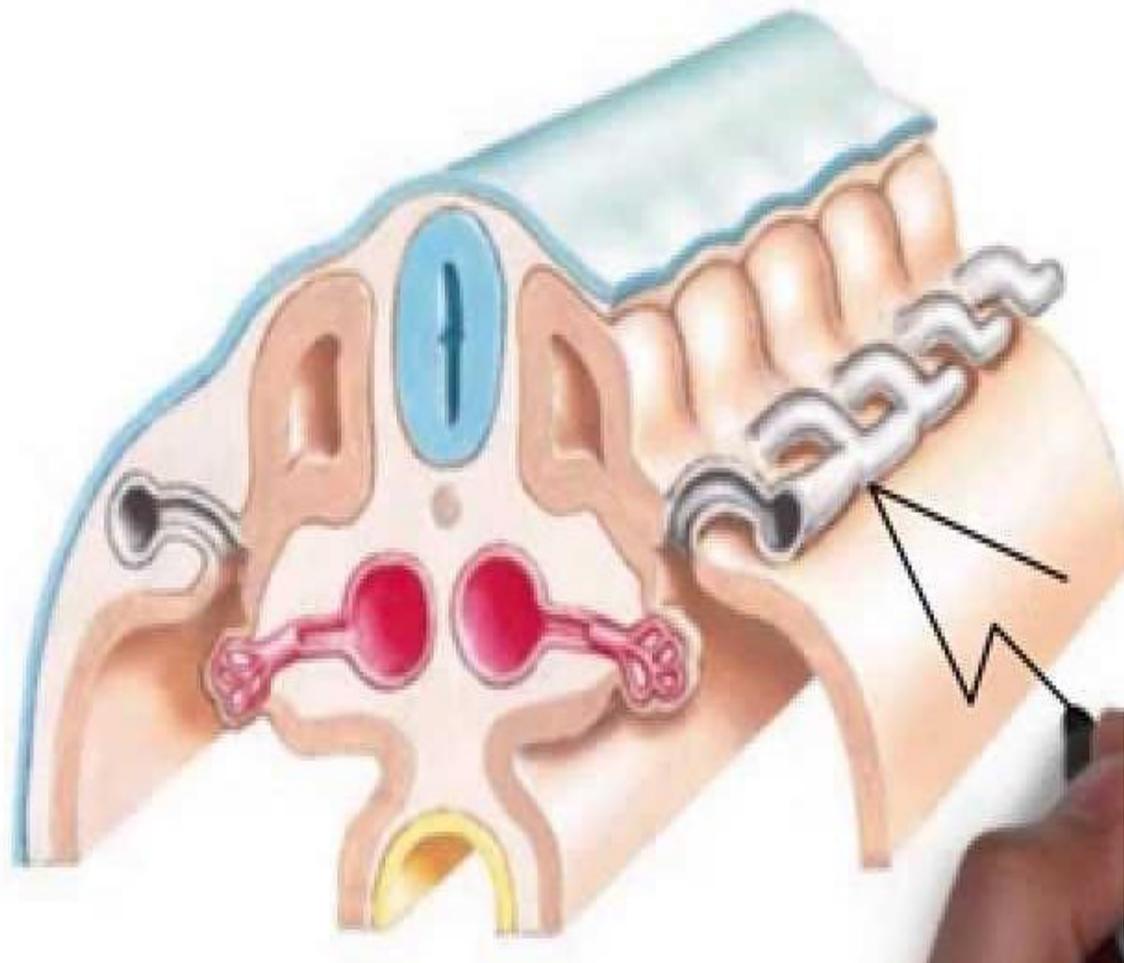


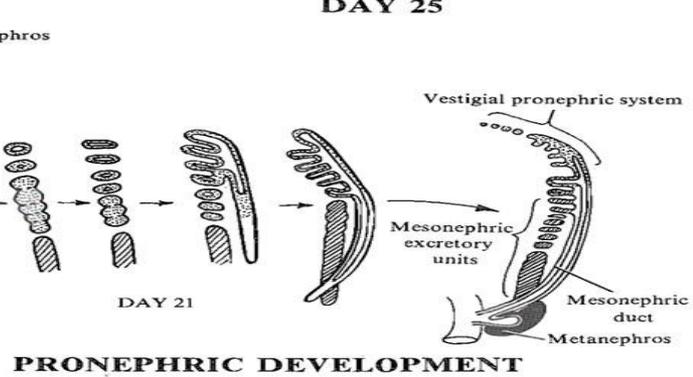
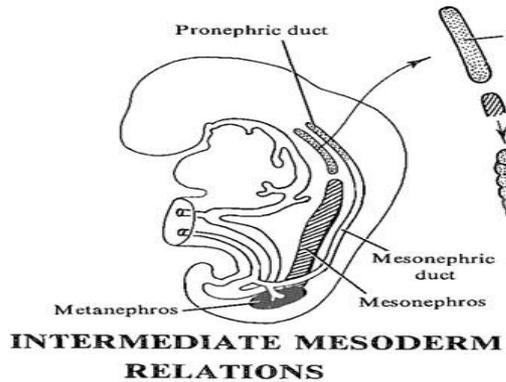
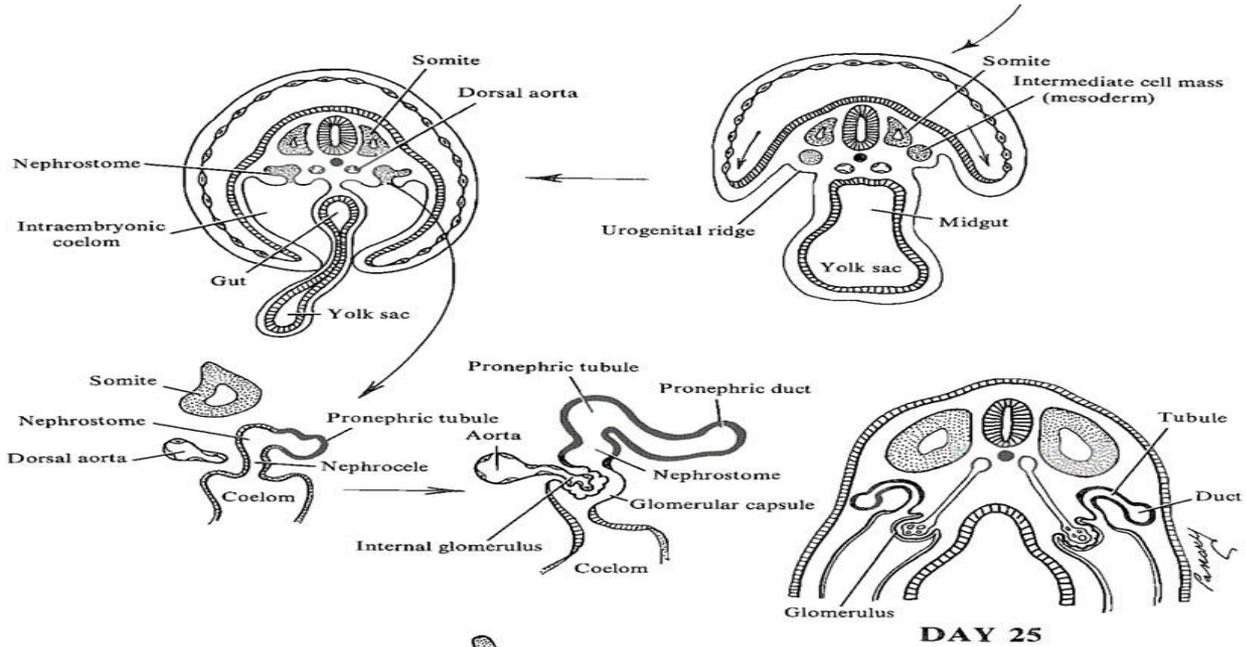
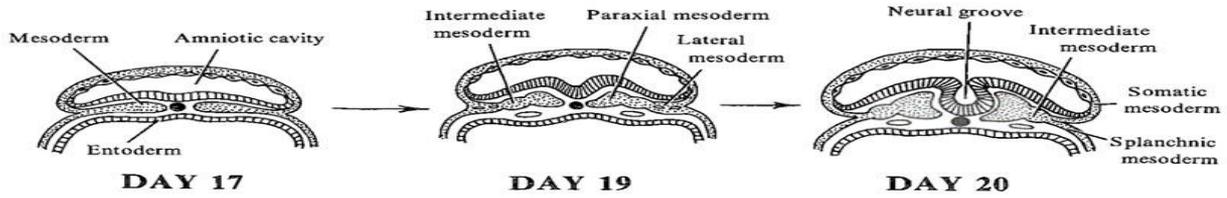
7-1B Kidney development: ureteric bud and metanephric blastema

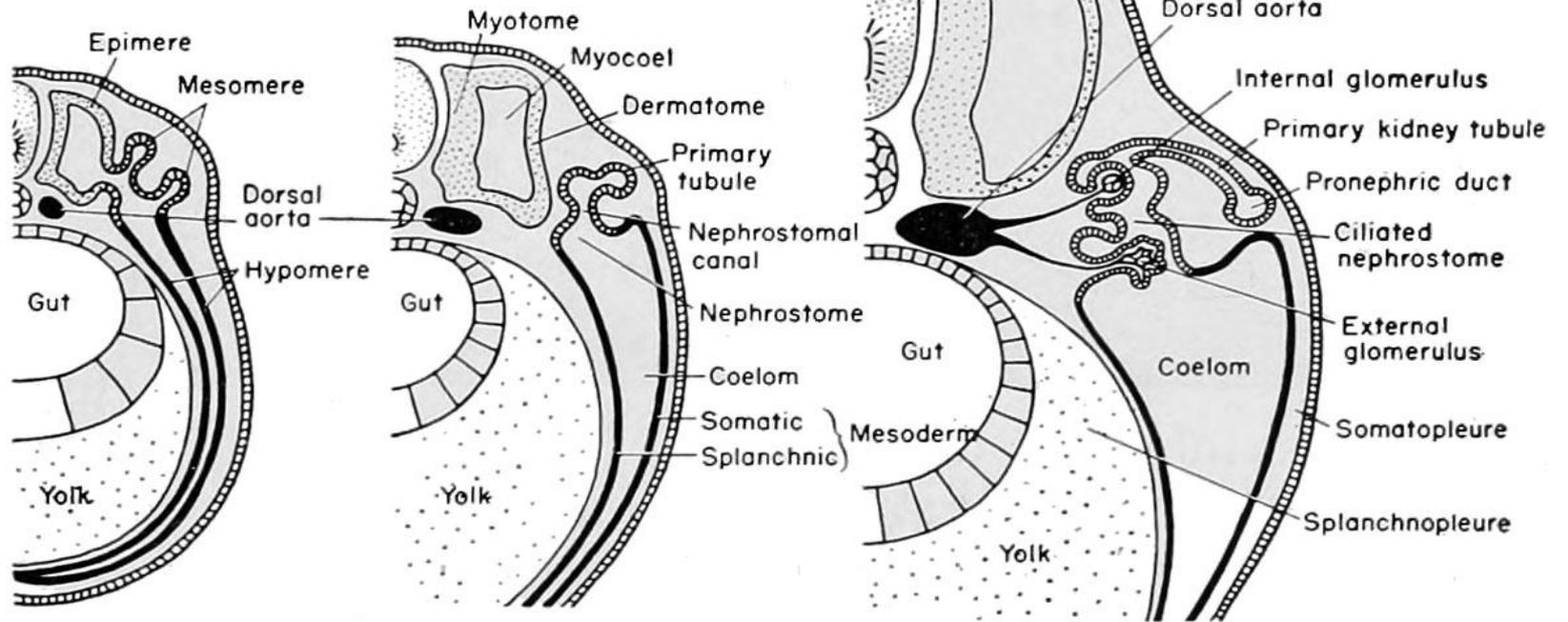


شكل يوضح العلاقة بين الكلية الأولية والكلىة الوسطى والكلىة النهائية في جنين بعمر 5 أسابيع ، لاحظ بقايا أنابيب الكلية الأولية







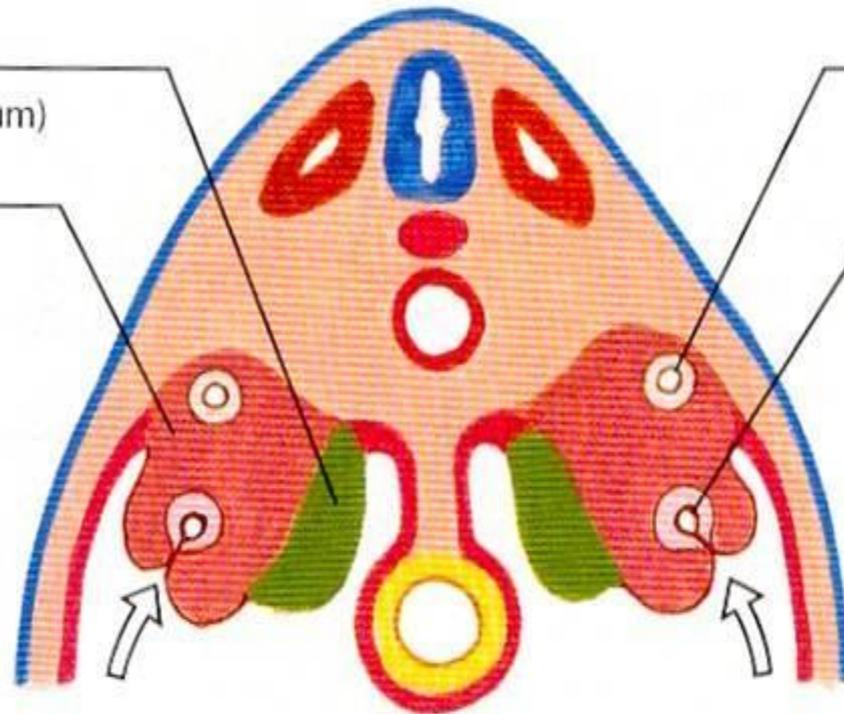


Genital ridge
(with germinal epithelium)

Nephrogenic
cord/ridge

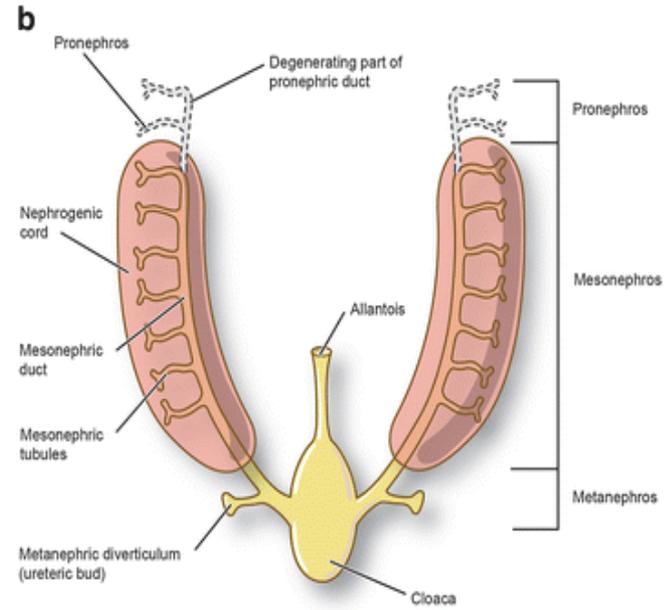
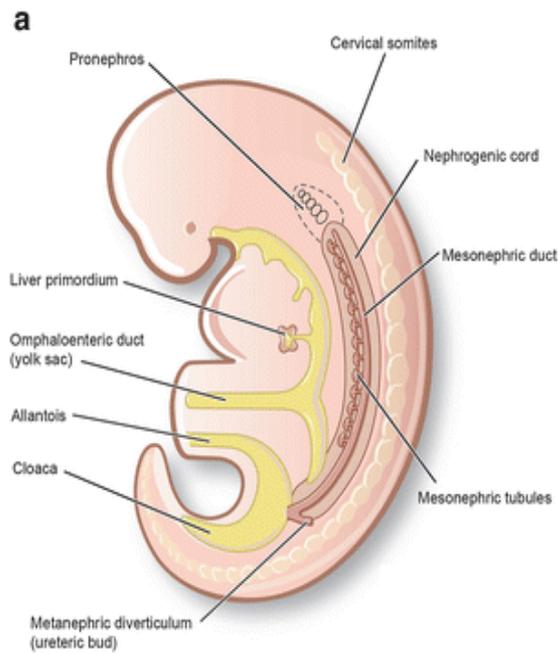
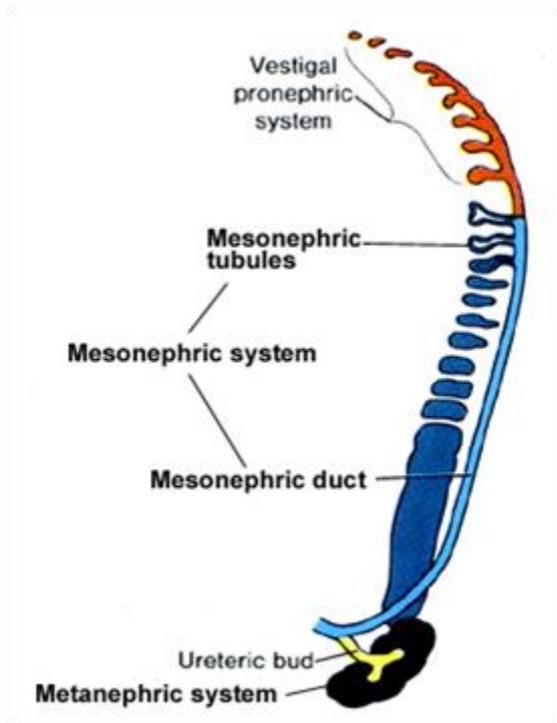
Mesonephric duct
forms as condensation
of mesoderm

Paramesonephric duct
forms as invagination
of visceral peritoneum

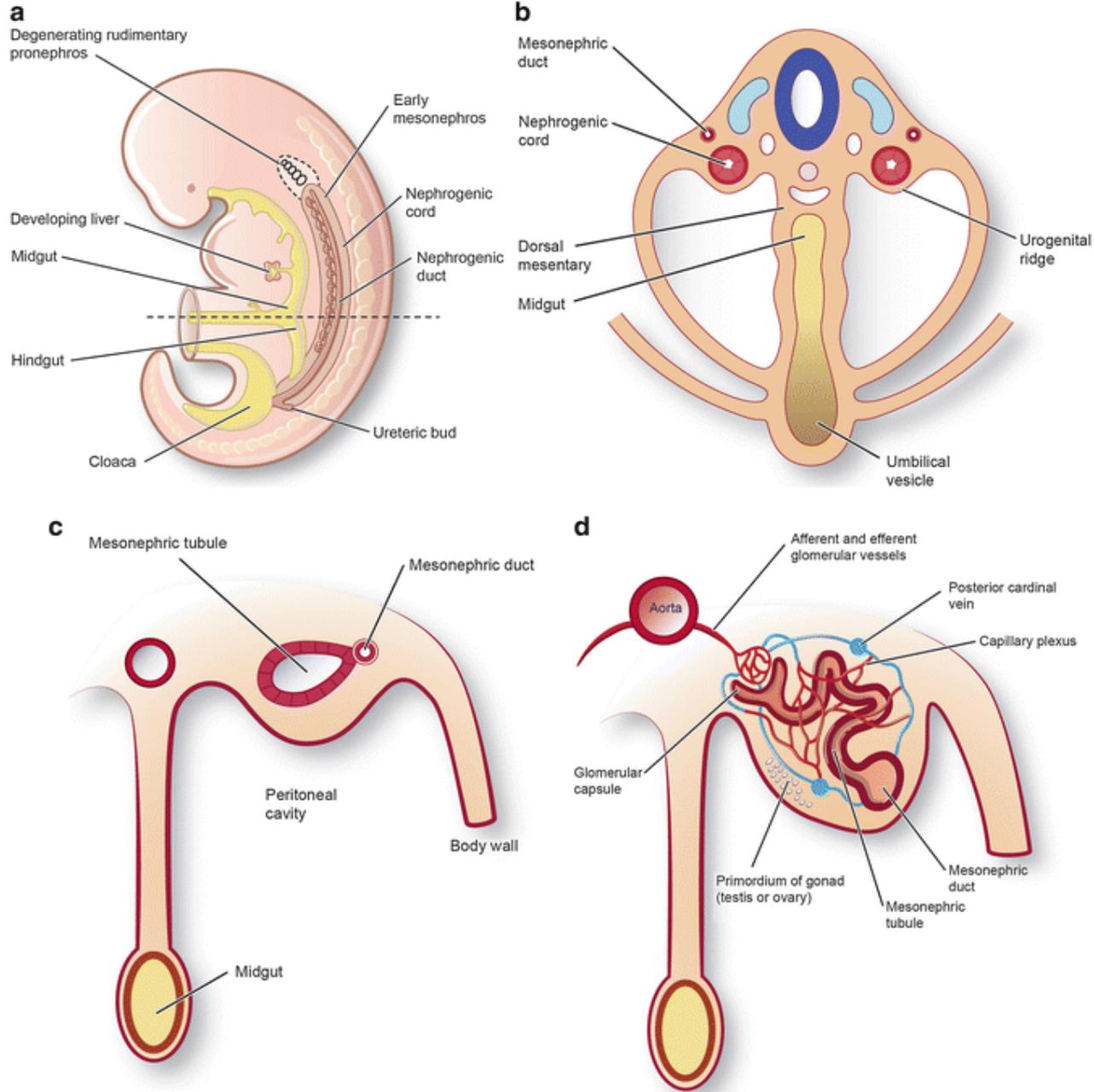


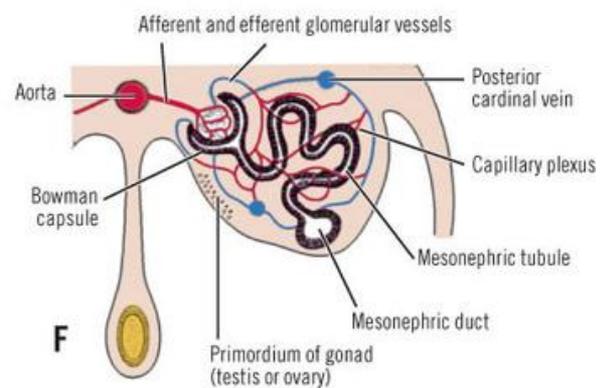
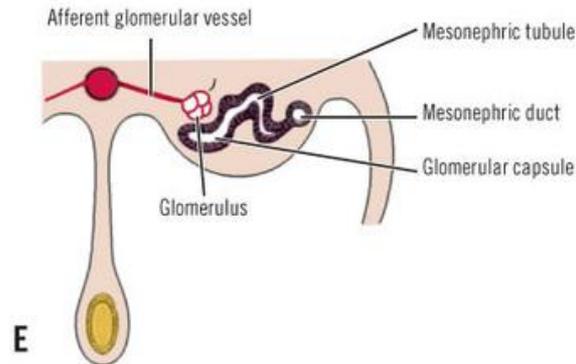
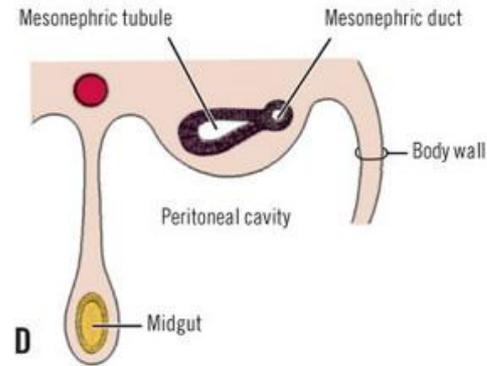
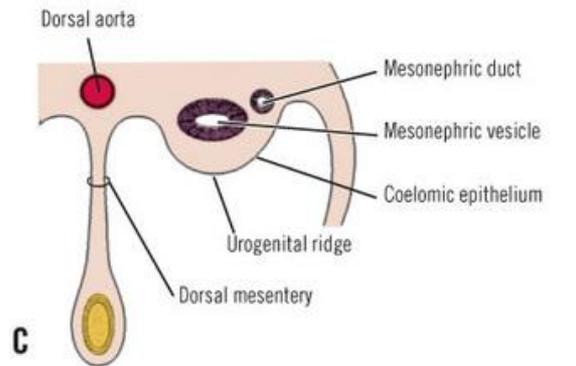
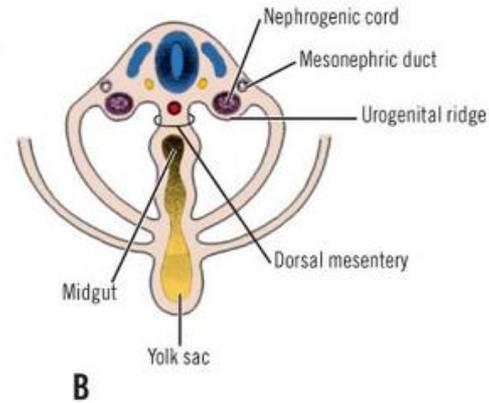
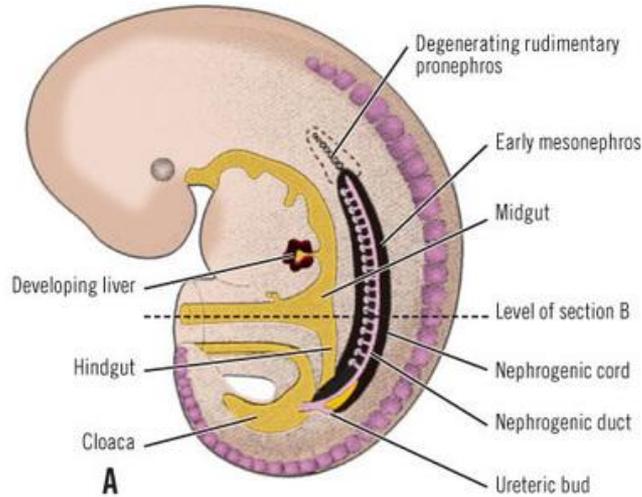
Urogenital ridge differentiates into medial
genital ridge and a lateral nephrogenic ridge





الكلية الوسطى





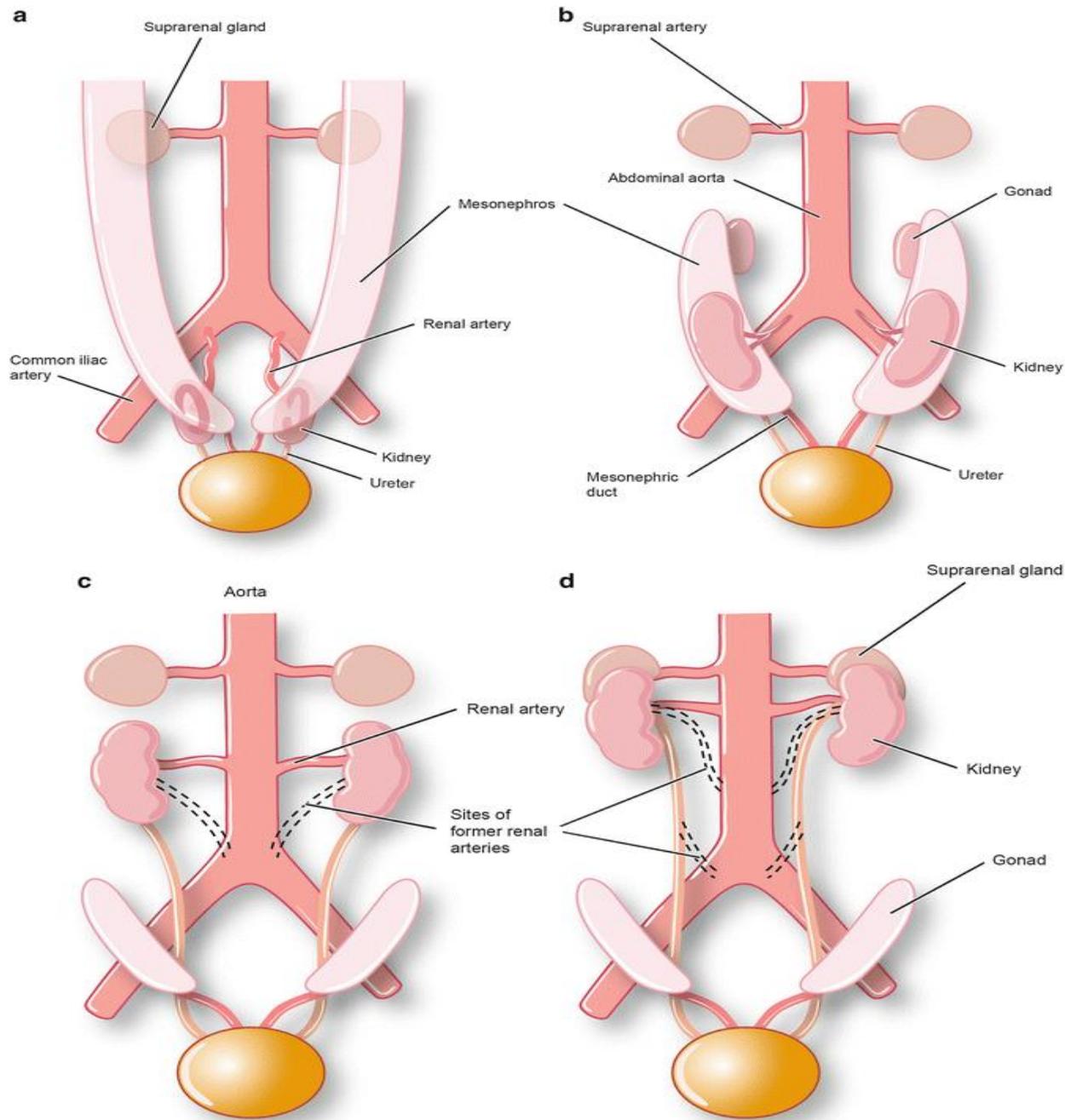
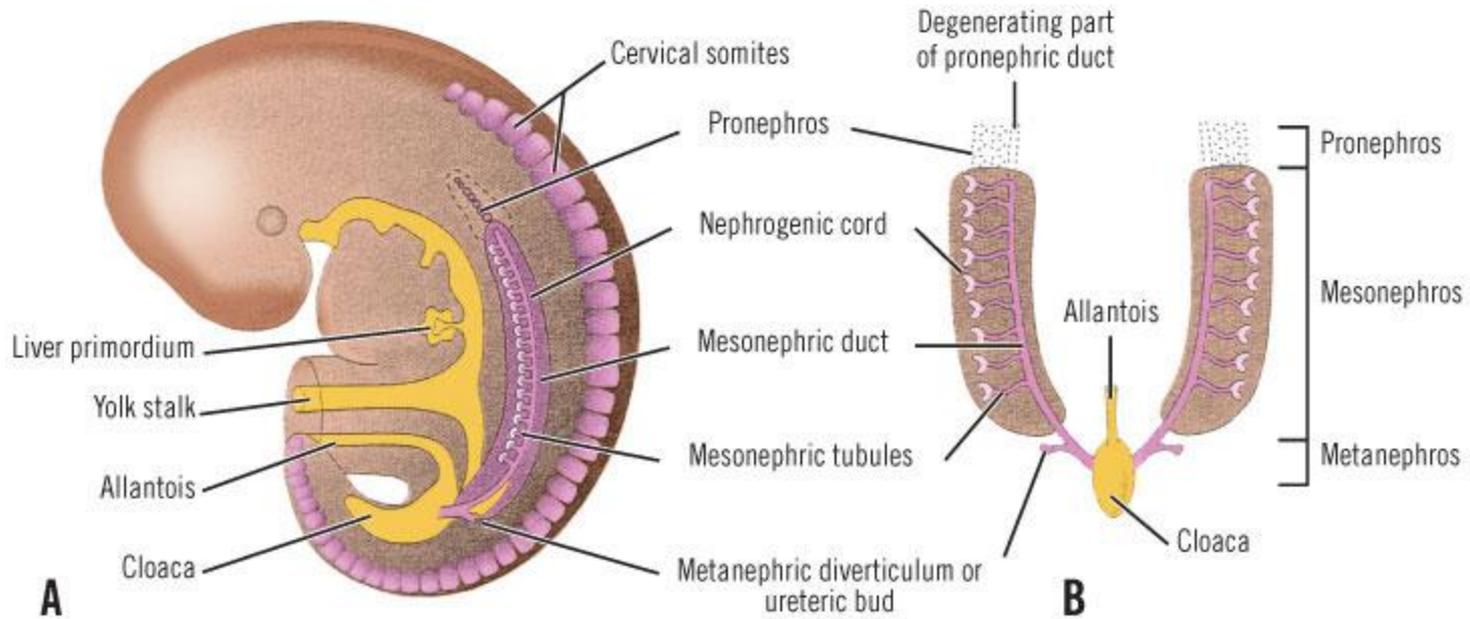
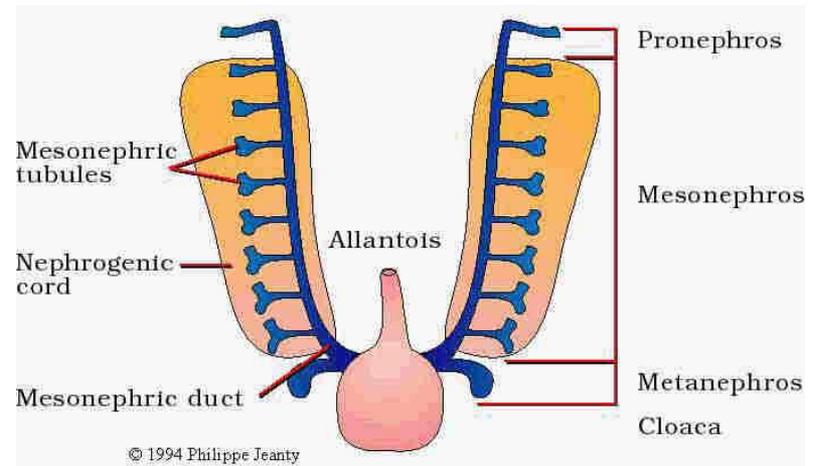
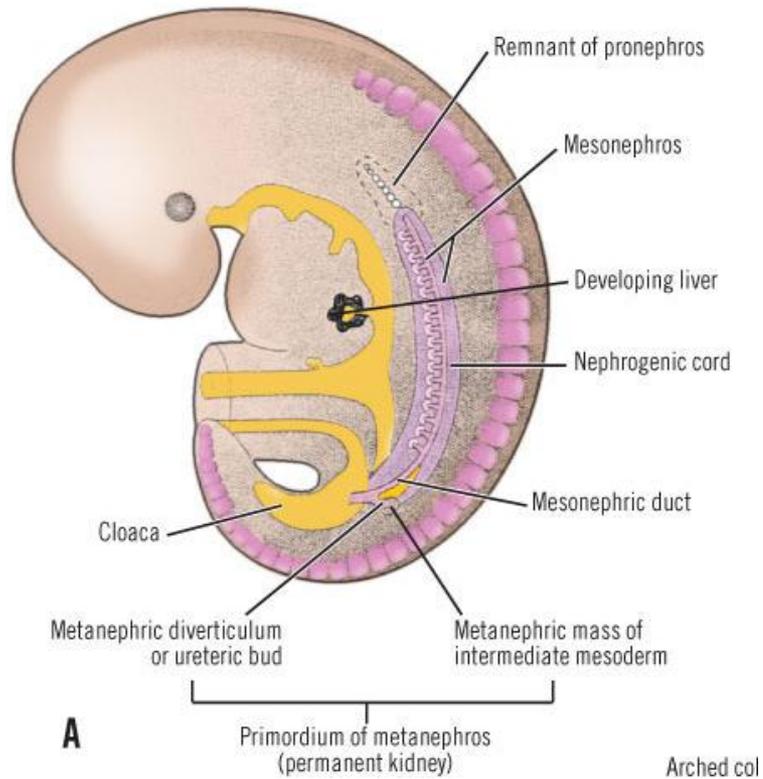


