

ANATOMY OF THE PELVIS AND REPRODUCTIVE TRACT

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- **Where are Gartner's ducts located?**

In the lateral walls of the vagina

- **Gartner's duct cysts are persistent portions of what embryonic structure?**

Mesonephric duct

- **The portion of the gubernaculum between the ovary and uterus becomes what structure?**

The ligament of the ovary (utero-ovarian ligament)

- **The portion of the gubernaculum between the uterus and the labium majus becomes what structure?**

The round ligament

- **Failure of the development of adhesions between the uterus and what structure can result in the ovary migrating through the inguinal canal to the labium majus?**

The gubernaculum

- **What is the name of a pouch of peritoneum analogous to the saccus vaginalis in the male which accompanies the gubernaculum in the inguinal canal?**

The Canal of Nuck

- **Name the three coats of the ureter.**

Fibrous, muscular, mucosal

- **The epithelium lining the ureter is of what type?**

Transitional

- **The arteries supplying the female ureter are branches of what arteries?**

Renal, ovarian, internal iliac and inferior vesical

- **Innervation of the ureter is derived from what nerve plexuses?**

Inferior mesenteric, ovarian and pelvic

- **What are the attachments between the female bladder and the pubic bone called?**

The pubovesical ligaments

- **Name the four coats of the bladder.**

Serosa, muscular, submucosa, mucosa

- **What arteries supply the female bladder?**

Superior, middle and inferior vesical, obturator, inferior gluteal, uterine and vaginal arteries

- **Name the three coats of the urethra.**

Muscular, erectile, mucosa

- **What type of epithelium lines the urethra?**

Distal 1/2= Stratified squamous epithelium which becomes transitional near the bladder (proximal 2/3)

- **The aorta lies at what spinal level?**

L4

- **What are the branches of the hypogastric (internal iliac) artery?**

Posterier branch: Iliolumbar, lateral sacral, superior gluteal

Anterior branch: Obturator, internal pudendal, inferior gluteal, umbilical, middle vesicle, inferior vesicle, middle hemmorooidal, uterine, vaginal

- **Arterial blood supply to the uterus is derived from what arteries?**

Uterine and ovarian arteries. The uterine artery arises from the hypogastric and then ovarian directly from the aorta

- **Name the visceral branches of the internal iliac artery.**

Umbilical, inferior vesical, middle vesicle, middle rectal, uterine, vaginal

- **What are the arcuate arteries?**

Branches of the uterine that unite with the opposite uterine artery...they supply the radial branches to the myometrium and basalis layer of endometrium. They also become the spiral arteries of the functional endometrium

- **What is the terminal branch of the hypogastric artery?**

Internal pudendal artery

- **What does the internal pudendal artery supply?**

The rectum, labia, clitoris, perineum

- **Name the parietal branches of the internal iliac artery.**

Obturator, internal pudendal, iliolumbar, lateral sacral, superior gluteal, inferior gluteal

- **Describe the anatomic relationship between the uterine artery and the ureter when they are at their closest position in relationship to the cervix.**

Approximately 2 centimeters from the cervix the uterine artery crosses above and in front of the ureter

Branches of the uterine and vaginal arteries anastomose forming median longitudinal vessels known as what arteries?

Azygous arteries of the vagina

Name the artery from which the deep and dorsal arteries of the clitoris arise.

Internal pudendal artery

The right ovarian vein opens into what structure?

The inferior vena cava

The left ovarian vein flows into what structure?

Left renal vein

Name the vein that begins near the upper part of the greater sciatic foramen and passes upward and backward in the pelvis.

Internal iliac vein

Name the main tributaries of the external iliac vein.

Inferior epigastric, deep circumflex and pubic veins

The ovarian arteries arise from what structure?

The Aorta

The inferior epigastric artery is one of two main branches of what artery?

The external iliac artery

The artery of the round ligament is a branch of what artery?

Inferior epigastric artery

What structure crosses the obturator artery medially?

Ureter

Where does the inferior mesenteric artery arise?

3 cm above the aortic bifurcation

What does the inferior mesenteric artery supply?

