16/MHS06/040

MLS 408 ASSIGNMENT

COMPARE AND CONTRAST THE SECTIONS OF THE GASTROINTESTINAL TRACT

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| SECTIONS | SEROSA | MUSCULARIS | SUBMUCOSA | MUCOSA | EXTRAS |
| Oral cavity | Adventitia layer of loose connective tissue covered in visceral peritoneum contains blood vessels and lymphatics | The inner circular and outer longitudinal muscles. (smooth muscles used for peristalsis)  Muscles of the tongues are  The Intrinsic: superior and inferior longitudinal, transverse, and vertical muscles  The Extrinsic: genioglossus, hyoglossus, styloglossus and palatoglossus muscles | Presence of neurovasculature and salivary glands  Presence of mucus secreting glands | The epithelial lining is the non-keratinized stratified squamous epithelium | The mucosa also contains an underlying layer of lamina propria |
| Esophagus | Fibro areolar adventitia | Straited skeletal muscles on the upper third, straited skeletal and smooth muscles on the middle third and smooth muscles on the lower third | Highly vascular and contains loose connective tissue  Presence of esophageal glands and papillae | Epithelial lining is the non-keratinized stratified squamous epithelium | The mucosa also contains lamina propria and smooth muscle layers |
| Stomach | Adventitia connective tissue | There are 3 muscles: the outer, inner, and oblique | Consists of loose C.T, blood vessels, nerve plexuses | The epithelial lining is the simple columnar epithelium which is thrown into gastric folds and gastric glands | Glands cells present are the parietal or oxyntic cells, chief cells, the mucus secreting, or foveolar cells and the enteroendocrine (APUD) cells |
| Duodenum | Adventitia connective tissue | Smooth muscles | Presence of intestinal glands known as Submucosa glands, presence of intestinal villi with surface modifications called microvilli | The epithelial lining is by the simple columnar epithelium. | The crypt of Lieberkühn is present in the duodenum and is secreted from Paneth cells |
| Jejunum | Contains loose connective tissue and Simple Squamous epithelium | Contains an inner circular and outer longitudinal smooth muscle layer | Loose connective tissues containing neurovasculature. No glands are present in the submucosa | The epithelial lining is by the simple columnar epithelium | The mucosa contains the crypt of Lieberkühn and intestinal villi |
| Ileum | Contains loose CT and Simple squamous epithelium | Circular and longitudinal muscle layers present | Contains Neurovasculature and contains scanty villi | The epithelial lining is by the simple columnar epithelium and also contains payer’s patches |  |
| Large intestine | Adventitia connective tissues of different structures that meet each other | Outer smooth muscle layer formed by an inner circular and outer longitudinal layer | Contains blood vessels lined by simple squamous epithelium | The epithelial lining is the simple columnar epithelium | Many goblet cells, endocrine cells, and basal stem cells but no Paneth cells. |
| Anal canal | Adventitia connective tissue | The anal canal is surrounded by a complex of muscular fibers arranged as the internal and external sphincters | Arterial cavernous bodies or anal cushions present | The anal canal consists of 4 zones with different epithelial linings  The colorectal zone: lined by the simple columnar epithelium.  The transitional zone: lined by both the simple columnar and stratified squamous epithelium.  The anoderm: lined by the stratified squamous non keratinized epithelium.  The cutaneous zone: lined by the stratified squamous keratinized epithelium. |  |

The serosa of all sections of the GI tract are made of loose connective tissue called the tunica adventitia

The submucosa of all sections contains blood vessels, nerve plexuses, and lymphatics

The muscularis of all sections is made of 2 layers of smooth muscles; the inner circular and outer longitudinal with exceptions to the stomach, esophagus and anal canal.