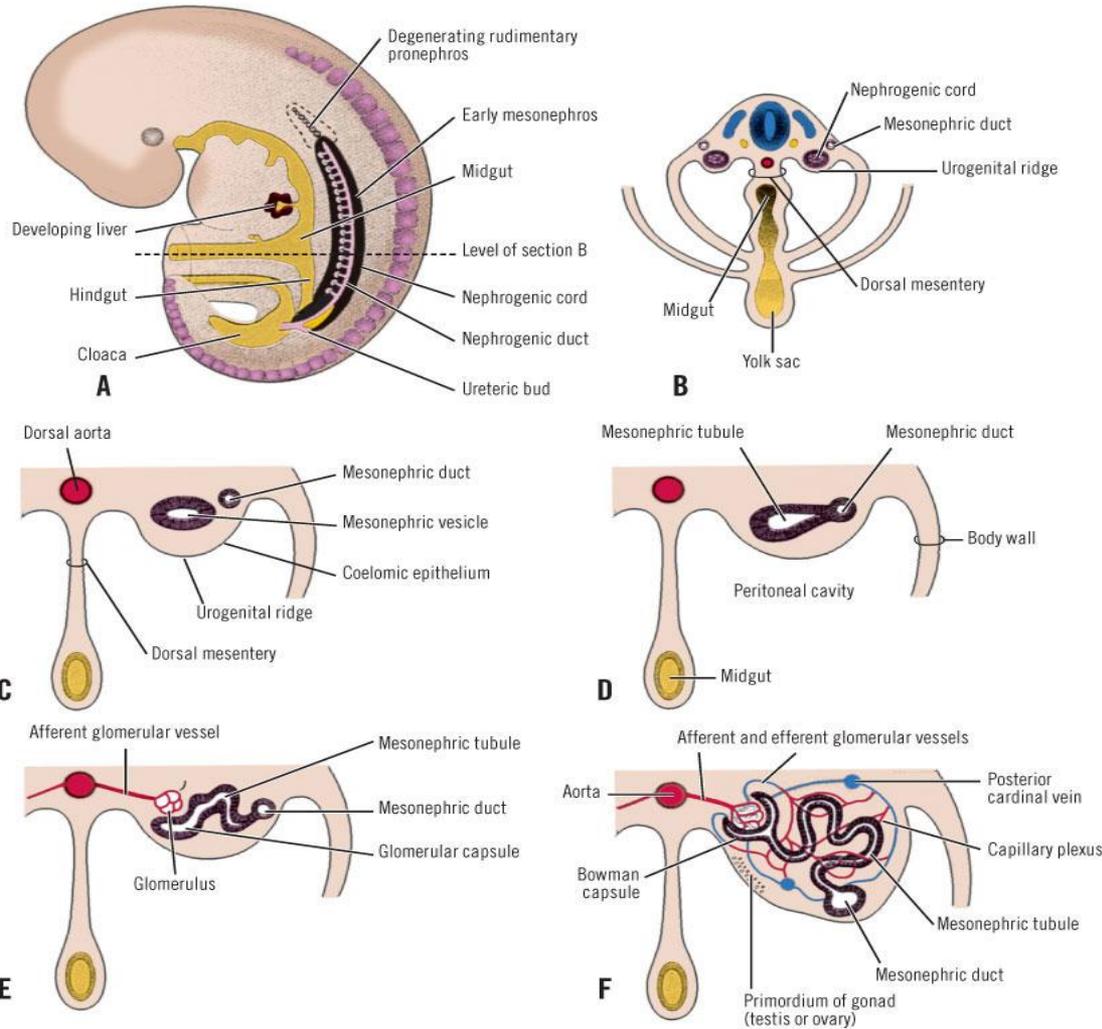
Fig. 1.6 Ventral abdominopelvic view of embryo from weeks 6 to 9. **(a–d)** The kidneys ascend alongside of the aorta to reach their permanent location in the lumbar region of the posterior abdominal wall (reprinted with permission, Cleveland Clinic Center for Medical Art & Photography © 2015. All Rights Reserved)



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A- منظر جانبي لجنين بعمر 32 يوماً يظهر أنواع الكلى الثلاثة، B - يظهر العلاقة بين كل من قناة الكلية الأولى والكلى الوسطى والمقذرة .

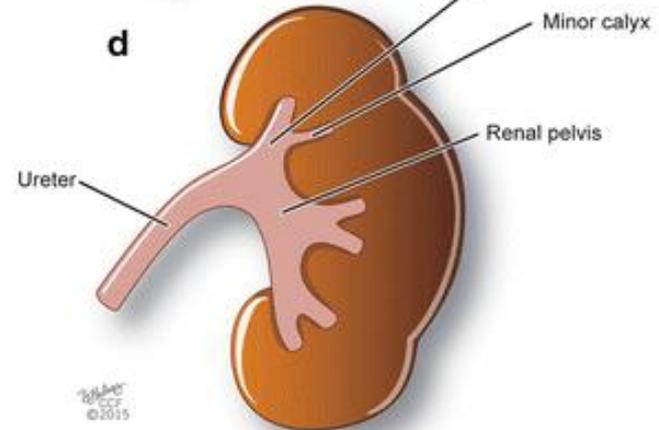
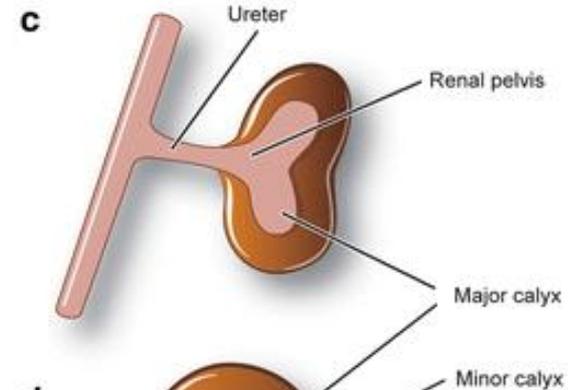
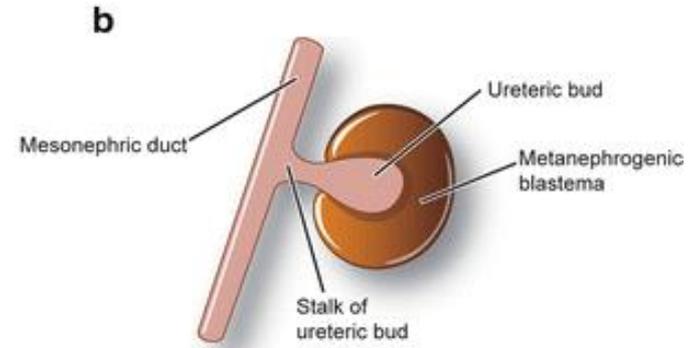
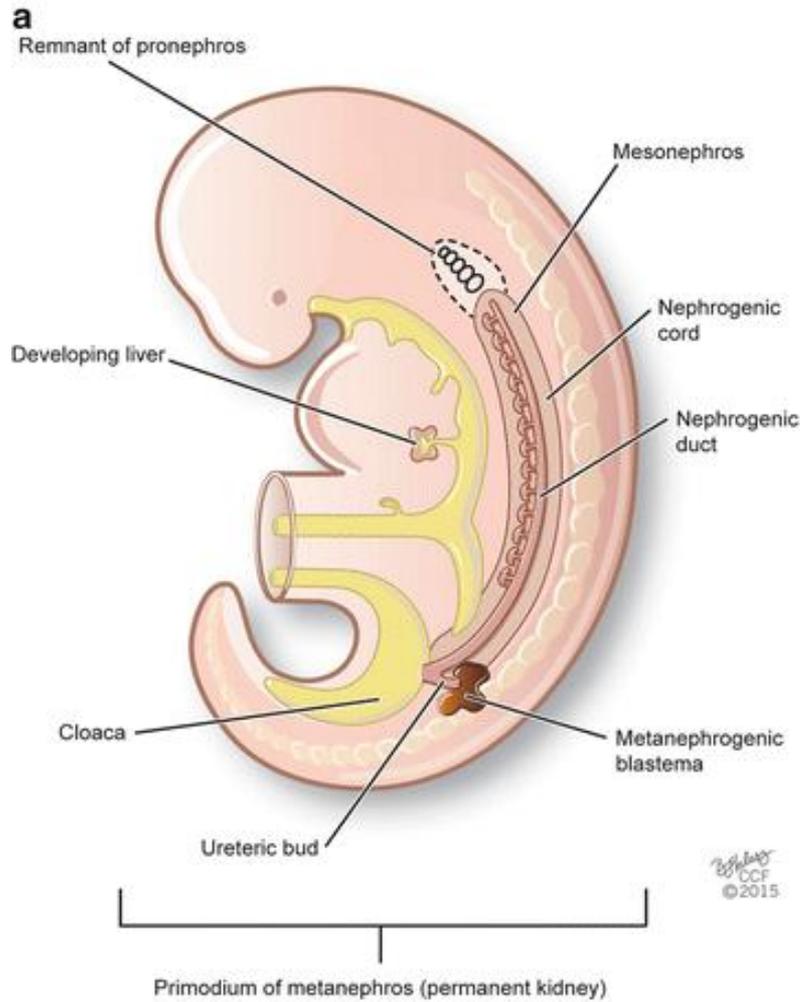




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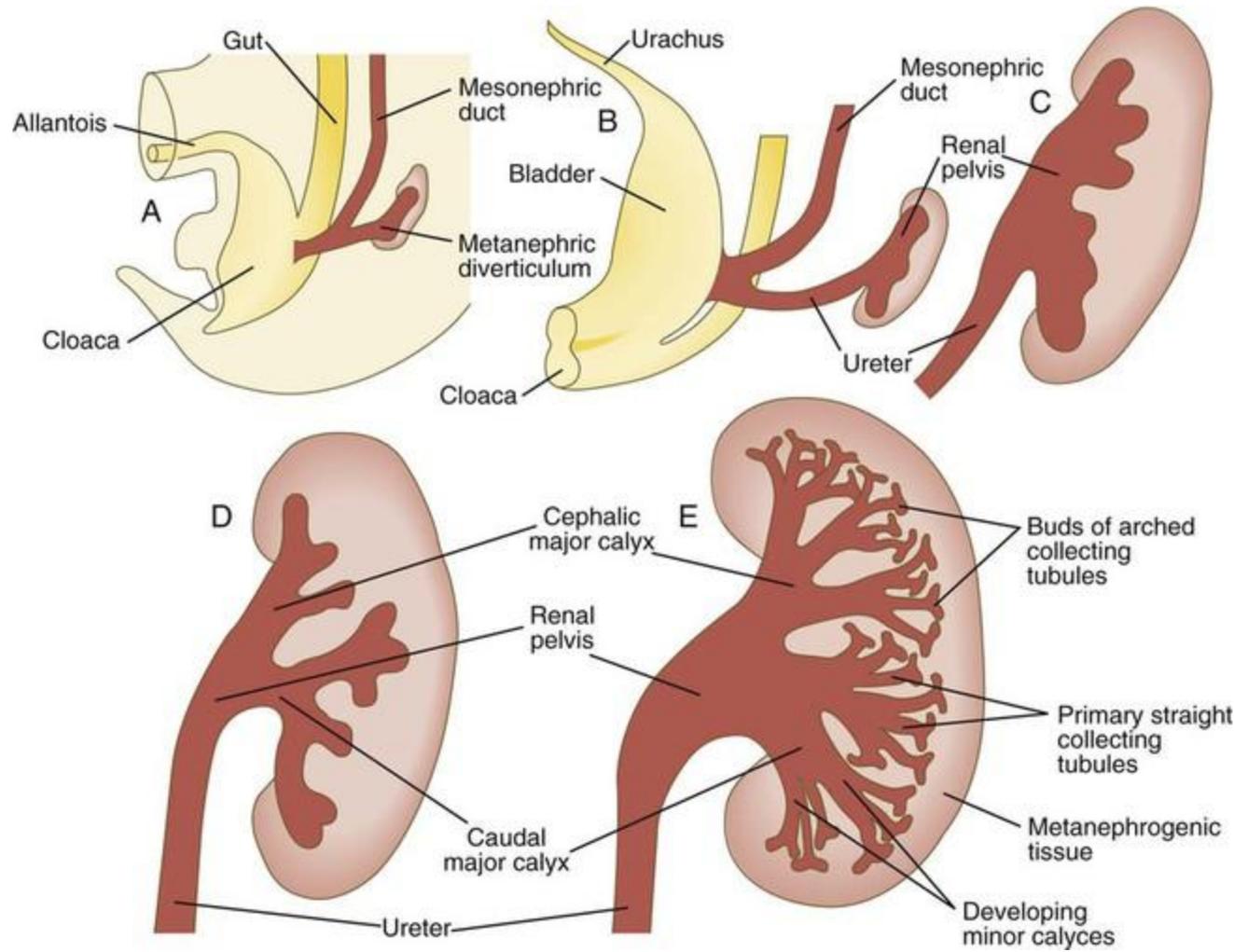
أشكال ترسيمية تبين مراحل من تطور الكلية الوسطى ، A- منظر جانبي لجنين بعمر 5 أسابيع ، B- م. ع. في الجنين السابق ، وباقي الأشكال هي توضيح لمراحل تطور أنابيب الكلية الوسطى .

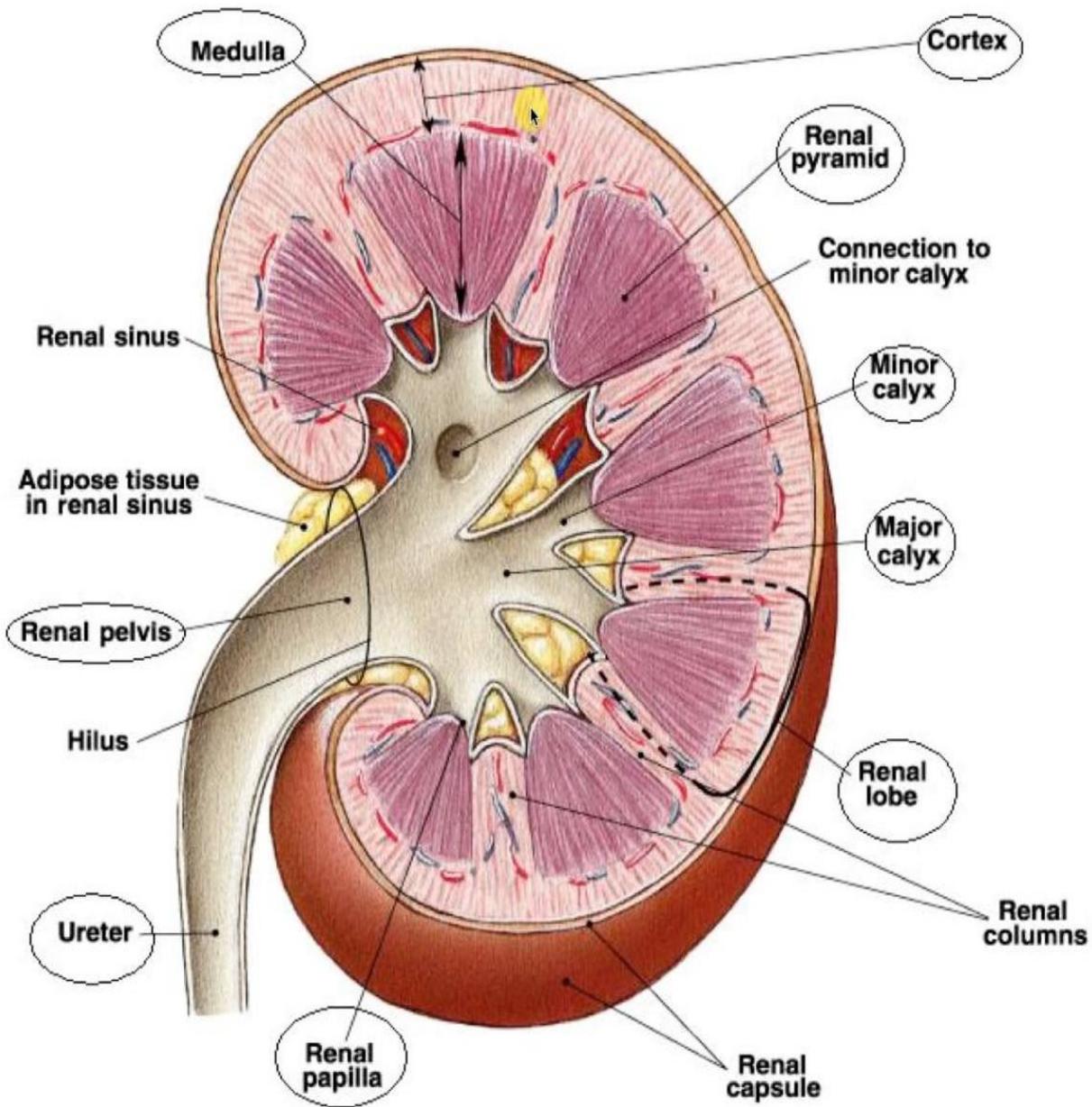
الكلية النهائية

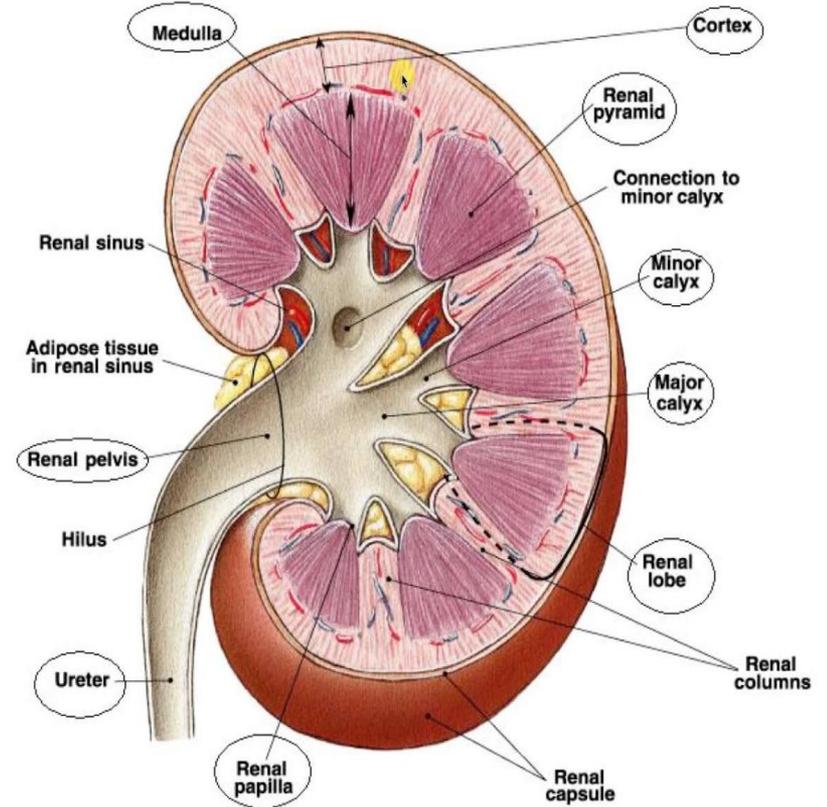
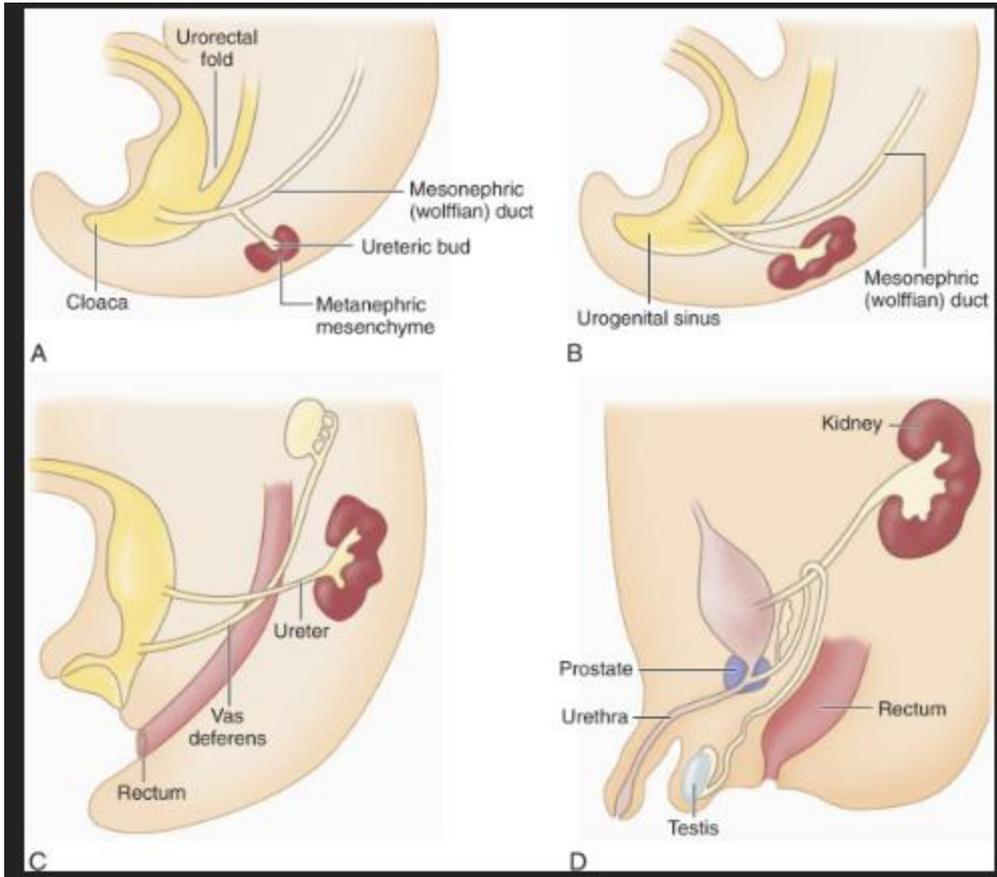


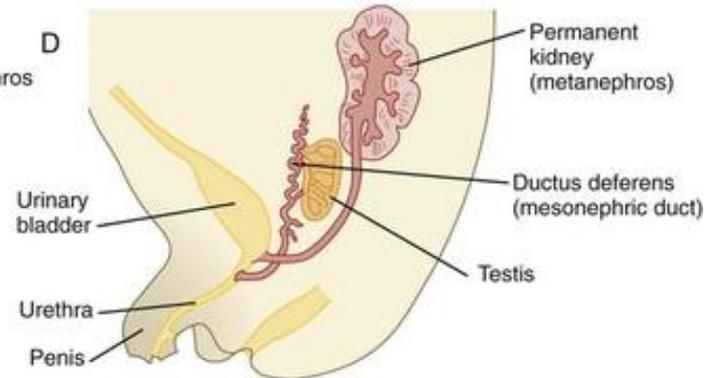
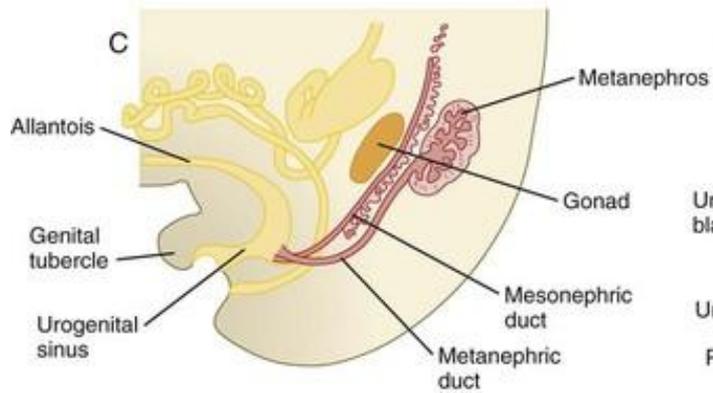
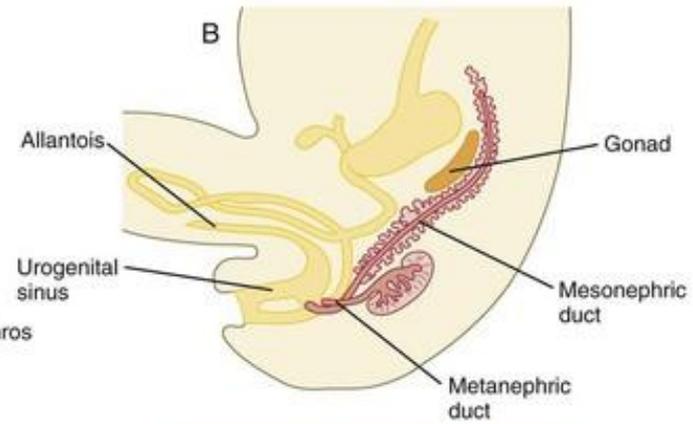
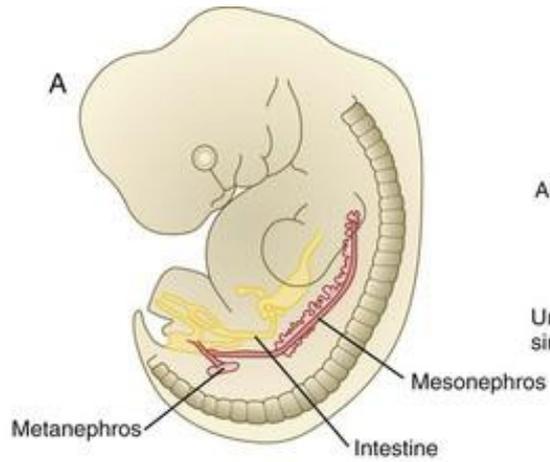
© 2015

