

وسهلا



أهلا

يُمنع أخذ السلايدات بدون
إذن المحرر واي اجراء
يخالف ذلك يقع تحت طائلة
المسؤولية القانونية
جميع المعلومات للاستخدام
التعليمي فقط

الأستاذ الدكتور يوسف حسين

كلية الطب - جامعة مؤتة - الأردن

دكتورة من جامعة كولونيا المانيا

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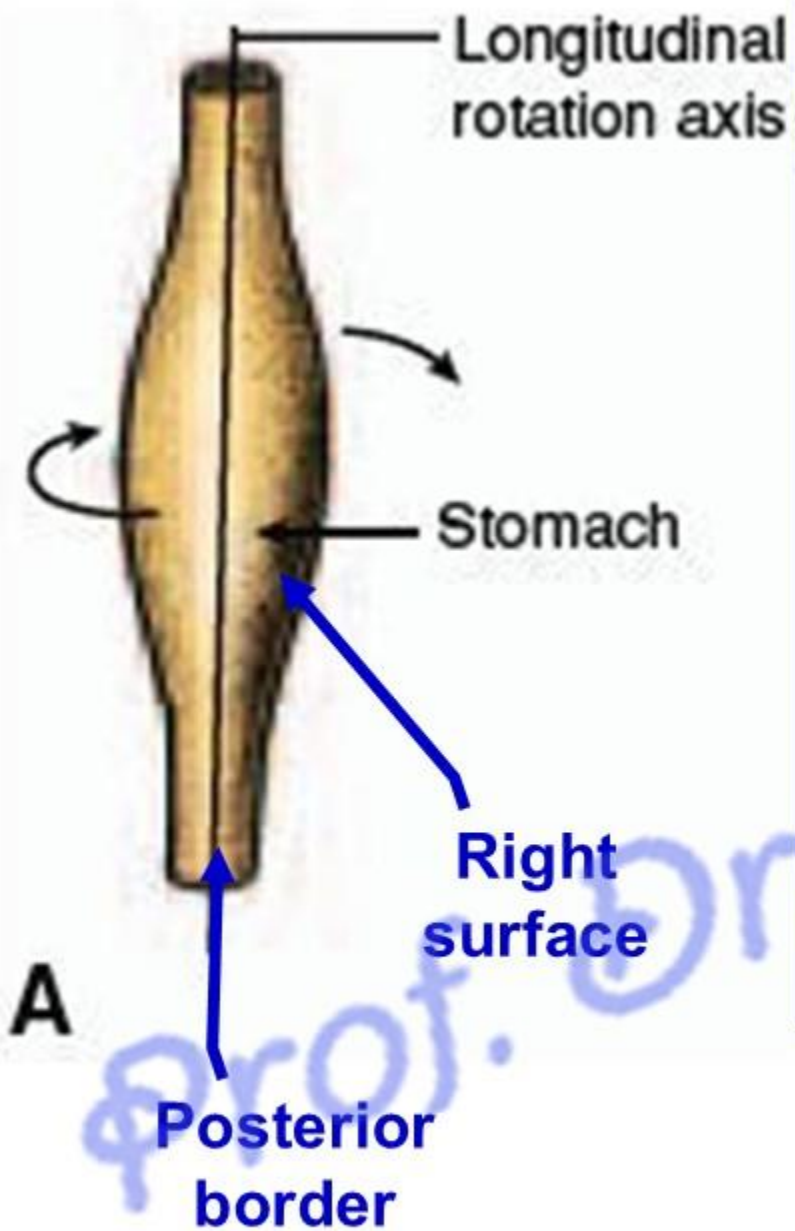
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Development of Stomach

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- It appears as a **fusiform dilatation** having **2 surfaces** (right and left) and **2 borders** (anterior and posterior).

- It is connected to anterior abdominal wall by **ventral mesogastrium** and posterior abdominal wall by **dorsal mesogastrium**

**** Changes during Development:**

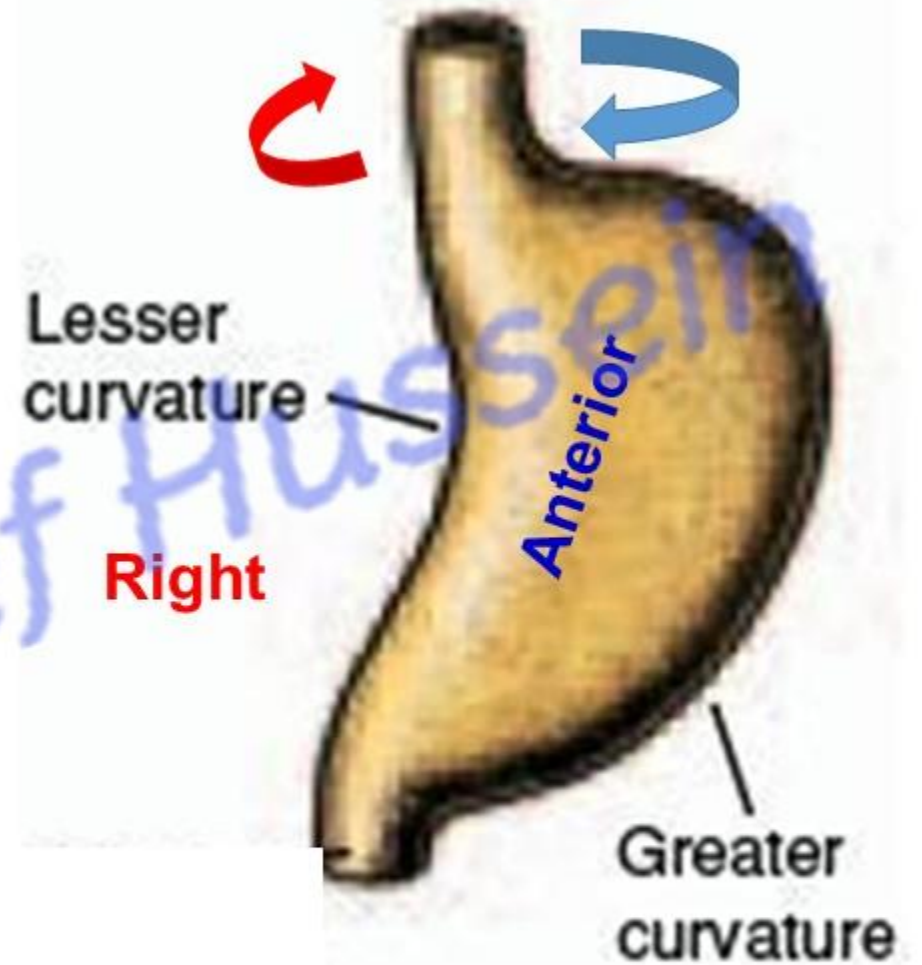
1- Posterior border grows faster than anterior border and becomes convex forming **greater curvature**.

