

# **Gastrointestinal system Mid+final past papers 021**

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Dear students...

For credibility, this paper isn't similar to the original exam 100%, there may be some changes, more accurate, "REPHRASE" either of the questions or answers but we tried to conserve the same purpose.

## Physiology:

### 1. Incorrect about metabolic rate:

- A. We depend on the O<sub>2</sub> in the direct calorimeter to calculate the metabolic rate.
- B. Cold weather increases MR.
- C. It is lower in a person during starvation and malnutrition.
- D. It represents the heat produced by a body per hour per meter square surface area.

### 2. True about salivation:

- A. During the low rate of secretion, the final (secondary) saliva has lower K<sup>+</sup> concentration than primary saliva.
- B. At high rate of secretion, it contains lower HCO<sub>3</sub><sup>-</sup> concentration than primary saliva.
- C. Decreases by unconditioned reflexes.
- D. Regulated by hormones secreted along the GIT.
- E. Condition reflexes are stimulating sympathetic control.

### 3. What is the mismatched pair out of the following:

- A. Leptin: secretion by endocrine cells.
- B. Insulin release: Inhibition of feeding behaviors.
- C. Leptin expression: OB gene.
- D. Obesity: Childhood over nutrition.
- E. Adipocytes: Secretion of leptin.

### 4. Wrong about gastroesophageal movement:

- A. Primary esophageal peristalses are initiated at the pharynx.
- B. Relaxation of lower esophageal sphincter is ensured by extrinsic reflexes.
- C. The patterns of primary and secondary peristaltic contractions are the same.
- D. More tone of pyloric sphincter is achieved when gastric peristaltic contractions are reaching pyloric region.
- E. At early stages of gastric movements only chyme of fluid consistency is emptied by pyloric pump activity.

### 5. Regarding pancreatic secretions, one of the followings is NOT true:

- A. CCK increases secretion of HCO<sub>3</sub><sup>-</sup>

- B. Enzyme secretion is under the control of cholecystokinin (CCK).
- C.  $\text{HCO}_3^-$  content in pancreatic juice is increased upon vagal stimulation.
- D. Secretin hormone can increase secretory activity of duct cells.
- E. All pancreatic proteolytic enzymes are released from the pancreas as inactive enzymes.

**6. Wrong about lipid digestion:**

- A. The digestion of fat is taking place at the shell-core interface of micelles.
- B. Monoglycerides and free fatty acids are transported across luminal membrane by simple diffusion.
- C. Bilirubin essential for lipid digestion.
- D. The absorbed fat products will combine with lipoproteins to form chylomicrons.
- E. Emulsification is required for increasing exposure of fat to enzymes.

**7. One of the followings regards to starvation is not true:**

- A. First depletion is for carbohydrate stores.
- B. Protein depletion is high in the final stage of starvation.
- C. High rate of fat depletion is during weeks 2-6.
- D. Lowest respiratory quotient will be between weeks 3 and 6.
- E. The metabolic rate is higher than before starting starvation.

**8. The absorption of which of the following is blocked at the mucosa by absorptive cells and transported toward interstitial fluids when needed by the body:**

- A.  $\text{Mg}^{++}$
- B.  $\text{Ca}^{++}$
- C.  $\text{Fe}^{++}$
- D. Vitamin B12
- E. Vitamin K

**9. All of the following is false, except:**

- A. Gastrin acts on CCK-B receptors to increase gastric secretion.
- B. The amount of saliva secreted by salivary glands is the same in all glands.
- C. The cephalic phase of gastric secretion starts after the food reaches the stomach.
- D. Trypsinogen is activated by carboxypeptidase.

**10. True about GIT hypomotility:**

- A. gastrin and serotonin inhibit the intestinal motility.
- B. the lack of myenteric plexus can be one of the reasons.
- C. myenteric plexus has no role in GIT motility.