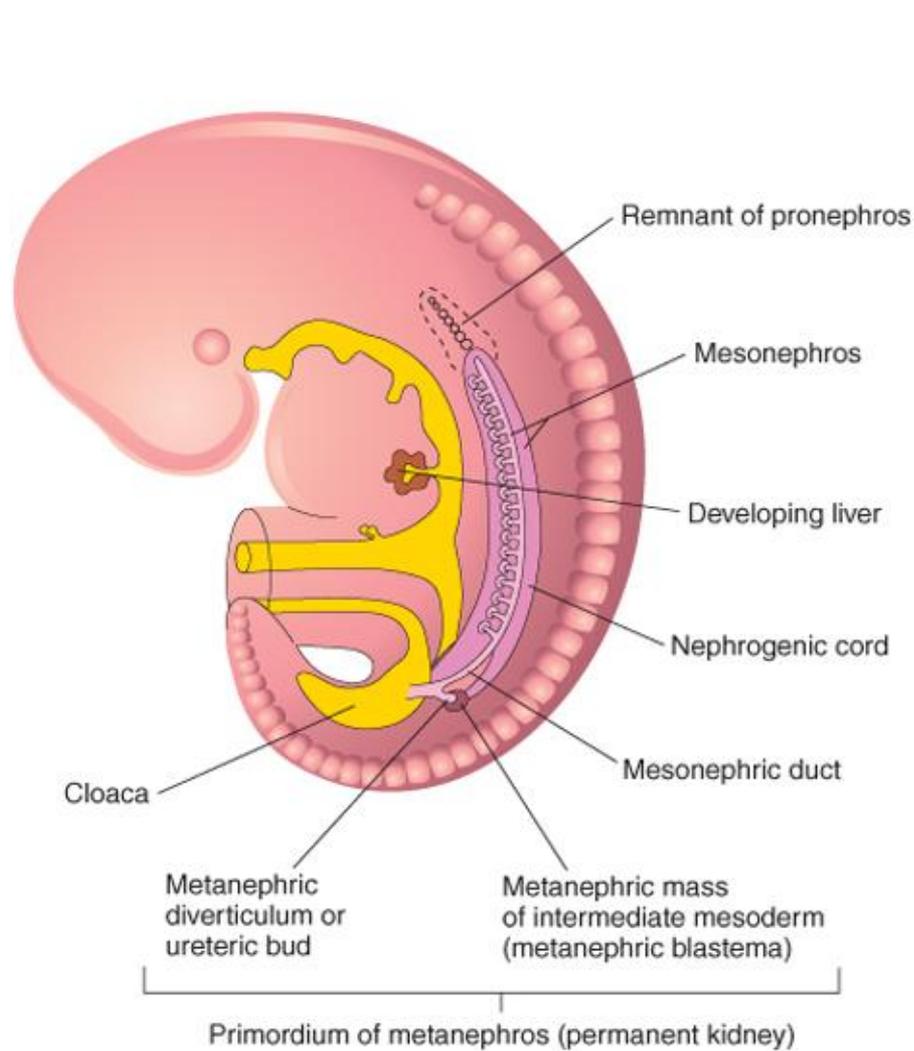
© 2015



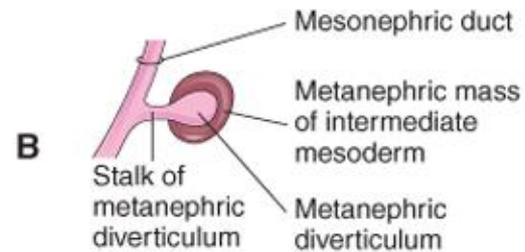




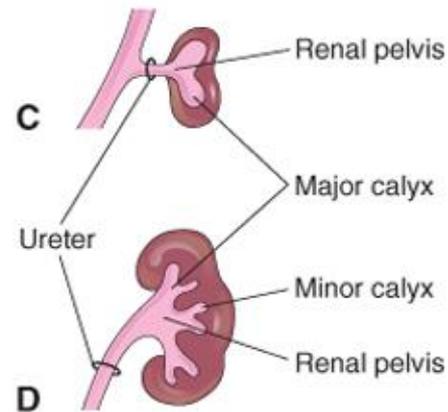




A

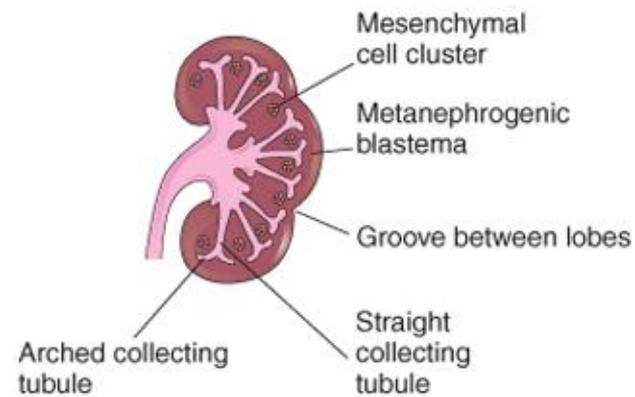


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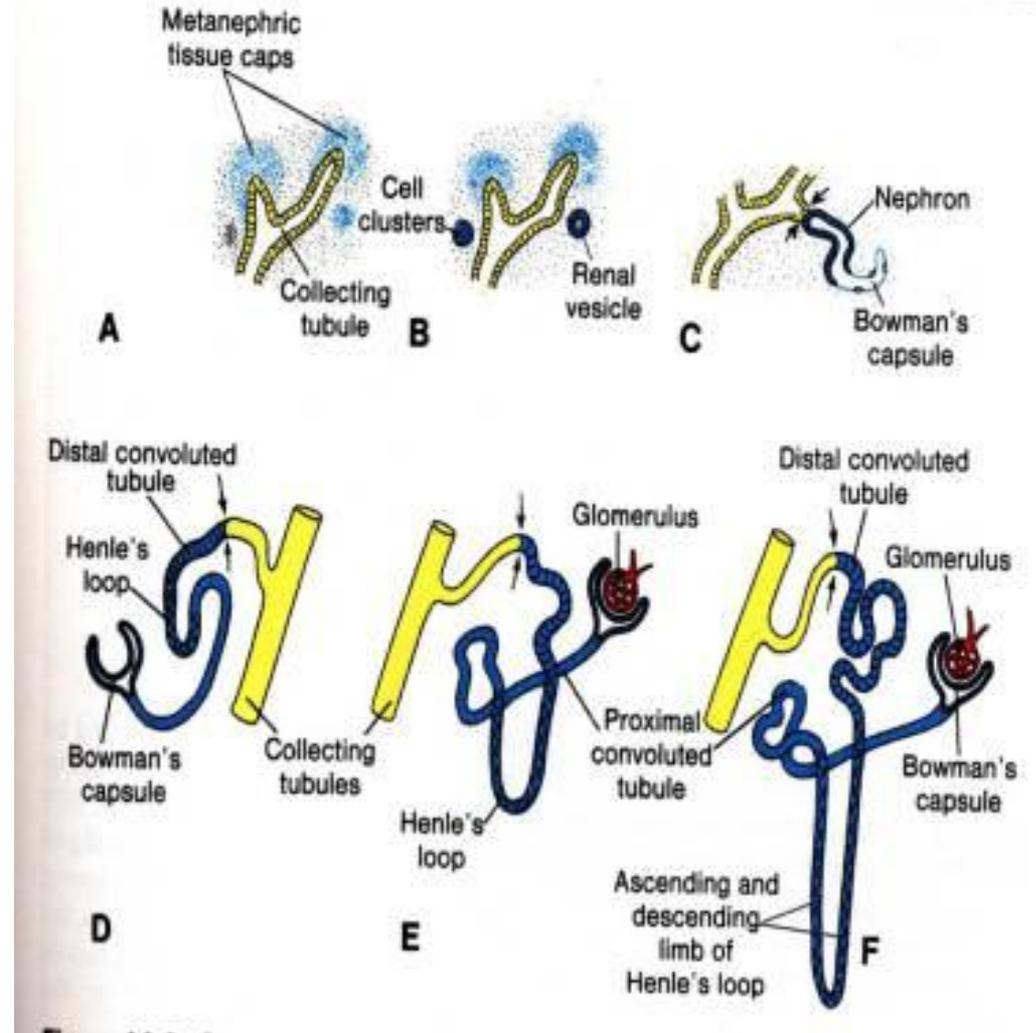
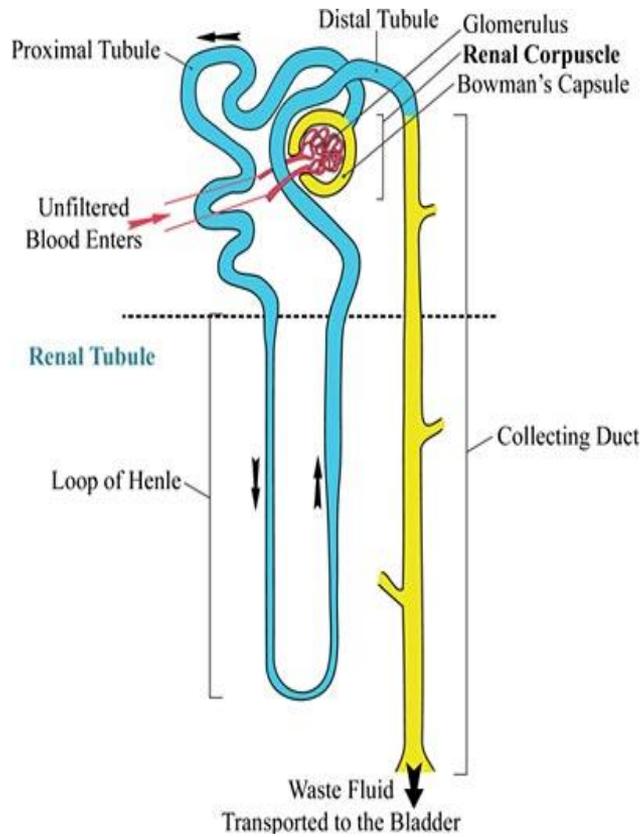


C

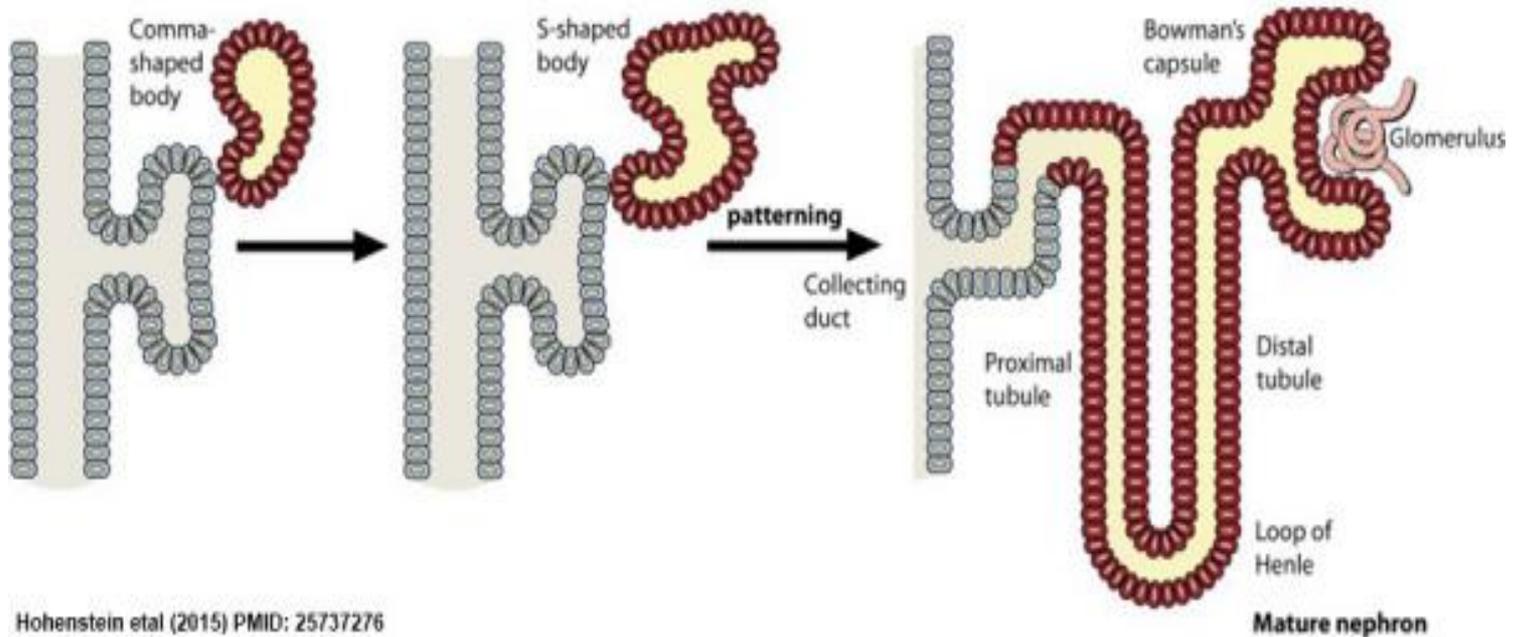
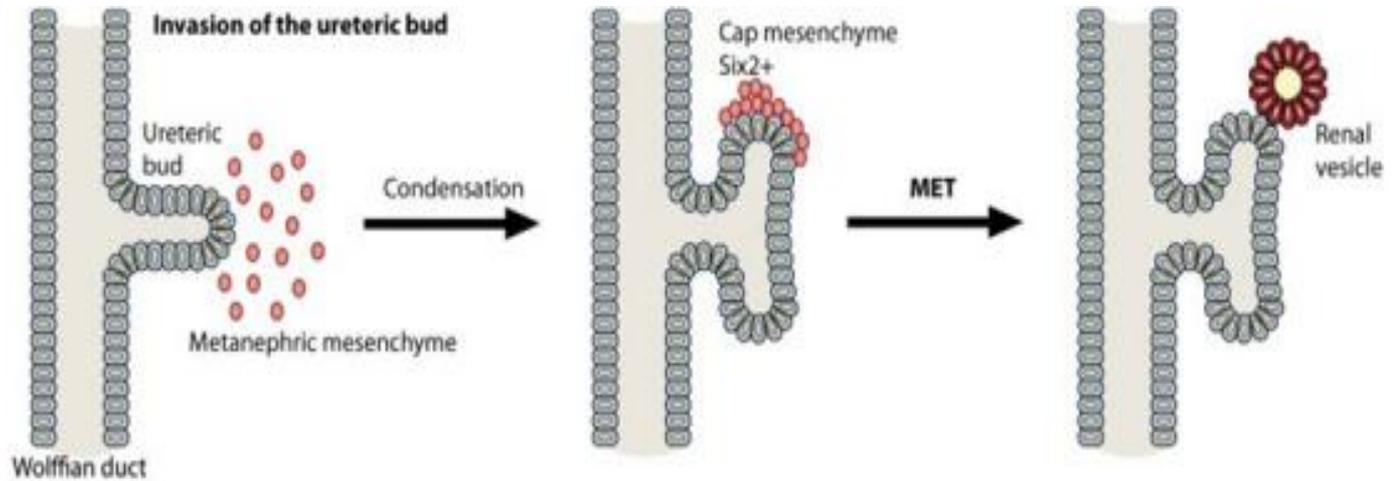
D



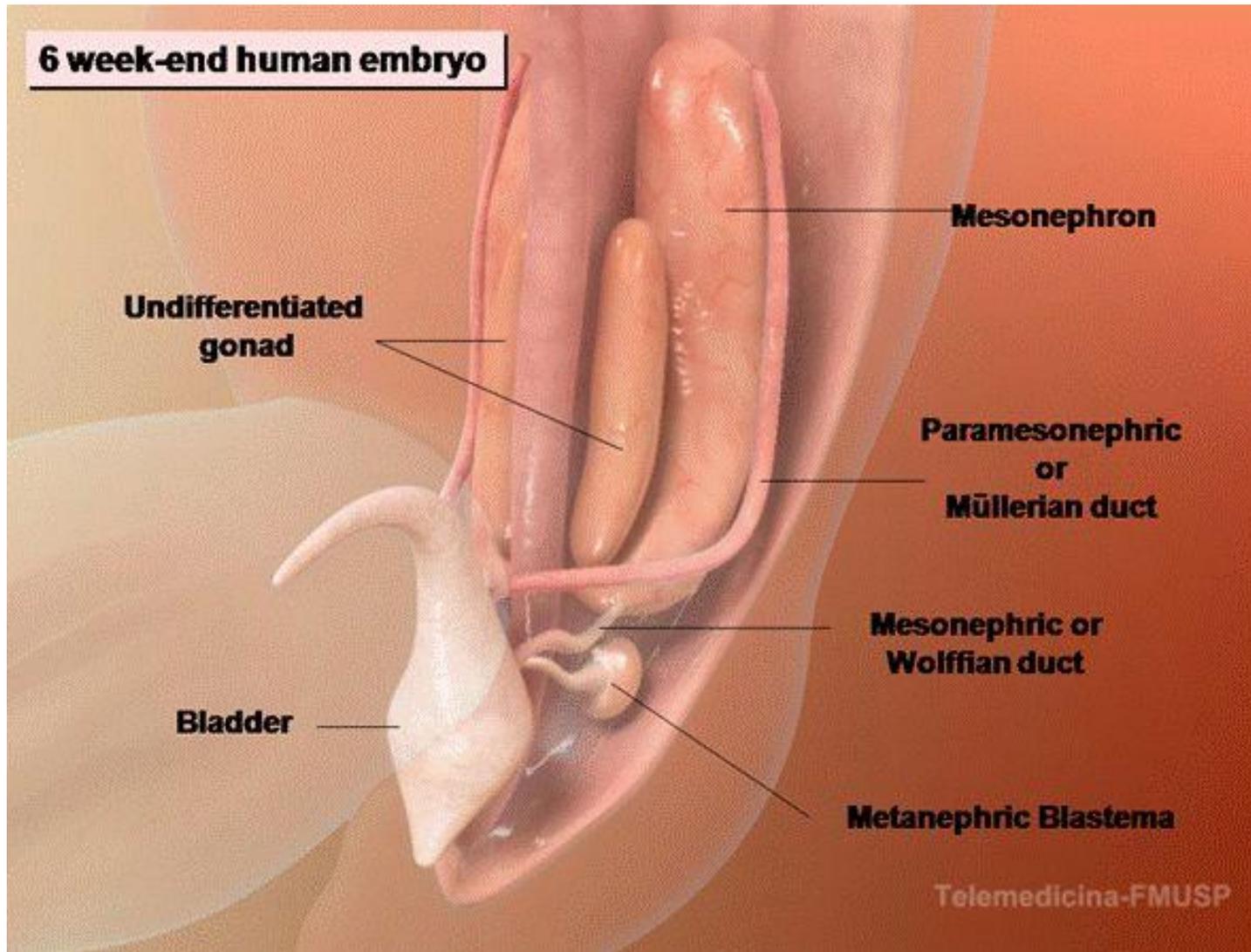
E

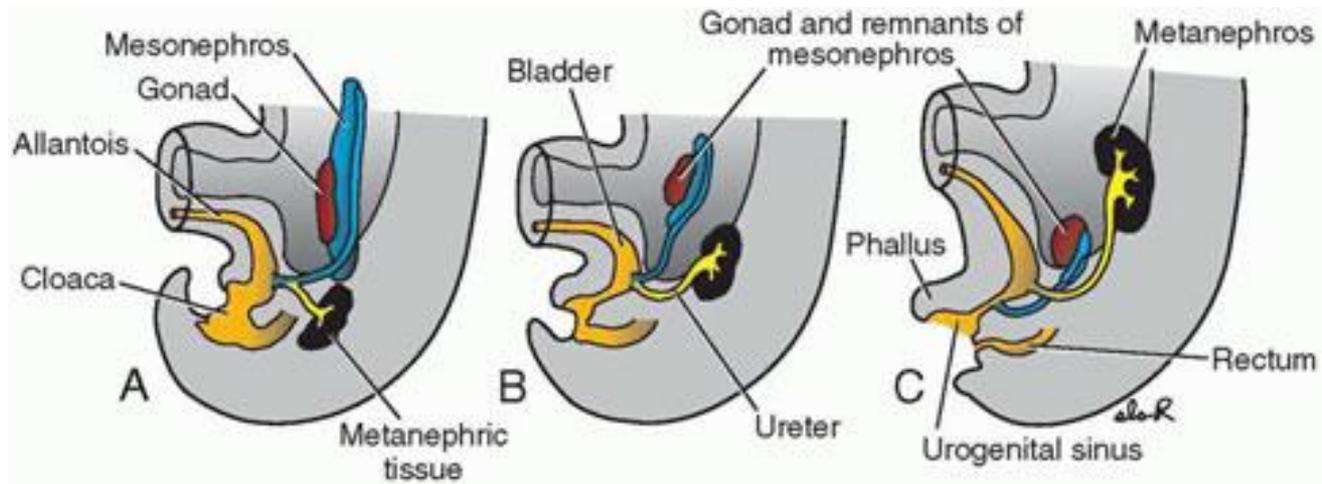


مراحل تمايز النفرون في الكلية النهائية

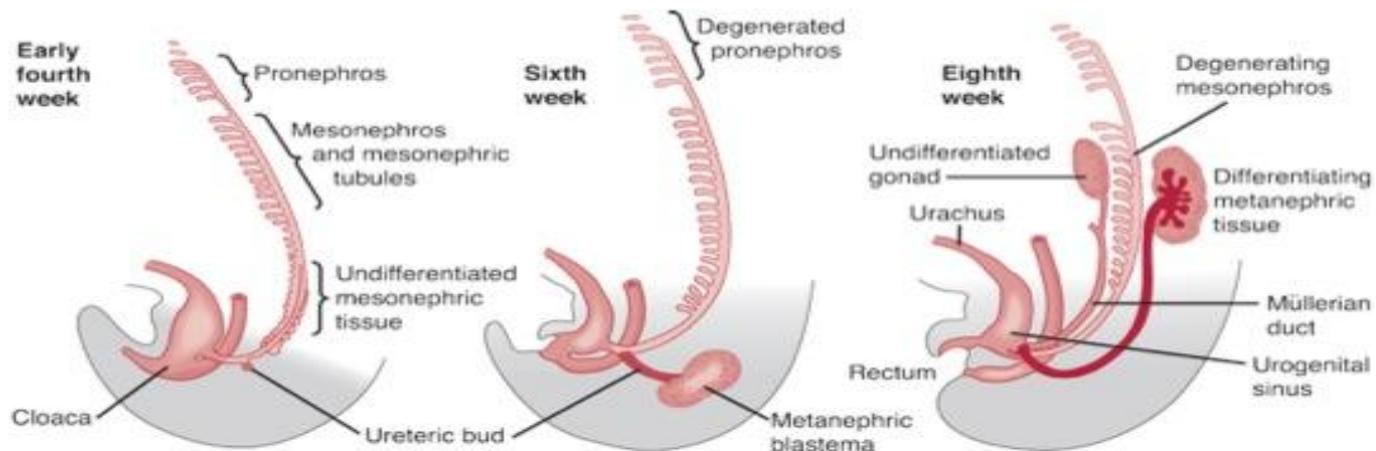


6 week-end human embryo



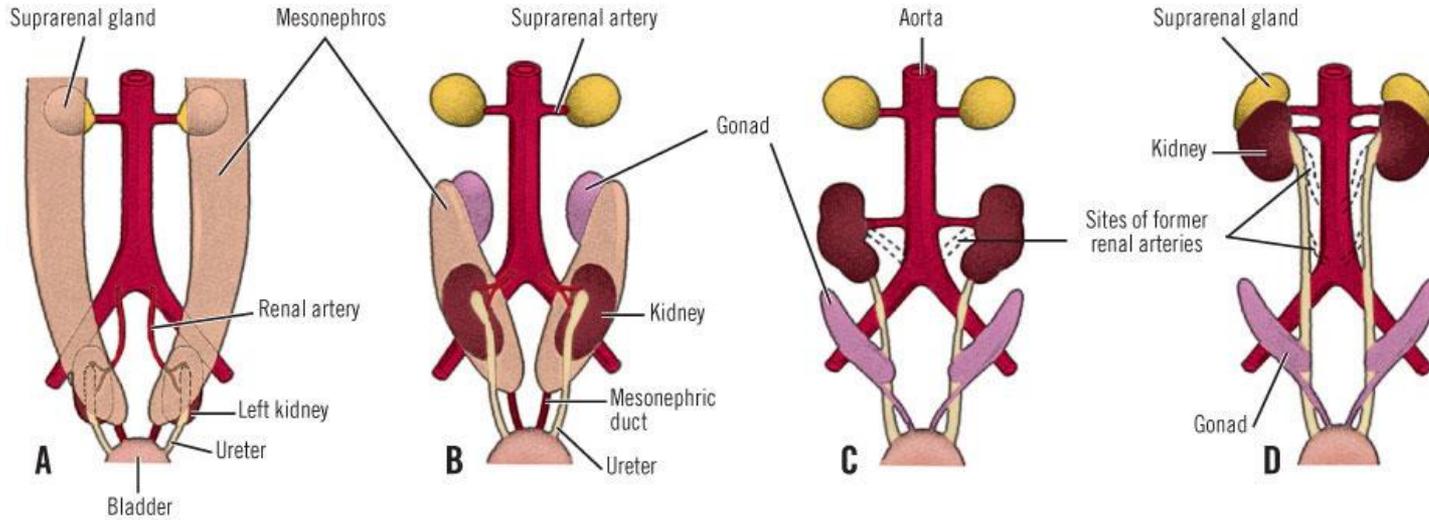


أشكال توضح صعود الكليتين



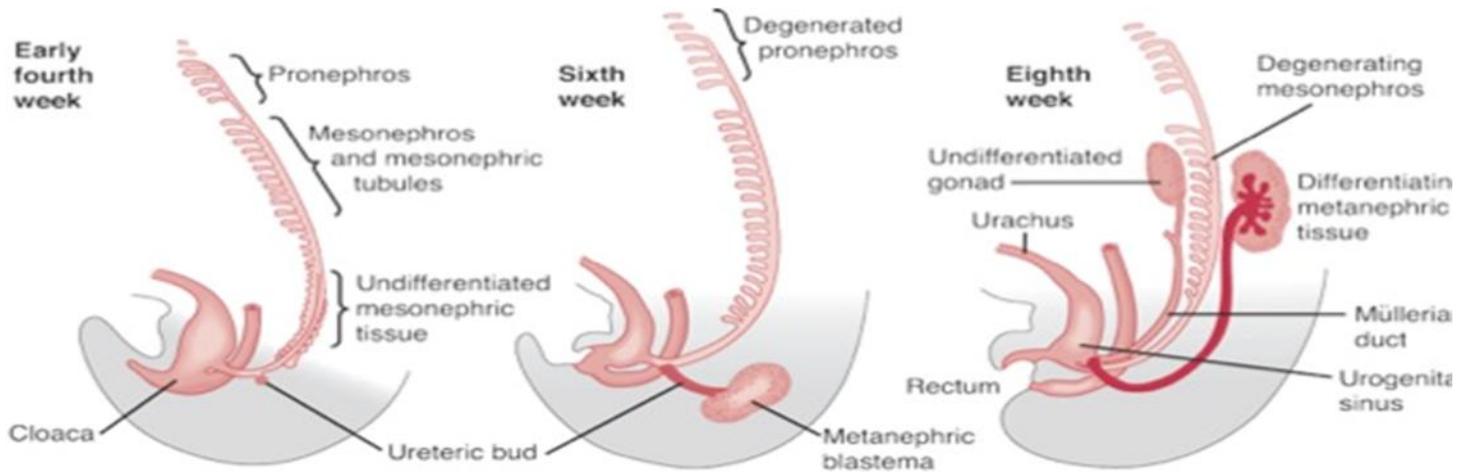
Source: Gerard M. Doherty: *CURRENT Diagnosis & Treatment: Surgery, 13th Edition*: <http://www.accessmedicine.com>

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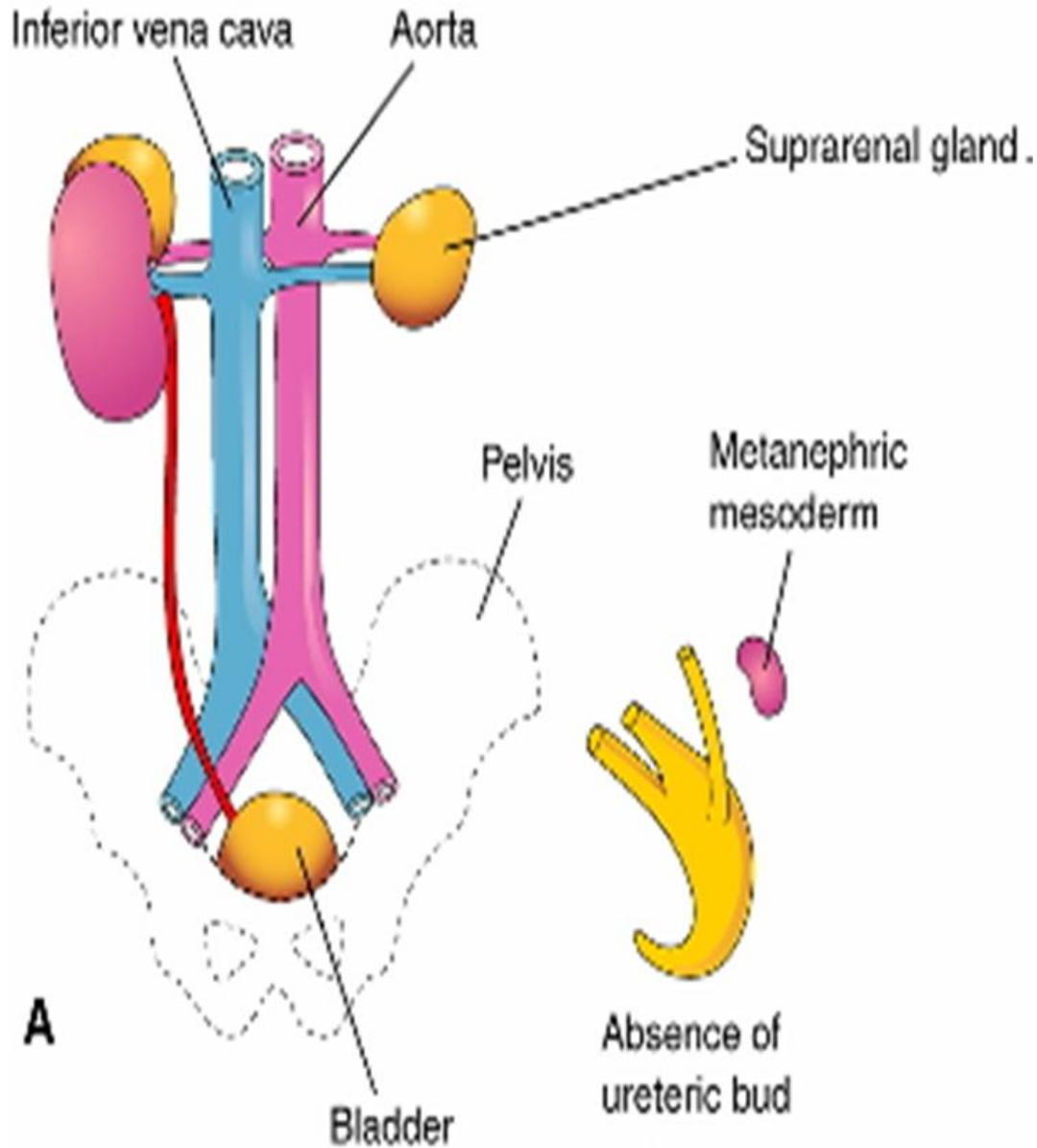


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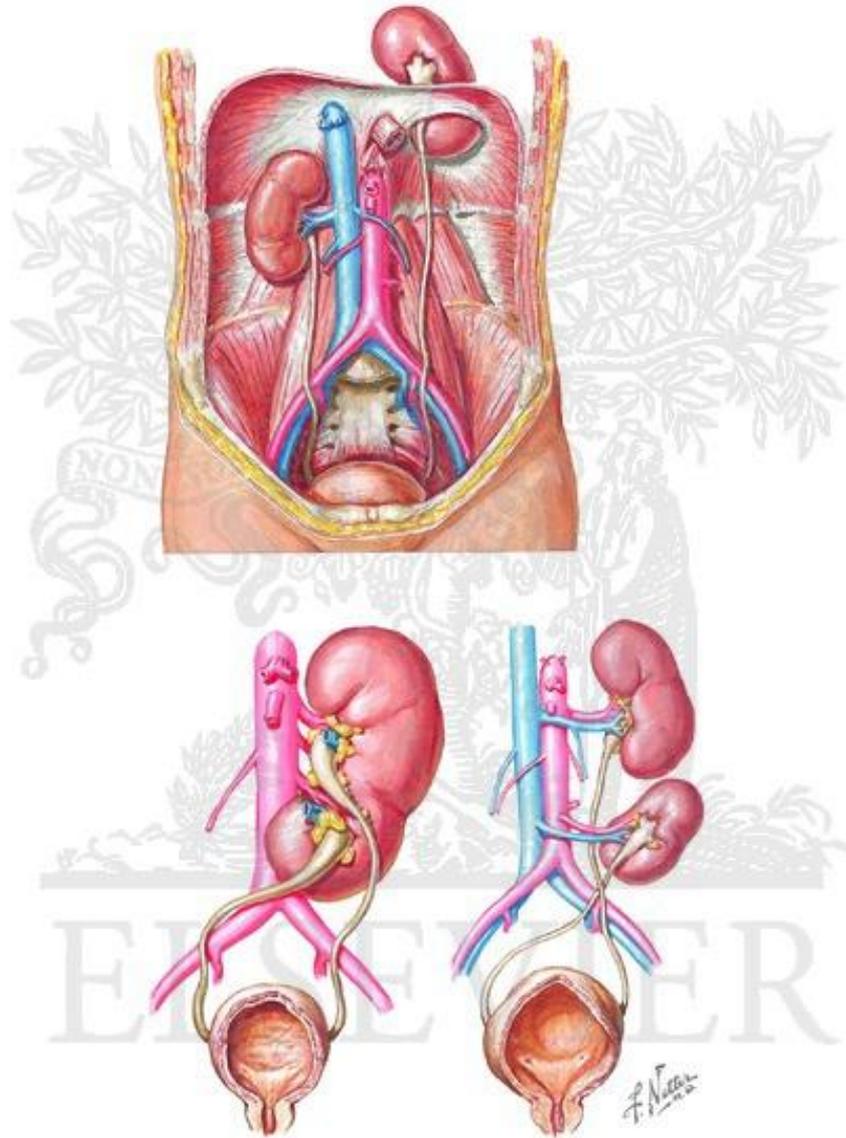
أشكال ترسيمية للمنطقة البطنية الحوضية مرئية بطنياً لأجنة بعمر 6-9 أسابيع ، توضح صعود الكلية ودورانها ، لاحظ أنها تكتسب تروية دموية من سوية تصل إليها



