Principles of Oncology Surgery
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MSU SCS Board Review Course

Written Exam

- 4 ½ hour test consisting of 250 multiple choice questions
- GYN Oncology accounts for 4-8 % of questions
- Topics covered
  - Staging and management of: Cervical, fallopian tube, ovarian, uterine, vulvar and vaginal cancer.
  - Chemotherapy, GTN, Radiation therapy, Tumor immunology, Viral diseases
  - Cancer in pregnancy
Celiac Trunk

- Divides into
  - Left Gastric
    - Supplies distal portion of esophagus and lesser curvature of the stomach
  - Splenic
    - Supplies body of pancreas, spleen and greater curvature of stomach
  - Hepatic (common)
    - Supplies liver, gallbladder, stomach, pancreas, duodenum

Common Hepatic artery

- Divides into
  - Right gastric artery
  - Right portion of the lesser curvature of the stomach
  - Gastroduodenal artery (will divide into right gastro-omental artery)
    - Stomach, pancreas, first part of duodenum, distal part of bile duct
  - Right and left hepatic arteries
  - Supply liver
Splenic artery

- Divides into
  - Left gastro-omental artery
  - Left portion of greater curvature of stomach
  - Short gastrics
  - Fundus of the stomach

Superior Mesenteric Artery

- Branches into
  - Inferior pancreaticoduodenal artery
    - Supplies head of pancreas, ascending and inferior part of duodenum
  - Intestinal arteries
    - Jejunum and ileum
  - Middle colic artery
  - Transverse colon
  - Right colic artery
  - Ascending colon
  - Ileocolic artery (branches to appendiceal artery)
    - Ileum, cecum and ascending colon
Inferior Mesenteric Artery

- Divides into
  - Left colic artery
  - Descending colon
  - Sigmoid artery
  - Descending and sigmoid colon
  - Superior Rectal artery
  - Proximal part of rectum
Internal iliac artery

Posterior Division
+ Ileolumbar artery
  - Psoas major, iliacus, quadratus lumborum muscles, cauda equina
+ Lateral sacral artery
  - Piriformis, structures in sacral canal
+ Superior gluteal artery
  - Piriformis, all 3 gluteal muscles, tensor fascia lata

Anterior Division of Internal Iliac

+ Obturator artery
  - Pelvic muscles, ischium, head of femur, muscles of medial thigh compartment
+ Inferior gluteal artery
  - Pelvic diaphragm, piriformis, quadratus femoris, upper hamstring, glutus maximus
+ Umbilical artery
  - Superior Bladder
+ Uterine artery
  - Uterus, ligaments of uterus, tube, vagina
  - Superior bladder, pelvic portion of uterus
+ Vaginal artery
  - Vagina
+ Inferior vesicle
  - Superior vesicle
+ Inferior bladder
  - Middle rectal
  - Inferior vesicle
  - Main artery of perineum, muscles and skin of anal and urogenital triangles
  - Inferior bladder, pelvic portion of ureter

Figure 5.36. Branches of the internal iliac artery in the female.
Anatomy for surgery

- Cervical cancer and radical hysterectomy
- Important to develop paravesicle and pararectal spaces
- Paravesicle space (borders)
  - Obliterated umbilical artery (continuation of superior vesicle artery) medially
  - Obturator internus muscle laterally
  - Cardinal ligament posterior
  - Pubic symphysis anteriorly
Pararectal space

- Rectum medially
- Hypogastric artery laterally
- Cardinal ligament anteriorly
- Sacrum posteriorly

Vulvar cancer surgery

- Inguinal nodes located in femoral triangle
- Boarders include inguinal ligament, sartorius, adductor longus
Femoral Nerve Injury

- Is a retractor related injury
- Can also be due to positioning and too much hip extension

Peroneal Nerve Injury

- Positioning Injury in stirrups
- Foot Drop
Nerves to Know

- Iliinguinal (L1)—Sensory Only
  - Branch of L1 joins inguinal canal and supplies labia majora and skin of the mons
- Iliohypogastric (L1)—Sensory Only
  - Superior to ilioinguinal Nerve and lateral to psoas muscle
- Genitofemoral (L1-2) —Sensory Only
  - Runs along ant psoas and genital br runs with round ligament
  - Femoral branch emerges under inguinal ligament with the external iliac and supplies skin over femoral triangle
- Femoral Cutaneous (L2-3) —Sensory Only
  - Skin to lateral thigh
  - Lateral border of psoas along iliacus under inguinal ligament medial to AIS
- Femoral Cutaneous (SI-3) — Sensory Only
  - Female pudendum lateral to ischial tuberosity and lateral labia

Pudendal (S2-4)—Motor
- Through greater sciatic foramen around ischial spine and back into pelvis through lesser sciatic foramen then through Alcock’s canal with nerve and vein
- Three branches
  - Inferior rectal nerve—anus and perirectal skin
  - Perineal nerve—small muscles of superficial and deep perineal spaces and labia
  - Dorsal nerve of the clitoris

Obturator (L2-4) —Motor (predom), Sensory medial thigh
- From inferomedial psoas and traverses obturator canal
- Adductor longus, brevis, magnus, gracilis and pectineus muscle
- Repair 8-0 monofilament epineurium

Femoral (L2-4) —Motor, Sensory
- Lateral psoas to lateral femoral cutaneous, on top inguinal
- Adductor magnus and pectineus
- Cutaneous—innervates skin lower 2/3 anterior and medial thigh
  - Anterior
  - Medial
- Injury likely from self-retaining retractors at psoas and round ligament junction
- Numbness anteromedial thigh

Sciatic (L4-S3) — Motor, Sensory
- Exits pelvis through greater sciatic foramen