

Jejunum and Ileum

ilium : superior part of hip bone ☺

small intestine $\frac{1}{5}$ tone بالقياسي صلبه جفرا منير
 لا يموت الشخص : tone lost $\leftarrow$ طولاً 6 m
 living person طولاً أقل 1-2 m $\leftarrow$ طولاً 4-5 m

- The jejunum and ileum measure about 20 ft. (6 m) long, the Upper Two Fifths of this length make up the jejunum. $\rightarrow$ lower 3 Fifth $\Rightarrow$ ileum.
- Each has distinctive features, but there is a gradual change from one to the other. $\leftarrow$ يعني من يعني أ - $\frac{2}{5}$ jejunum ← بعده
 ileum, يعني شيم ته - يعني. (سوية سوية متفرقة)
- The jejunum begins at the duodenojejunal flexure, and the ileum ends at the ileocecal junction.

* duodenum $\rightarrow$ Fixed (retroperitoneum)
 * jejunum $\rightarrow$ Freely mobile (intra peritoneal)
 + ileum

Jejunum and Ileum

■ The coils of jejunum and ileum are **freely mobile** and are attached to the **posterior abdominal wall** by a fan-shaped fold of peritoneum known as the **Mesentery** of the small intestine.

■ The long free edge of the fold encloses the mobile intestine.