عدم تكون الكلية



ECTOPIC KIDNEY



الكلية الهاجرة التصالبية



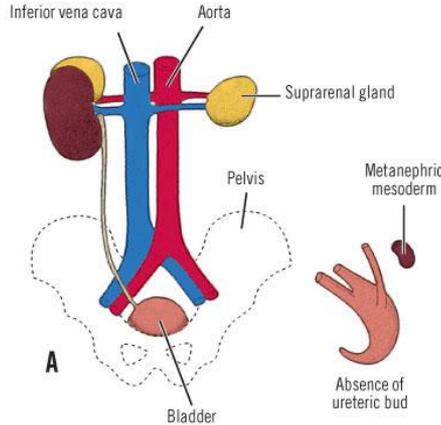
Horseshoe kidney



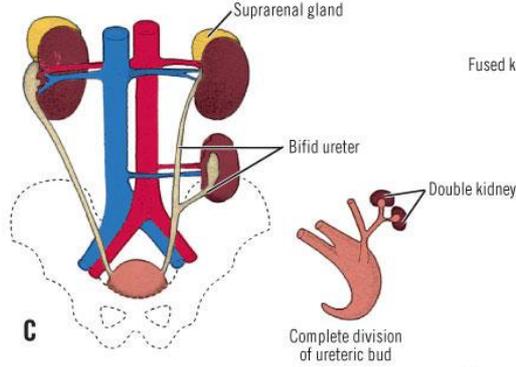
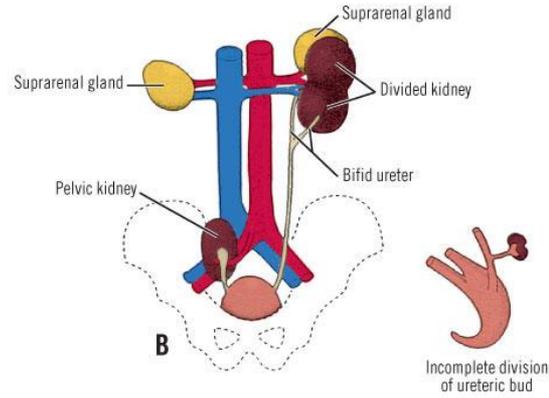
Horseshoe Kidney

أشكال توضح التشوهات الخلقية في الكلية والحالب

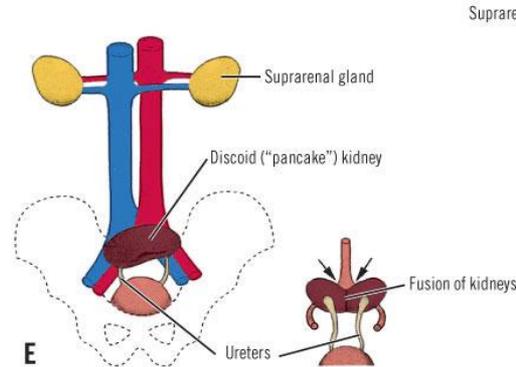
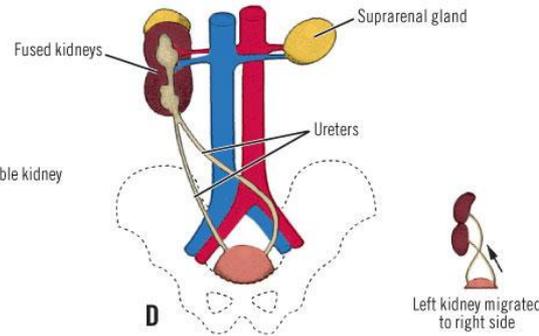
عدم تكون كلية



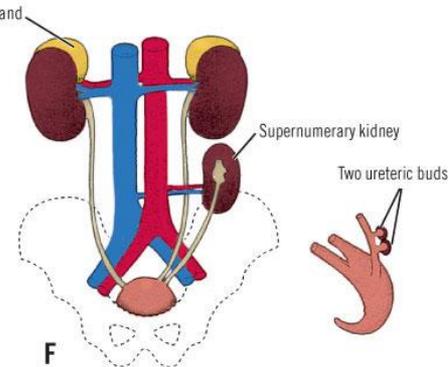
انقسام الكلية



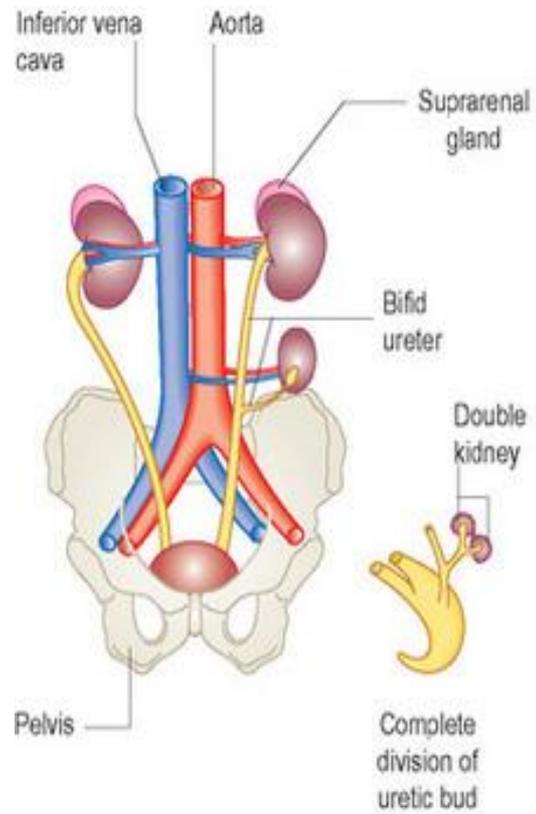
دمج الكليتين



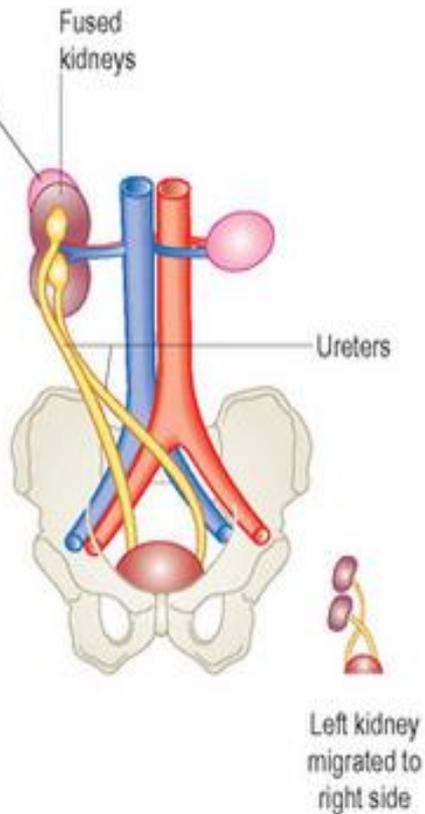
تكون عدة كلى



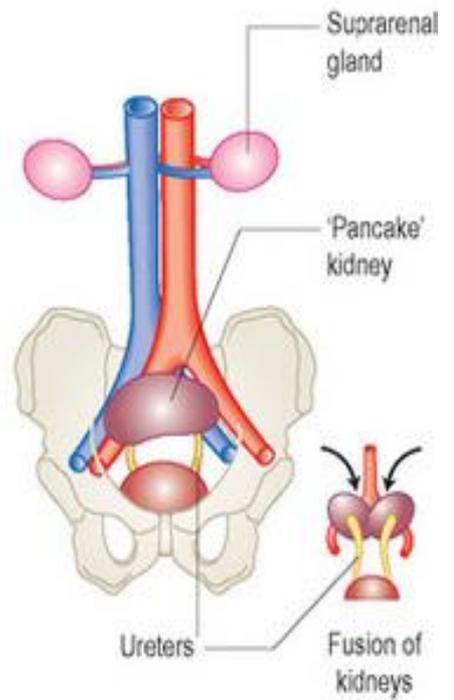
تكون كلية في منطقة الحوض ودمج الكليتين



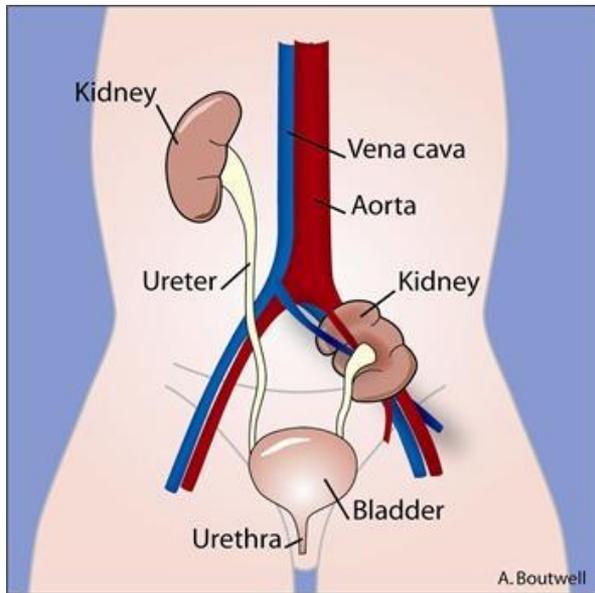
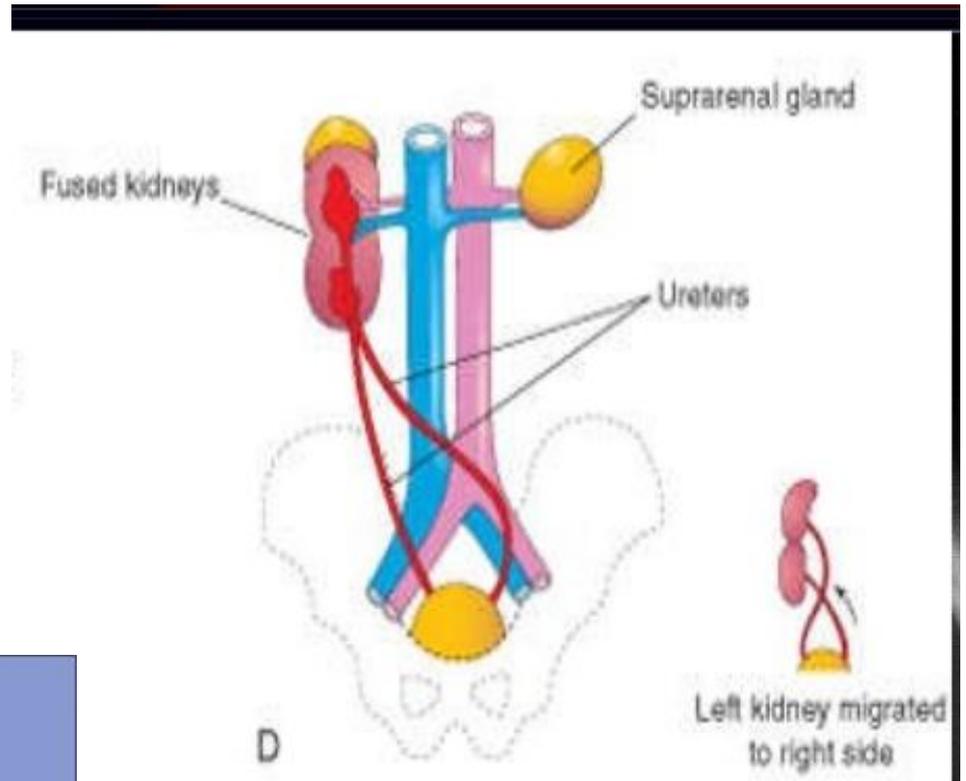
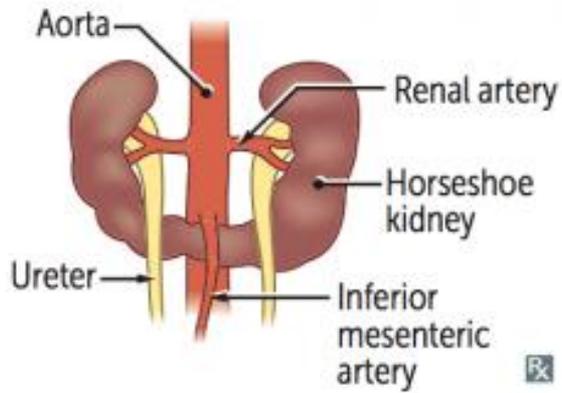
A

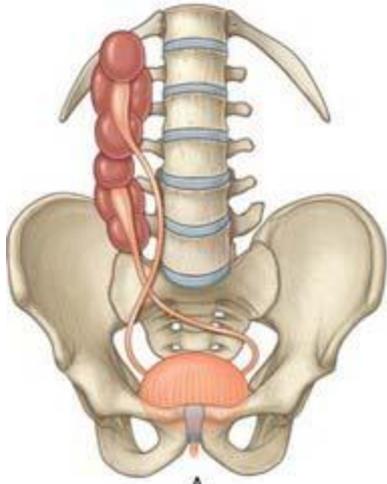


B

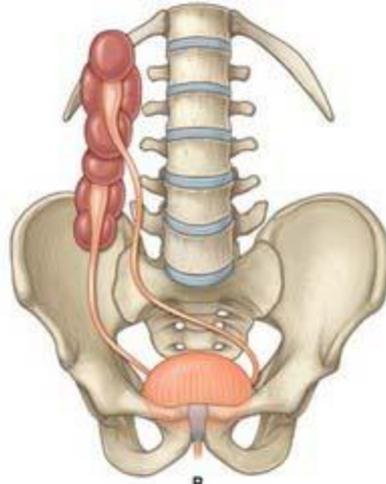


C

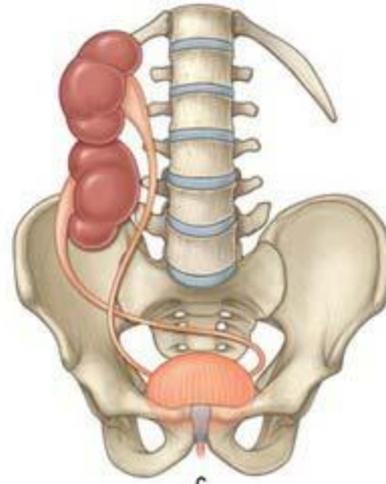




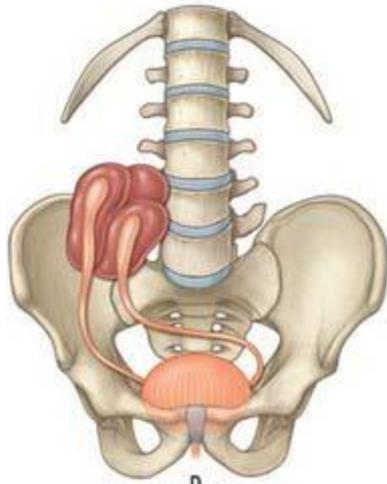
A
Unilateral fused kidney
(inferior ectopia)



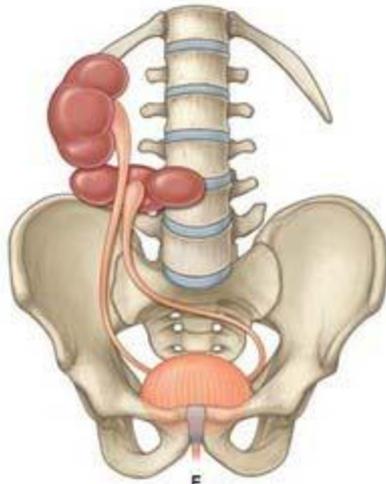
B
Unilateral fused kidney
(superior ectopia)



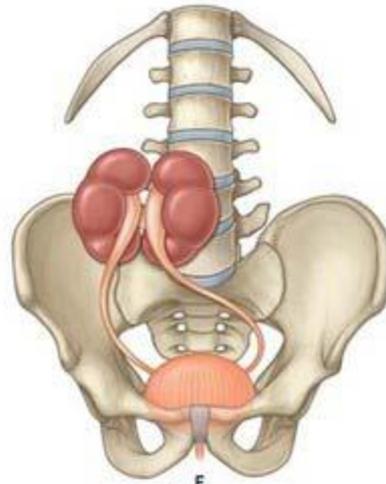
C
Sigmoid or S-shaped kidney



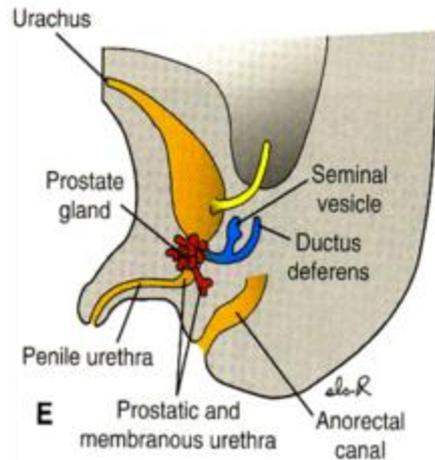
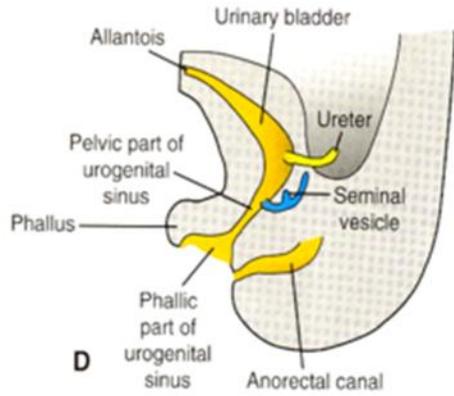
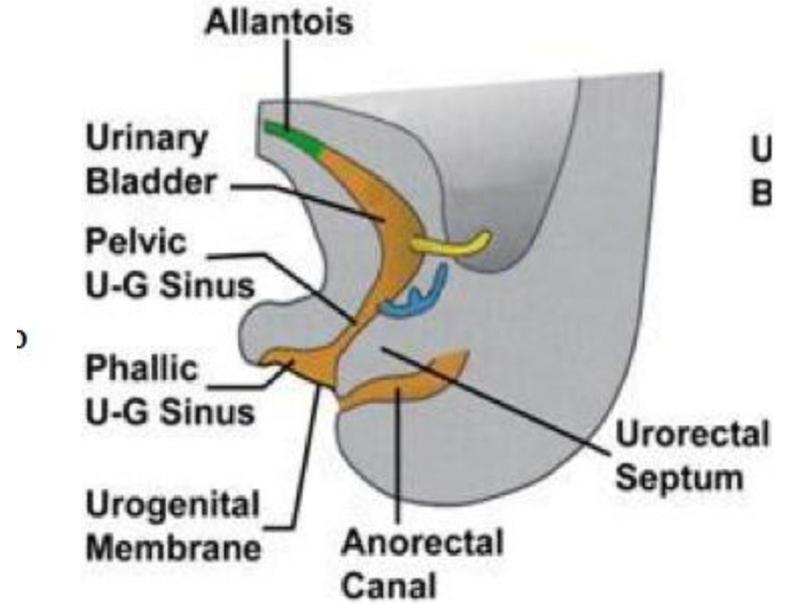
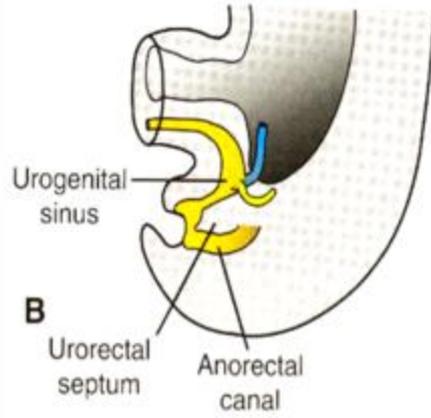
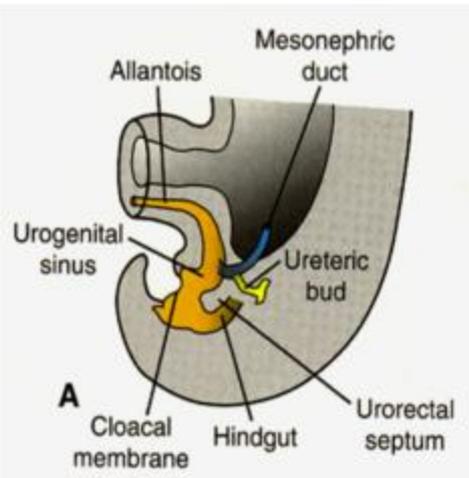
D
Lump kidney



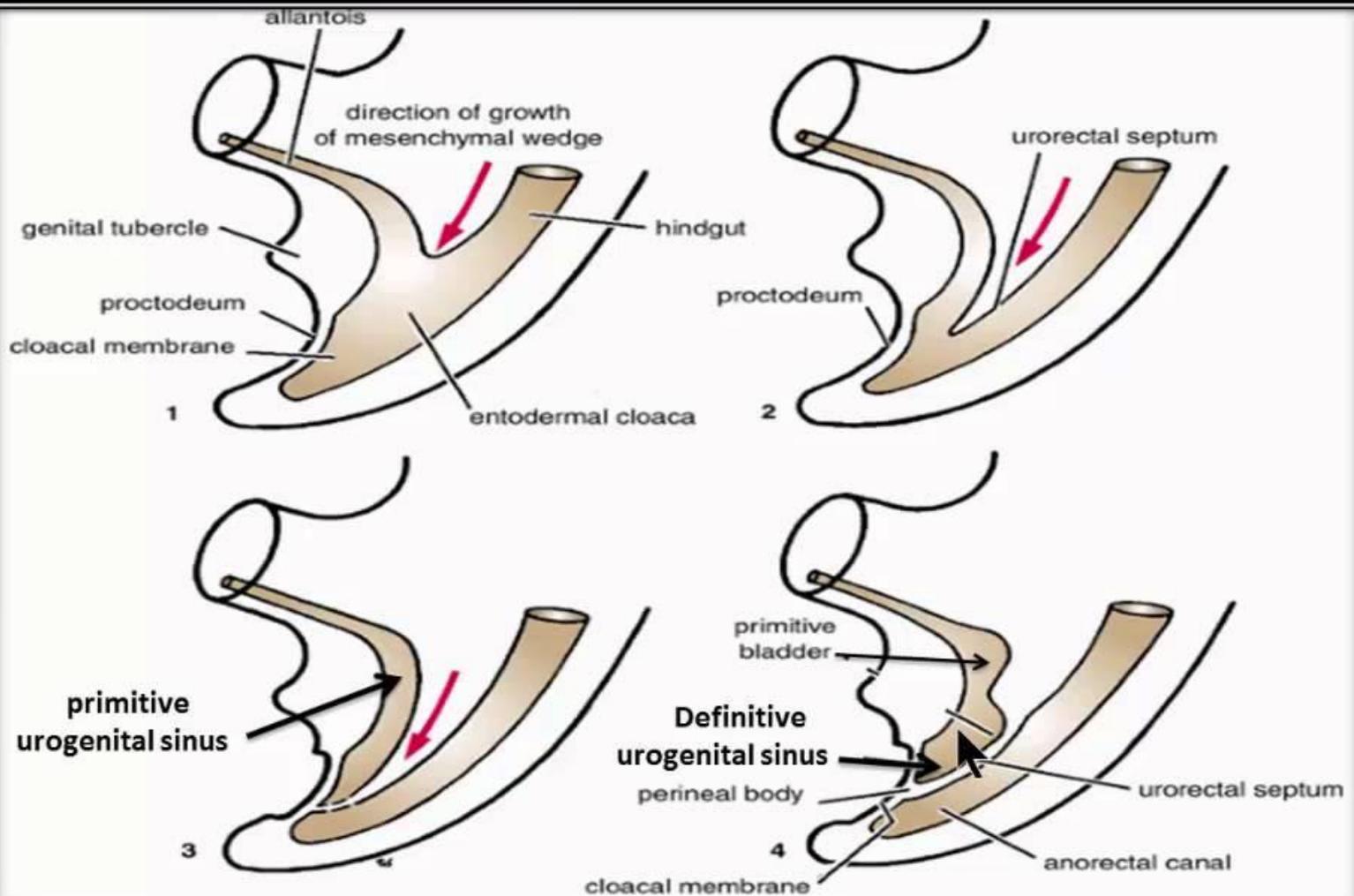
E
L-shaped kidney

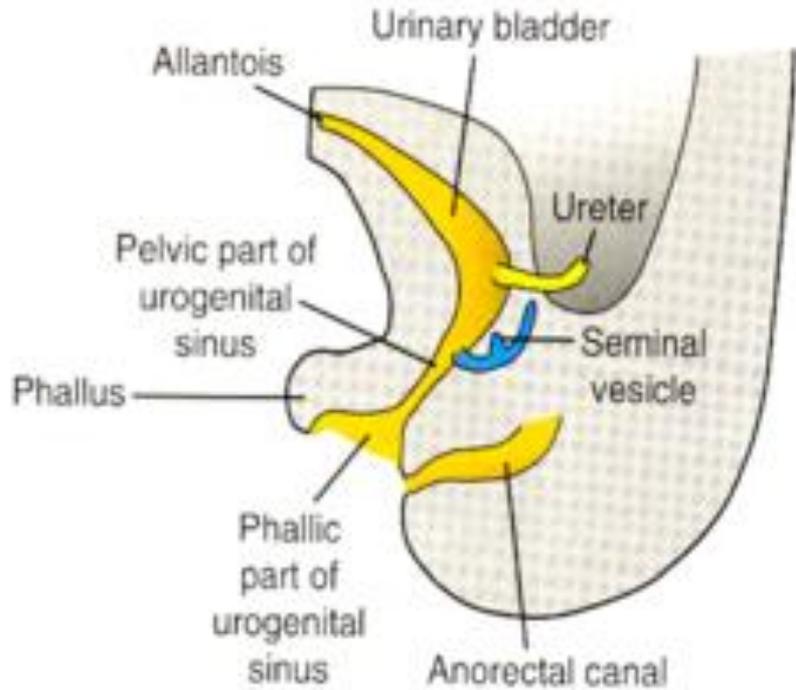


F
Disc kidney

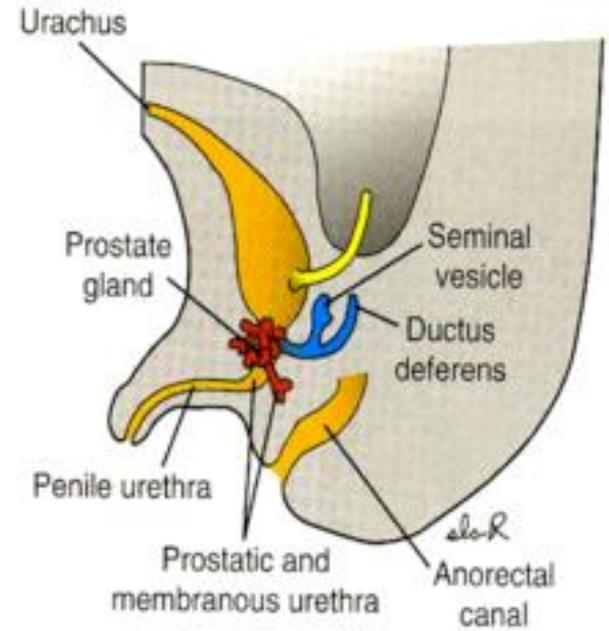


Development of the urinary bladder (introduction)



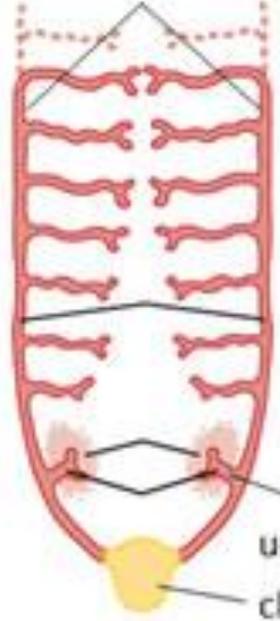


ب

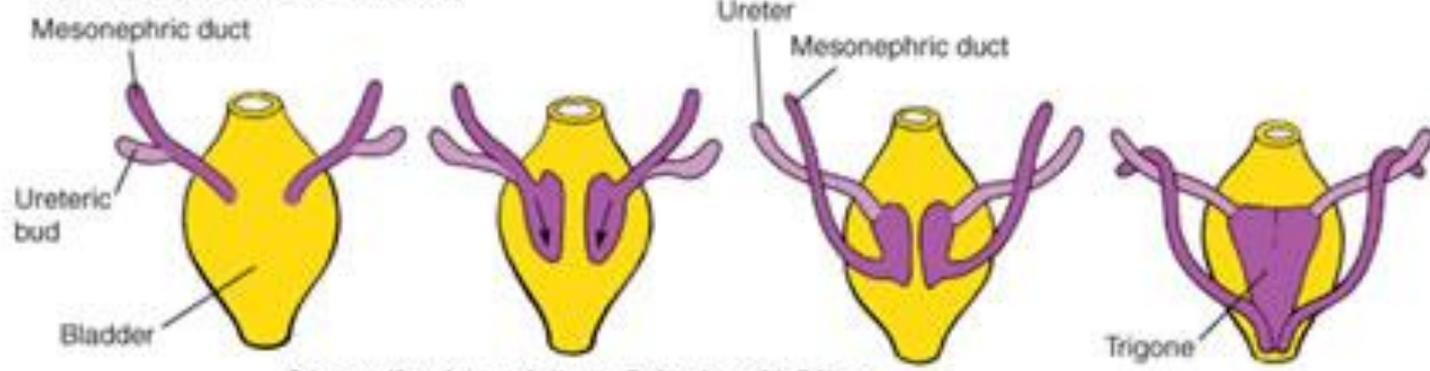


أ - نمو الجيب البولي التناسلي إلى المثانة البولية والجيب التناسلي النهائي ، ب - يتنامى الجيب البولي التناسلي إلى الأكليل القضيبى عند الذكر ، تتشكل غدة البروستات ببراعم من الأكليل وتتشكل الحويصلات المنوية بتبرعات من القناة الناقلة للنطاف .

mesonephric ducts



Viewed from the back:



Schoenwolf et al: Larsen's Human Embryology, 4th Edition.
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ureteric bud & metanephric blastema
cloaca

