



**BENHA UNIVERSITY**

**FACULTY OF MEDICINE**

**ANATOMY DEPARTMENT**

**Course code (MED 0701)**

**Model answer of Anatomy examination**

**(Abdomen ,Pelvis and Thorax)**

**1<sup>st</sup> year – 2<sup>nd</sup> term**

**Date :18 /5 /2013**

## **I-Short account on :- ( 3 x 5 = 15 marks )**

**1-1<sup>st</sup> 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<sup>st</sup> inch → lesser sac which separates it from neck of pancreas (1/2m).  
2<sup>nd</sup> inch → 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<sup>st</sup> inch is completely covered by peritoneum ,so it is mobile (1/2m) .
  - 2<sup>nd</sup> 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 (1mark):** 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 3<sup>rd</sup> ,4<sup>th</sup> ,5<sup>th</sup> and 6<sup>th</sup> 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 7<sup>th</sup> rib in midaxillary line

b-point on the right 11<sup>th</sup> rib in the midaxillary line

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

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

a-Right iliacus 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)**

	Right coronary artery	Left coronary artery
Origin (1mark)	From anterior aortic sinus	From left posterior aortic sinus
Distribution (1 mark)	whole right atrium ,main part of right ventricle and small part of left ventricle .It also supplies the conducting system	whole left atrium ,main part of left ventricle and small part of right ventricle .

**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

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**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 transeversalis ).
- 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 uncinat 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 anococcygeal 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 ) | 5 <sup>th</sup> 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 ( 6x 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 in front 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 10<sup>th</sup> thoracic spinal segment
- c- The Appendicular artery enters the mesoappendix by crossing in front of terminal ileum**
- d- The Appendicular vein drains into the ilioocolic 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 1<sup>st</sup> lumbar vertebra
- b- Ends at the level of lower border of 5<sup>th</sup> 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- 3<sup>rd</sup> and 4<sup>th</sup> 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 arises 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- 7<sup>th</sup> cervical and 1<sup>st</sup> thoracic vertebrae
- b- 1<sup>st</sup> and 2<sup>nd</sup> thoracic vertebrae
- c- 2<sup>nd</sup> and 3<sup>rd</sup> thoracic vertebrae
- d- 3<sup>rd</sup> and 4<sup>th</sup> thoracic vertebrae
- e- 4<sup>th</sup> and 5<sup>th</sup> 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- 6<sup>th</sup> ,7<sup>th</sup> and 8<sup>th</sup> ribs
- b- 7<sup>th</sup> ,8<sup>th</sup> and 9<sup>th</sup> ribs
- c- 8<sup>th</sup> ,9<sup>th</sup> and 10 ribs
- d- 6<sup>th</sup> ,8<sup>th</sup> and 10<sup>th</sup> ribs
- e- 8<sup>th</sup> ,10<sup>th</sup> and 12<sup>th</sup> ribs**

**Good luck**  
**Anatomy Department**