**11. True about sugars digestion and absorption:**

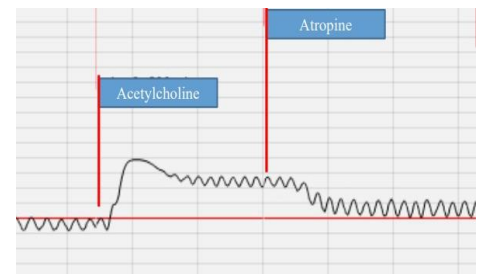
- A. ptyalin enzyme begins process of digestion in the duodenum.
- B. absorption of glucose occurs by passive diffusion.
- C. the brush border enzymes are responsible for the final digestion.
- D. lactase enzyme splits lactose into two glucose molecules.

**12. True about protein digestion and absorption:**

- A. Digestion process begins in the oral cavity.
- B. Di/Tri-peptides are transported into the enterocytes via secondary active co-transport, which depends upon the activity of  $Fe^{++}$  pump.
- C. Phenylalanine can be transported by  $Na^{+}$  dependent membrane-bound carriers.

**13. Regarding the following experiment, choose the correct answer:**

- A. Atropine increases muscle tension, while Ach decreases it.
- B. Ach increase the muscle tension, while atropine decrease it.
- C. Ach increase the muscle tension, while atropine doesn't have any effect on the tension.
- D. Atropine increase the muscle tension, while Ach doesn't have any effect on the tension.



1	2	3	4	5	6	7	8	9	10	11	12	13
A	B	A	B	A	C	E	C	A	B	C	C	B

## Pharmacology:

**1. All of the following are correct regarding H2 antagonists, except:**

- A. They Inhibit 60-70% of total 24-h acid secretion.
- B. Taken prophylactically before meals in erosive esophagitis.
- C. Not effective in the presence of H.pylori.
- D. Effective against peptic ulcer with continued NSAID'S administration.
- E. Not effective if NSAID is continued.

**2. Regarding the pharmacokinetics of PPIs, choose the incorrect answer:**

- A. They are lipophilic weak bases.
- B. After intestinal absorption, they diffuse across lipid membranes into acidified compartments.

- C. The prodrug becomes protonated.
- D. It undergoes a molecular conversion to the active form which covalently binds the H<sup>+</sup>/K<sup>+</sup> ATPase enzyme and inactivates it.
- E. The lipophilic weak bases become concentrated more than 1000-fold within the parietal cells.

**3. Mechanism of diethylcarbamazine is by inhibiting:**

- A. Energy metabolism.
- B. Neuromuscular coordination.
- C. Micro-tubular function.
- D. Cellular permeability.

**4. Incorrect about Antiviral Therapy:**

- A. There is no vaccine available for rotavirus.
- B. HSV can cause infections in GIT.
- C. Adenovirus can cause lymphoid hyperplasia.
- D. Severe adenovirus infection can affect immunocompromised patients.

**5. The triple therapy for peptic ulcers includes all of the following, except:**

- A. Amoxicillin.
- B. Metronidazole.
- C. Acyclovir.
- D. Clarithromycin.
- E. Proton pump inhibitors.

**6. Antiemetic agents are the first line of treatment:**

- A. GI obstruction.
- B. Radiation or Chemotherapy.
- C. Peritonitis.
- D. Systemic infection.
- E. CNS infection.

**7. True about metronidazole:**

- A. The drug freely penetrates bacterial cells and mammalian cells.
- B. Can be used to treat a pregnant woman.
- C. Is the drug of choice in the treatment of trichomoniasis.
- D. Can eradicate the amoebic infection by killing both the trophozoites and cysts.

**8. One of the following is a bulk forming laxatives:**

- A. Psyllium.
- B. Cascare.

- C. Sorbitol.
- D. Lactulose.
- E. Aloe.

1	2	3	4	5	6	7	8
D	E	C	A	C	B	C	A

## Pathology:

### 1. Most common metabolic cause of cirrhosis:

- A.hemochromatosis.
- B.chronic alcoholism.
- C.chronic viral infections.
- D.Wilson disease.