Parts of the transverse colon, descending colon, sigmoid, rectum, and it becomes the superior hemorrhoidal

The external iliac nodes receive afferent vessels from what regions?

Lower extremity, lower anterior abdominal wall, perineum, pelvis

Where are the common iliac nodes located?

Medial, lateral and posterior to the common iliac vessels extending from the external iliac nodes to the bifurcation of the aorta

The internal iliac nodes receive lymphatics from what areas?

Drainage corresponds to the branches of the internal iliac arteries.

Efferent lymphatic vessels from the cervix course to what nodes?

Laterally to the external iliac nodes, posteriolaterally to the internal iliac nodes, posteriorly to the common iliac and lateral sacral nodes.

The majority of the lymphatic vessels of the fundal corpus of the uterus drain into what nodes?

Internal iliac nodes primarily; also aortic, lumbar, pelvic

The upper vagina has lymphatic drainage to what nodes?

External and internal iliac nodes

Lymphatic vessels from the middle region of the vagina terminate in what nodes?

Internal iliac nodes

Lymphatic drainage from the vaginal orifice and vulva may terminate in what group of nodes?

Superficial inguinal nodes

The superficial lymphatic vessels in the anal region course to what group of nodes?

Superficial inguinal nodes

Lymphatic drainage deep in the ischiorectal fossa is to what group of nodes?

Internal iliac nodes

Lymphatic drainage of the ovaries follows the course of the ovarian arteries to what groups of nodes?

Lateral and pre-aortic lumbar nodes

Lymphatic drainage of the upper and middle portions of the fallopian tube is to what nodes?

Lateral and pre-aortic lumbar nodes

Lymphatic drainage of the lower portion of the fallopian tube is to what nodes?

Internal iliac and superficial inguinal nodes

The pelvic plexus of the autonomic nervous system is formed by what?

Hypogastric plexus, rami from the sacral portion of the sympathetic chain and by visceral branches of the second, third and fourth sacral nerves

- **Innervation of the urinary bladder is provided by what structures?**

Fibers from the third and fourth sacral nerves and fibers from the hypogastric plexus

- **What is another name for the superior hypogastric plexus?**

Presacral nerve

- **Where is the presacral nerve located?**

It lies in the subserous fascia under the parietal peritoneum and extends from the level of the fourth lumbar to the first sacral vertebrae

- **Name the three supportive layers of the pelvic floor.**

Endopelvic fascia, levator ani muscles and perineal membrane/external anal sphincter

- **Name the external genital muscles whose primary function appears to be sexual response.**

Ischiocavernosus, bulbocavernosus and superficial transverse perineal muscles

- **What constitutes the pelvic diaphragm?**

Levator ani muscles and their superior and inferior fasciae

- **What is the anterior midline cleft in the pelvic diaphragm called?**

Urogenital hiatus

- **What structures pass through the urogenital hiatus?**

Urethra, vagina and rectum

- **The broad sheet of endopelvic fascia which attaches the upper vagina, cervix and uterus to the pelvic sidewalls is known by what name?**

Cardinal & uterosacral ligaments

- **What two muscles constitute the levator ani muscle?**

Pubococcygeus and iliococcygeus muscles

- **Innervation of the levator ani is from which nerves?**

Fourth sacral (sometimes, also, third or fifth sacral)

- **Arterial blood supply to the female urethra arise from what structures?**

Inferior vesical and internal pudendal arteries

- **Where does the innervation of the urethra develop?**

Pudendal nerves and pelvic plexuses

- What is the name of the ovarian venous plexus?**

Pampiniform plexus

- The whitish folded scar on the ovary resulting from regression of a corpus luteum has what name?**

Corpus Albicans

- A mass of cells on one side of a mature follicle protruding into the cavity is known by what term?**

Cumulus oophorus

- The surface stroma of the ovary composed of short connective tissue fibers with fusiform cells between them is known by what name?**

Tunica Albuginea

- What name is given to the highest of the deep inguinal lymph nodes located in the lateral part of the femoral ring?**