يعني ال mesentery
معلق small intestine
من ال post. abdominal wall
mesentery

ال post. abdominal wall

small intestine

ileocecal junction

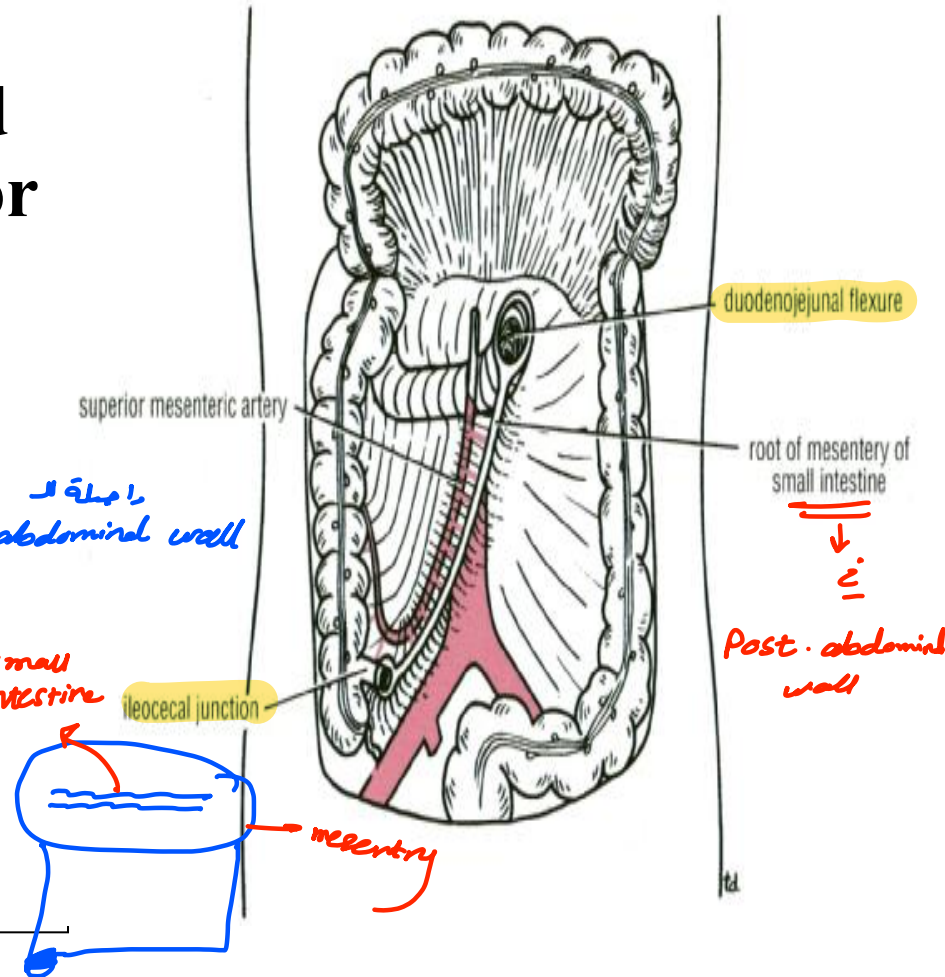
mesentery

superior mesenteric artery

duodenojejunal flexure

root of mesentery of small intestine

Post. abdominal wall



Jejunum and Ileum

✚ The short root of the fold is

✚ 6 inches long . $\approx 15\text{ cm}$

• lower Right $\rightarrow$ upper Left $\rightarrow$ $\rightarrow$

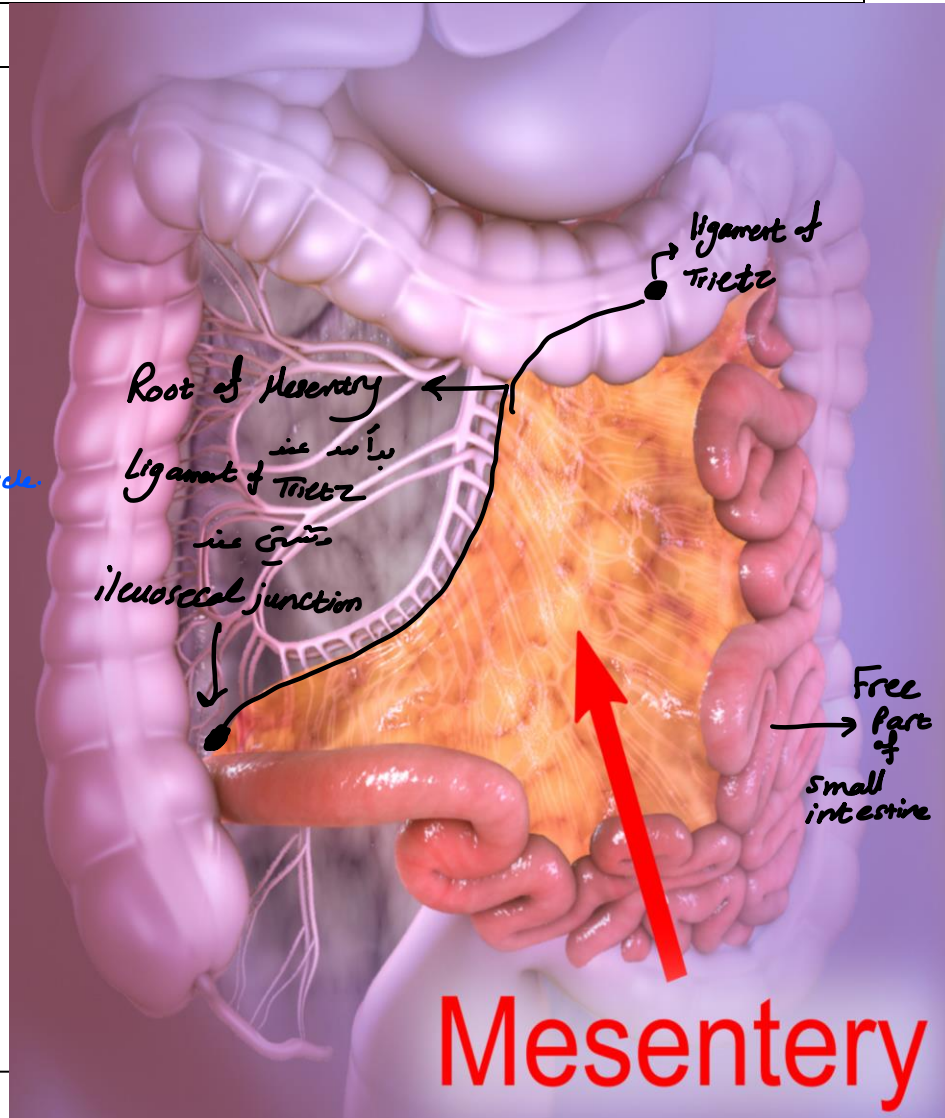
✚ crosses 6 structures .

$\rightarrow$ From Lt to Rt.
 $\rightarrow$ 3rd Part of duodenum + Aorta + IVC + Rt. ureter + Rb. psoas muscle

✚ contain 6 structures .