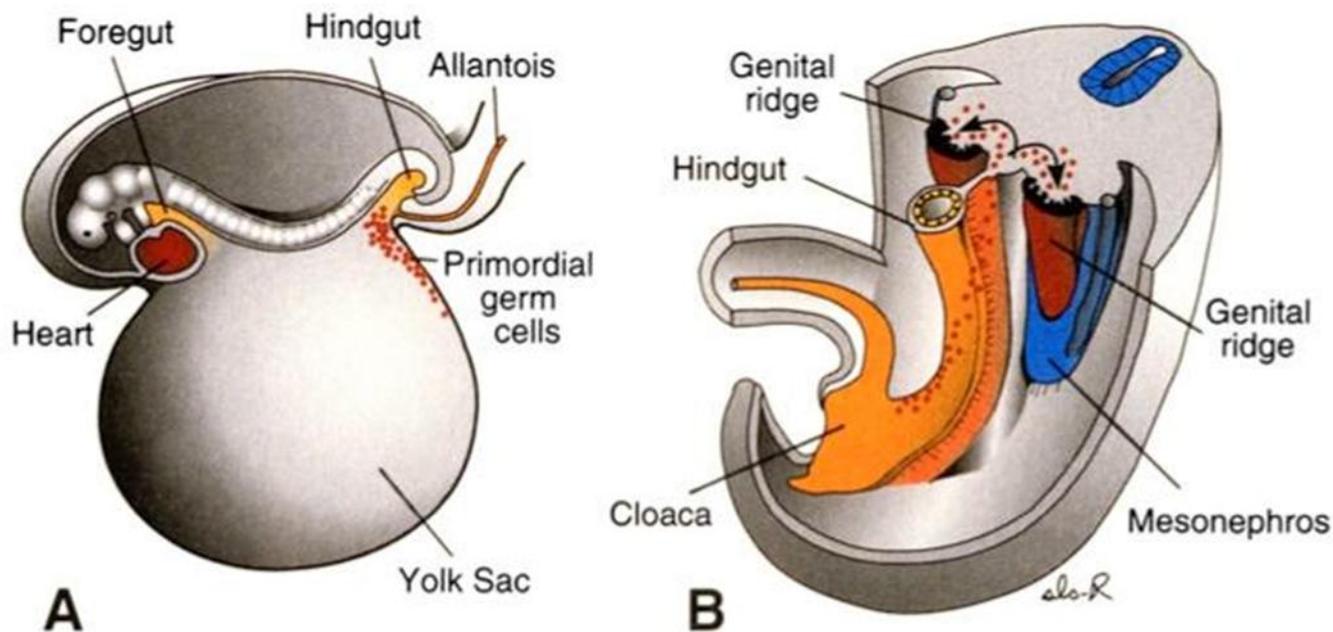
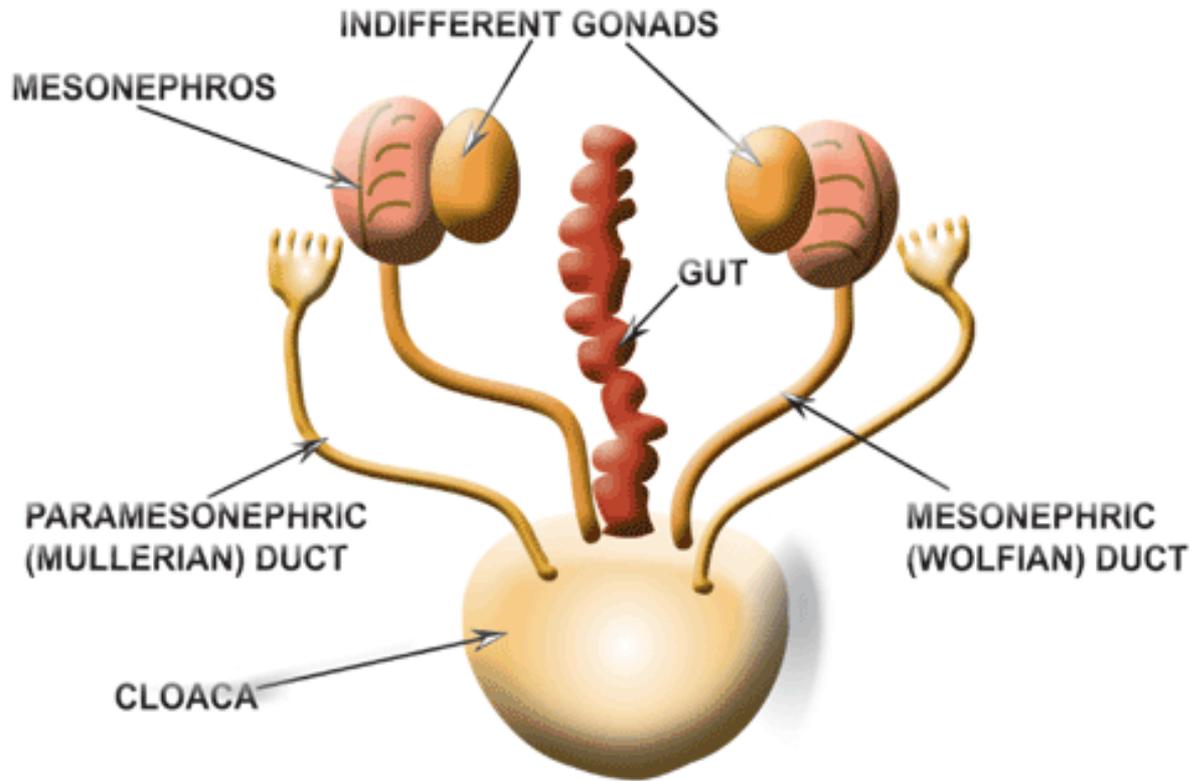
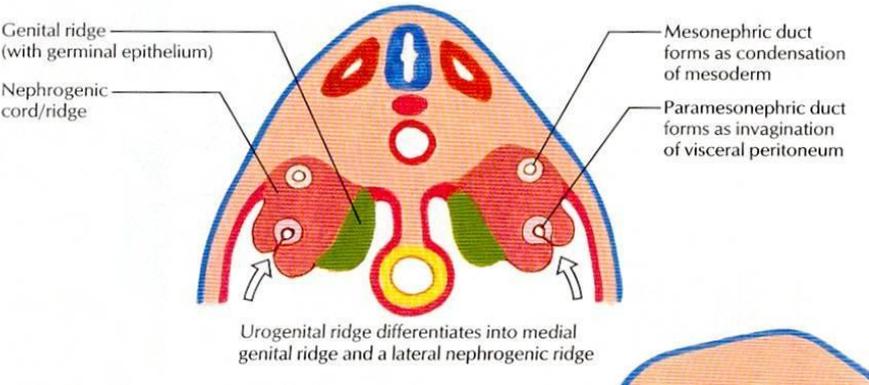
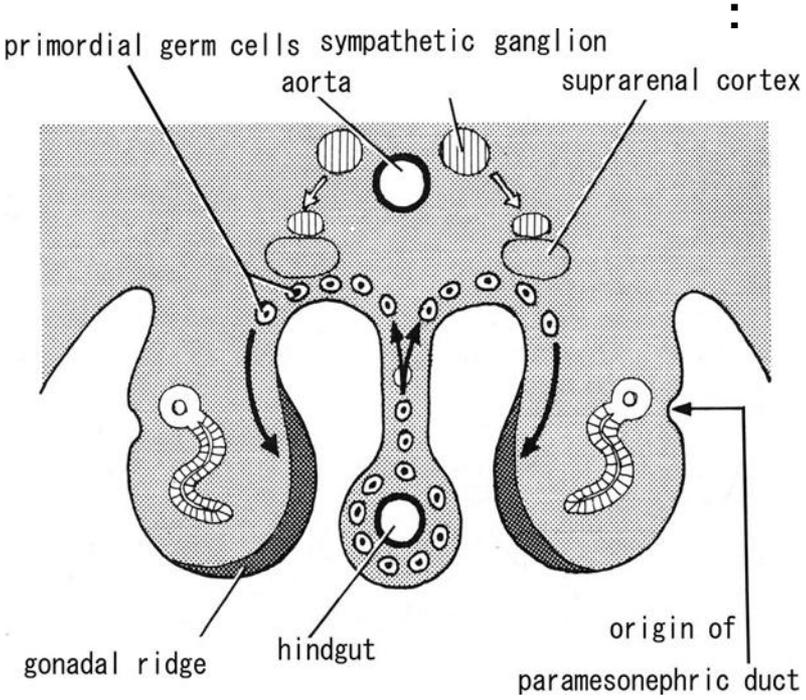


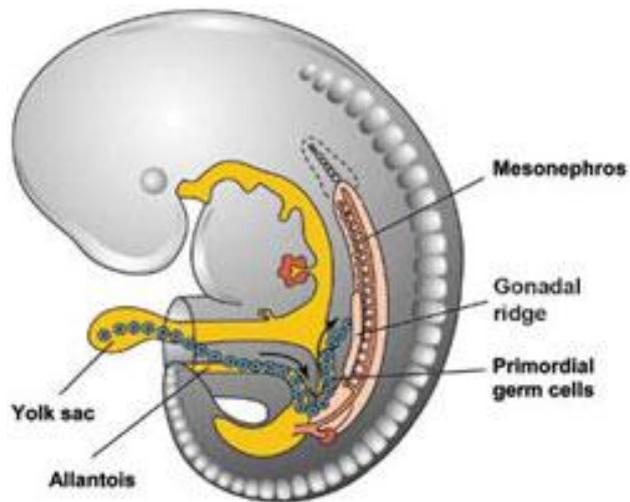
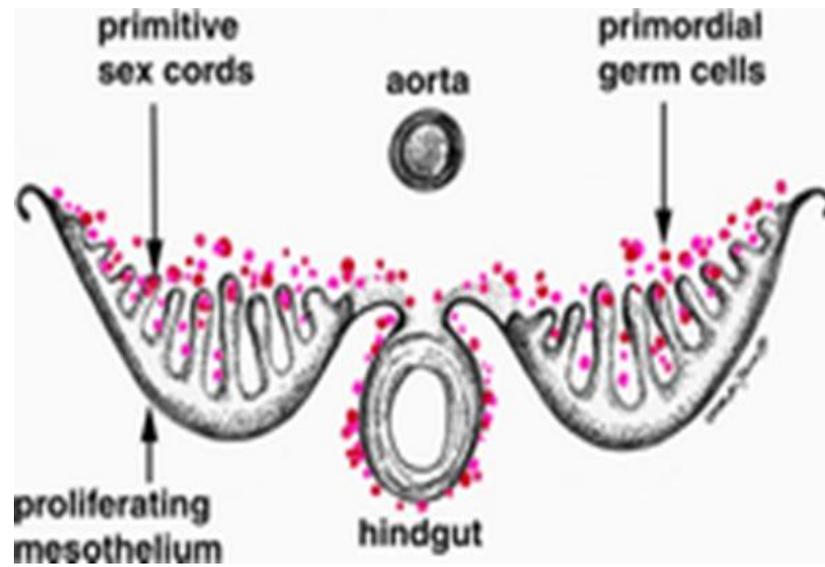
Figure 14.18. A. A 3-week-old embryo showing the primordial germ cells in the wall of the yolk sac close to the attachment of the allantois. B. Migrational path of the primordial germ cells along the wall of the hindgut and the dorsal mesentery into the genital ridge.

INDIFFERENT STAGE

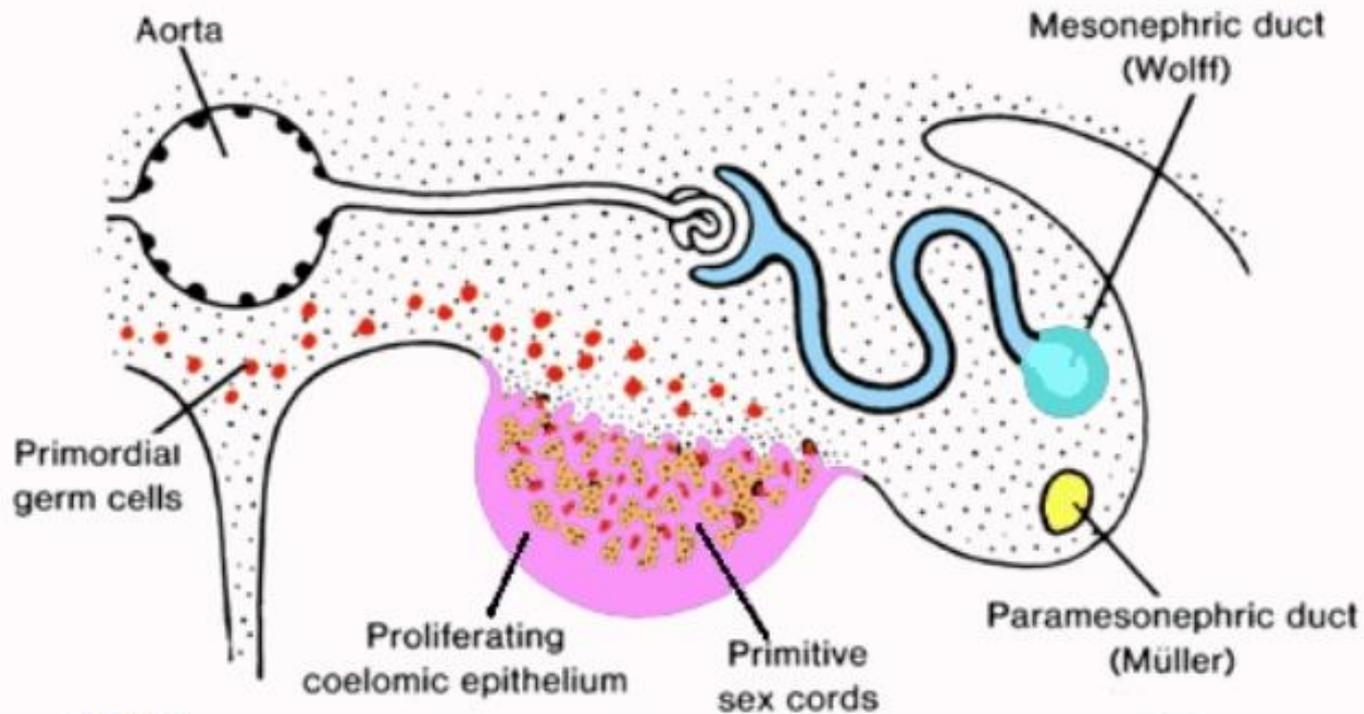


تكون المناسل غير المتميزة indifferent gonads



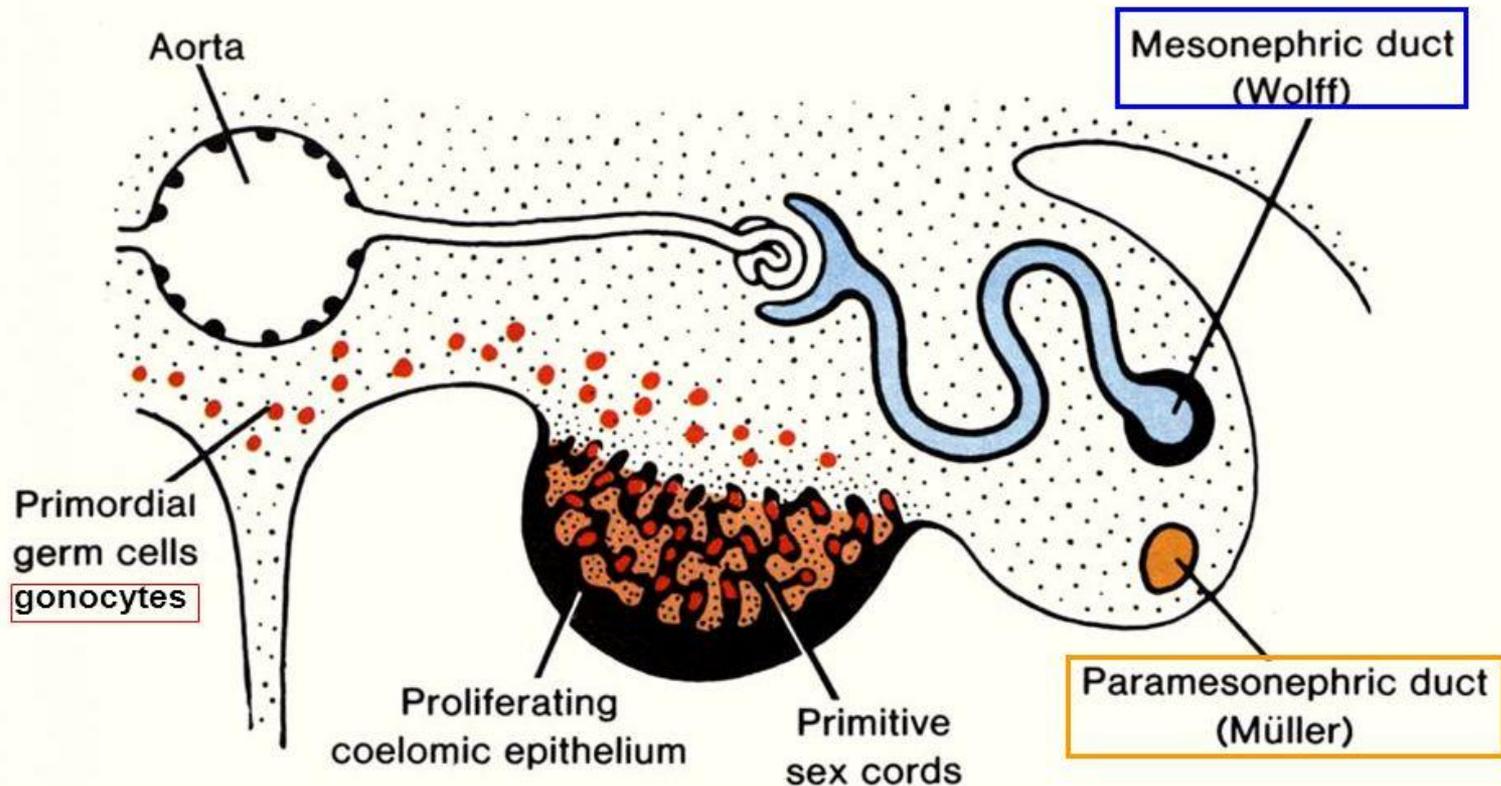


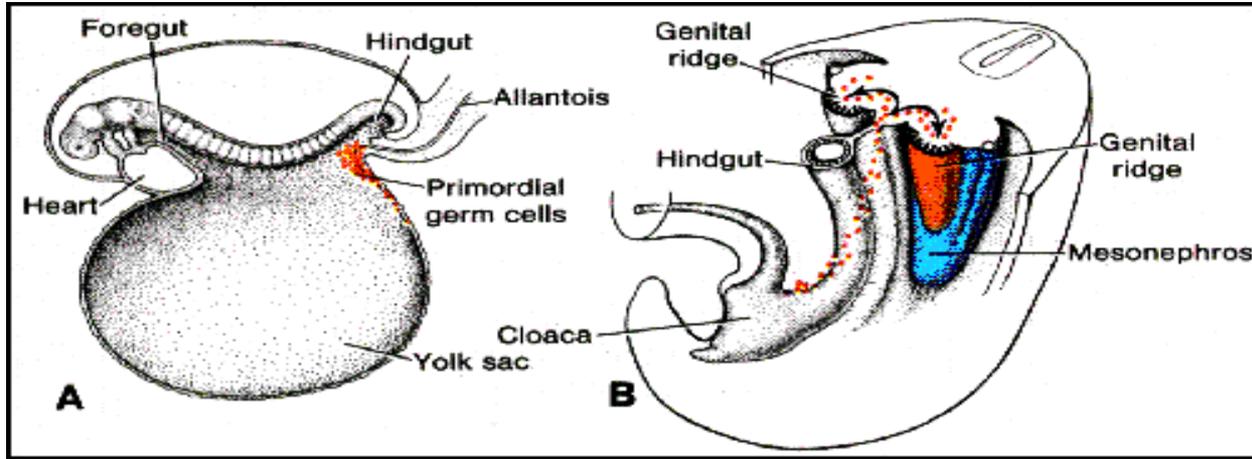
Indifferent- gonad



Three sources of gonad development:

- 1 – condensed **mesenchyme** of gonadal ridges (plica genitalis)
- 2 – **coelomic epithelium** (mesodermal origin)
- 3 – **gonocytes** (primordial cells)

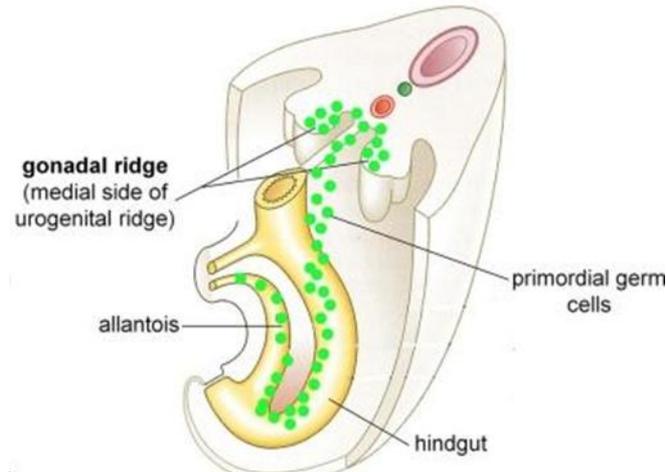


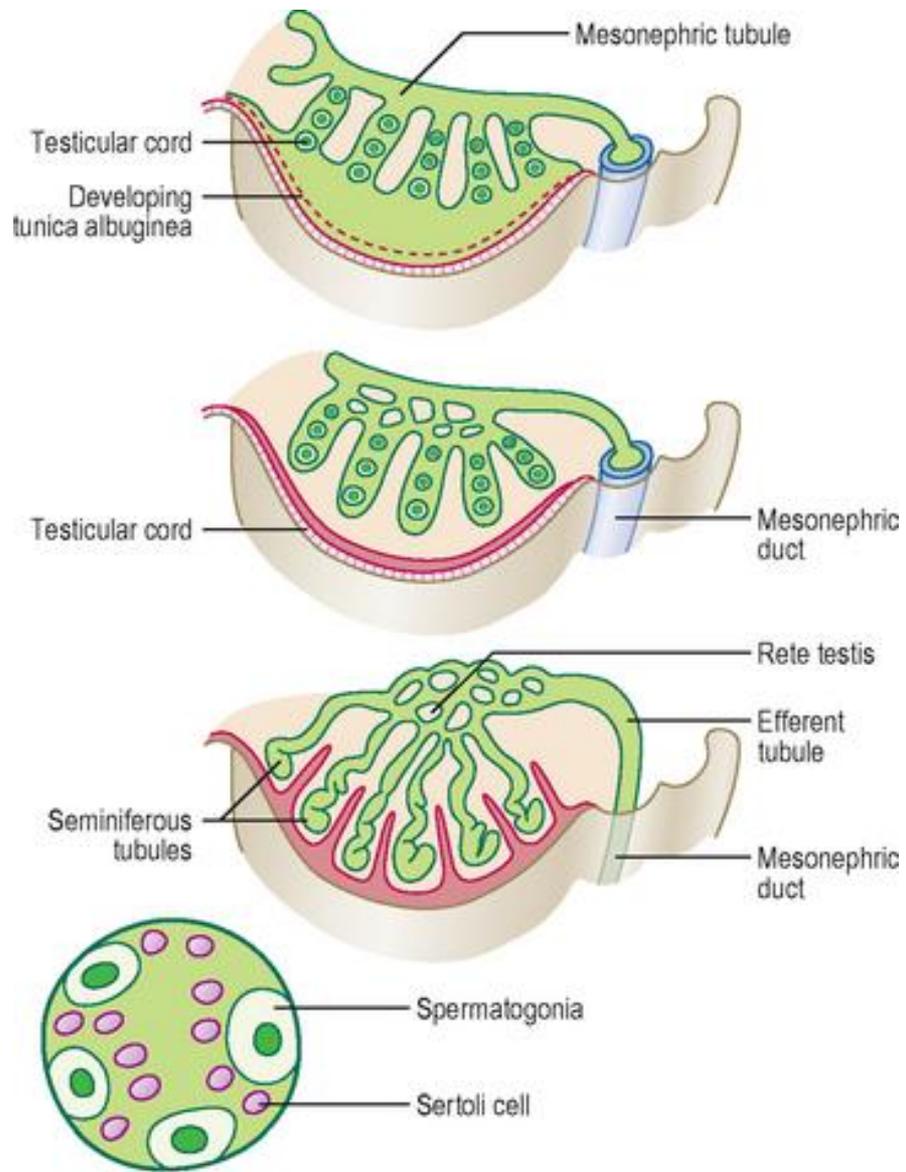


A- جنين بعمر 3 أسابيع يظهر الخلايا الجنسية الأولية في جدار الكيس المحي قريب من الوشيقة

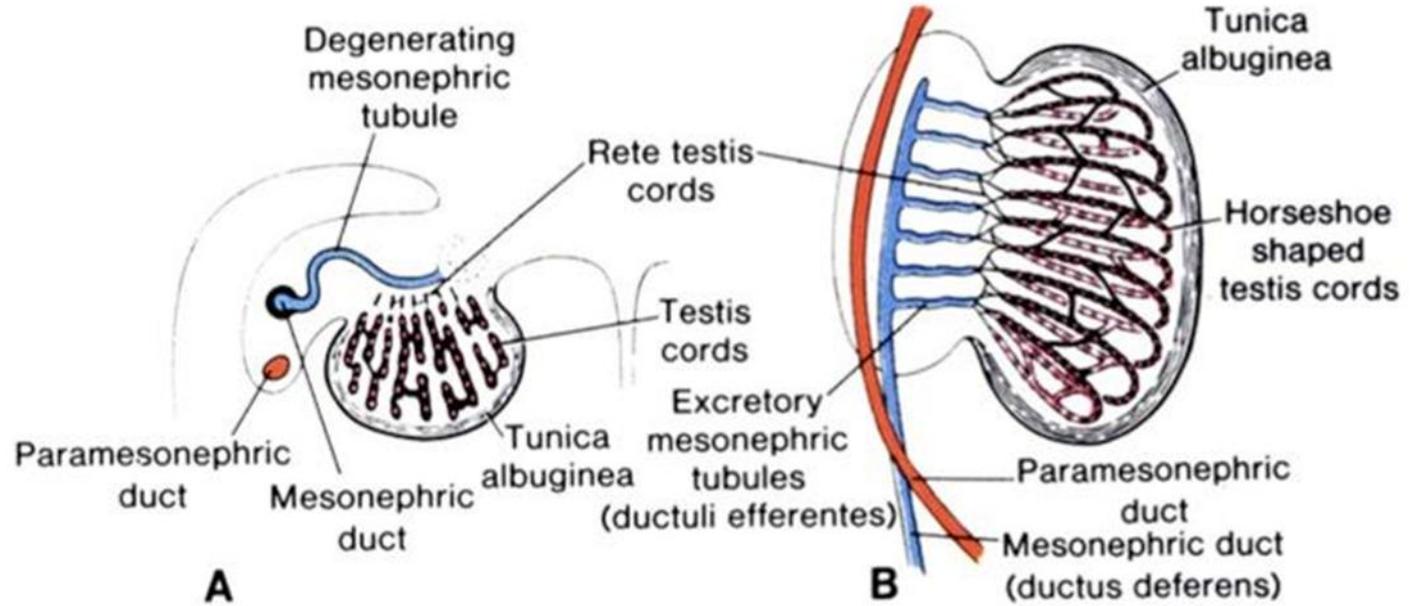
B- طريق هجرة الخلايا الجنسية الأولية على طول جدار المعي الخلفي والمساريقا الظهرية إلى

العرف التناسلي



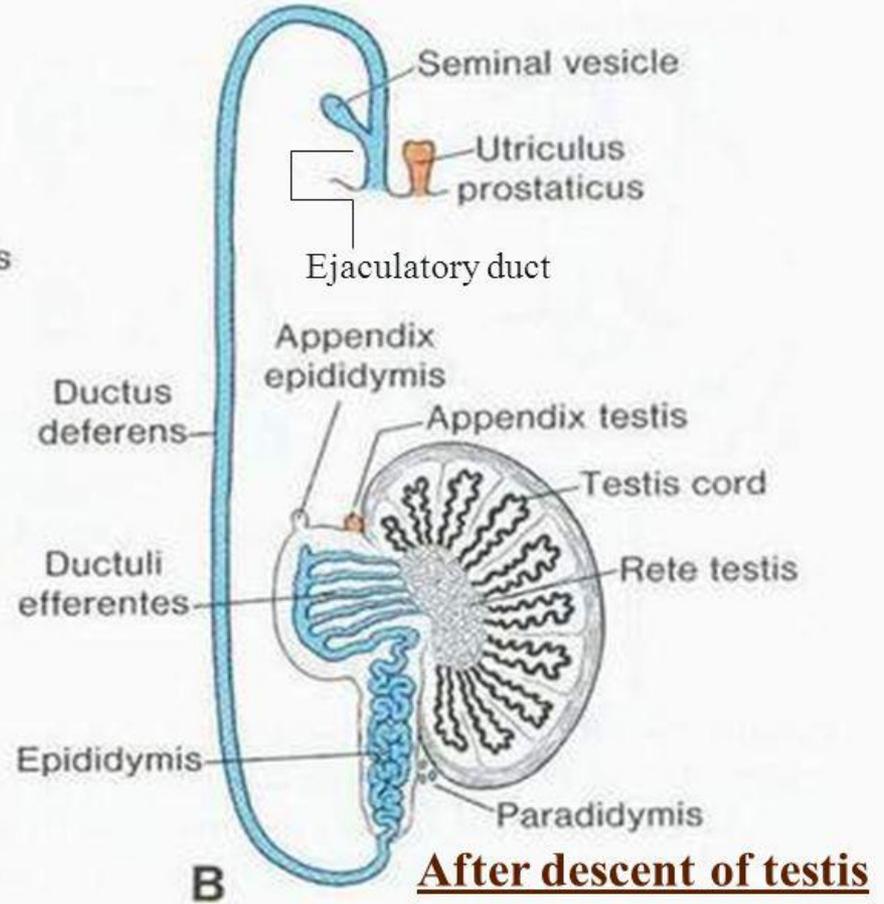
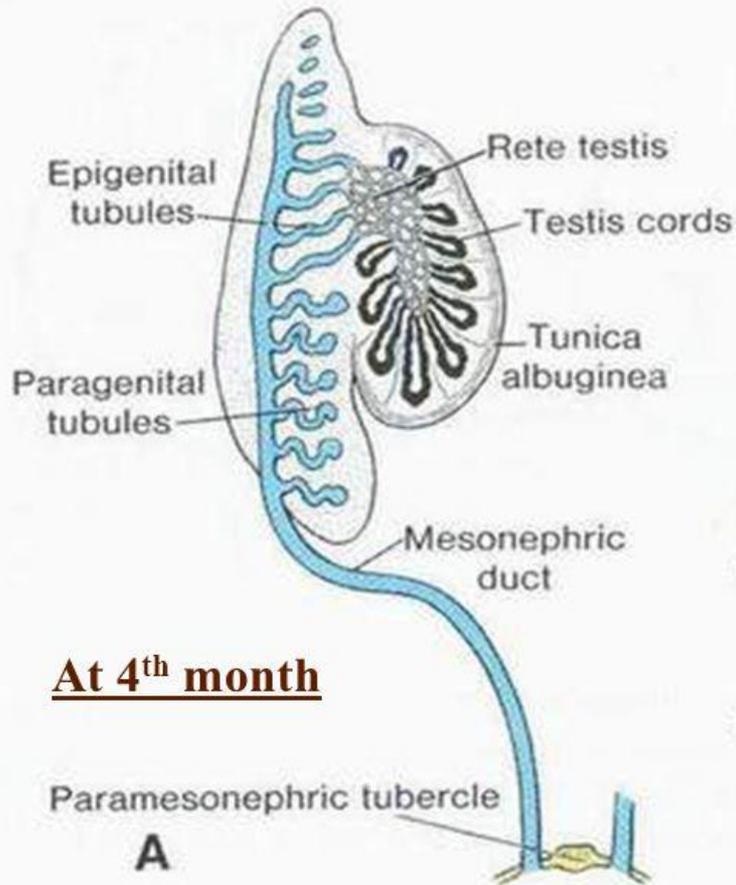


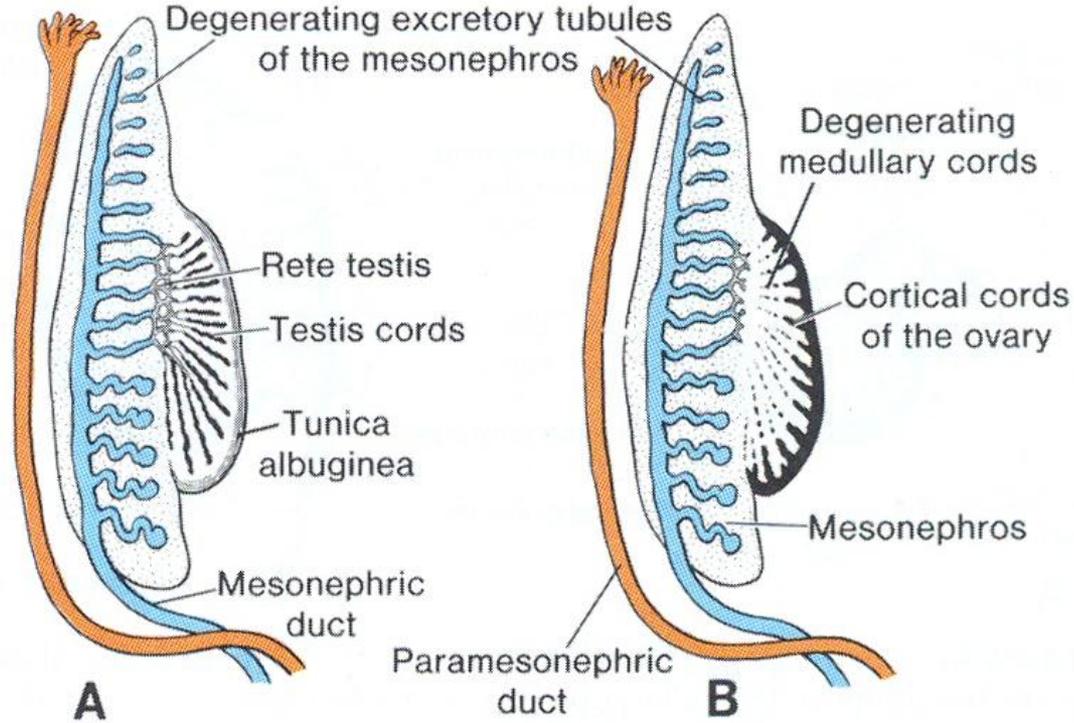
Section of seminiferous tubules



A- م. ع. عبر الخصية في الأسبوع الثامن ، يبين الغلالة البيضاء والحبال الخصيوية والخلايا الجنسية الأولية ، أما الكبيبة ومحفظة بومان للذبيب المفرز للكلى المتوسطة أصبحت متكسة ، B- الخصية والقناة التناسلية في الشهر الرابع ، الحبال الخصيوية الحدودية الشكل متمادية مع حبال الشبكة الخصيوية ، لاحظ القنات الصادرة (نبيبات الكلى المتوسطة المفرزة) التي تدخل القناة الكلوية المتوسطة .