### 2. Most common antibody in autoimmune hepatitis:

- A.Anti actin
- B.Anti troponin
- C.Anti-nuclear cytoplasmic antibodies
- D.Anti UDP-glucuronosyl-transferase.

### 3. Most common form of ALD:

- A.Steatosiis.
- B.Steatohepatitis.
- C.Hepatocellular carcinoma.
- D.Cirrhosis.

### 4. Second most common site of hemochromatosis:

- A. Kidney.
- B. Brain.
- C. Skin.
- D. Pancreas.
- E. Spleen.

### 5. Kayser-Fleischer rings are characteristic findings in which of the following conditions:

- A. Hemochromatosis.
- B. Wilson syndrome.
- C. Alpha1 antitrypsin deficiency.
- D. Reyes syndrome.

### 6. The most common cause of acute liver failure:

- A. Acetaminophen.

- B. Tetracycline.
- C. CCL4.
- D. Allopurinol.

**7. True about Mallory-hyaline bodies:**

- A. Are pathognomonic of alcoholic liver disease.
- B. Basophilic histologically.
- C. Cytokeratin intermediate filament.
- D. Can not be seen under light microscope.

**8. Wrong about Hirschsprung disease:**

- A. More common in females
- B. Surgery for the dilated part.
- C. Disrupted migration of neural crest cells from cecum to stomach during embryogenesis.
- D. The peristaltic contractions are not affected.

**9. Which of the following is true about Signet ring disease:**

- A. Mutation in APC gene.
- B. germline mutation in mismatch repair gene.
- C. Lkb1 mutation.
- D. mutation in E-cadherin gene.

**10. True about HNPCC:**

- A. Mutation in APC gene.
- B. Germline mutation in mismatch repair gene.
- C. Lkb1 mutation.
- D. TGF-B mutation.

**11. Old HIV infx has 3cm punched out ulcer, intranuclear inclusion:**

- A. Herpes simplex virus.
- B. Cytomegalovirus.
- C. Candidiasis.
- D. Can not be determined.

**12. Wrong about carcinoid cancer:**

- A. G-cell is one of the precursor cells for this tumor.
- B. Arising from neuroendocrine-differentiated gastrointestinal epithelium.
- C. It's not associated with high metastatic rate.
- D. A+C

**13. Mallory Weiss tear causes:**

- A.Laceration at the gastroesophageal junction.
- B.Massive pathological problem that requires surgical intervention.
- C.Circularly oriented lacerations
- D.All the above are true.

**14. Not associated with H.pylori:**

- A.Eosinophilic esophagitis.
- B.Pernicious anaemia.
- C.Autoimmune Gastritis.
- D.Napkin ring.

**15. Which the following is characteristic of disease with cobblestone:**

- A.Low intake of vegetable fiber and high intake of carbohydrates and fat.
- B.Lactase deficiency
- C.Vitamin B12 deficiency.
- D.None of the above.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	C	A	D	B	A	C	B	D	B	A	C	A	B	C

**Microbiology:**

**1. Wrong about ascaris lumbricoides:**

- A.infective eggs pass with stool.
- B.transmitted by fecal-oral route.
- C.inhabit small intestine.
- D.can affect the lungs.

**2. Infectious form of entamoeba histolytica:**

- A.Quadrinucleated cyst.
- B.Binucleated cyst.
- C.Uninucleated.
- D.Aneucleated.

**3. Earliest marker of acute hepatitis of HBV?**

- A.HBsAg.
- B.HBsAb.
- C.HBV DNA.
- D.None of the above.



**4. Which of the following is true about giardia:**

- A. It causes traveler's diarrhea.
- B. It does not have an animal reservoir.
- C. All the patients develop symptoms like fever.
- D. The infective stage is binucleated cyst.