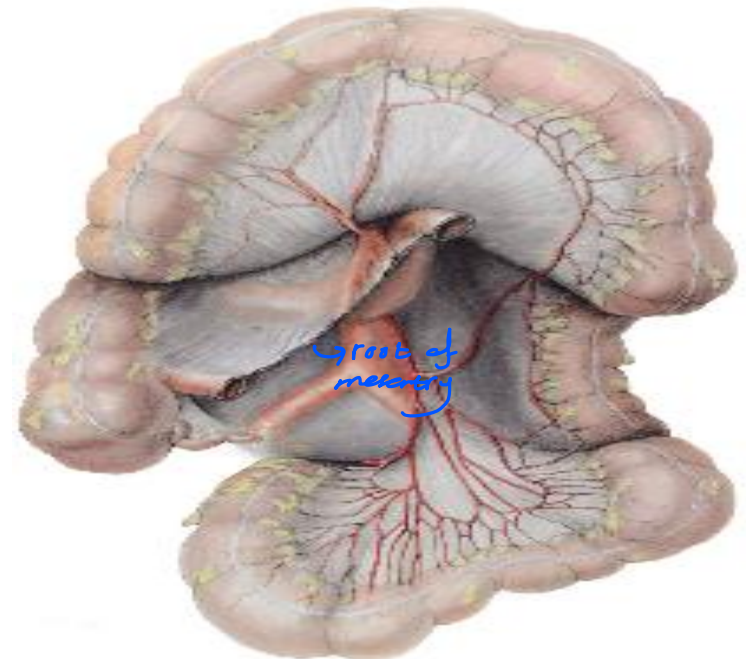
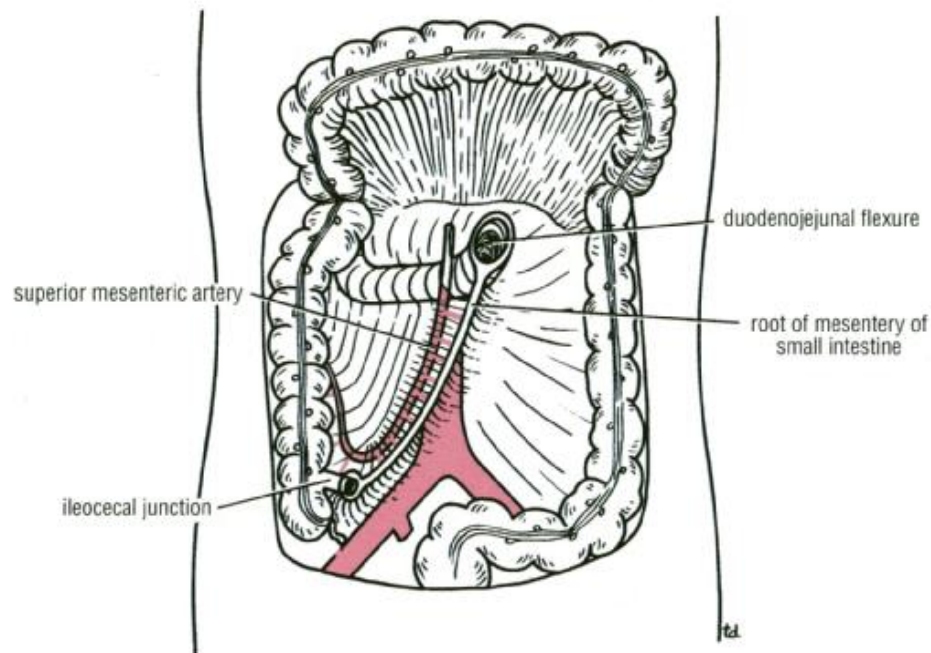
$\rightarrow$ sup. mesenteric artery + its branches.
 $\rightarrow$ sup. mesenteric vein + its branches.

✚ Continuous with the parietal peritoneum on the posterior abdominal wall.



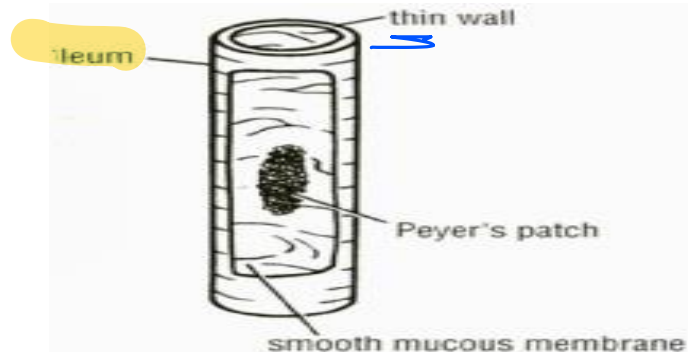
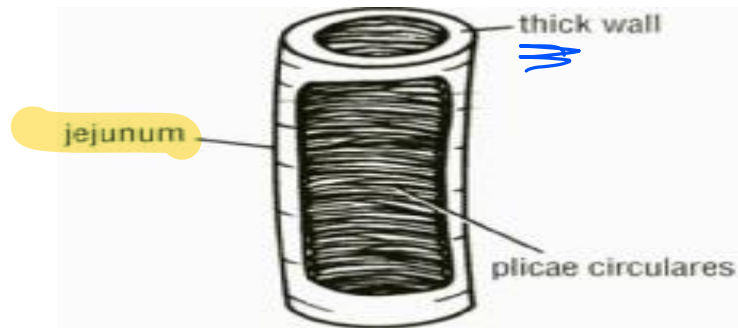
Jejunum and Ileum

- The **root of the mesentery** permits the entrance and exit of the branches of the **superior mesenteric artery** ^① and **vein** ^②, **lymph vessels** ^③, and **nerves** ^④ into the space between the two layers of peritoneum ^{⑤ + Fat + lymph nodes} forming the mesentery.