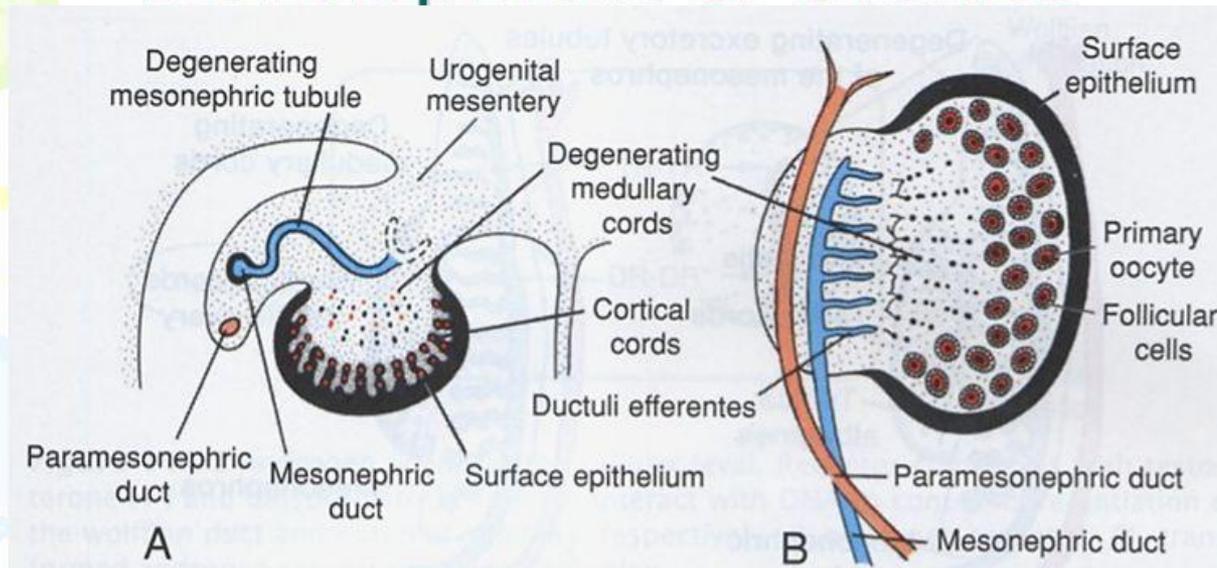
Development of Male Genital Ducts



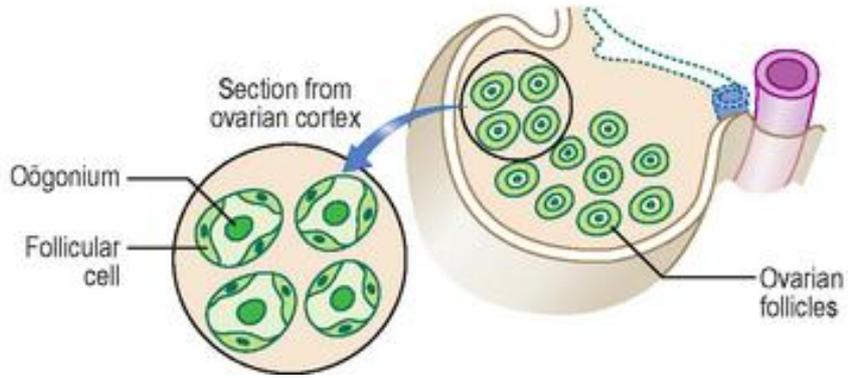
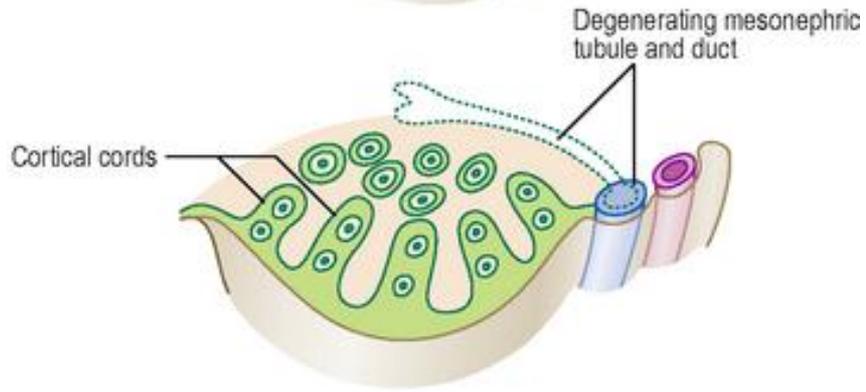
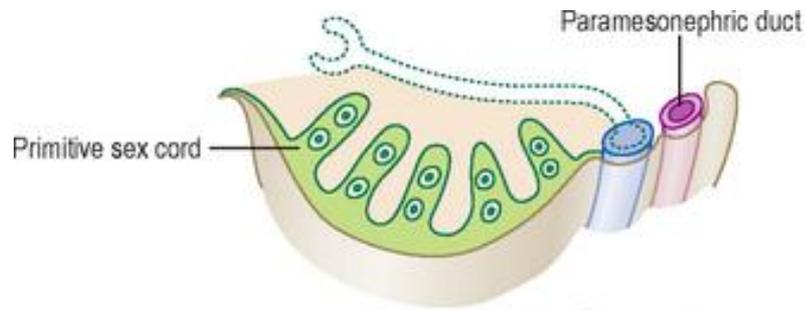


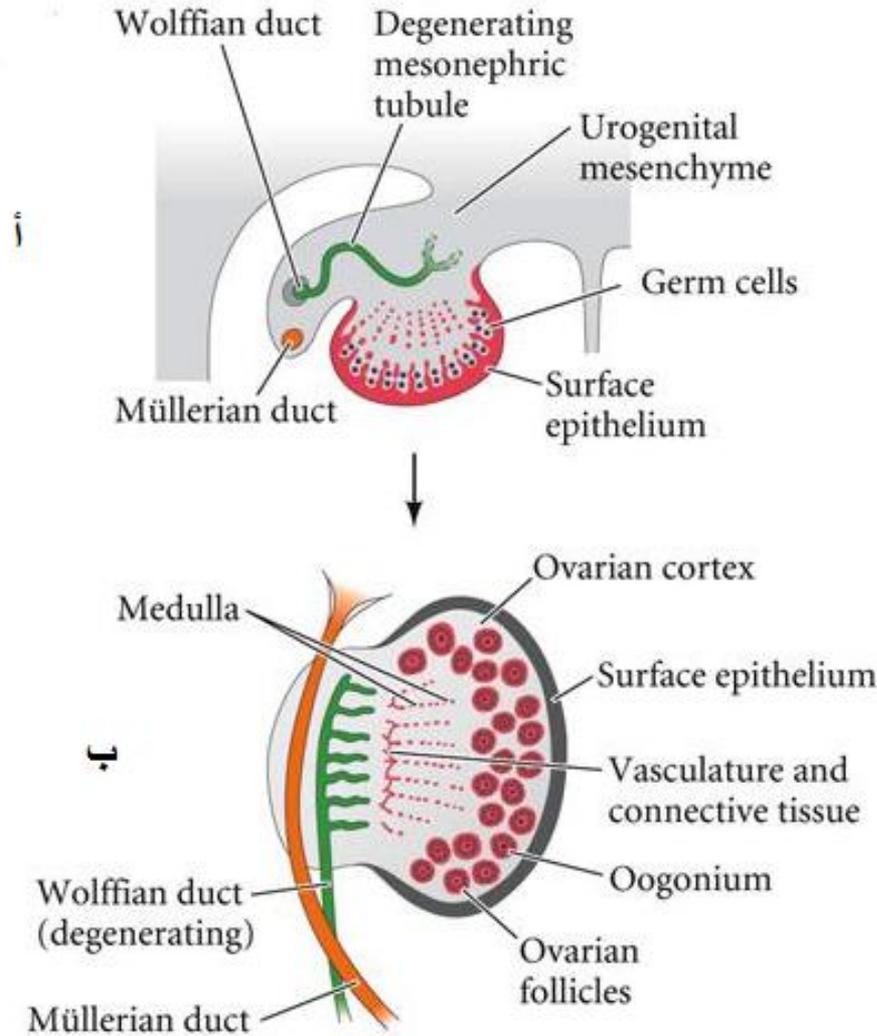
القنوات الكلوية B وعند الأنثى A القنوات التناسلية في الأسبوع السادس عند الذكر المتوسطة والمجاورة للكلية المتوسطة موجودة عند كليهما ، لاحظ الأنابيب المفرزة في الكلية المتوسطة وعلاقتها بالغدة التناسلية النامية في كلا الجنسين

Development of ovaries



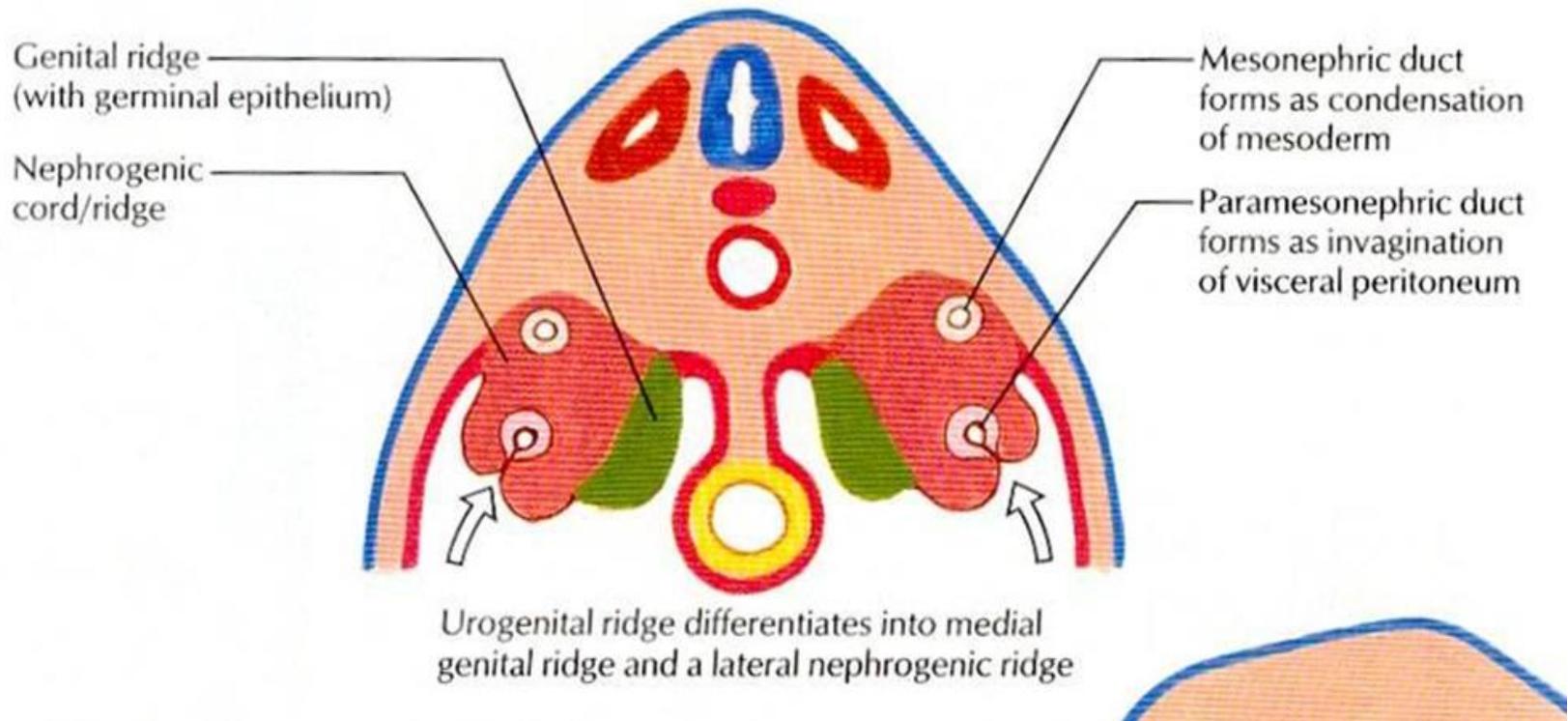
- Gonadal development occurs slowly in female
- In XX embryo primitive sex cords dissociate into irregular cell clusters containing groups of primitive germ cells in the medullary part of ovary
- Later they disappear and are replaced by a vascular stroma that forms the **ovarian medulla**

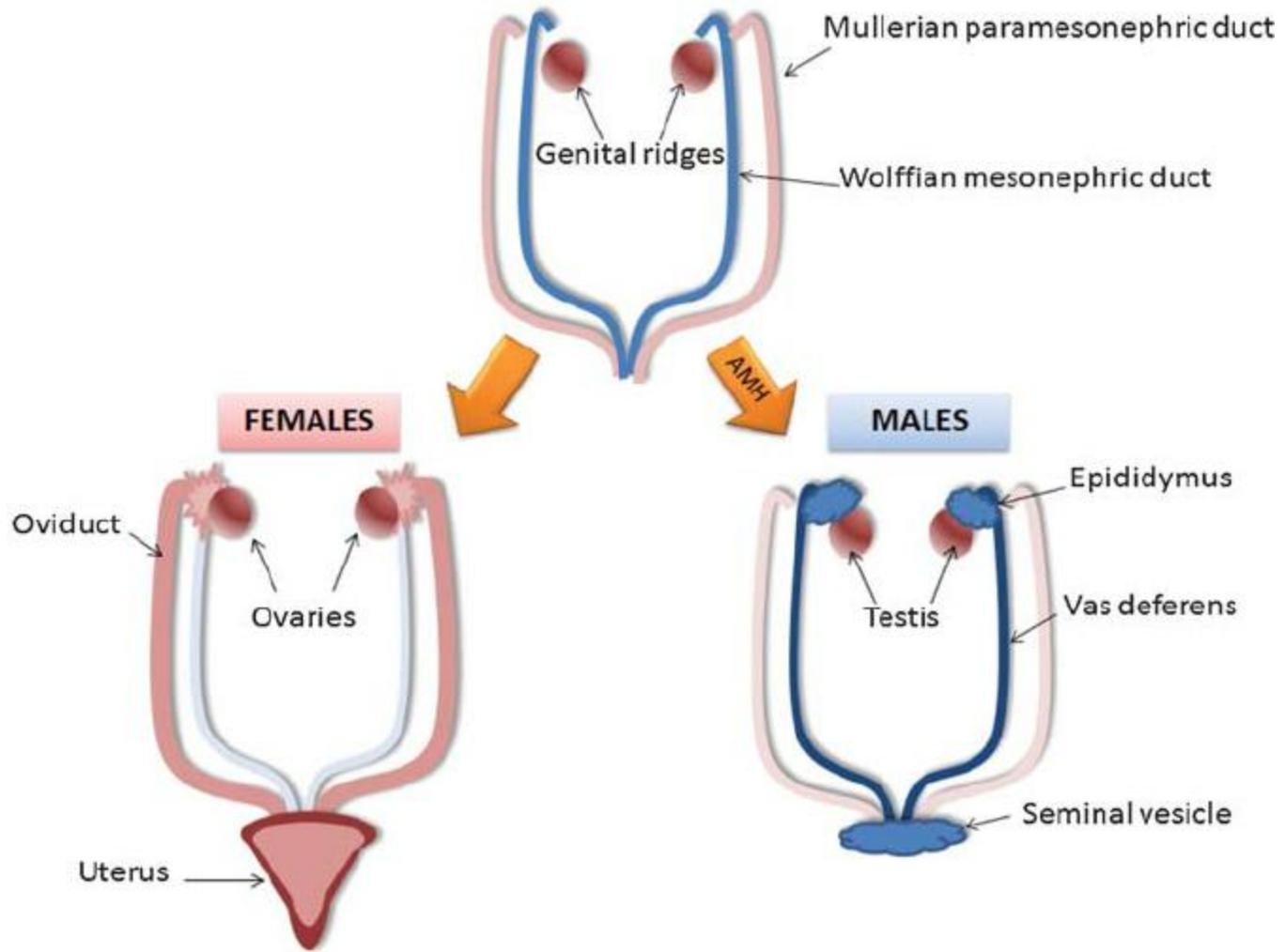


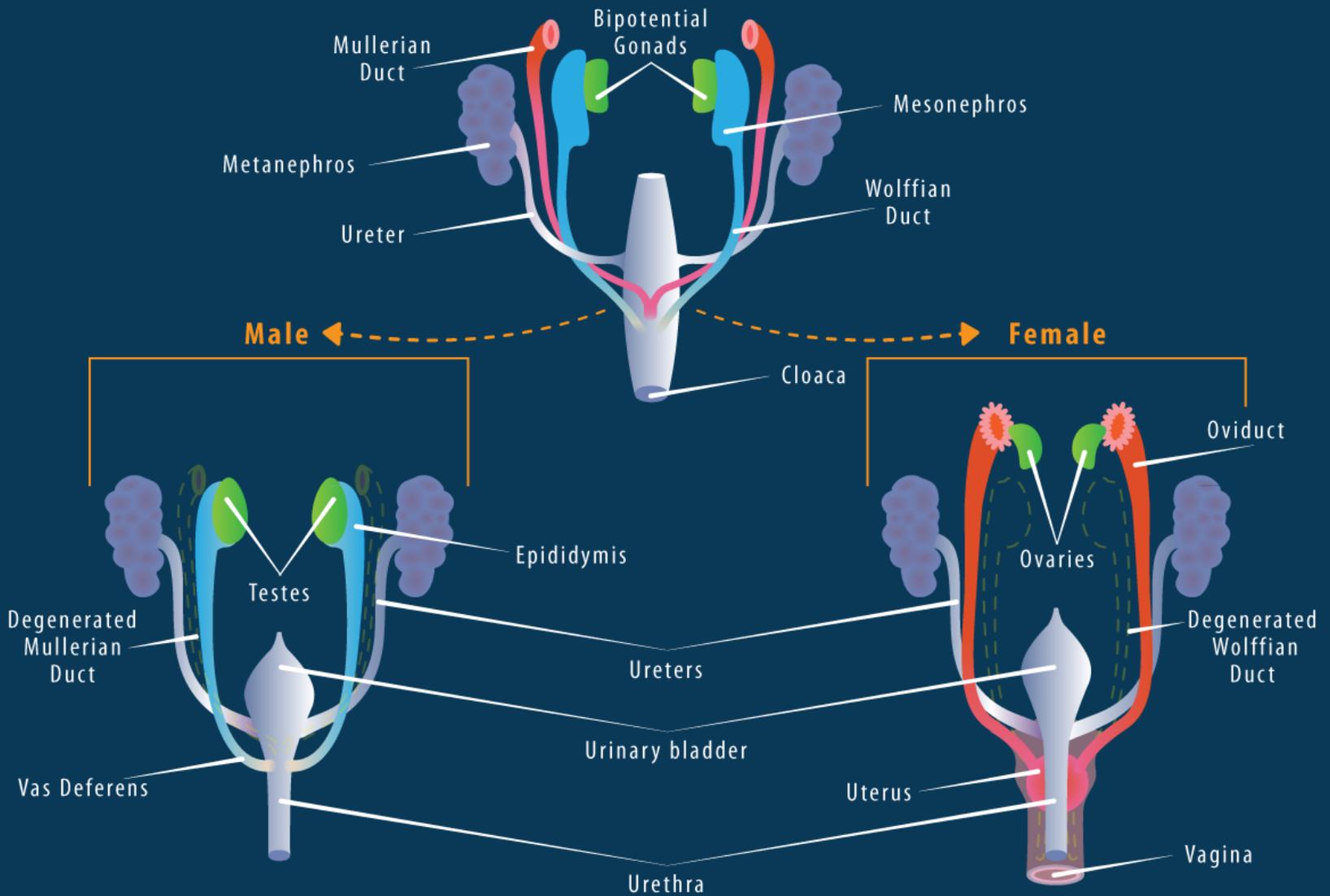


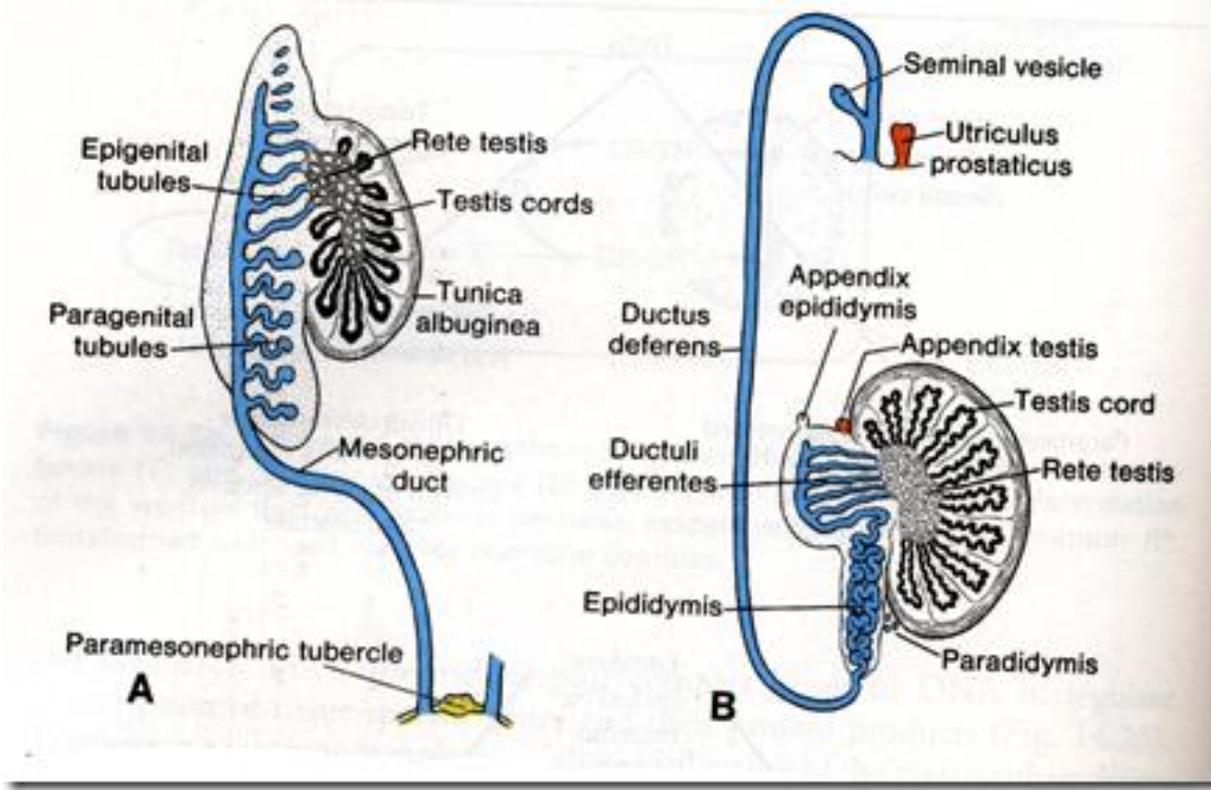
أ- م.ع. للمبيض في الأسبوع السابع ، يظهر تنكس الحبال الجنسية (اللبية) البدائية وتشكل الحبال القشرية . ب - المبيض والقنوات التناسلية في الشهر الخامس ، لاحظ تنكس الحبال اللبية ، أما نبيبات الكلية المتوسطة المفترزة (القنيات الصادرة) فلا تتواصل مع الشبكة ، وأما المنطقة القشرية للمبيض فتحتوي مجموعات من المنسلات البيضية المحاطة بخلايا جريبية

تكوّن القنوات التناسلية : genital ducts

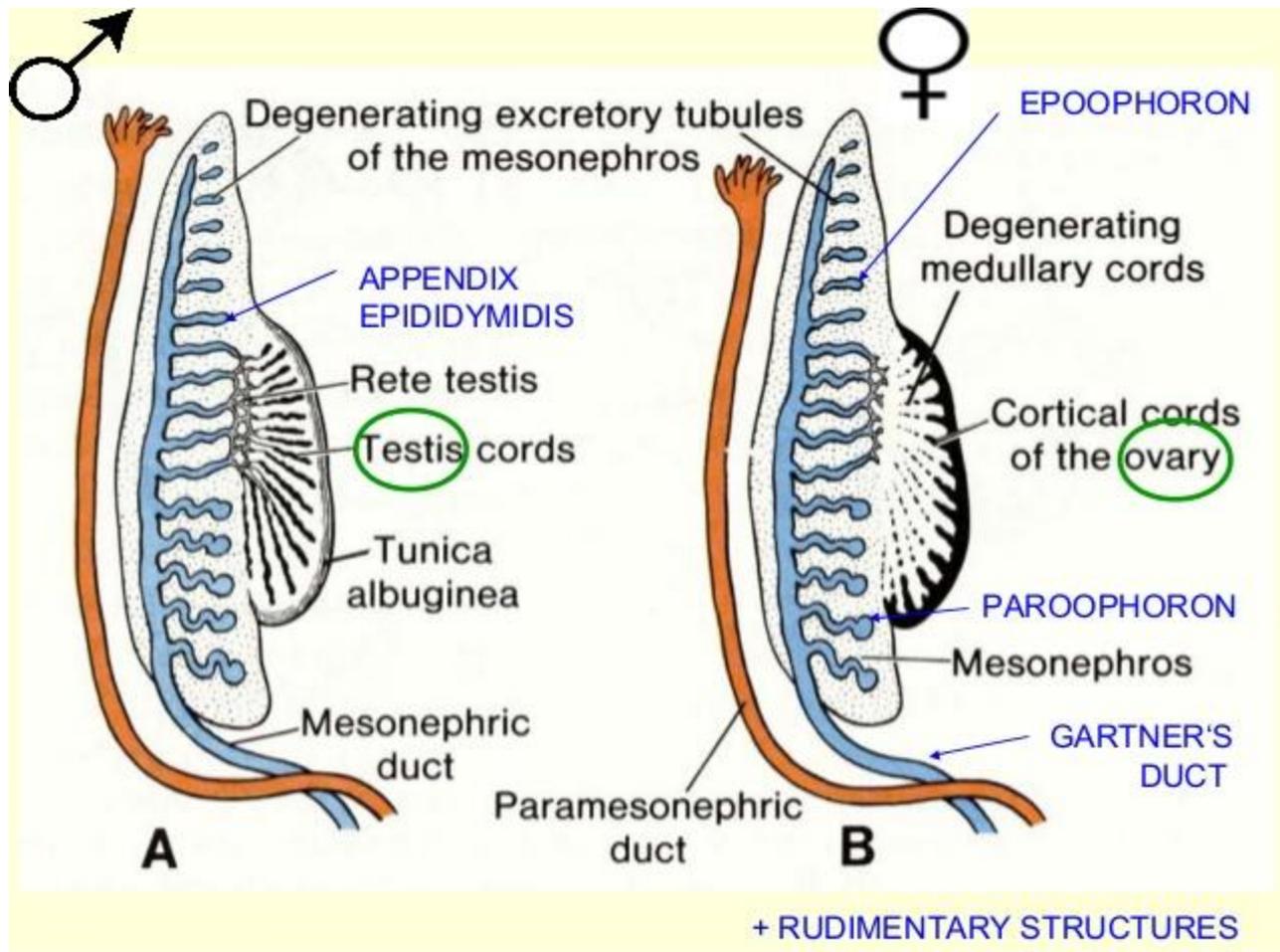


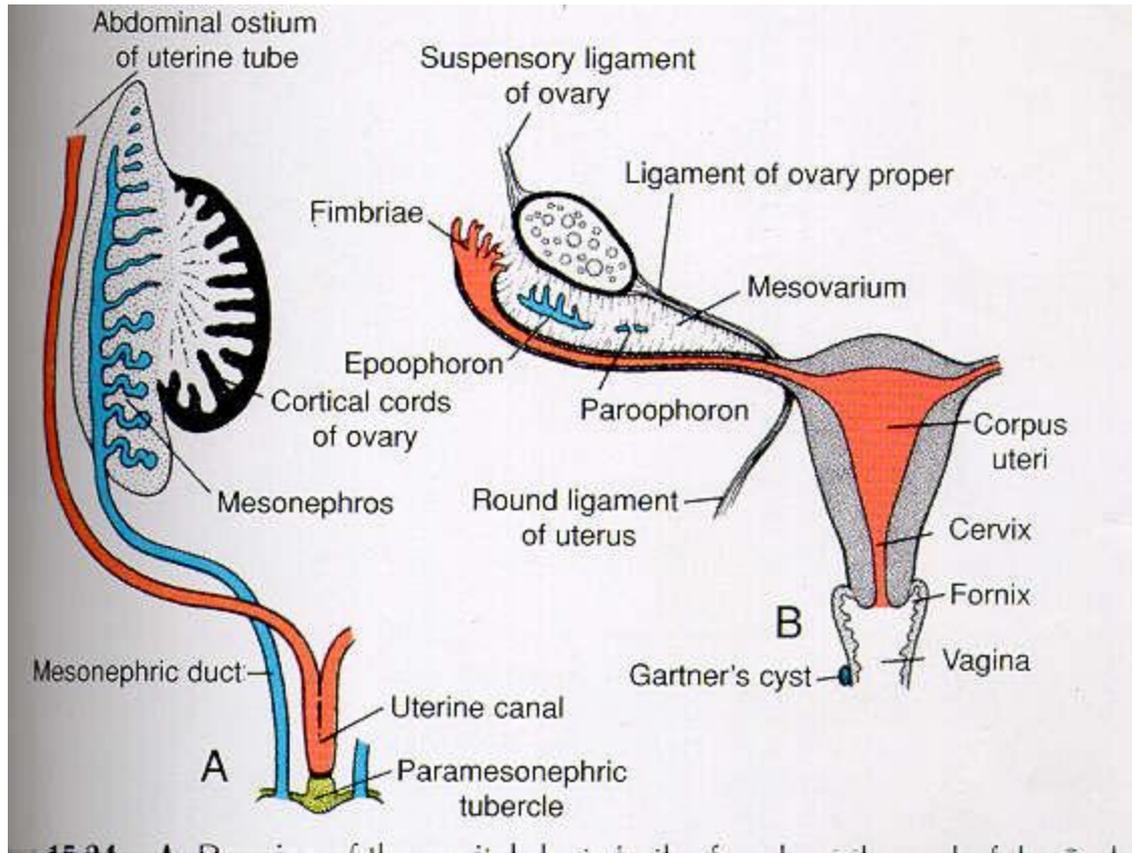






القنوات التناسلية عند ذكر في الشهر الرابع A - تتنكس القطع الرأسية والذنبية (الأنبوب المجاور للغدة التناسلية) من جهاز الكلية الوسطى . في B- لاحظ القنوات التناسلية بعد هبوط الخصية ولاحظ الحبال الخصيوية الحدوية الشكل والشبكة الخصيوية والقنيتات الصادرة الداخلة إلى القناة الناقلة للنطاف .