**5. Wrong about viruses:**

- A. Norovirus is transmitted predominantly by fecal-oral route.
- B. Rotavirus is a big scare for nearly all children.
- C. Antibiotics should be avoided in general.
- D. There is no vaccine for rotavirus.

**6. Route of administration of vancomycin:**

- A. Orally administered.
- B. IV administration.
- C. IM administration.
- D. All of the above can be applied.

**7. Febrile seizures can be caused by:**

- A. Yersinia.
- B. Shigellae.
- C. Enterotoxigenic E-coli.
- D. Salmonella.

**8. True about enterobacteriace species:**

- A. Gram positive bacilli.
- B. They do not have sugar in their outer layers structure.
- C. Catalase negative
- D. Reduces nitrate to nitrite.

**9. Campylobacter is:**

- A. Microaerophilic, curved, gram negative.
- B. Macroaerophilic, non-curved, gram negative.
- C. Microaerophilic, curved, gram positive.
- D. Microaerophobic, non-curved, gram negative.

**10. 4 hours after eating rice and chicken developed non bloody diarrhea what is the proper management:**

- A. Cephalosporin.
- B. Fluid and electrolyte replacement, tetracycline reduces the period of disease.

C.Supportive therapy only.

D.Amoxicillin.

**11. The bacteria that grows on T.C.B.S is:**

A.Vibrio spp.

B.Salmonella

C.Clostridium difficile

D.Proteus

**12.Which of the following is wrong about Brucellae:**

A.Transmitted to humans by person to person contact.

B.They have a minimal metabolic capacity.

C.Their common route of infection is GI tract.

D.None of the above.

**13.The media that inhibits proteus growth is:**

A.Thiosulfate-citrate-bile salt-sucrose agar.

B.MacConkey agar.

C.S-S agar.

D.Hekton agar.

1	2	3	4	5	6	7	8	9	10	11	12	13
A	C	C	A	D	B	B	D	A	C	A	A	B

## Histology:

**1. Which of the following structures is not found in the villi of the small intestines:**

A.Stem cells.

B.Goblet cells.

C.Lacteals.

D.Microvilli.

E.Blood vessels.

**2. In a lab, we put a histological section from the parotid gland under the microscope, one of the following structures is not present in this section:**

A.Serous acinus.

B.Striated duct.

C.Intercalated duct.

- D.Serous Demilune.
- E.Interlobular duct.

**3. Which of the following is wrong about gastric mucosa:**

- A.Lamina propria is composed of loose connective tissue.
- B.Water makes up the majority of the structure of gastric mucus.
- C.Parietal cells are tubular cells.
- D.All the above are true.

**4. The mis-matched pair of the following:**

- A.Esophagus – Stratified squamous epithelium.
- B.Colon - Simple columnar epithelium with goblet cells.
- C.Appendix - Simple columnar epithelium without goblet cells.
- D.Gallbladder- Simple columnar epithelium without goblet cells.

**5.Wrong about liver histology:**

- A. Ito cells are macrophages located in the space of Disse.
- B. The hepatocytes are not in direct contact with blood.
- C. The space of Disse has direct contact with the fenestrated endothelial cells.
- D. The space of Disse is supported by the reticular fibers.

1	2	3	4	5
A	D	C	C	A

**Embryology:**

**1. 90 degree counterclockwise rotation of the intestinal loop will result in:**

- A.Volvulus.
- B.Left sided colon.
- C.Duplications of intestinal loop.
- D.Gastroschisis.

**2. Which of the following is not True about the embryogenesis of the stomach:**

- A.90 ante-clockwise rotation of the stomach around the anteroposterior axis.
- B.90 clockwise rotation of the stomach around the longitudinal axis.
- C.Left vagus nerve will innervate the anterior wall while the right vagus nerve innervates the posterior wall.
- D.The cardiac and the pyloric ends will take their final position by the rotation around

the anteroposterior axis.

