BENHA UNIVERSITY
FACULTY OF MEDICINE
ANATOMY DEPARTMENT
Course code (MED 0701)
Model answer of Anatomy examination
(Abdomen, Pelvis and Thorax)
1st year – 2nd term
Date: 18 /5 /2013
I-Short account on : - ( 3 x 5 = 15 marks )

1-1\textsuperscript{st} part of the duodenum : - Relations and Peritoneal covering . ( 5 marks )

*Relations (4 marks)

- Anteriorly (1 mark): quadrate lobe (1/2 m) and body and neck of gall bladder (1/2 m)
- Posteriorly (2 marks): 1\textsuperscript{st} inch \rightarrow lesser sac which separates it from neck of pancreas (1/2m). 2\textsuperscript{nd} inch \rightarrow common bile duct (1/2m), gastroduodenal artery (1/2 m), portal vein (1/2 m)
- Superiorly (1/2 mark): epiploic foramen
- Inferiorly (1/2 mark): head of pancreas

*peritoneal covering (1 mark):

- 1\textsuperscript{st} inch is completely covered by peritoneum, so it is mobile (1/2m).
- 2\textsuperscript{nd} inch is covered by peritoneum anteriorly, so it is fixed (1/2 m)

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2- Prostate gland : - Relations, Lobes and Arterial supply. ( 5 marks )

*Relations (2.5 marks):

- Base (1/2m) is continuous with the neck of urinary bladder and pierced by urethra
- Apex (1/2m) rests on the Urogenital diaphragm
- Anterior surface (1/2m) is related to retropubic space and symphysis pubis
- Posterior surface (1/2m) is related to anterior wall of rectum
- Inferolateral surfaces (1/2m): each surface is related to anterior fibers of levator ani (levator prostate)

*Lobes (1.5 marks):- The prostate is divided by urethra and ejaculatory ducts into five lobes: Two lateral lobes (1/2m), median lobe (1/2m), posterior lobe (1/2m) and anterior lobe (?)

*Arterial supply (1 mark): 1-inferior vesical artery (1/2 m) 2-middle rectal artery (1/2m) 3-internal pudendal artery (1/2 m). [any two is enough ]
3-Typical intercostal nerves : - Origin ,Course and Branches . ( 5 marks )

*Origin (1 mark) - They are 3rd , 4th, 5th and 6th ventral (anterior )rami of thoracic spinal nerves .

*Course (2 marks):- [each statement =1/2 mark]

- Each one comes out from the intervertebral foramen to enter the intercostal space between the costal pleura and posterior intercostal membrane .
- At the angle of the rib it pierces the internal intercostal muscle .It lies below the posterior intercostal vessels.
- In the anterior part of the intercostal space , it crosses in front of sternocostalis and internal thoracic vessel which separate it from the costal pleura
- Finally, it pierces the internal intercostal muscle , anterior intercostal membrane , pectoralis major and deep fascia and becomes an anterior cutaneous nerve .

*Branches (2 marks) [any 4 branches =2 marks]

1- Rami communicants with the sympathetic trunk.
2- A collateral branch supply the intercostal muscles .
3- A lateral cutaneous branch supply the skin of the side of the chest .
4- Anterior cutaneous branch supply the skin of the front of the chest .
5- Muscular branches to intercostal muscles .
6- Sensory branches to the costal pleura .
7- Articular branches to the joints of the ribs .

II-Mention (7 x 2= 14 marks )

1- Surface anatomy of :- (2 marks )

a- Right border of the liver (1mark) :- It is represented by a line slightly convex to the right extending between two points :a-point on the right 7th rib in midaxillary line
b- point on the right 11th rib in the midaxillary line

b- Oblique fissure of the lung (1 mark):-It is represented by a line starts from 3rd thoracic spine posteriorly ,cuts the 5th rib in midaxillary line and ends anteriorly at the 6th costochondral junction.