Cloquet's node

- Where is the epoophoron (parovarian) located?**

In the mesosalpinx between the ovary and the tube

- The greater vestibular glands are also known by what name?**

Bartholin glands

- Infected Bartholin glands may cause enlargement of what lymph nodes?**

Inguinal or external iliac nodes

- What is the vestibule of the vagina?**

The cleft between the labia minora and the glans of the clitoris

- In the virgin the labia minora are usually joined across the midline by a fold of skin known by what term?**

Frenulum of the labia or fourchette

- What is the normal weight of the non-gravid uterus?**

30-40 grams

- What is the name of the slight constriction between the cervix and corpus of the uterus?**

Isthmus

- Name the three portions of the fallopian tube external to the uterus.**

The proximal 1/3 is the isthmus, the medial 1/3 is the ampulla, the distal 1/3 is the infundibulum

- **Appendices vesiculosae of the tube are also known by what name?**

Hydatids of Morgagni

- **What covers the surfaces of the broad ligaments?**

Peritoneum

- **What structures are the boundaries of the cul-de-sac of Douglas?**

Ventrally, the supravaginal cervix, and posterior fornix of the vagina; Dorsally, the rectum; Laterally, the uterosacral ligaments

- **What is the myometrium?**

The muscular wall of the uterus

- **What are the layers of the vagina?**

Muscularis and mucosa

- **What structures found in the labia majora are not found in the labia minora?**

Hair follicles

- **The primary tissue found in the mons pubis is what type of tissue?**

Adipose

- **Innervation of the uterus is primarily from where?**

Hypogastric and ovarian plexuses and the third, and fourth sacral nerves

- **From where does the innervation of the vagina arise?**

Vaginal plexus and pudendal nerves

- **What is the male homologue of the clitoris?**

Penis

- **By what cellular processes does the gravid uterus enlarge?**

Hypertrophy and hyperplasia

- **Skenes glands are also known by what name?**

Paraurethral glands

- **Where are Skene's glands located?**

Adjacent to the urethral opening

- **Skenes glands are considered the homologues of what male structures?**

Prostatic glands

- The Bartholin glands are the female homologue of what male structure?**

Cowper's bulbourethral glands

- Where are Bartholin's glands located?**

4 and 8 o'clock. They drain between the hymenal ring and labia minora

- Which has a greater diameter, the abdominal portion or pelvic portion of the ureter?**

The abdominal (10mm vs 5mm)

- In the female bladder attachments directly between the bladder and pubic bone are known by what name?**

Pubovesical ligaments

- The median umbilical ligament is the remnant of what structure?**

Urachus

- The anterior angle of the trigone is formed by what?**

Internal orifices of the urethra

- The posteriolateral angles of the trigone are formed by what?**

Orifices of the ureters

- In the contracted bladder the ureteral orifices are approximately how far apart?**

2.5 cms

- Afferent nerves from the uterus enter the spinal cord at what point?**

Solely through the eleventh and twelfth thoracic nerves

- Where in the female is the bulbospongiosus muscle located?**

Surrounding the lower end of the vagina

- What is the blood supply to the vagina?**

It is an extensive network. The vaginal artery arises either directly from the uterine or from the internal iliac; also from the azygous arteries anastomosing from the cervical branch of the uterine

- What is the sensory innervation to the vagina?**

Pudendal nerve (S2-S4)

- Where is primary lymph drainage from the vagina?**

Upper 1/3: external iliac

Middle 1/3: common/internal iliac

Lower 1/3: common iliac, superficial inguinal, perirectal

What is the average length of the endocervical canal?

2.5-3 cm

What is the arterial supply to the uterus?

Cervical aa arise from the uterine artery. The cervical arteries approach the cervix at 3 and 9 o'clock. The coronary aa encircle the cervix

How many oocytes are present in the human ovary at birth?

1-2 million

How many oocytes eventually ovulate?

About 300-400

What is the venous drainage from the ovaries?

The pampiniform plexus to the ovarian vein

Where do the ovarian veins drain to?

Right ovarian vein → IVC

Left ovarian vein → Left renal → IVC