**3. Ventral mesogastrium gives off the origin of all of the following except:**

- A. Hepatogastric ligament.
- B. Coronary ligaments.
- C. Falciform ligament.
- D. Round ligament of the liver.

**4. Which of the following is forming the lower part of the anal canal:**

- A. Urorectal septum.
- B. Ruptures of the cloacal membrane.
- C. Urogenital sinus.
- D. Proctodeum.

1	2	3	4
B	A	D	D

## **Anatomy:**

**1. Patient has laceration of his superior mesenteric artery immediately distal to the origin of middle colic artery. Which one of the following organs may become ischemic:**

- A. Ascending colon.
- B. Duodenum.
- C. Descending colon.
- D. Transverse colon.

**2. Which of the following is posterior to the first part of duodenum:**

- A. Right gastroepiploic artery.
- B. Kidney.
- C. Gall Bladder.
- D. Liver.

**3. Which of the following is wrong about indirect hernias:**

- A. Can reach the scrotum.
- B. Occurs through the inguinal canal.
- C. Caused by the inguinal nerve.
- D. Occurs in the young.

**4. A patient with rupture spleen, after splenectomy and ligation of splenic artery just distal to its origin, the surgeon observes that no blood flow in the following arteries EXCEPT ONE:**

- A.Artery in lienorenal ligament.
- B.Short gastric arteries.
- C.Left gastroepiploic artery.
- D.Inferior pancreaticoduodenal artery.

**5. Which of the following organs is Intraperitoneal:**

- A.Stomach.
- B.Jejunum.
- C.Duodenum.
- D.Liver.

**6. During a surgery we found that the posterior wall of stomach was adhered to the posterior abdominal wall which of the following isn't considered a vital organ that the surgeon should be careful not to damage:**

- A.Spleen.
- B.Pancreas.
- C.Left kidney.
- D.Splenic artery.

**7. Which of the following is wrong about the innervation of the parotid gland:**

- A.Sensory innervation is from the facial nerve.
- B.Parasympathetic innervation originates from the inferior salivary nucleus.
- C.The otic ganglia supply the parotid gland.
- D.Parasympathetic innervation arises from the auriculotemporal nerve.

**8. Internal hernia occurs in all the following except:**

- A.Retrocecal.
- B.Epiploic foramen.
- C.Intersigmoid.
- D.Rectovesical pouch.

**9. Which of the following structures isn't posterior to the cecum:**

- A.Obturator Nerve.
- B.Femoral Nerve.
- C.Psoas Major Muscle.
- D.Iliacus Muscle.

**10. By per-rectal examination, which of the following can't be palpated:**

- A. Prostate gland.
- B. Vas deferens.
- C. Stone in the left ureter.
- D. Seminal vesicle.

**11. Regarding rectal malignant tumor, the cancer is metastasized via the vein into which of the following structures:**

- A. Liver.
- B. Spleen.
- C. Suprarenal gland.
- D. Duodenum.

**12. The preganglionic parasympathetic innervation for the hindgut will be provided by:**

- A. Sacral spinal nerves.
- B. Lumbar splanchnic nerves.
- C. Greater splanchnic nerves .
- D. Lesser splanchnic nerves.

**13. Wrong about the ischioanal fossa:**

- A. Crossed by the middle rectal nerve.
- B. Contains the pudendal canal on its lateral wall.
- C. The medial wall is formed the sloping levator ani muscle.
- D. The lateral wall is formed by the lower part of the obturator internus muscle.

**14. Regarding the lower half of the anal canal, all of the following are correct, except:**

- A. External hemorrhoids.
- B. Venous drainage to the systemic vein .
- C. Lymphatic drainage to the superficial inguinal lymph nodes.
- D. Visceral sensation.

**15. All of the following are correct regarding the sigmoid mesocolon, except:**

- A. V-shaped attachment.
- B. Its medial limb contains the superior rectal artery.
- C. Ends in front of the third sacral vertebrae.
- D. Contains branches from the superior & inferior mesenteric arteries.