2- Four different structures behind the caecum ( 2 marks )

a- Right iliaccus or right psoas major (1/2m)
b- Right femoral nerve or lateral cutaneous nerve of thigh or Genitofemoral nerve(1/2m)
c- Right external iliac vessels or right Gonadal vessels (1/2 m)
d- Retrocaecal recess and appendix (1/2 m)
3- Arteries and nerve passing through the spermatic cord (2 marks)
   a- Testicular artery (1/2m)    b- Artery of the vas (1/2m)
   c- Cremasteric artery (1/2m)  d- Genital branch of genitofemoral nerve or sympathetic fibers (1/2m)

4- Four factors maintaining the uterus in position (2 marks) [each one =1/2 mark]
   a- Ligaments of uterus
   b- Muscles of pelvic floor (levator ani and coccygeus)
   c- Perineal body
   d- Muscles of pelvic diaphragm

5- Contents of superficial perineal pouch in male (2 marks) [any 4 structures =2 m]
   a- Root of penis (bulb and 2 crura)
   b- Superficial peroneal muscles
   c- Branches of the pudendal nerve (dorsal nerve, scrotal branches & muscular branches)
   d- Branches of internal pudendal artery (dorsal artery, deep artery & artery of bulb)
   e- Part of urethra
   f- Ducts of Bulbourethral gland

6- Compare between the origin and distribution of right and left coronary arteries (2 marks)

<table>
<thead>
<tr>
<th></th>
<th>Right coronary artery</th>
<th>Left coronary artery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Origin (1 mark)</td>
<td>From anterior aortic sinus</td>
<td>From left posterior aortic sinus</td>
</tr>
<tr>
<td>Distribution (1 mark)</td>
<td>whole right atrium, main part of right ventricle and small part of left ventricle. It also supplies the conducting system</td>
<td>whole left atrium, main part of left ventricle and small part of right ventricle.</td>
</tr>
</tbody>
</table>
7-Structures passing through the root of the lung (2 marks)
[any 4 structures . each one =1/2m ]
a- Pulmonary veins (superior and inferior )
b- Pulmonary artery
c- Bronchial vessels
d- Pulmonary plexuses
e- Bronchopulmonary lymph nodes

III-Complete the following statements using the suitable words (20 x1/2 =10 marks)
1- The fascia transversalis has two extensions which are internal spermatic fascia and anterior wall of femoral sheath.
2- The superficial inguinal ring is a weak point and reinforced by reflected part of inguinal ligament and conjoint tendon (and fascia transversalis).
3- The falciform ligament of the liver contains ligamentum teres and paraumbilical vein.
4- The first lumbar nerve gives iliohypogastric and ilioinguinal nerves.
5- The uncinate process of pancreas is related anteriorly to superior mesenteric artery and is related posteriorly to abdominal aorta.
6- The anterior wall of the vagina is related to base of urinary bladder and female urethra.
7- The deep part of external anal sphincter is attached in front of the canal to perineal body and behind the canal to anococygeal ligament.
8- The Fundus of uterus is related to loops of ileum and sigmoid colon.
9- The great cardiac vein opens into coronary sinus, while the anterior cardiac veins open into right atrium.
10- The upper border of the heart is formed mainly by left atrium while its lower border is formed mainly by right ventricle.
IV- Cross matching ( 3 x 3 = 9 marks )

1- Match each artery with its origin (6 x 1/2 = 3 marks)

1- (g) Superior suprarenal artery  a- descending thoracic aorta
2- (b) Middle suprarenal artery  b- abdominal aorta
3- (e) Inferior suprarenal artery  c- inferior epigastric artery
4- (f) 5th lumbar artery  d- external iliac artery
5- (a) Subcostal artery  e- renal artery
6- (c) Cremasteric artery  f- median sacral artery
g- inferior phrenic artery

2- Match each vein with its termination (6 x 1/2 = 3 marks)

1-( c) Median sacral vein  a- I.V.C.
2- (f) Deep dorsal vein of penis  b- right common iliac vein
3- (d) Left ovarian vein  c- left common iliac vein
4- (h) Superior rectal vein  d- left renal vein
5- (e) Middle rectal vein  e- internal iliac vein
6- (g) Inferior rectal vein  f- prostatic venous plexus
g- internal pudendal vein
h- inferior mesenteric vein