Differences between the Jejunum and Ileum

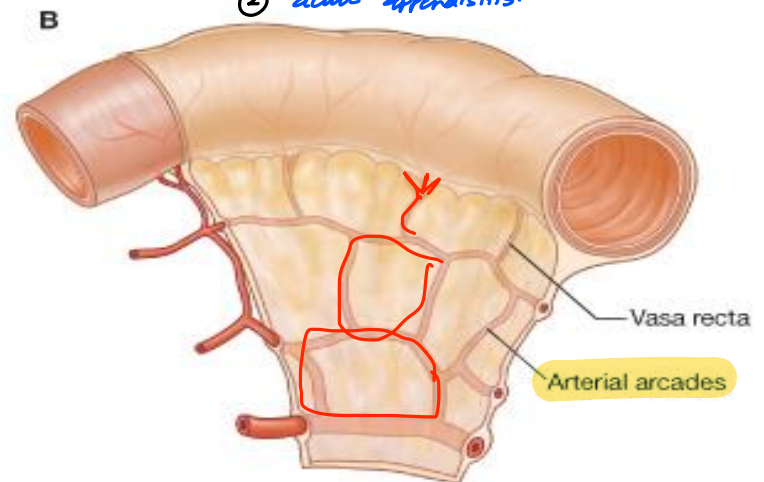
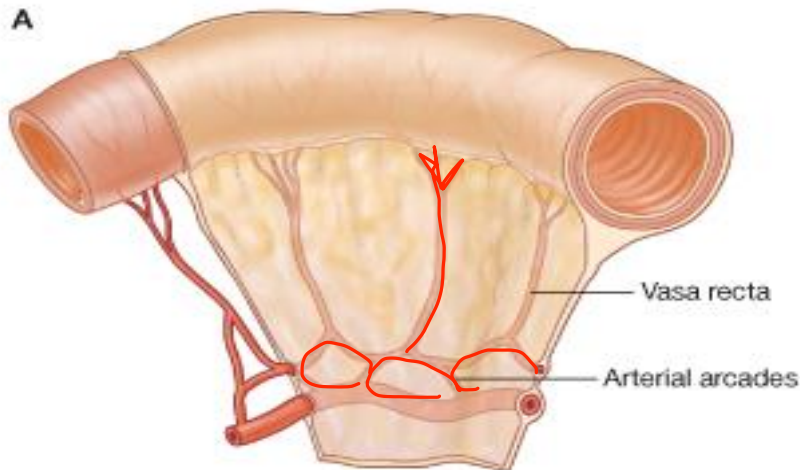
Aspect	Jejunum → Lb. hypochondrium	Ileum → Rt. iliac fossa
site	upper part of the peritoneal cavity + to the Lb.	the lower part of the cavity and in the pelvis + to the Rt
structure	wider bored, thicker walled, redder more villi ← بصيلات	narrower, thinner
plicae circulares	larger, more numerous, and closely set in the jejunum	smaller and more widely separated ↓ ileum ↓ structureless tube
Jejunal mesentery attachment	posterior abdominal wall above and to the left of the aorta ↓ زنجیر بادی بعد duodenum junction "Tietz's of ligament"	below and to the right of the aorta

