**16/MHS06/015**

**MLS 408**

**QUESTION**

**IN A TABULAR FORM ONLY, COMPARE AND CONTRAST SECTIONS OF THE GASTROINTESTINAL TRACT.**

**ANSWER**

The gastrointestinal tract can also be referred to as the **ORAL GASTROINTESTINAL TRACT**. The GIT deals with contents coming from the mouth and all the process that involves its exiting. The GIT sections includes:

* Oral cavity
* Esophagus
* Stomach: Duodenum, Jejunum, Ileum
* Small intestine
* Large intestine
* Anal canal

Apart from the above, there is also few parts called the **Accessory Digestive Tissues** and they include; the salivary gland, the liver and the pancreas.

These sections have various characteristics but have the same organization that is referred to as “the basic organization of he GI histology” and this includes;

* Serosa/superficial layer: also known as the **Tunica Adventitia**
* Muscularis externa layer: also known as muscularis layer
* Submucosa layer
* Mucosa layer

**COMPARISM OF THE SECTIONS OF THE GASTROINTESTINAL TRACT**

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| --- | --- | --- | --- | --- |
| SECTIONS | SEROSA/  | MUSCULARIS | SUBMUCOSA | MUCOSA |
| ORAL CAVITY& ESOPHAGUS | The serosa is also called adventitia. It is made up of loosely arranged fibroblasts and collagen with nerves and vessels passing through it | Mostly comprised of smooth muscle fibers that surrounds the submucosa. These fibers are in an inner circular and outer longitudinal layer. | Its made up of dense connective tissues(irregular) which contained lymphatics, large blood vessels and various nerve plexus that supply blood to the mucosa | The mucosa is a mucous membrane consisting of loose connective tissues moistened by glandular secretions and covered by an epithelium. It is made u of lamina propria which is an underlying areolar tissue, muscularis mucosa and plicae (folds). |
| STOMACH, SMALL INTESTINE, LARGE INTESTINE | Serosa is made up of a serous membrane that covers the muscularis externa, mostly the regions of the GIT which is within the peritoneal cavity. This area is rich in blood and lymph vessel |  II |  II |  II |
|  ANAL CANAL | The adventitia is a fibrous sheath made up of collagen fibers which is attached to the digestive tract at the adjacent structures. Also made uo of loosely arranged fibroblasts and collagen also with the vessels and nerves passing through it.  |  |  |  |

**CONTRASTS BETWEEN THE SECTIONS OF THE GIT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SECTIONS  | SUPERFICIAL LAYER  | MUSCULARIS EXTERNA  | SUBMUCOSA | MUCOSA/EPITHELIUM  |
| ORAL CAVITY  | Its an adventitia because its not in cavity | The tongue has skeletal muscle  | There is no specialized structure  | The epithelium is Non-keratinized stratified squamous epithelium  |
| ESOPHAGUS1. UPPER 1/3
2. MIDDLE1/3
3. LOWER 1/3

With reference to the stomach, there’s a proximal 2/3 and a distal 1/3 part of the esophagus  | Adventitia because its not in a cavity | It is very rich in muscles and also very large.1. Made up of skeletal muscle.
2. Made up of smooth and skeletal muscle
3. Made up of smooth muscle.
 | It is thrown into esophageal glands and large folds  | It is lined by Non-keratinizedStratified squamous epithelium  |
| STOMACH | The serosa has a thin layer of underlying connective tissues and also contains a mesothelium  | It has; 1. Outer longitudinal layer
2. Middle circular layer
3. Inner oblique layer
 | There are loose connective tissues, blood vessels, nerve plexuses. | It is lined with simple columnar epithelium. It is also thrown into gastric folds/pits.It also has 5 glands (chief cells, mucous secreting cells, etc) |
| SMALL INTESTINE 1. DUODENUM
2. JEJUNUM
3. ILEUM
 | There is serosa/ visceral peritoneum  | There is no specialized structure | 1. There are circular folds called **plica** that enters the mucosa. There are intestinal glands called **submucosa glands**
2. No specialized structure
3. No specialized structure
 | 1. Its lined simple columnar epithelium with the presence of surface modifications having microvilli and also intestinal villi.

Having few goblet cells 1. It is lined by simple columnar epithelium. Presence of goblet cells
2. Lined by simple columnar epithelium with villi and very scanty goblet cells.
 |
| LARGE INTESTINE | Has serosa and visceral peritoneum.  | Has outer longitudinal layer of smooth muscle which forms three flattened strands called Taenia coli | Has no specialized structure  | It is lined by simple columnar epithelium. That has numerous goblet cells. Crypts of Lieberkuhn are present and are longer and straighter than those of the small intestine. |
| ANAL CANAL | Its an adventitial because its not in a cavity. | It is made of skeletal muscles  | There are no specialized structures | It is lined by Non-keratinized stratified squamous epithelium  |