3- Match each structure with the corresponding mediastinum (6 x 1/2 = 3 marks)

1-(g) Oesophagus  a- Superior mediastinum
2- (a) Trachea  b- Middle mediastinum
3- (f) Superior vena cava  c- Posterior mediastinum
4- (c) Descending thoracic aorta  d- Anterior mediastinum
5- (e) Thymus gland  e- Superior and anterior mediastinum
6- (g) Vagus nerve  f- Superior and middle mediastinum
g- Superior and posterior mediastinum
V-M.C.Q. (1X12 = 12 marks)

1-The aponeurosis of external oblique muscle contributes the following except:
   a- Inguinal ligament
   b- Lacunar ligament
   c- Reflected part of inguinal ligament
   d- Conjoint tendon
   e- External spermatic fascia

2- Concerning the stomach, one statement is correct:
   a- Is separated from the liver by the lesser sac
   b- Has a small bare area near the pylorus
   c- It lies infront the left lobe of the liver
   d- It lies between the greater and lesser sacs
   e- It lies behind the spleen

3- The hilum of the spleen separates
   a- gastric impression from colic impression
   b- colic impression from pancreatic impression
   c- pancreatic impression from renal impression
   d- renal impression from gastric impression
   e- gastric impression from pancreatic impression

4- Concerning the vermiform appendix, one statement is wrong:
   a- It lies in retrocaecal recess in 65% of subjects
   b- It has a nerve supply from the 10th thoracic spinal segment
   c- The Appendicular artery enters the mesoappendix by crossing infront of terminal ileum
   d- The Appendicular vein drains into the iliocolic vein
   e- The Appendicular lymph nodes drains finally in the superior mesenteric lymph nodes

5- Concerning the abdominal aorta, one statement is correct:
   a- Begins at the level of lower border of 1st lumbar vertebra
   b- Ends at the level of lower border of 5th lumbar vertebra
   c- Passes through diaphragm behind medial arcuate ligament
   d- Passes behind the head of pancreas
   e- Its lower part is covered by peritoneum of posterior abdominal wall
6- The following are direct tributaries of the inferior vena cava except:
   a- Hepatic veins
   b- Inferior mesenteric vein
   c- 3rd and 4th lumbar veins
   d- Right suprarenal vein
   e- Renal veins

7- Concerning the pelvic ureter, one statement is wrong:
   a- It enters the pelvis by crossing the bifurcation of common iliac artery
   b- It descends in front of internal iliac artery
   c- It crosses above the uterine artery from lateral to medial
   d- It passes forwards above the lateral fornix of vagina
   e- Its lower part is supplied by inferior vesical artery

8- The lateral sacral arteries arise from:
   a- Median sacral artery
   b- Superior rectal artery
   c- Obturator artery
   d- Iliolumbar artery
   e- Posterior division of internal iliac artery

9- Concerning the male urethra, one statement is wrong:
   a- The prostatic urethra is the most dilated part of urethra
   b- The external urethral orifice is the narrowest point of urethra
   c- The Bulbourethral gland opens into the membranous urethra
   d- The spongy urethra passes through the bulb of the penis
   e- The navicular fossa is found in the glandular urethra

10- The sternal angle lies opposite the disc between:
    a- 7th cervical and 1st thoracic vertebrae
    b- 1st and 2nd thoracic vertebrae
    c- 2nd and 3rd thoracic vertebrae
    d- 3rd and 4th thoracic vertebrae
    e- 4th and 5th thoracic vertebrae
11- Concerning the internal thoracic artery, one statement is correct:
   a- It is a branch of the axillary artery
   b- It descends behind the sternum
   c- It is accompanied by the azygos vein
   d- **It provides arterial supply to the mammary gland**
   e- It bifurcates into inferior phrenic and superficial epigastric arteries

12- As regard the surface anatomy of inferior border of the pleura, it lies opposite:
   a- 6th, 7th and 8th ribs
   b- 7th, 8th and 9th ribs
   c- 8th, 9th and 10 ribs
   d- 6th, 8th and 10th ribs
   e- 8th, 10th and 12th ribs

Good luck
Anatomy Department