2- Anterior border grows slowly and becomes concave to form the **lesser curvature**.

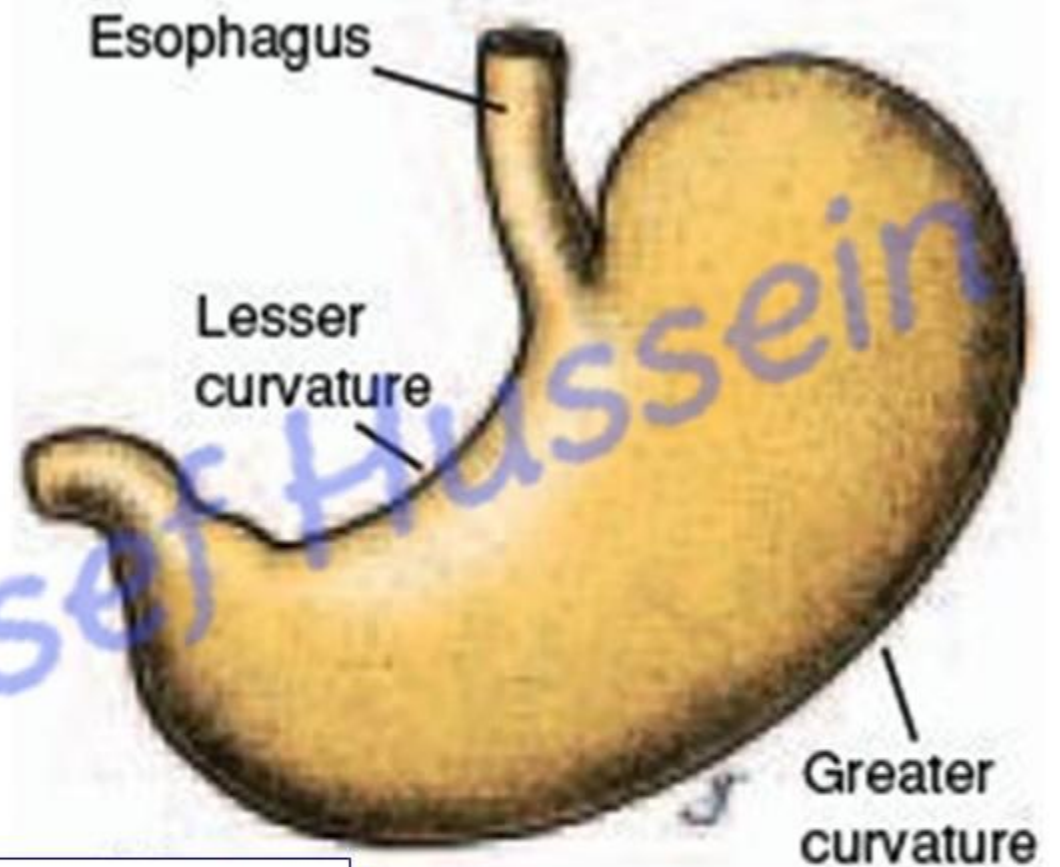
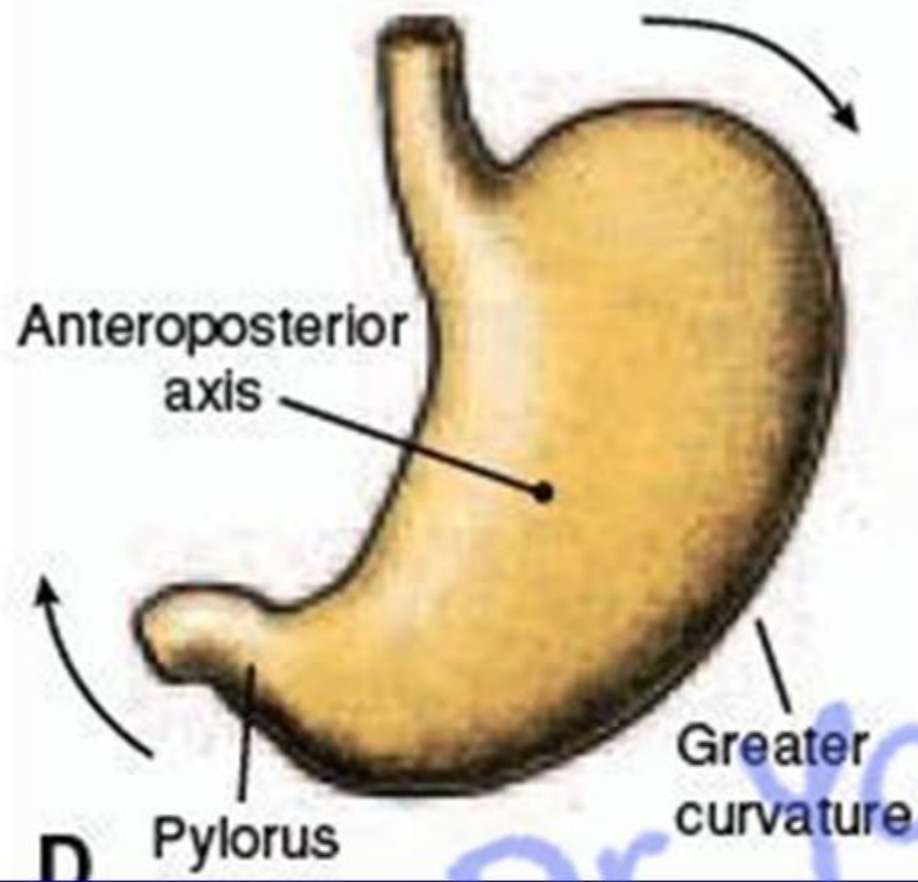
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** Rotation of the stomach:

- The stomach **rotates 90° with clockwise** around the vertical axis.
- 1- The **greater** curvature is directed to the **left** and the **lesser** curvature to the **right**.
- 2- The **left** surface become **anterior** and **right** surfaces become **posterior**.
- 3- A small recess of the peritoneal cavity is formed behind the stomach forming the **lesser sac**.



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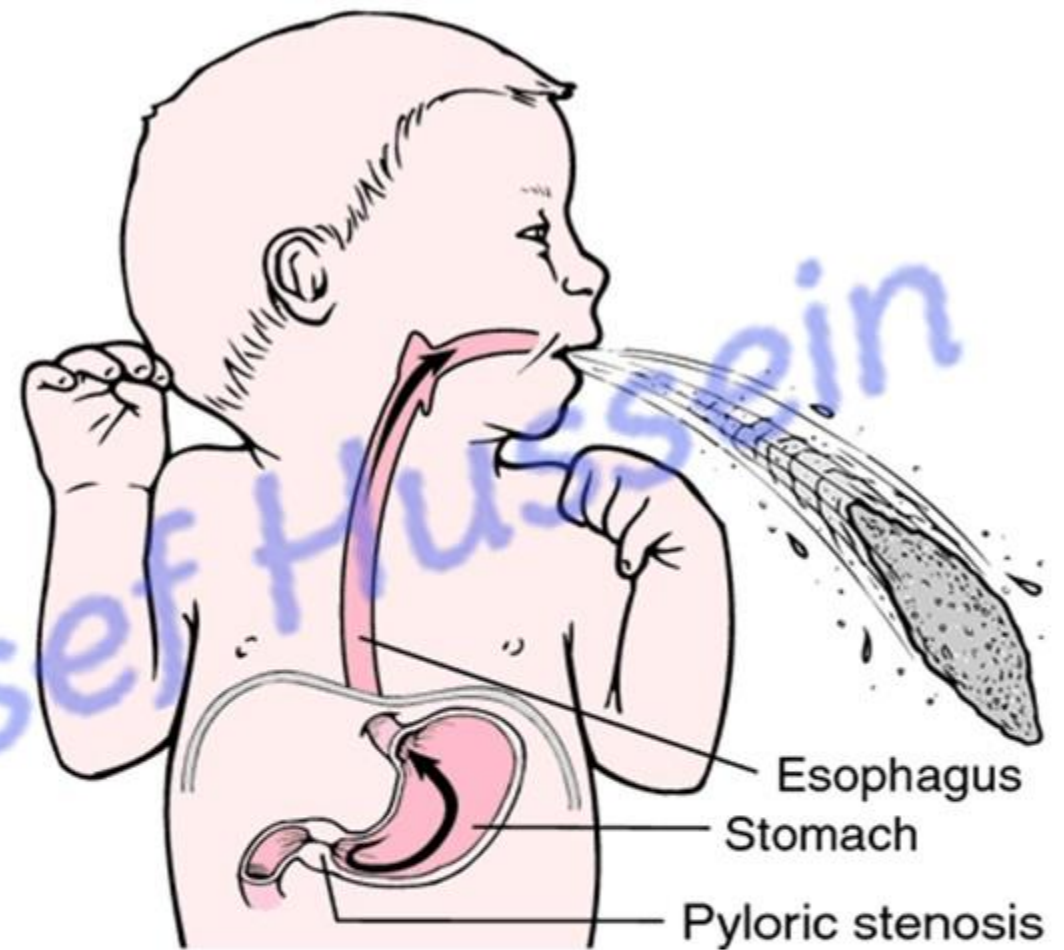


- Stomach **rotates with clockwise** around **anteroposterior axis** due to **Growth** of the **liver** pushes **cranial** end of the stomach to the **left** of the median and **caudal** end to the **right** of median plane.

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Congenital pyloric stenosis



Congenital pyloric stenosis: due to excessive hypertrophy (**thickening of circular muscles**) of pylorus

- It leads to pyloric obstruction and projecting vomiting in the newborn (infants).