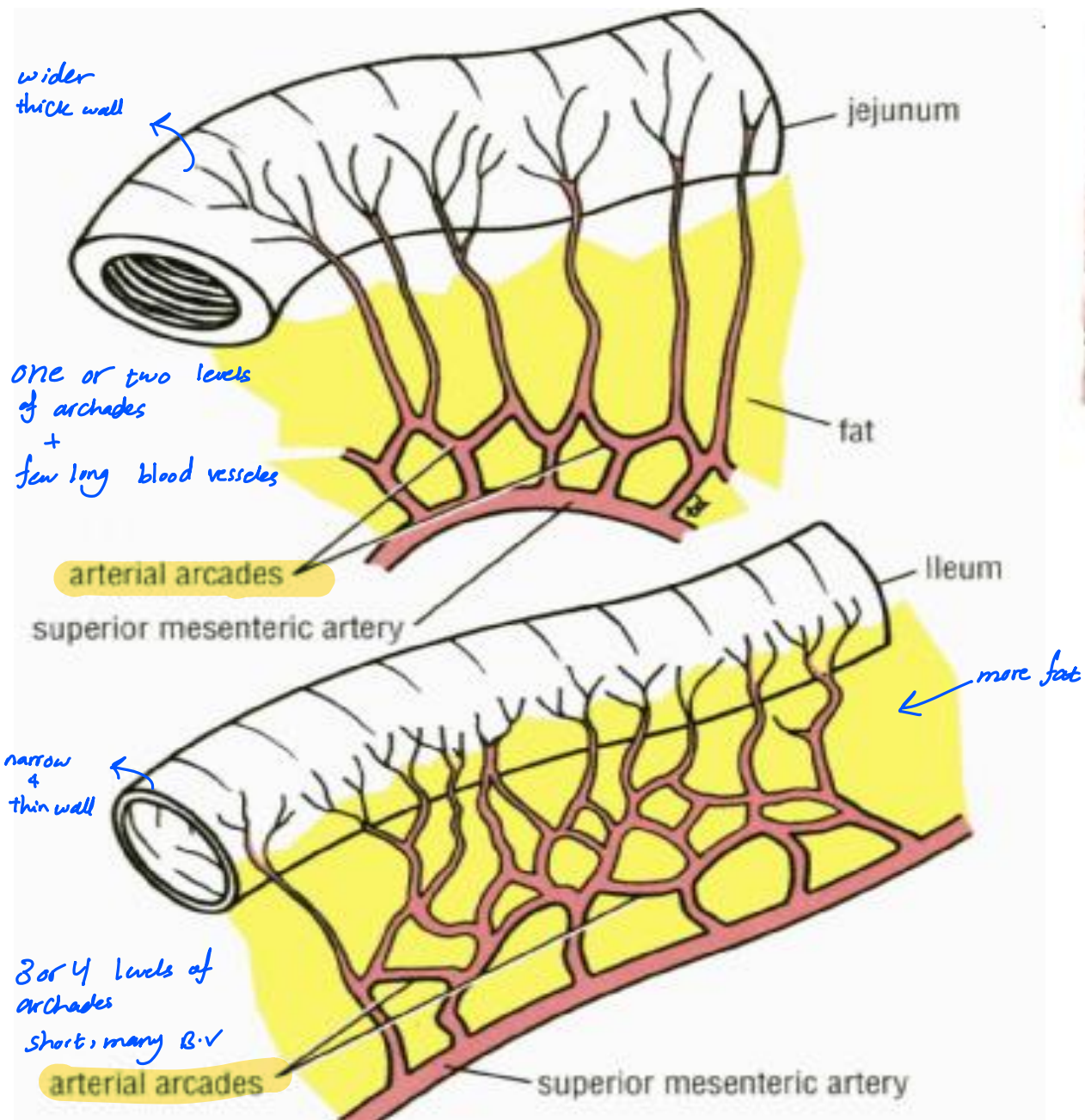


Differences between the Jejunum and Ileum

Aspect	Jejunum	Ileum
Mesenteric vessels	One or two arcades with long and infrequent <i>(few)</i> branches <i>* one or 2 levels arcades</i>	Three or four arcades <i>* multiple arcades.</i> <i>+ short, many branches.</i> <i>زنجیر کمانه</i>
Mesentery	Fat is deposited near the root and is scanty near the intestinal wall	Fat is deposited throughout so that it extends from the root to the intestinal wall <i>سکنتی</i> <i>ileum</i>
<i>lymphoid</i> <i>follicles</i> <i>تغزف</i> <i>Ig A</i> ← Peyer's patches	Not present <i>≡</i>	lower ileum along the antimesenteric border

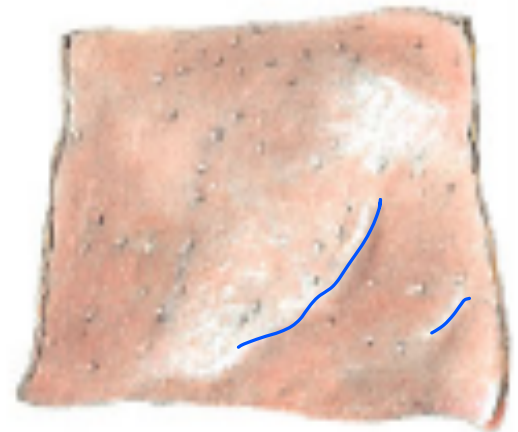
* The most common cause of Right iliac fossa pain non specific in children ① inflammation of Peyer's patches
② acute appendicitis.





Proximal Jejunum

لجود صفاة
Valve conventic
+ thick



Distal Ileum

لجود صفاة
Valve conventic
structureless tube.