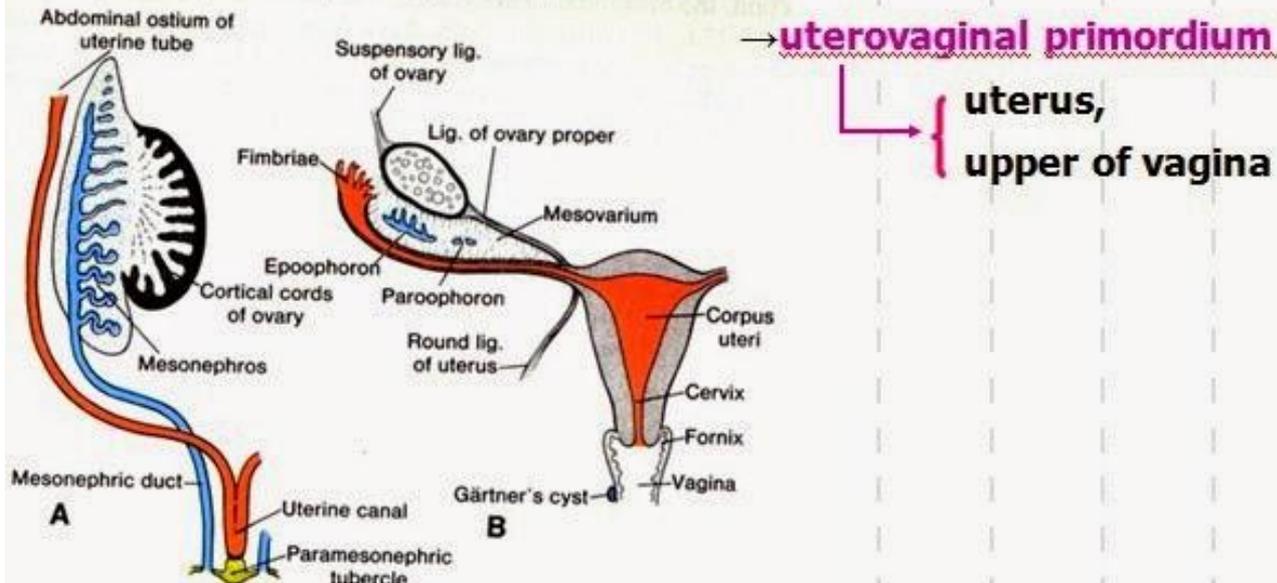


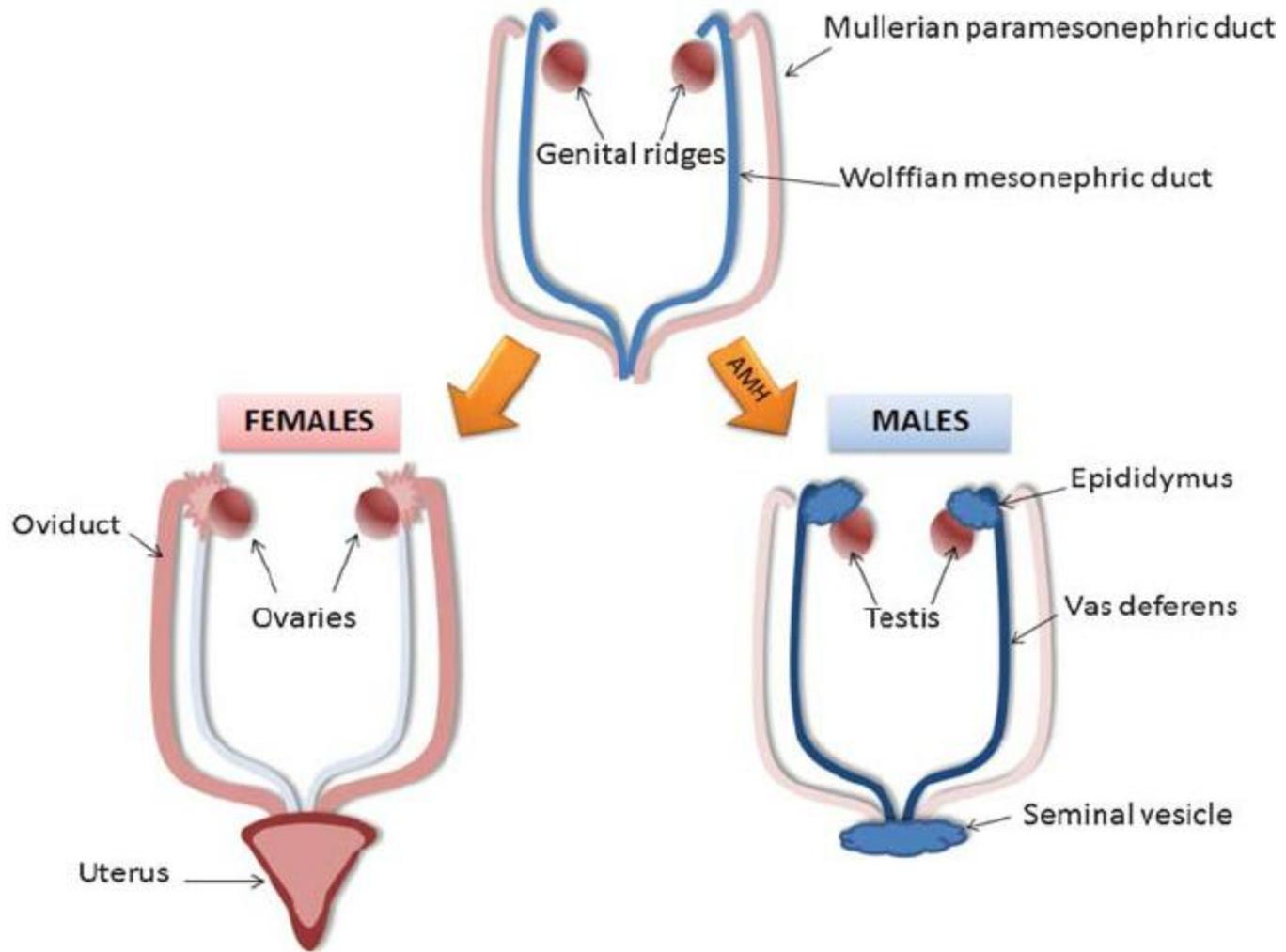
A- القنوات التناسلية في جنين أنثى في نهاية الشهر الثاني ،
 لاحظ الحديبية المجاورة للكلية المتوسطة (مولر) وتشكل
 القناة الرحمية . B- القنوات التناسلية بعد هبوط المبيض .
 لاحظ تلاشي معظم قناة الكلية الوسطى وكذلك تبين أربطة
 الرحم والمبيض

Development of female genital duct (no A & MIH)

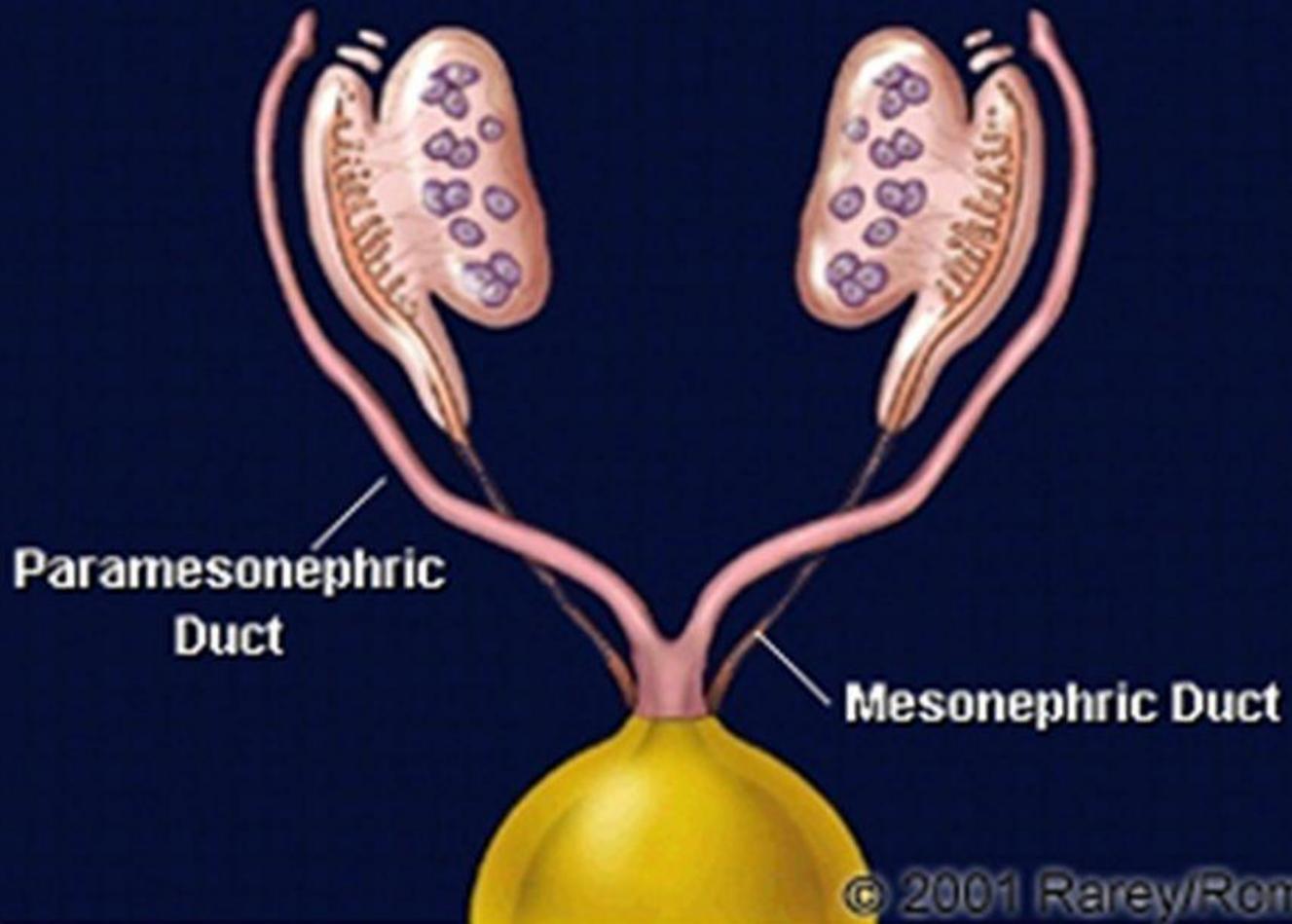
Mesonephric ducts → degenerate

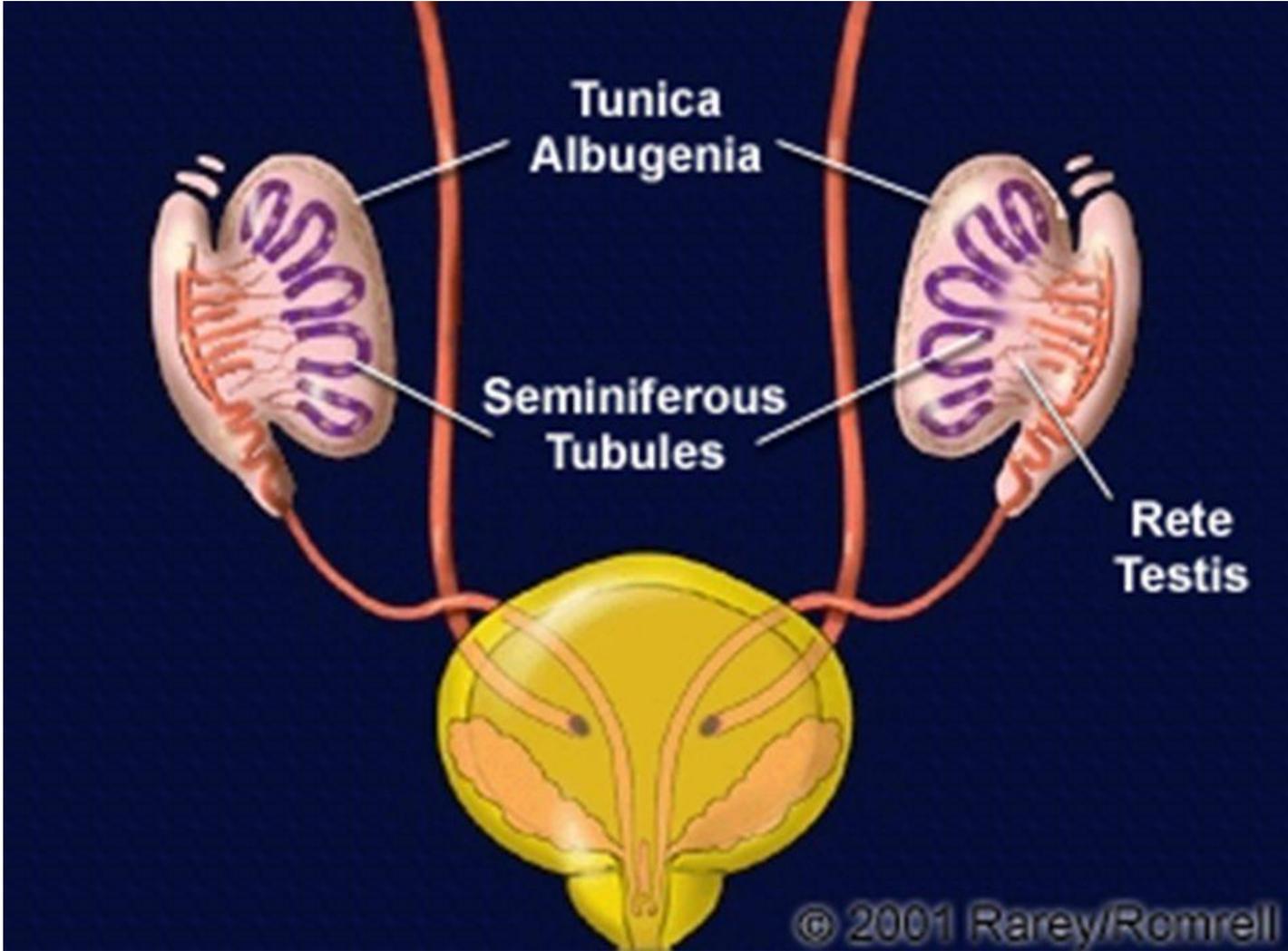
Paramesonephric duct { unfused cranial part → oviduct;
Fused caudal part



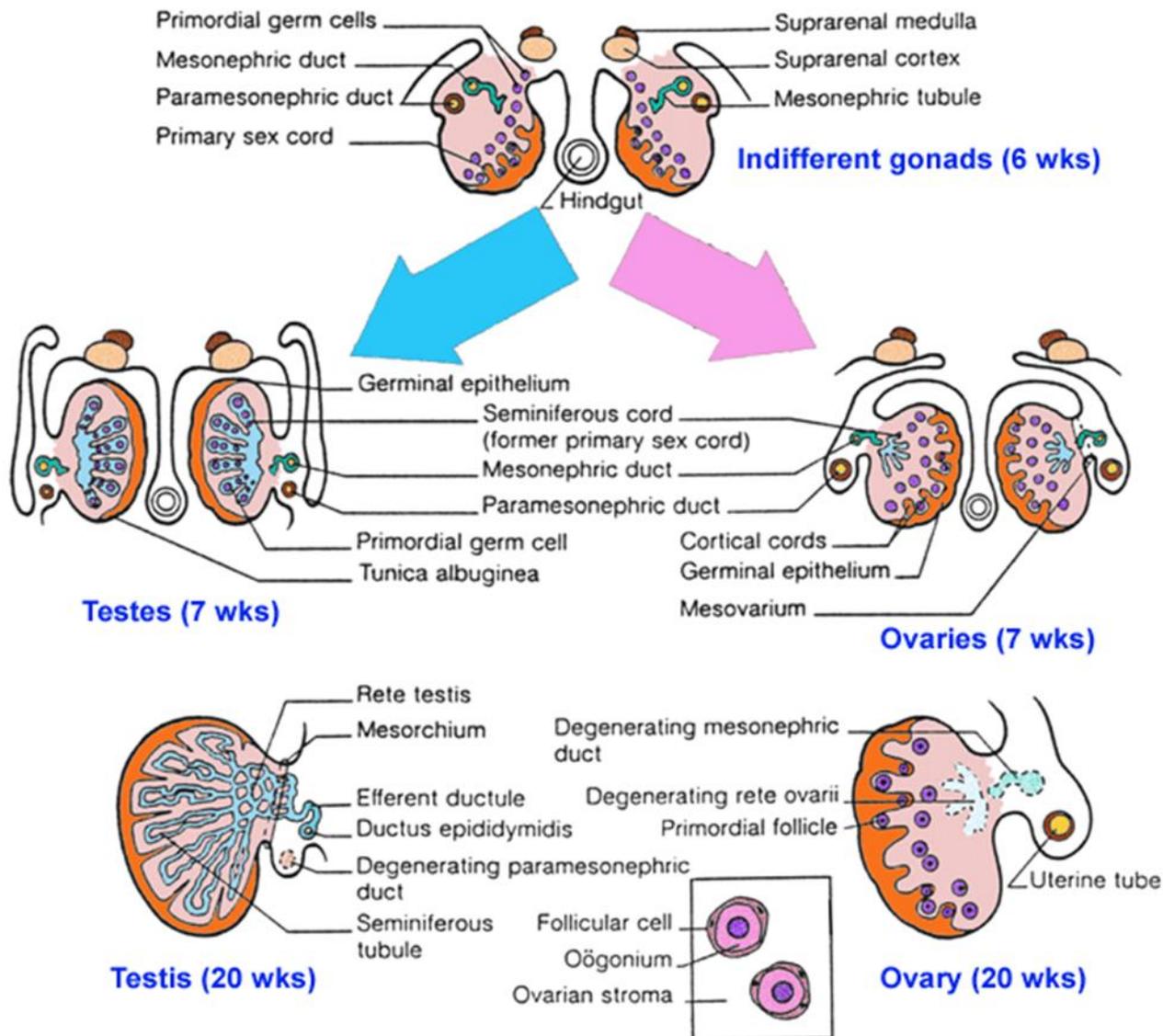


FEMALE



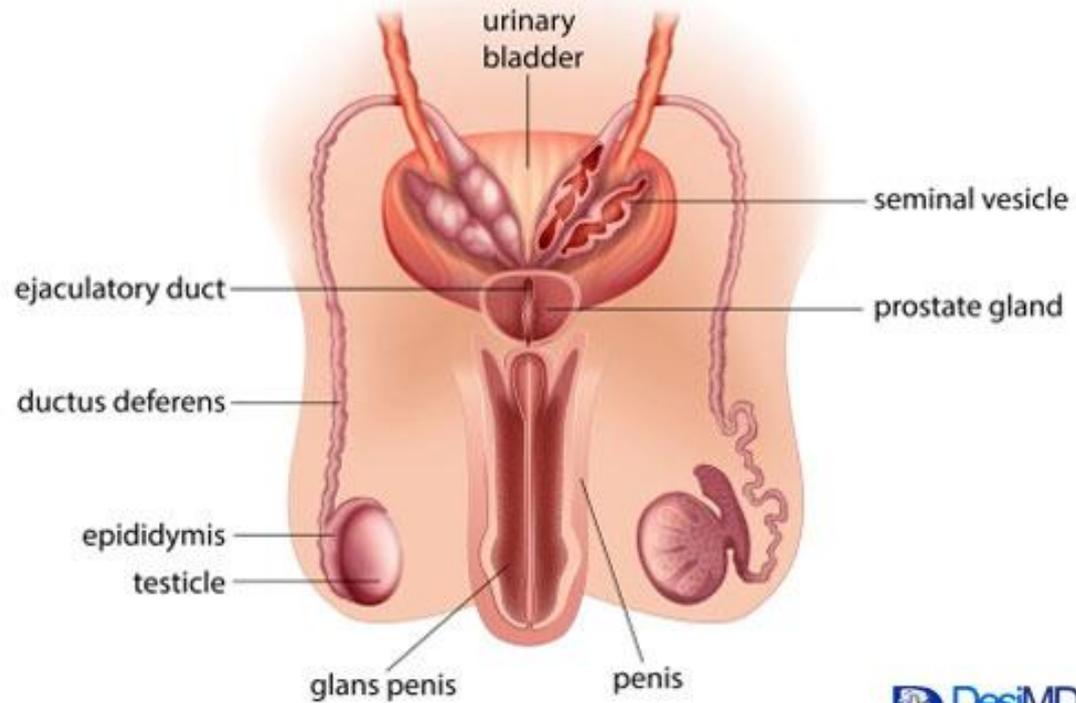


Gonadal Differentiation in the Human



(Modified from Paxton, *Endocrinology: Biological and Medical Perspectives*, W.C. Brown: Dubuque, IA, 1986.)

Male Reproductive System



6 week-end human embryo

Undifferentiated gonad

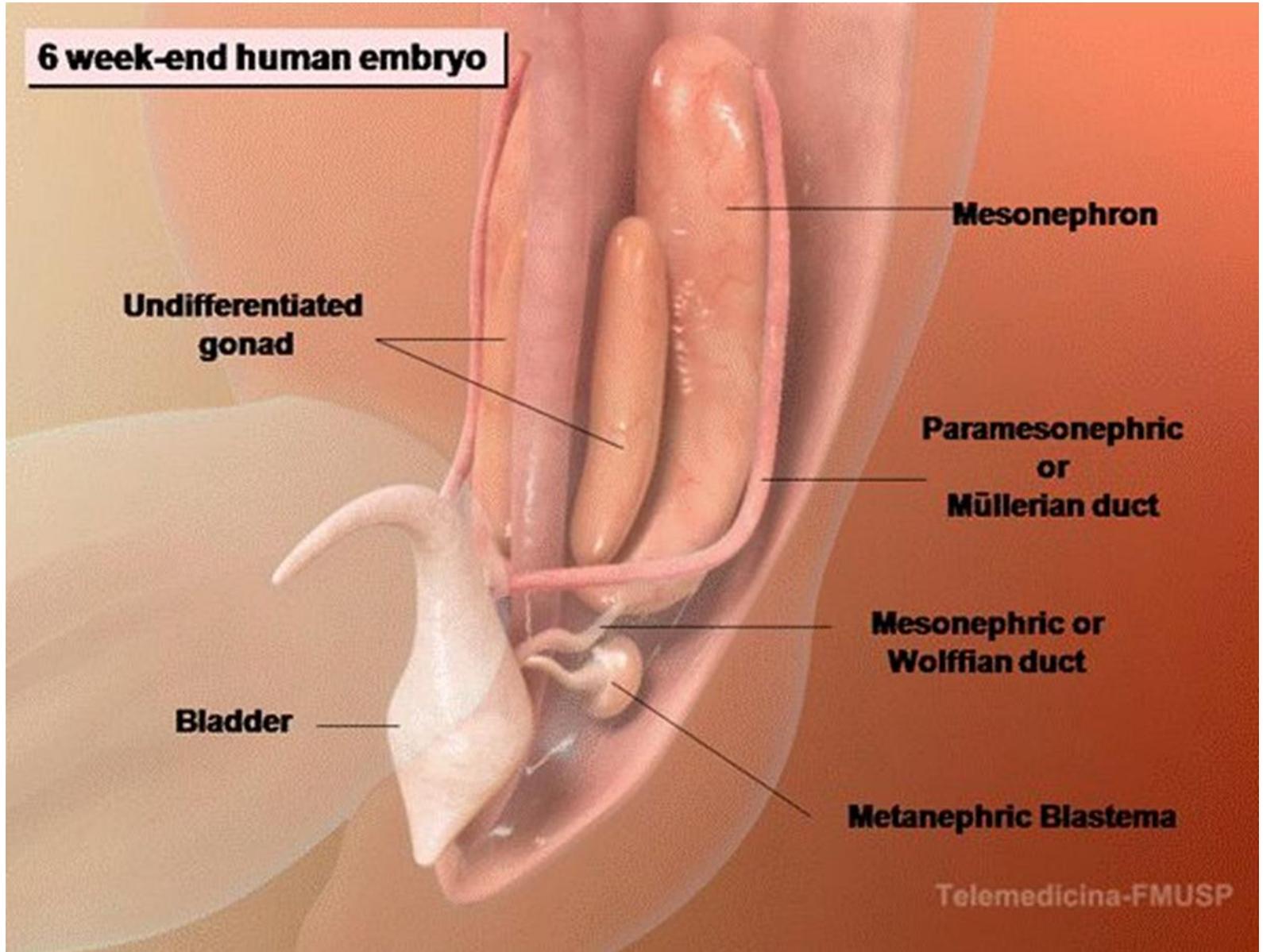
Bladder

Mesonephron

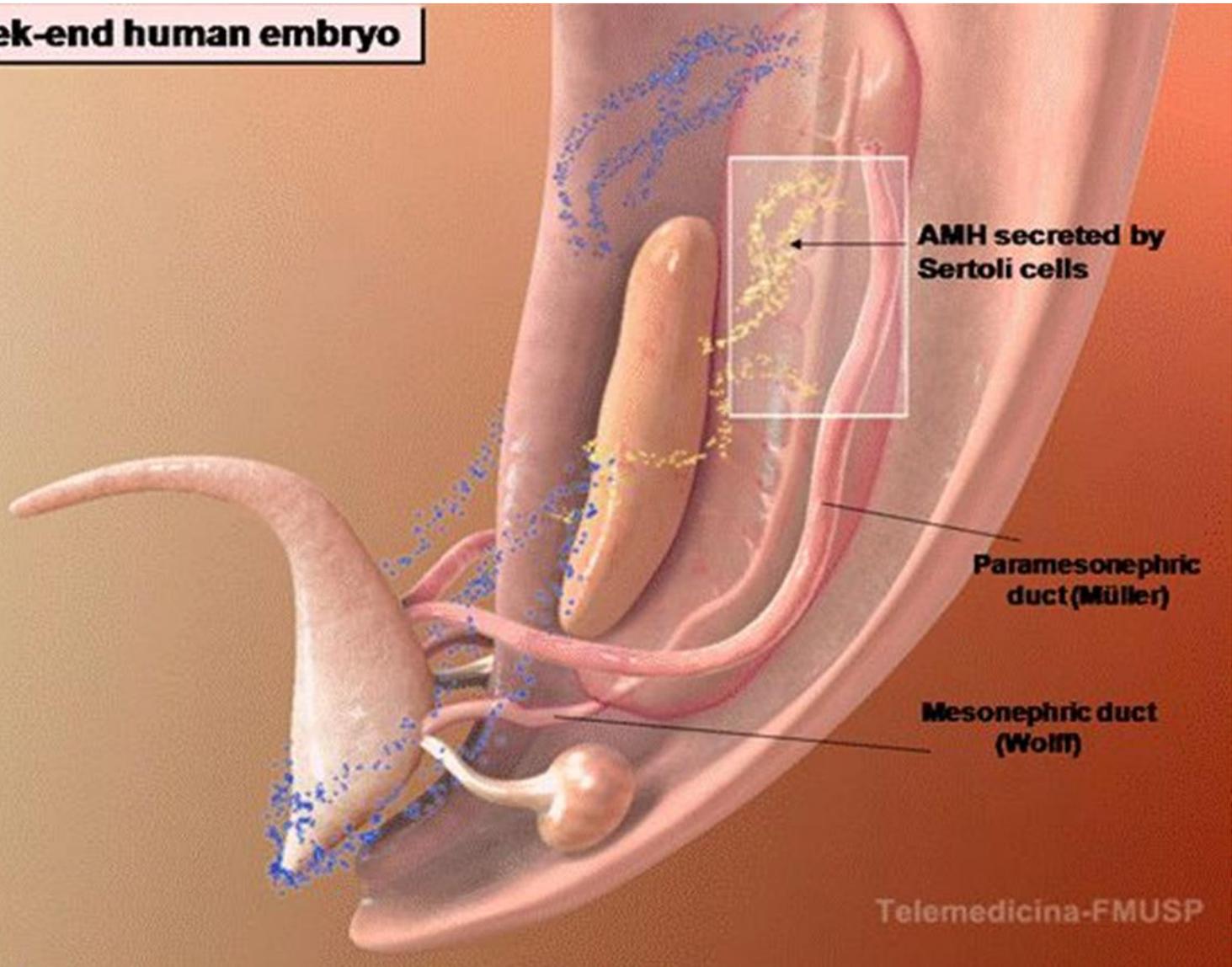
**Paramesonephric
or
Müllerian duct**

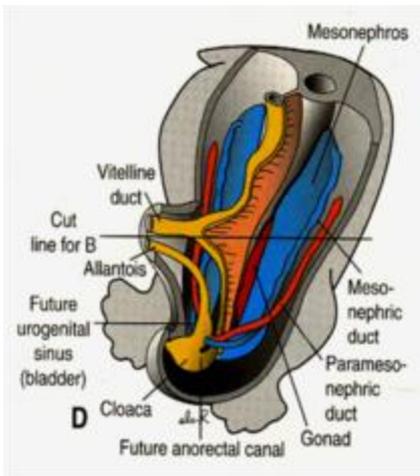
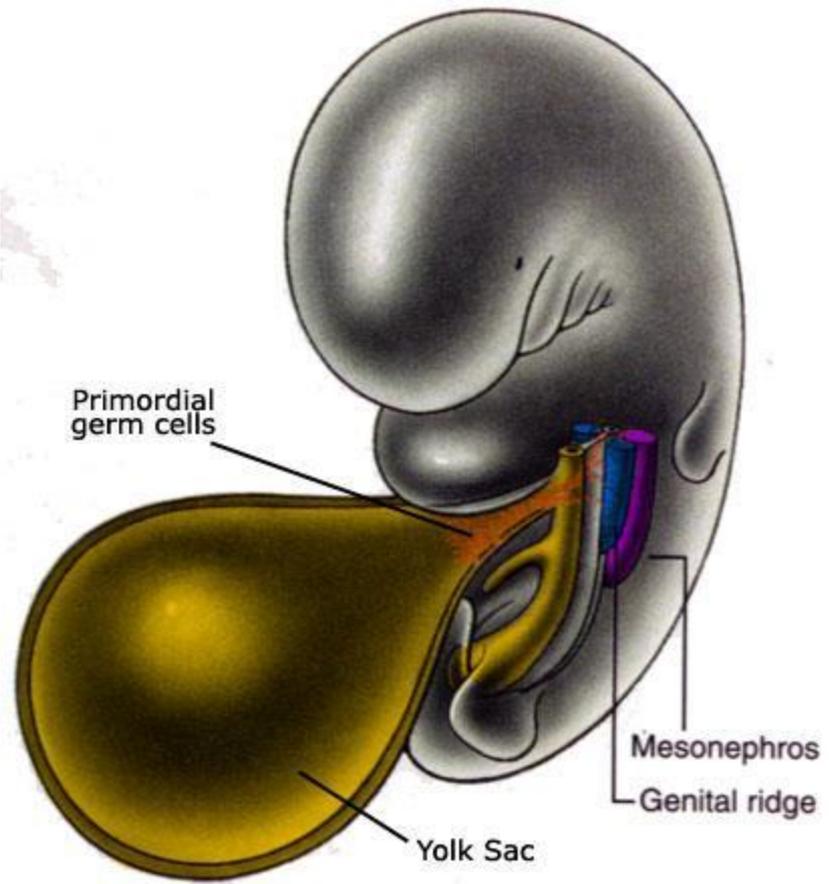
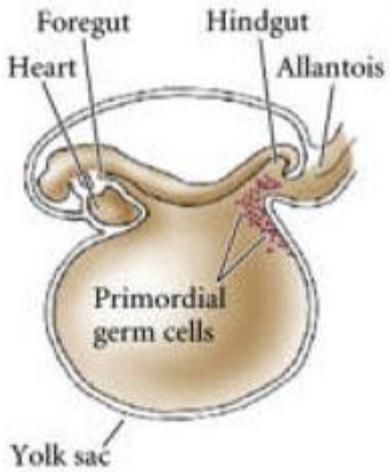
**Mesonephric or
Wolffian duct**