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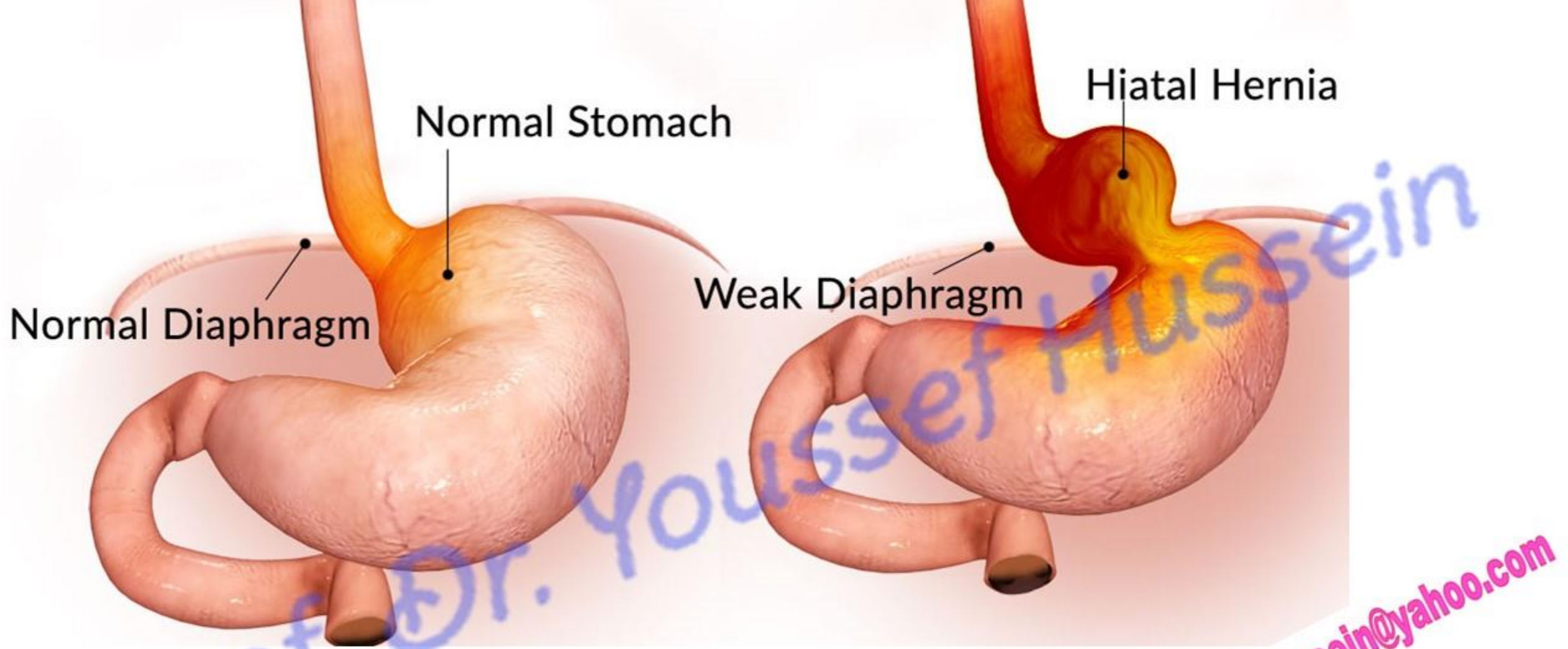
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Hourglass stomach: due to abnormal constriction of the middle of the body of the stomach

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Congenital hiatus hernia, part of the stomach above the diaphragm due to short esophagus.

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- **Congenital micromastia:** the stomach fails to develop, resulting in an underdeveloped, small, and tubular structure.
- **Gastric diverticulum:** pouch or sac that forms on the stomach wall.
- **Volvulus:** The stomach fails to fixate in its normal position, potentially leading to twisting (volvulus) and obstruction.
- **Gastric atresia:** A complete blockage in the stomach, often presenting as total gastric outlet obstruction

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Derivatives of Mesogastrium

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**** Derivatives of ventral mesogastrium:**

- **Liver** grows between its 2 layers dividing it into:

A- Ventral part:

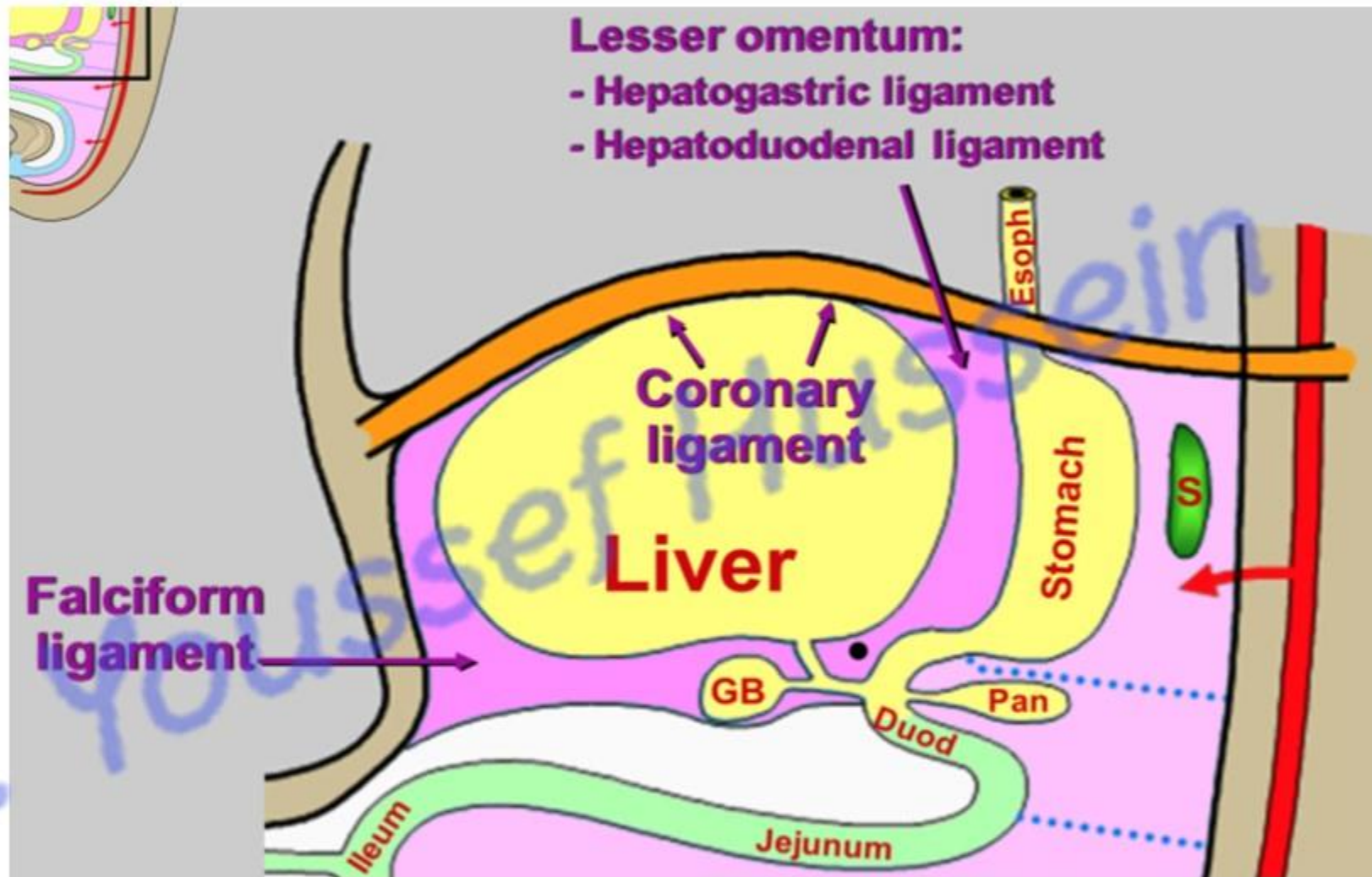
falciform ligament

connecting the liver to anterior body wall.

B- Dorsal part:

lesser omentum

connecting liver to lesser curvature of the stomach.



**** Derivatives of dorsal mesogastrium:**

1- Cranial part forms **gastrophrenic ligament** between fundus of stomach and diaphragm.

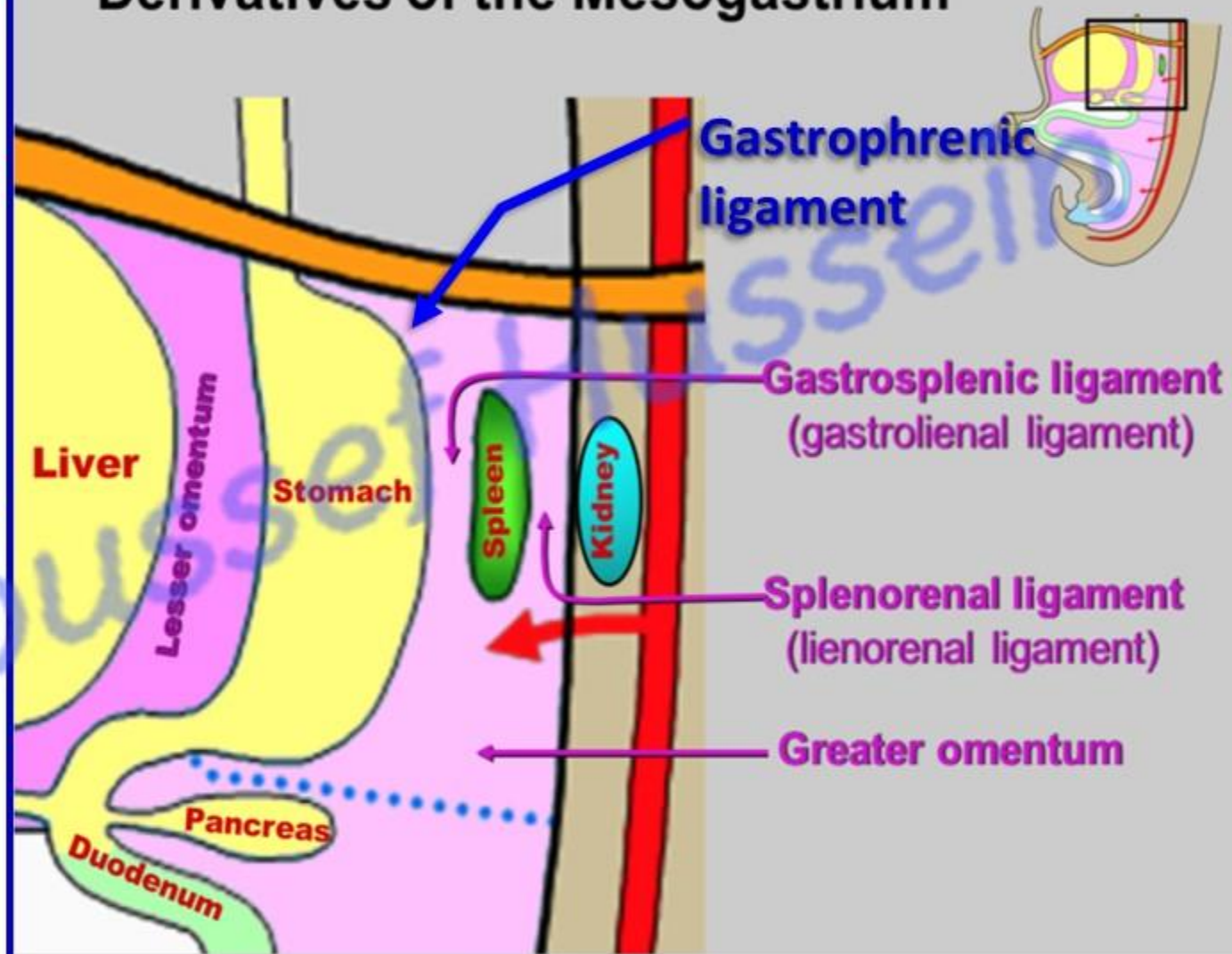
2- Middle part is divided by spleen into:

A- Ventral part: **gastrosplenic ligament** between stomach and spleen.