* سید ام jejunum ملا ileum S

← ileum لکھ دھنٹا

① فی Terminal ileum ہے absorption of vitamin B₁₂ و B₁₂ بھل complex مع

intrinsic factors ملا پھل. ملا پھل فی jejunum

پاٹائی لکھ پھل jejunum ← B₁₂ deficiency

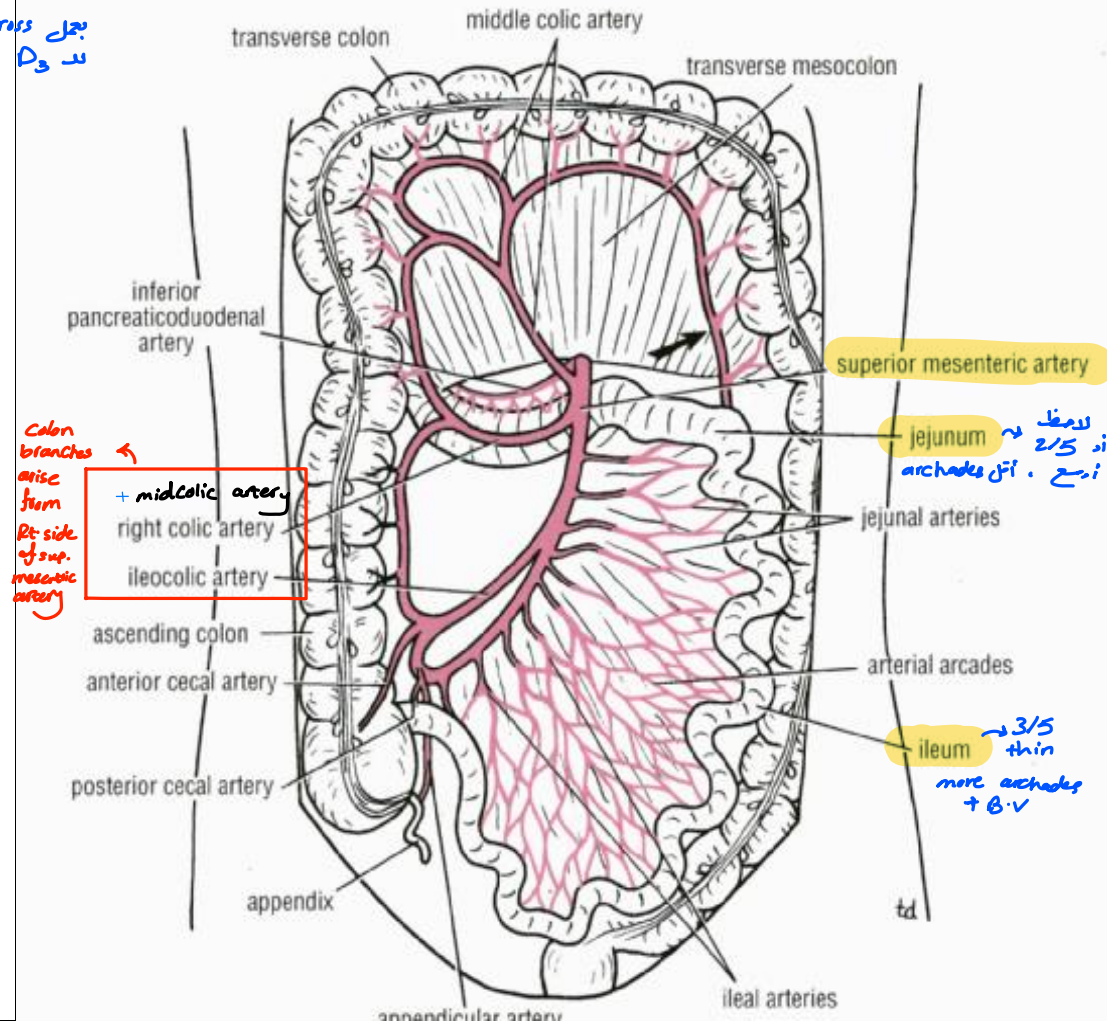
② enterohepatic circulation of bile salts لکھ فی Terminal ileum ، پاٹائی لکھ پھل jejunum

ہے distribution پھل .

* دھنٹا ileum پھل jejunum لکھ دھنٹا jejunum پھل ileum -

Jejunum and Ileum

- The **arterial supply** is from branches of the **Superior Mesenteric Artery**.
 - cross
 - jejunal + ileal branches
- The **intestinal branches** arise from the **left side** of the **artery** and run in the mesentery to reach the gut.
 - ← sup. mesenteric artery
- They Anastomose with one another to form a series of arcades.
 - Colon branches arise from Rt. side of sup. mesenteric artery
- The lowest part of the ileum is also supplied by the ileocolic artery.



Jejunum and Ileum

- **The *veins*** correspond to the branches of the superior mesenteric artery and drain into the superior mesenteric vein.
- **The *lymph vessels*** reach the superior mesenteric nodes, which are situated around the origin of the superior mesenteric artery.
- **The *nerves*** are derived from the sympathetic and parasympathetic (vagus) nerves from the superior mesenteric plexus.

Meckel's Diverticula

↓
* protrusion of ileum (روز)
قبل سے داخل secum ب 2 feet

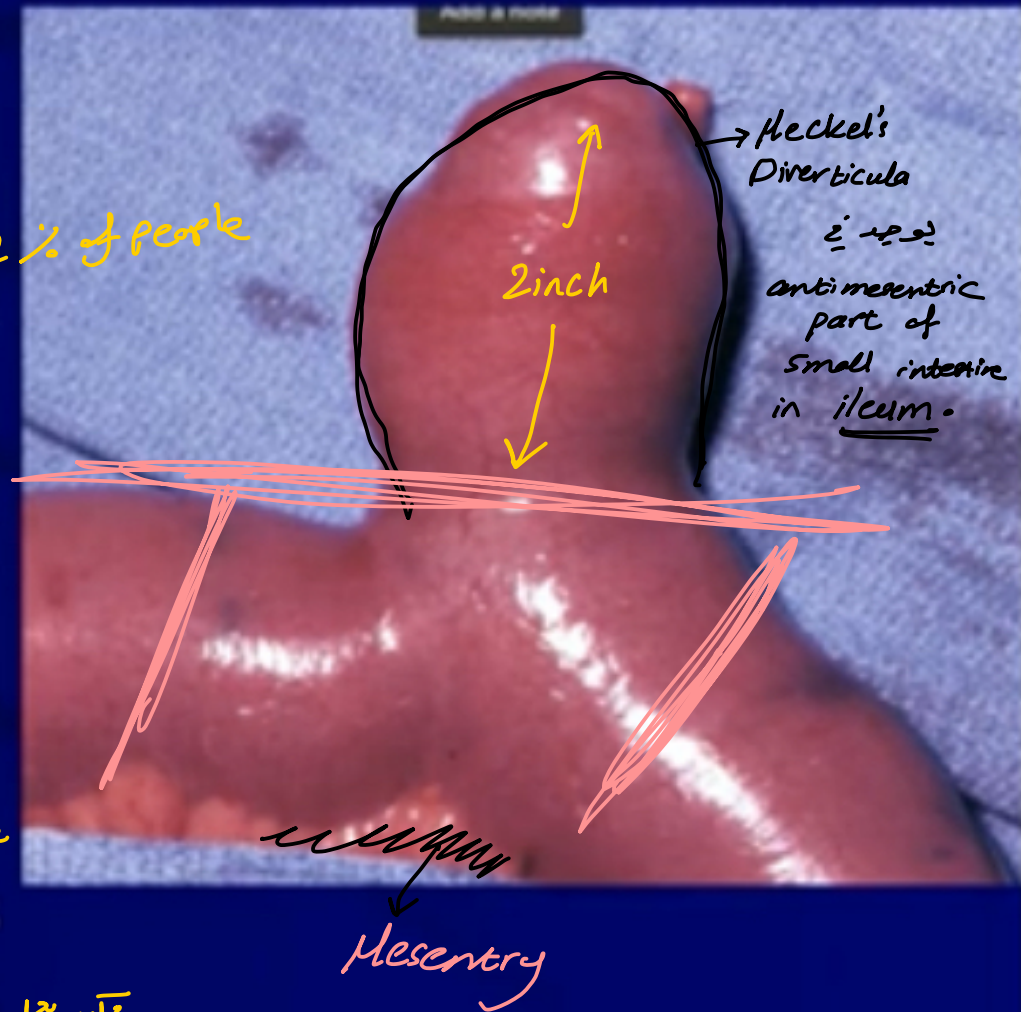
- MD is the **most common congenital small bowel abnormality**.
- Account for 25% of small bowel diverticulosis.
- **A MD** is the remnant of a persistent portion of the proximal vitelline (omphalomesenteric) duct.
- It only occurs on the **antimesenteric border** of the ileum
- True diverticulum, MD is located approximately **2 feet from the ileocecal valve**.
- Containing one of two types of heterotopic tissue, most commonly **gastric (75%)** or **pancreatic (15%)**.