**16. Choose the wrong statement in the following:**

- A. The posterior surface of the pancreas is covered by the peritoneum of the lesser sac.
- B. The inferior surface of the pancreas is covered by peritoneum of the greater omentum.
- C. The anterior surface is covered by peritoneum of post. wall of lesser sac.
- D. The formation of the portal vein occurs behind the neck of pancreas.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
A	A	C	D	D	A	A	D	A	C	A	A	A	D	D	A

## PBL:

### 1. Which of the following is not a complication of cirrhosis:

- A.Finger clubbing.
- B.Spider angiomas.
- C.Atrophy of male breast.
- D.Gynecomastia.

### 2. Which of the following is incorrect about peptic ulcers:

- A.Deoudonal ulcers are less associated with H. Pylori infection than gastric ulcers.
- B.Caused by imbalance between the aggressive and defensive factors.
- C.It is a defect in GI mucosa extending through the muscularis mucosa.
- D.None of the above.

### 3. Not True about esophageal varices:

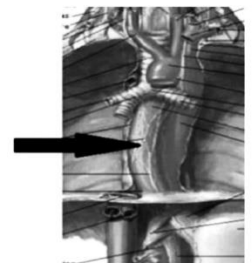
- A.May result in fresh rectal bleeding.
- B.Sclerotherapy treatment.
- C.High mortality rate.
- D.All of the above are true.

1	2	3
C	A	A

## Lab:

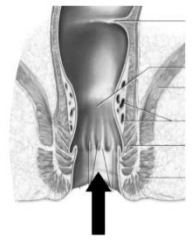
### 1. A foreign body swallowed through a pointed structure can get lodged in all the following sites EXCEPT:

- A.Pressure by arch of the aorta.
- B.At the beginning below the pharynx.
- C.Passing through the diaphragm.
- D.End of the trachea.



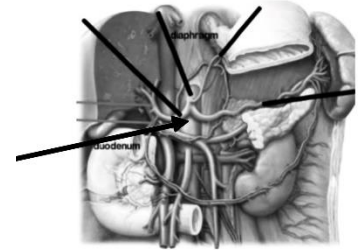
**2. Which of the following about the pointed part of the anal canal is incorrect:**

- A. External hemorrhoids.
- B. Venous drainage to the systemic vein.
- C. Lymphatic drainage to the inguinal lymph nodes.
- D. Sensitive to pain, temperature, touch.



**3. Which of the following isn't supplied by the pointed structure:**

- A. Spleen.
- B. Stomach.
- C. Liver.
- D. Third part of the duodenum.



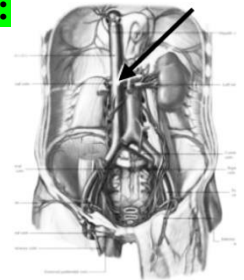
**4. This pointed structure drains from all of following structures except:**

- A. Liver.
- B. Colon.
- C. Pancreas.
- D. Gallbladder.



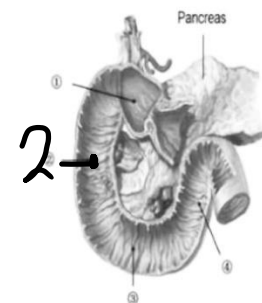
**5. This pointed structure have directly tributaries from the following except:**

- A. Right renal vein.
- B. Right suprarenal vein.
- C. Left testicular vein.
- D. Left renal vein.



**6. Which of the following is not related to this structure (2):**

- A. IVC.
- B. Right ureter.
- C. Right kidney.
- D. Transverse colon



**7. One of the following doesn't pass from the pointed structure:**

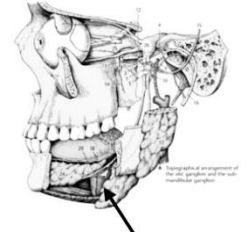
- A. Genital branch of genitofemoral.
- B. Direct inguinal hernia.
- C. Spermatic cord.
- D. Round ligament of uterus.