B- Dorsal part: **lienorenal ligament** between spleen and left kidney.

3- Caudal part forms **greater omentum.**

Derivatives of the Mesogastrium



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Development of Pancreas

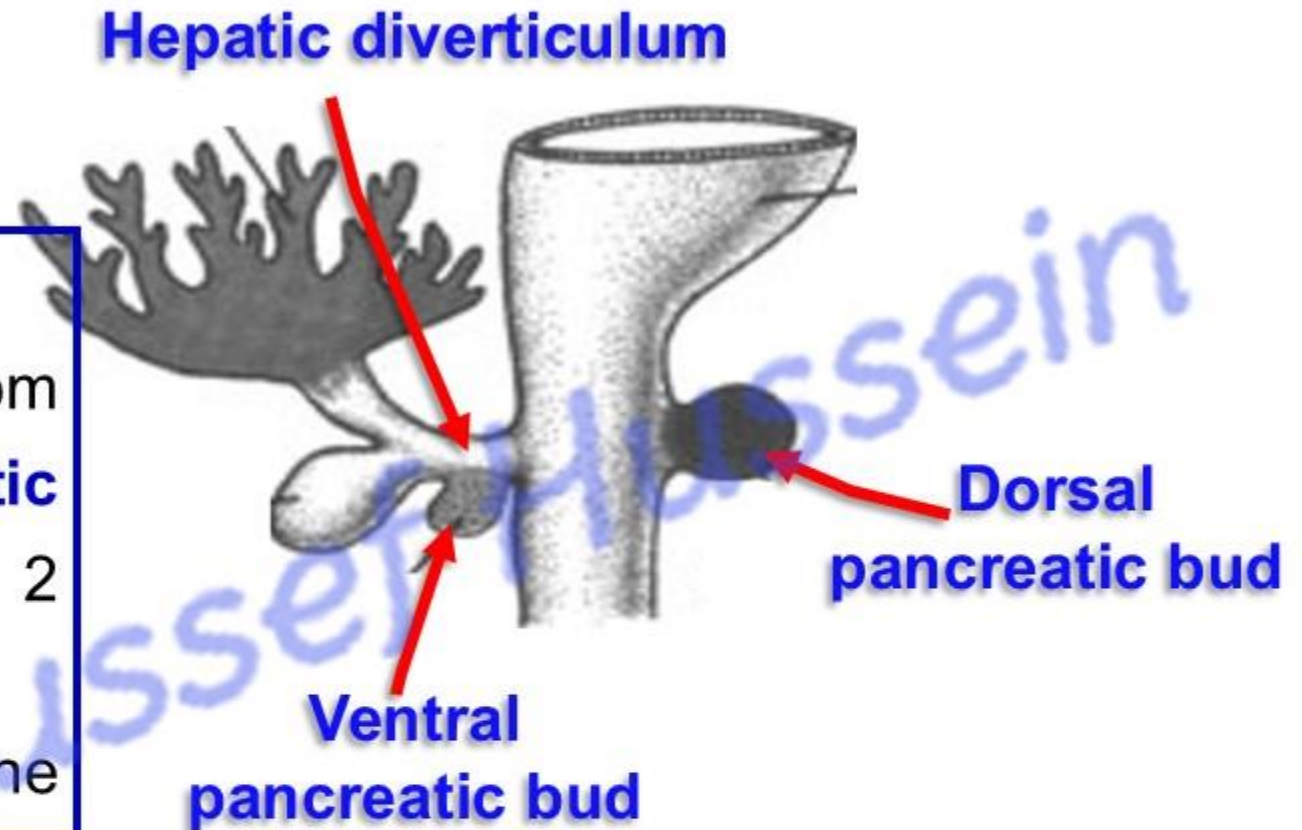
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* The pancreas develops from 2 buds:

A- Ventral pancreatic bud arises from the proximal part of the **hepatic diverticulum** and extends between the 2 layers of the **ventral mesogastrium**.

B- Dorsal pancreatic bud arises from the **dorsal wall** of the duodenum **cranial to the hepatic diverticulum** and extends into the **dorsal mesogastrium**.