↓
بالٹائی ممکنہ تفرز HCL
تعلل ulcer
+ bleeding

Meckel's Diverticula

The "Rule of Two":

- MD occur twice as commonly in males.
- In 2% of the population. *→ of 2% of people*
- Become symptomatic in 2% of cases. *→ usually in children*
- Usually within the first 2 years of life.
- They can extend over 2 inches in length. *+ 2 feet long far from ileocecal valve*
- Predominantly cause two types of symptoms: Bleeding and inflammation.
 - ① gastric tissue in it*
 - ② usually in old age*
 - usually in children*
 - Meckel's diverticulitis*
 - + intestinal obstruction*



Complication of MD

الحل: التهاب / bleeding

① Meckel's Diverticulectomy
أو استئصاله مع نقص MP.

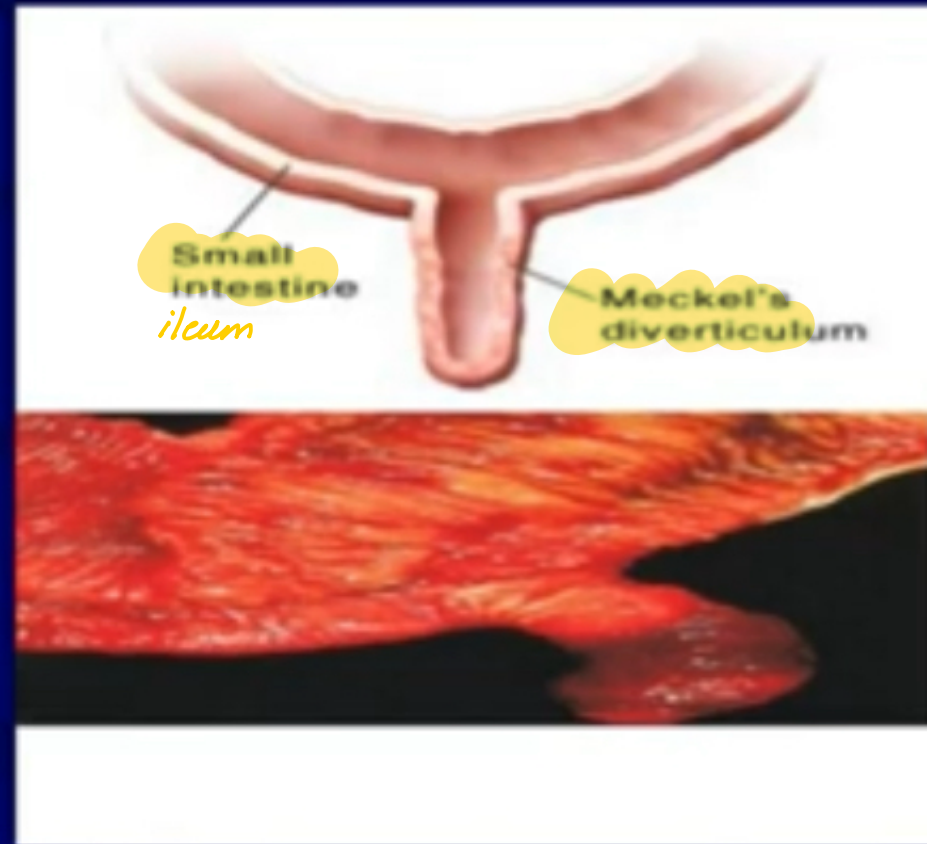
② Cut part of small intestine around MD
then resection anastomosis.