Metanephric Blastema



8 week-end human embryo





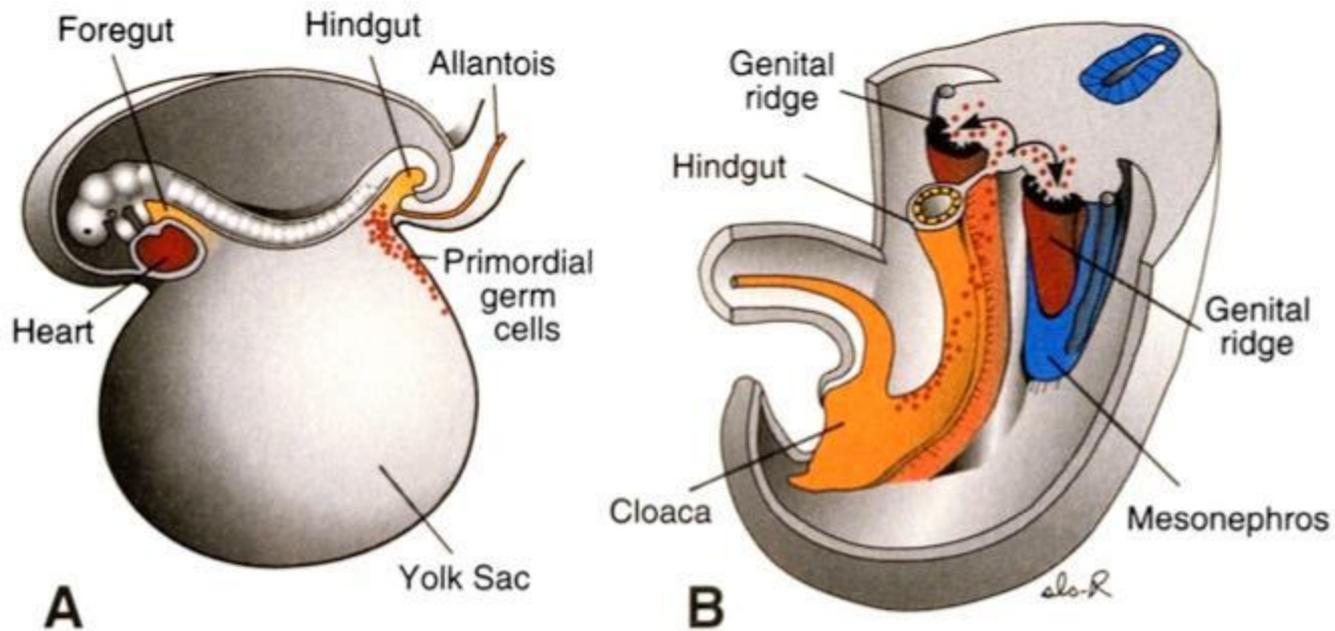
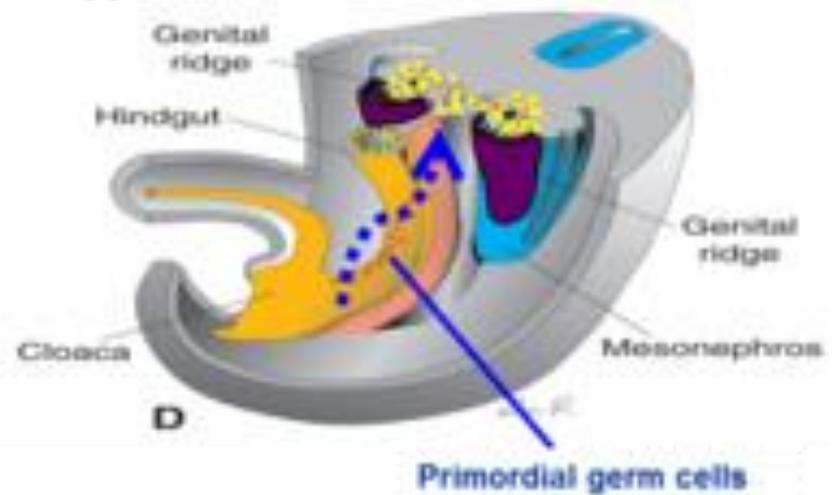
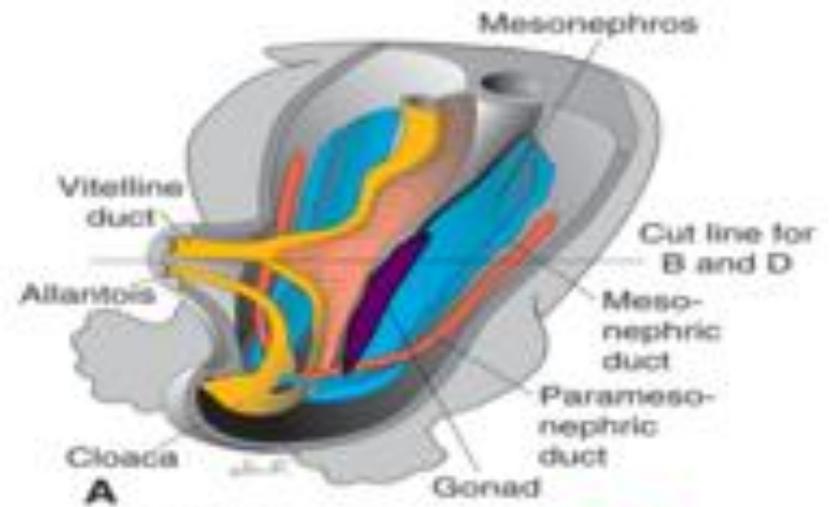
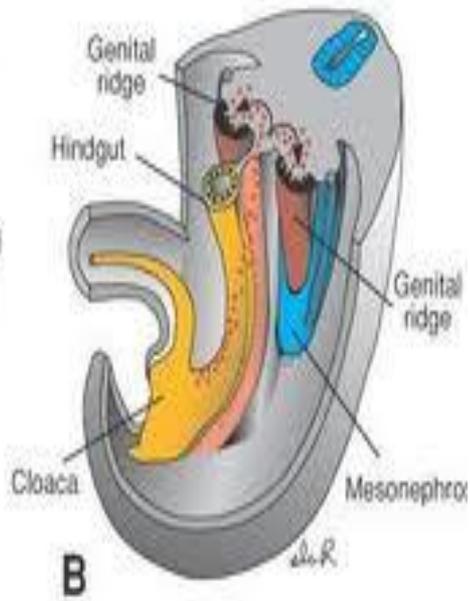
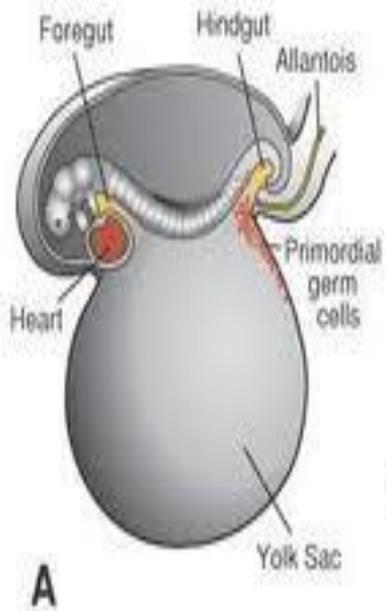
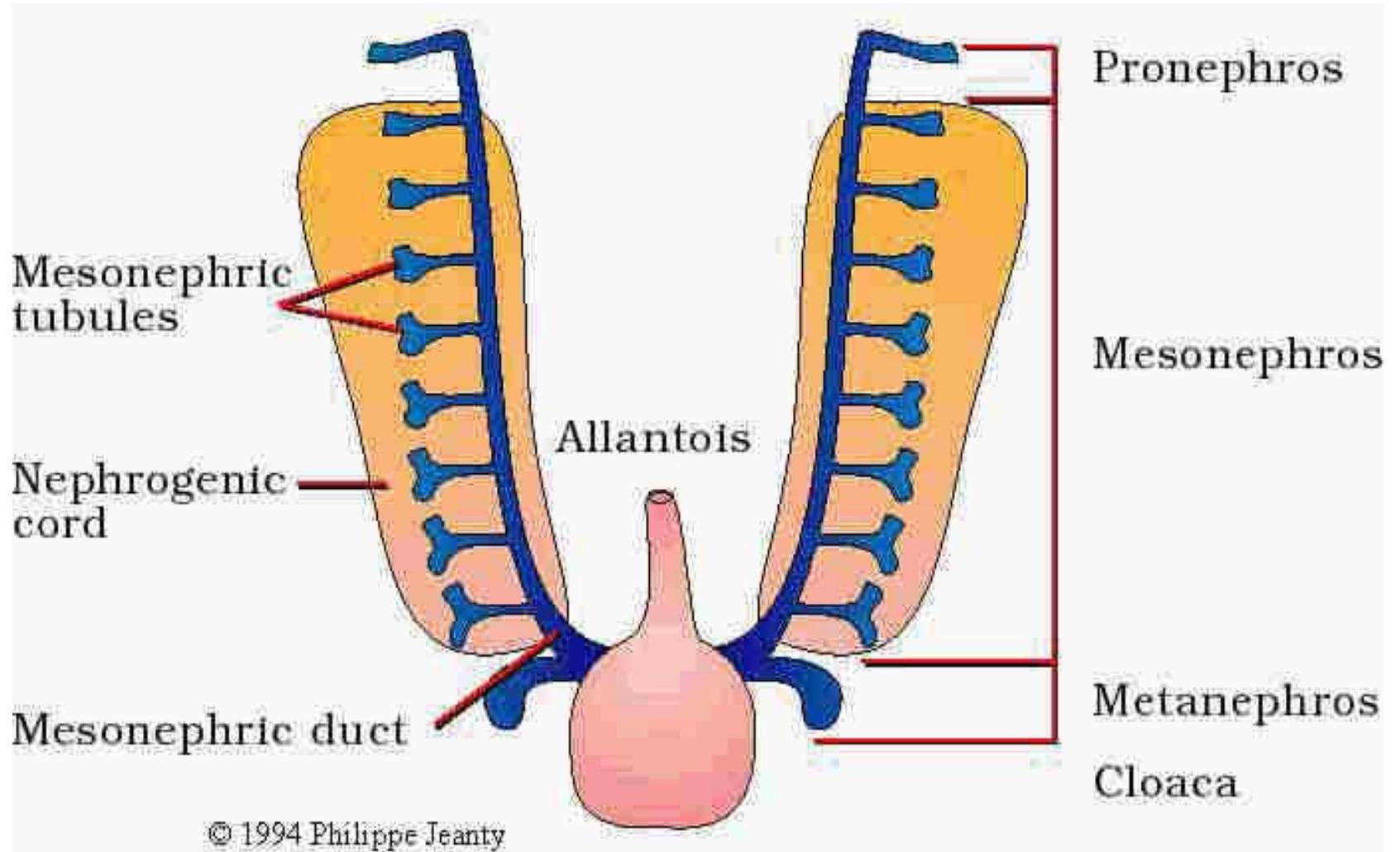
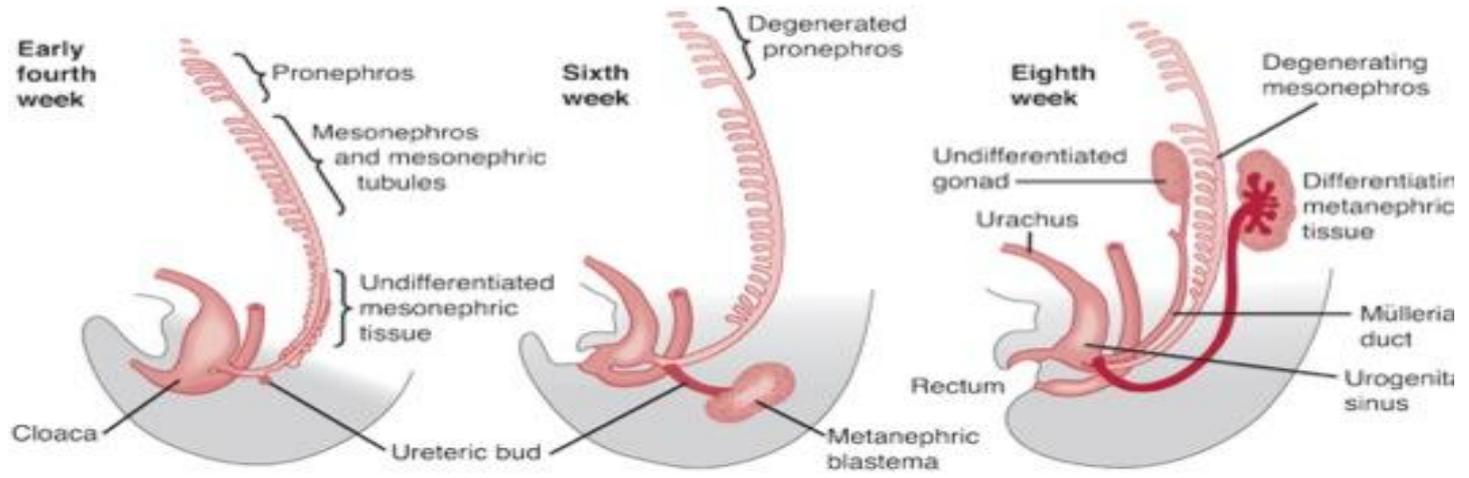


Figure 14.18. A. A 3-week-old embryo showing the primordial germ cells in the wall of the yolk sac close to the attachment of the allantois. B. Migrational path of the primordial germ cells along the wall of the hindgut and the dorsal mesentery into the genital ridge.

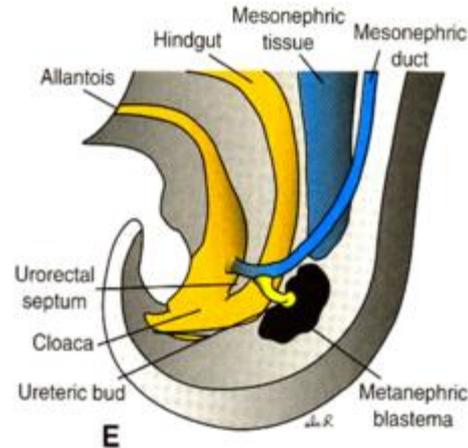


جنين بعمر 32 يوم يبين أنواع الكلى الثلاثة





في الاسفل العلاقة بين المعي الخلفي والمذرق في نهاية الأسبوع الخامس يبين اختراق البرعم الحالب الأدمة الوسطى للكلى النهائية blastema



6 week-end human embryo

Undifferentiated gonad

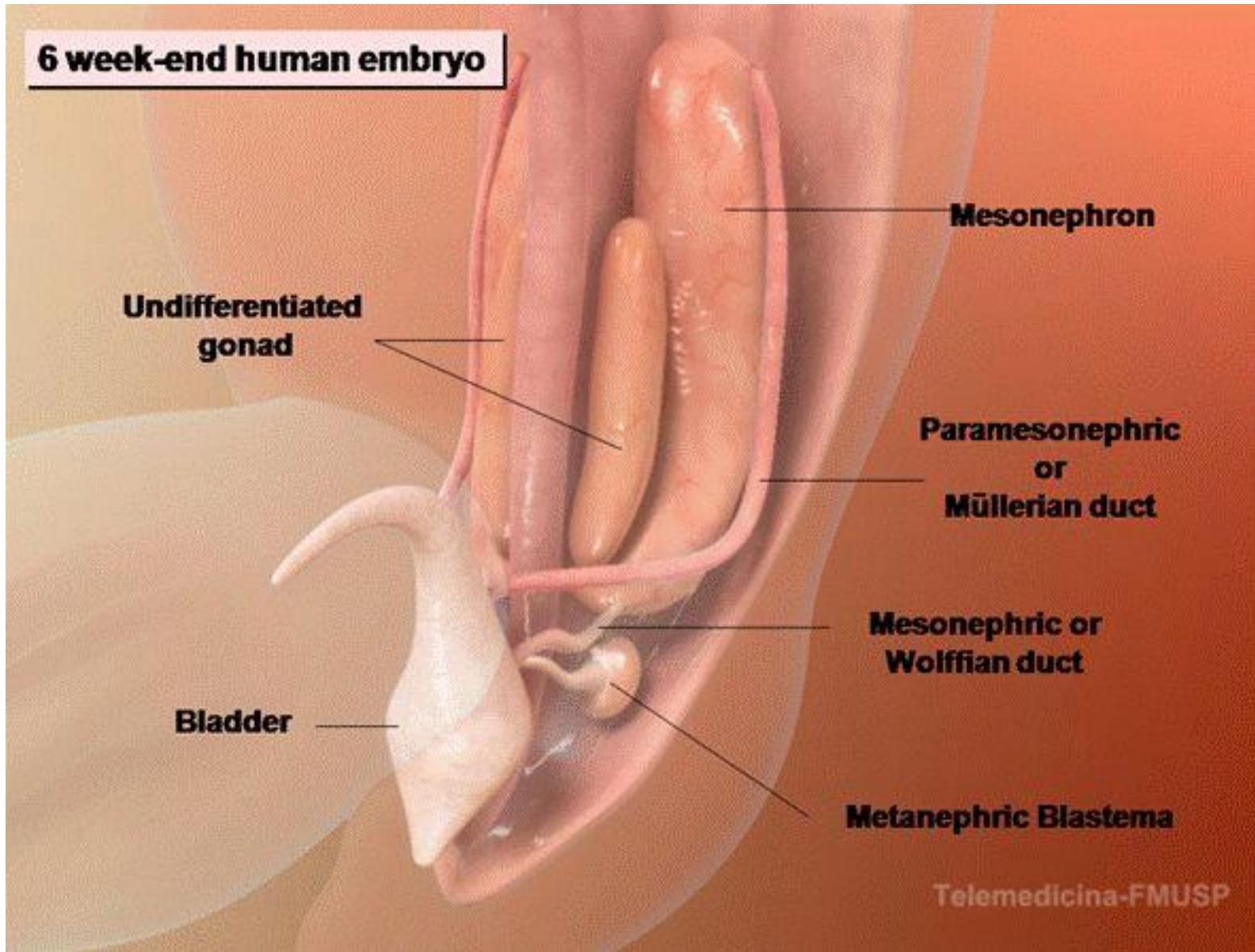
Bladder

Mesonephron

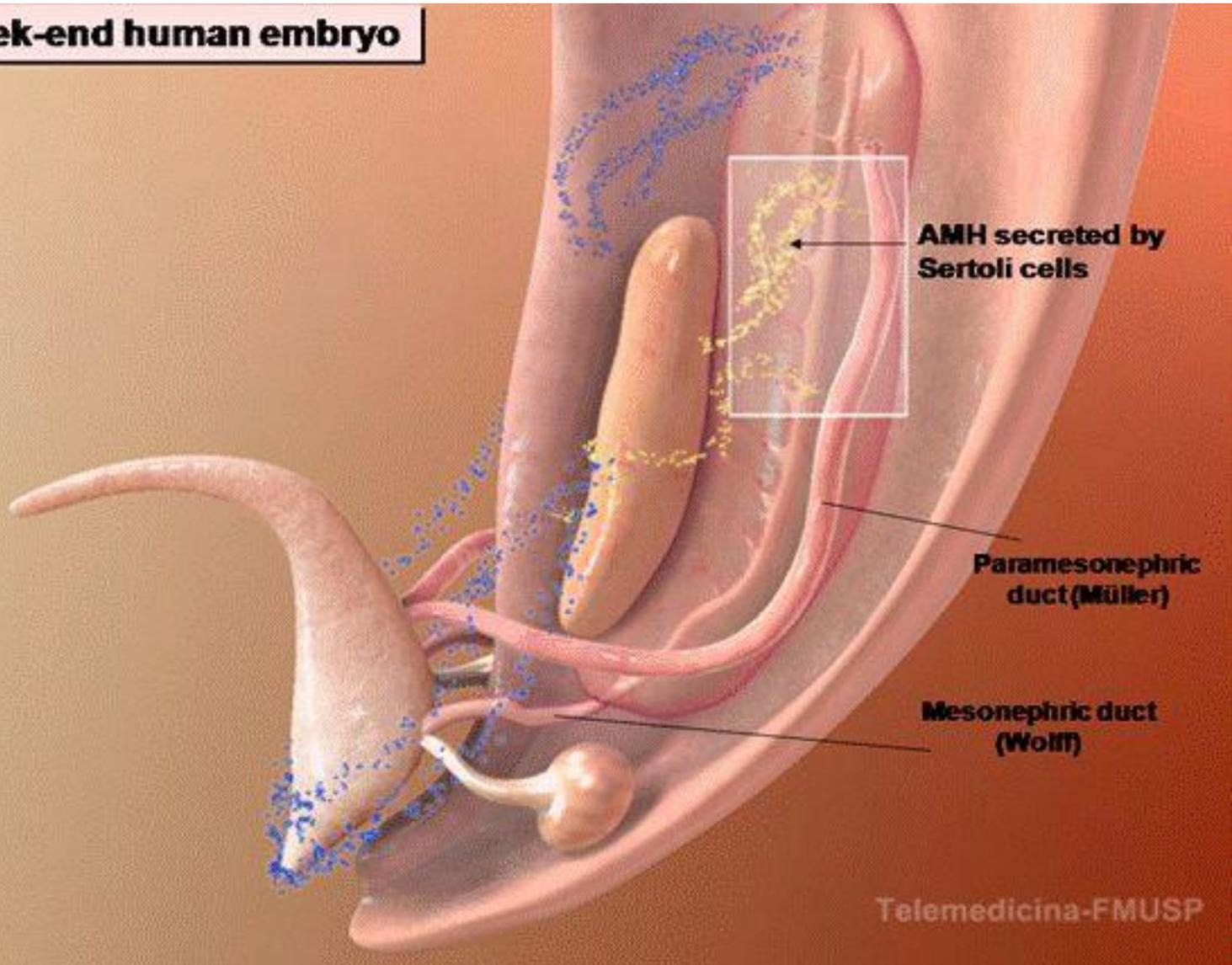
**Paramesonephric
or
Müllerian duct**

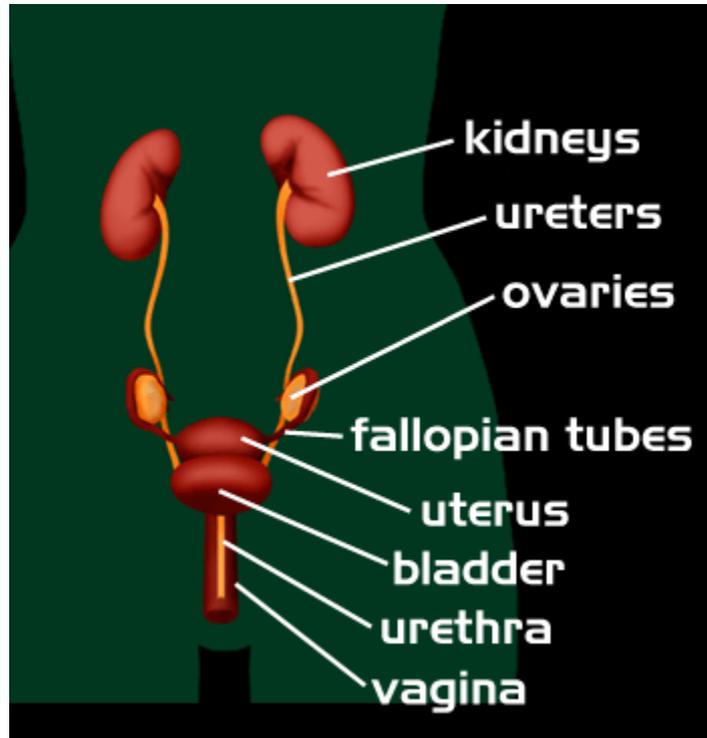
**Mesonephric or
Wolffian duct**

Metanephric Blastema

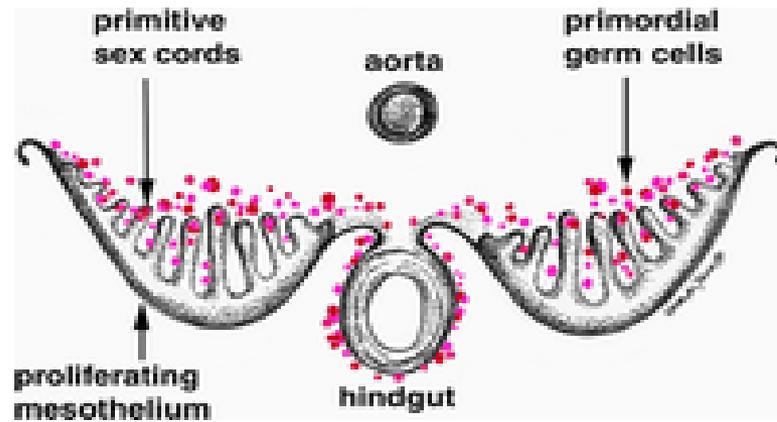
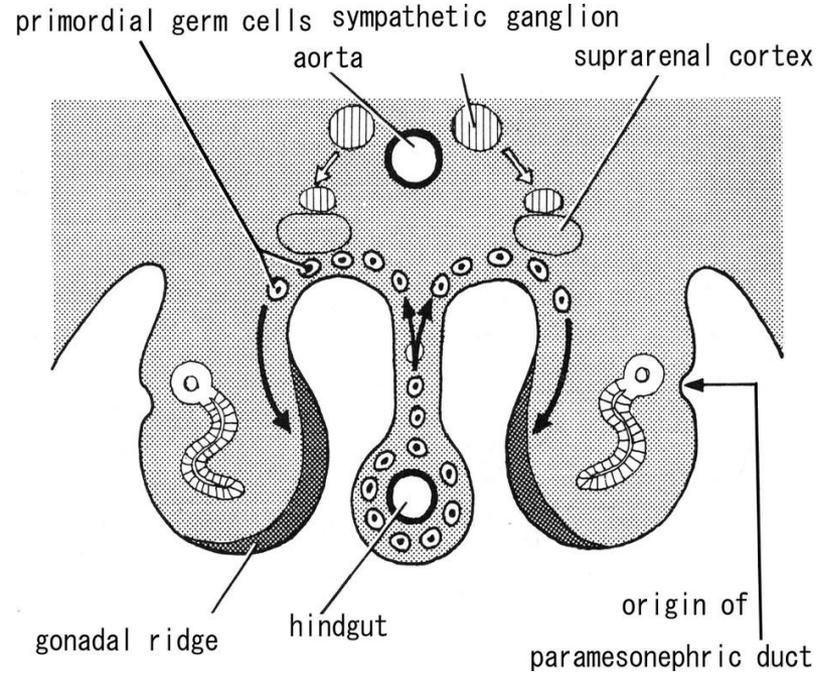
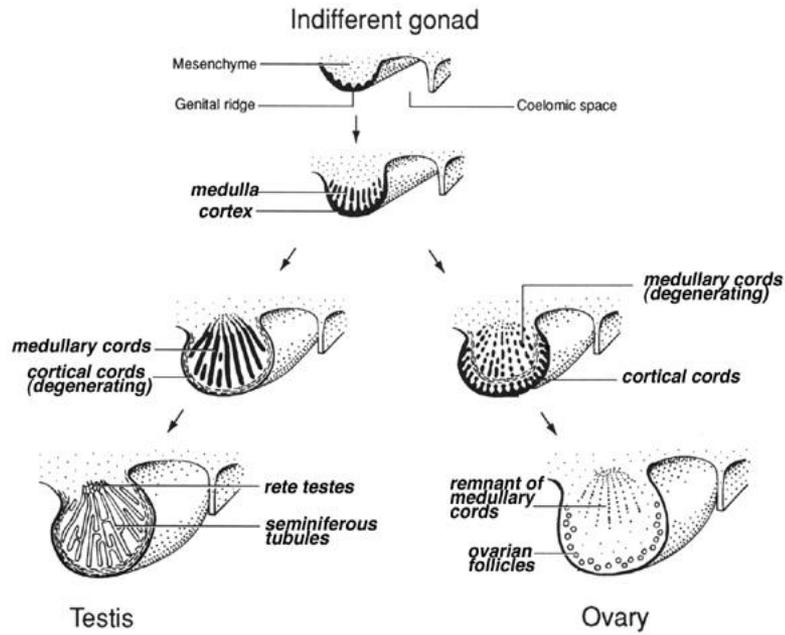


8 week-end human embryo

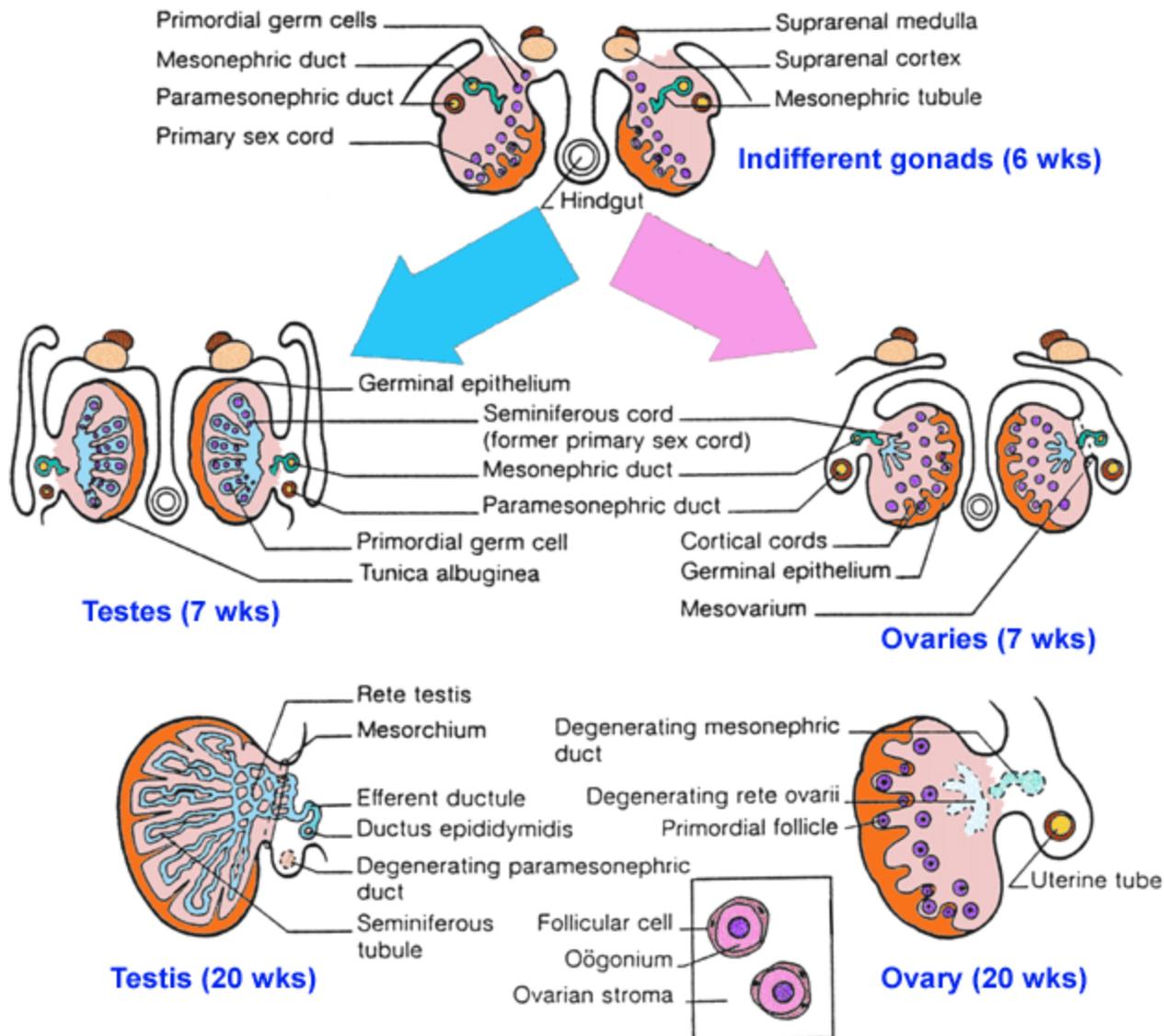




تكوين المناسل



Gonadal Differentiation in the Human



(Modified from Paxton, *Endocrinology: Biological and Medical Perspectives*, W.C. Brown: Dubuque, IA, 1986.)