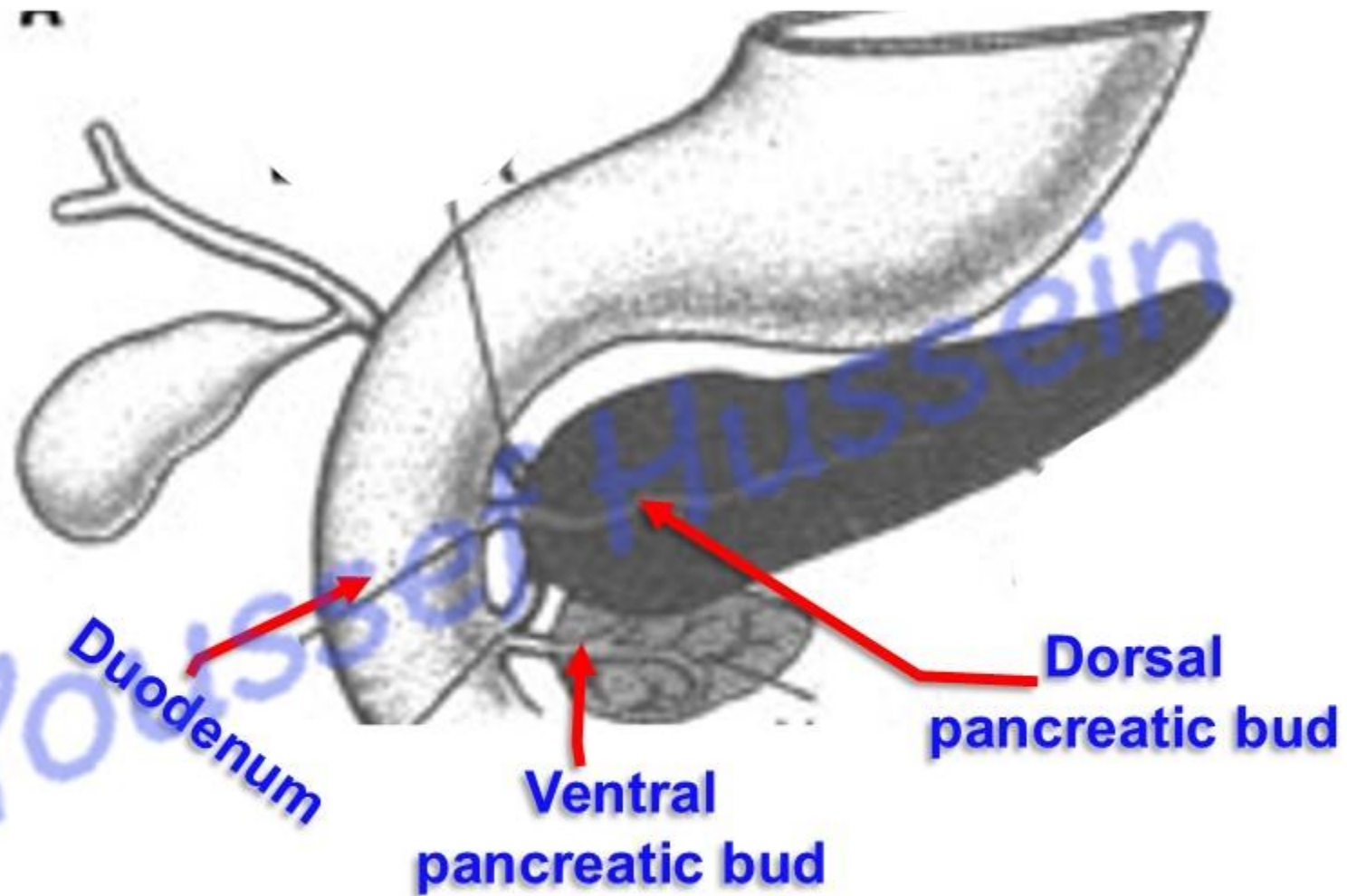


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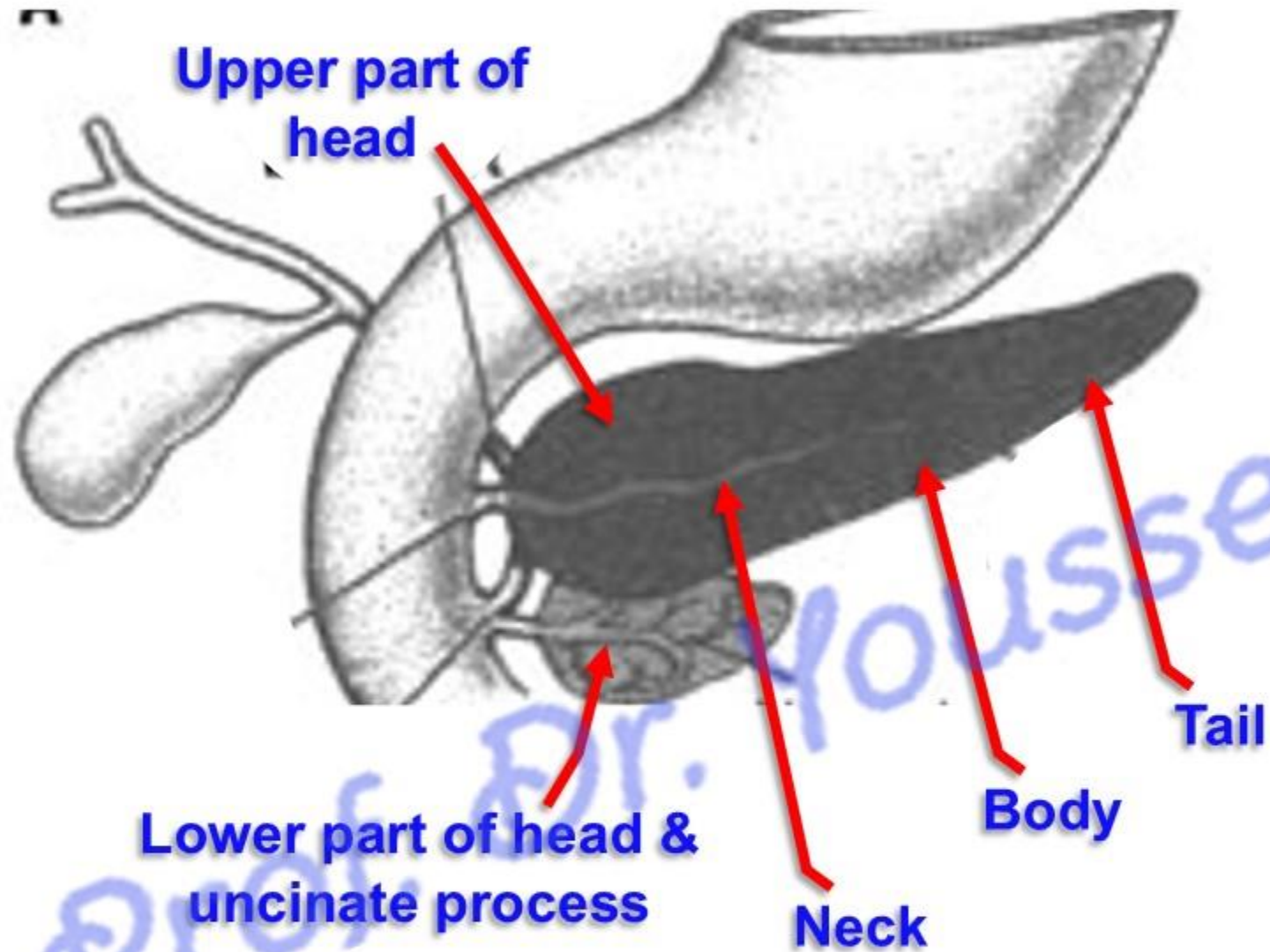
- As a result of unequal growth of the wall of the duodenum and rotation of the stomach 90° (clockwise);