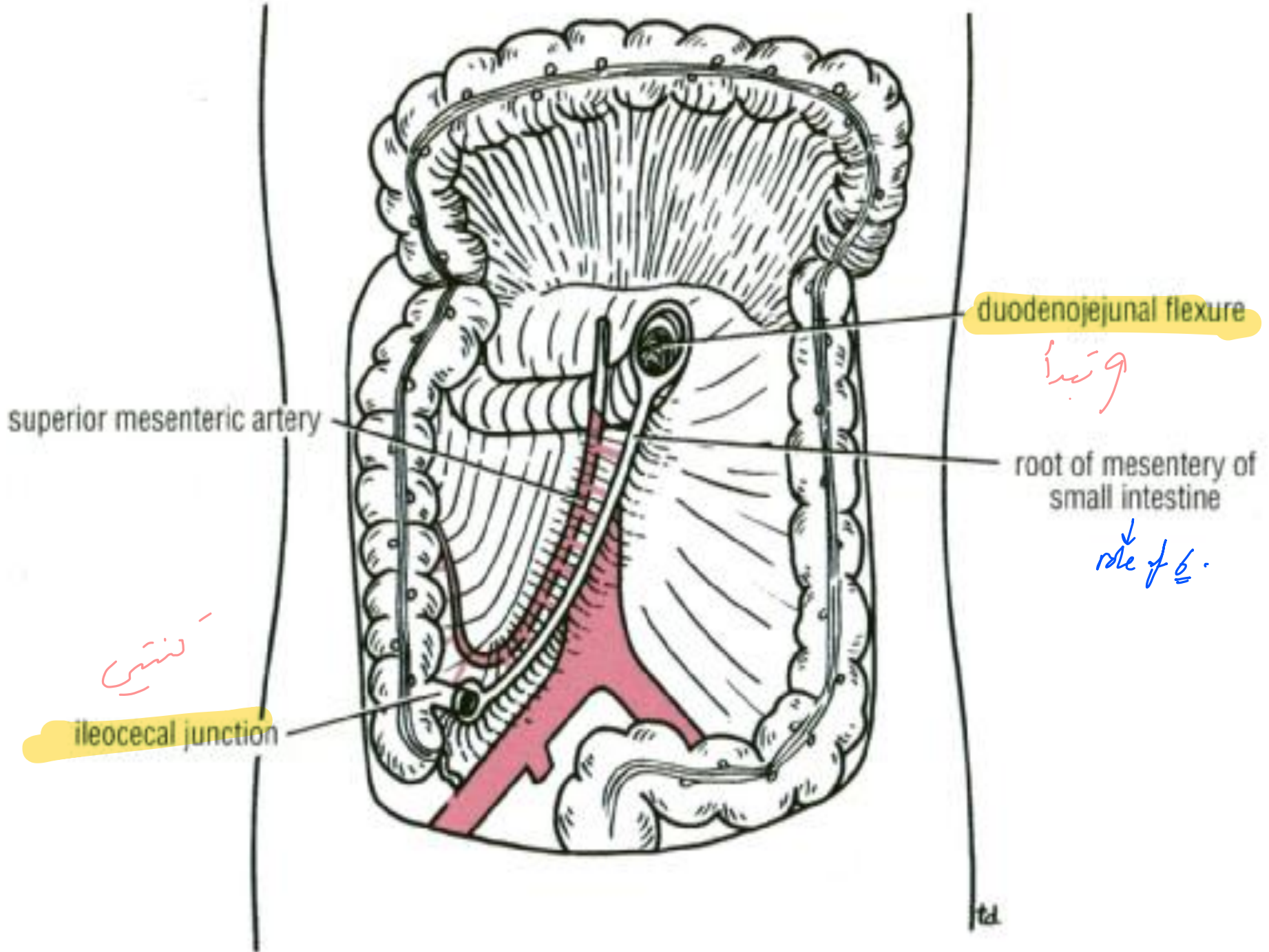
- Diverticulitis

- Perforation and form
ulcers or cause,
peritonitis

- Bleeding.

- *intestinal obstruction.*





MESENTERIC ARTERIAL OCCLUSION

① embolism 50%

② atheroma 80%

③ venous gangrene 5%

④ Non occlusion mesenteric ischemia (NOMI) 15%

embolus ← شئ غريب

thrombus ← جلطة

- The **superior mesenteric artery**, a branch of the abdominal aorta, supplies an extensive territory of the gut, from **halfway down the second part of the duodenum to the left colic flexure**.

- Occlusion of the artery or one of its branches results in **death of all or part of this segment of the gut**.
- The occlusion may occur as the result of an embolus, a thrombus, an aortic dissection, or an abdominal aneurysm.

