Midgut Structures, Blood Supply and Innervation

During embryological development, several structures arise from the midgut. These include the distal duodenum (distal to the ampulla of Vater), jejunum, ileum, appendix, ascending colon, and the proximal 2/3 of the transverse colon. Note that several anatomists, gastroenterologists, and general surgeons may refer to the jejunum as the start of the midgut (after the ligament of Treitz). Vascular supply to the midgut is primarily from the superior mesenteric artery (SMA) while innervation is provided by the vagus nerve (CN X) and lesser splanchnic nerve.

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Structures

Distal Duodenum

Disco Dodo-denim

The midgut begins at the distal duodenum, specifically after the ampulla of Vater.

Jejunum

Judge-Judy

The jejunum is derived from the midgut. The jejunum begins after the suspensory ligament (ligament of Treitz) and seamlessly transitions into the ileum.

Ileum

Eels

The ileum is the last portion of the small bowel. It leads into the ceum and colon.

Appendix

Appendix-pen

The appendix is a small structure that buds off the cecum in most cases. It is a derivative structure of the midgut.

Ascending Colon

Rising Colon

The ascending colon, including the cecum, is derived from the embryological midgut.

Proximal 2/3 of Transverse Colon

P-rocks and 2/3 Tugboat Colon

The proximal 2/3 of the transverse colon including the hepatic flexure is derived from the midgut. After this point, the hindgut gives rise to the remaining large intestine and rectum.

Vascular Supply

Superior Mesenteric Artery

Super Mouse Artery-archer

The superior mesenteric artery (SMA) is the primary blood supply to the midgut. This structure serves as the node around which the whole midgut rotates and herniates during embryological development.

Innervation

Vagus Nerve

Vegas-sign

The vagus nerve (CN X) is the primary parasympathetic input to the midgut.

Lesser Splanchnic Nerve

Less-than-sign S-plank

The lesser splanchnic nerve provides the primary sympathetic input to the midgut via the superior mesenteric plexus.