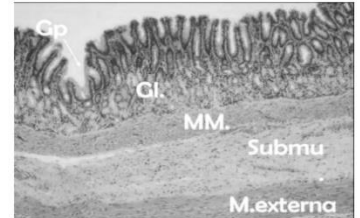
**8. What's the preganglionic parasympathetic innervation of this structure (18):**

- A. Greater petrosal.
- B. Lesser petrosal.
- C. Chorda tympani.
- D. Deep petrosal.



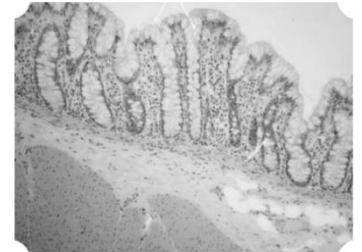
**9. Identify this Histological section:**

- A. Pylorus of the stomach.
- B. Fundus of the stomach.
- C. Colon.
- D. Gallbladder.



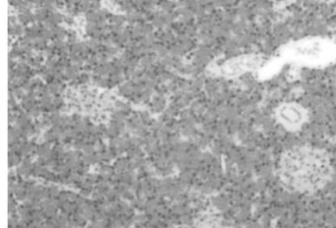
**10. One of the following is incorrect about this histological section:**

- A. Numerous goblet cells are presented.
- B. There are complete absence of the villi.
- C. It represents the colon.



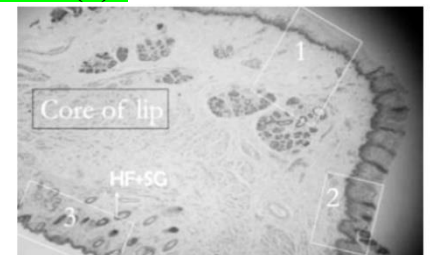
**11. Identify this histological section:**

- A. Pancreas.
- B. Parotid gland.
- C. Liver.
- D. Submandibular gland.



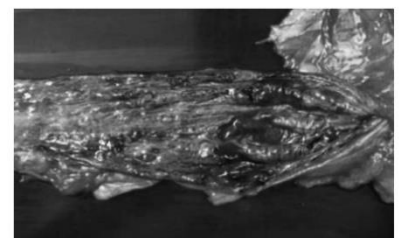
**12. One of the following is incorrect regard this histological section (2):**

- A. Modified skin.
- B. Rich with blood supply.
- C. The core is composed of circular smooth muscles.
- D. Rich with terminal nerves.



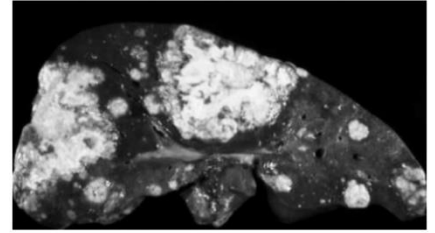
**13. The following pathological condition represent:**

- A. Esophageal varices.
- B. Mallory Weiss tears.
- C. Squamous cell carcinoma.
- D. Gastric carcinoma.



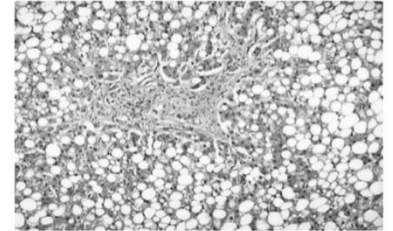
**14. The following pathological condition represent:**

- A.Liver metastasis.
- B.Gastric carcinoma.
- C.Esophagus laceration.
- D.Colon carcinoma.



**15. The following pathological condition of the liver most likely represent:**

- A.Steatosiis.
- B.Steatohepatitis.
- C.Liver cancer.
- D.Cirrhosis.



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
D	C	D	A	C	A	B	C	A	B	A	C	A	A	A

----- **BEST WISHES** -----