**16/MHS06/066**

**Suleiman Zuliat Olubukola**

**Assignment**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Upper | | | | | Lower |  |  | |  | |
| Features | Oral cavity | Esophagus | Stomach | Duodenum | Jejunum | Cecum | Colon | | Rectum | |
| Description | The oral cavity proper is lined by a masticatory mucosa (gingiva and hard palate), a lining mucosa (lips, cheeks, alveolar mucosal surface, floor of the mouth, inferior surface of the tongue, soft palate), and a specialized mucosa (dorsal surface of the tongue) | The esophagus is a hollow muscular tube consisting of mucosa, submucosa, and muscularis layers. The esophagus lacks a serosal layer. The upper one third of the esophagus is striated muscle under voluntary control, and the distal two thirds of the esophagus is composed of smooth muscle under autonomic control. | The stomach is an organ of the digestive system, specialized in the accumulation and digestion of food.  Its anatomy is quite complex; it consists of four parts, two curvature | The duodenum is the first part of the small intestine. It is located between the stomach and the middle part of the small intestine, or jejunum. After foods mix with stomach acid, they move into the duodenum, where they mix with bile from the gallbladder and digestive juices from the pancreas. | The jejunum is the middle of the three parts of the small intestine between the duodenum and ileum. | The cecum is the first part of the large intestine. It is intraperitoneal, beginning caudally from the ileocecal valve and ending blindly in the right iliac fossa. | The colon forms part of the large intestine and extends between the caecum and the rectum. It is about 1.5 meters in length and consists of four parts | | The rectum is the last part of the large intestine and connects the sigmoid colon to the anal canal | |
| Layers/histology | The oral cavity is lined by a mucous membrane (the oral mucosa) consisting of a stratified squamous epithelium, which may or may not be keratinized, and an underlying connective tissue layer, the lamina propria. | The wall of esophagus is composed of four layers: mucosa, submucosa, tunica muscularis, and adventitia.  . | Mucosa, submucosa, muscularis externa and serosa | mucosa, submucosa, muscularis and serosa. | Mucosa - simple columnar epithelium; contains crypts of Lieberkuhn and intestinal villi  Submucosa - loose connective tissue containing neurovasculature  Tunica muscularis - an inner circular and outer longitudinal smooth muscle layer  Tunica serosa - simple squamous epithelium | mucosa (columnar epithelium), submucosa, muscularis, serosa | | Simple columnar epithelium with crypts of Lieberkuhn and goblet cells | | Intestinal epithelium (simple columnar epithelium)  At the anal transitional zone - stratified squamous non-keratinized | |
| Average length | 15-20 | 25 | 20 | 25 | 300 | 10-30 | | 150 | |  | |
| Innervation | innervation of the oral cavity is supplied by the branches of the trigeminal nerve (CN V). | It is innervated by the vagus nerve and the cervical and thoracic sympathetic trunk. | vagus nerves and the celiac plexus | Celiac plexus, vagus nerve | Coeliac plexus, superior mesenteric plexus, vagus nerve (CN X) | superior mesenteric plexus and vagus nerve | | Superior mesenteric plexus, vagus nerve, inferior mesenteric plexus, pelvic splanchnic nerves | | sympathetic innervation is carried by the inferior mesenteric plexus, the parasympathetic innervation by the pelvic splanchnic nerves and the inferior hypogastric plexus. | |
| Blood supply | Branches of the external carotid artery (facial, maxillary, and lingual). | The inferior thyroid artery supplies the cervical esophagus. Branches of the bronchial arteries and branches directly off of the aorta supply the proximal and distal thoracic esophagus, respectively. | receives its blood supply mainly from the celiac trunk | Inferior and superior pancreaticoduodenal artery | Arterial arcades of the superior mesenteric artery  Superior mesenteric vein | cecal arteries and veins | | Colic (right, middle, left) and sigmoid arteries | | Arteries: superior, middle, inferior rectal arteries  Veins: superior, middle, inferior rectal veins | |
| Microvilli | Absent | Absent | Present | Present | Present | Absent | | Absent | |  | |
| Macrovilli | Absent | Absent | Present | Present | Present | Absent | | Absent | |  | |
| Macrovilli fold | Absent | Absent | Present | Present | Present | Present | | Present | |  | |
| Function | Digestion; receives food, preparing it for digestion in the stomach and small intestine. Other functions include: communication and breathing | It is a tube that connects the throat and the stomach.. | Mechanical and chemical digestion, absorption, hormone secretion | Neutralization of the acidic gastric juice, mechanical digestion of chyme, mixing of bile and pancreatic enzymes, absorption of water, electrolytes, and nutrients | Digestion of nutrients  Absorption of lipophilic nutrients  Absorption of water | absorption of water and salts and the lubrication of the feces with mucus. | | temporary storage and transport of the feces. | | Electrolytes absorbtion, continence | |
| Parts | Lips, gingivae, retromolar trigone, teeth, hard palate, cheek mucosa, mobile tongue, and floor of the mouth. | It is generally divided into four sections: cervical, upper thoracic, mid-thoracic, and lower thoraci | Cardia, fundus, body, pyloric part | The duodenum can be divided into four parts; superior, descending, inferior and ascending. |  | It’s the proximal part of the large intestine | | Ascending, transverse, descending, and sigmoid | | Two flexures: sacral, perineal  Three rectal folds: superior, middle, inferior  Rectal ampulla - reservoir during defecation | |

Similarities

They all function variously in the transport of food bolus, enzymatic digestion, absorption of nutrients, protective barrier function against the external environment.