- Movement of the ventral pancreatic bud to become with the dorsal bud in the concavity of the duodenum.



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- **Dorsal pancreatic bud** gives rise to the upper part of the head, neck, body and tail.
- **Ventral pancreatic bud** forms the lower part of the head and its uncinate process.

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Minor duodenal papilla

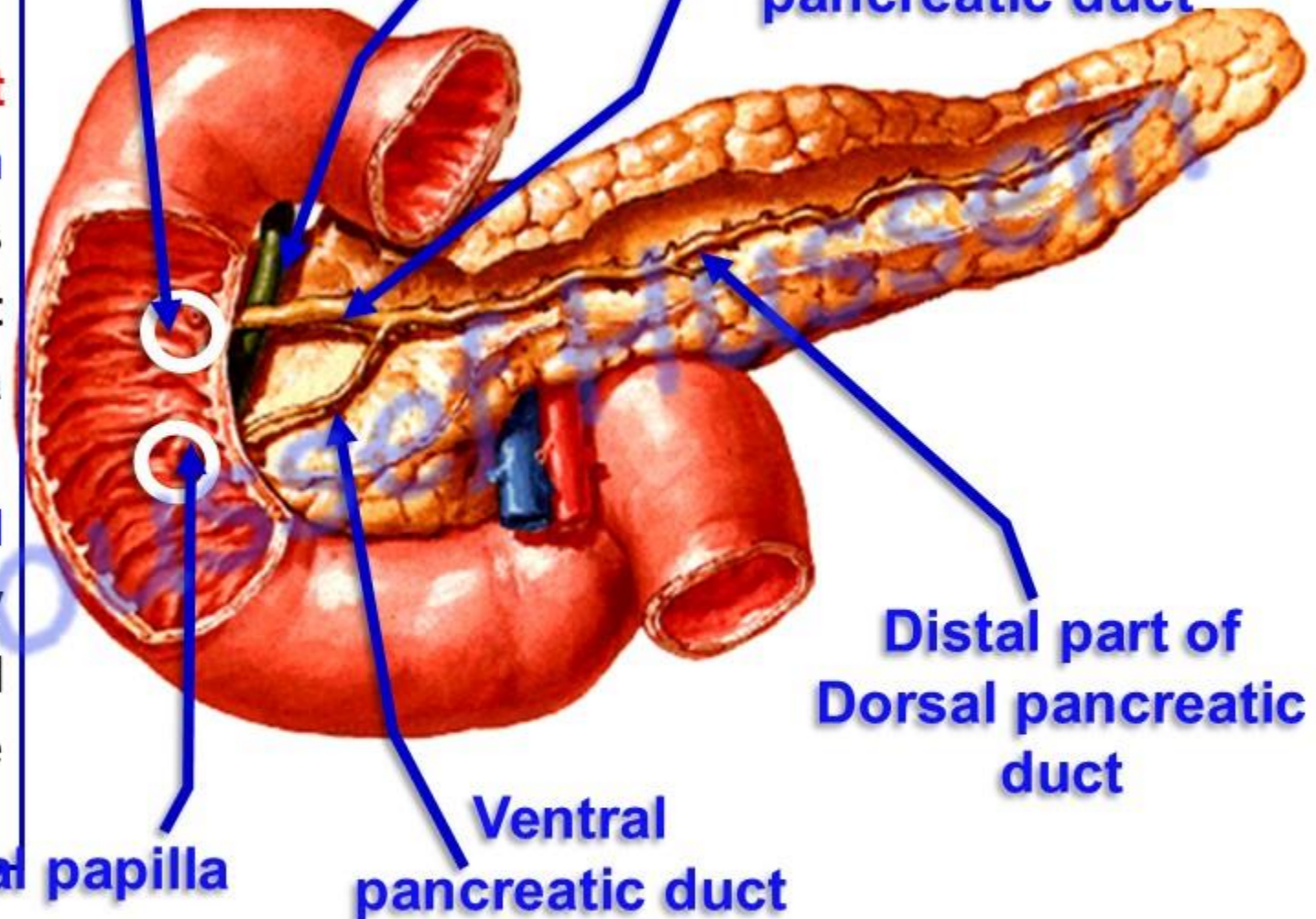
**** Development of pancreatic ducts:**
a- Distal part of dorsal pancreatic duct unites with **ventral duct** and forms **main pancreatic duct (duct of Wirsung)**, joins CBD and forms **hepatopancreatic duct** which opens at **major duodenal papilla (Vater)**.

b- Proximal part of the dorsal pancreatic duct form **accessory pancreatic duct (Santorini's Duct)** and opens at the **minor duodenal papilla** (one inch above).

Major duodenal papilla

Common bile duct

Proximal part of Dorsal pancreatic duct



Distal part of Dorsal pancreatic duct

Ventral pancreatic duct

- Some acini becomes solidified and separated to form **islets of Langerhans** that secrete insulin.

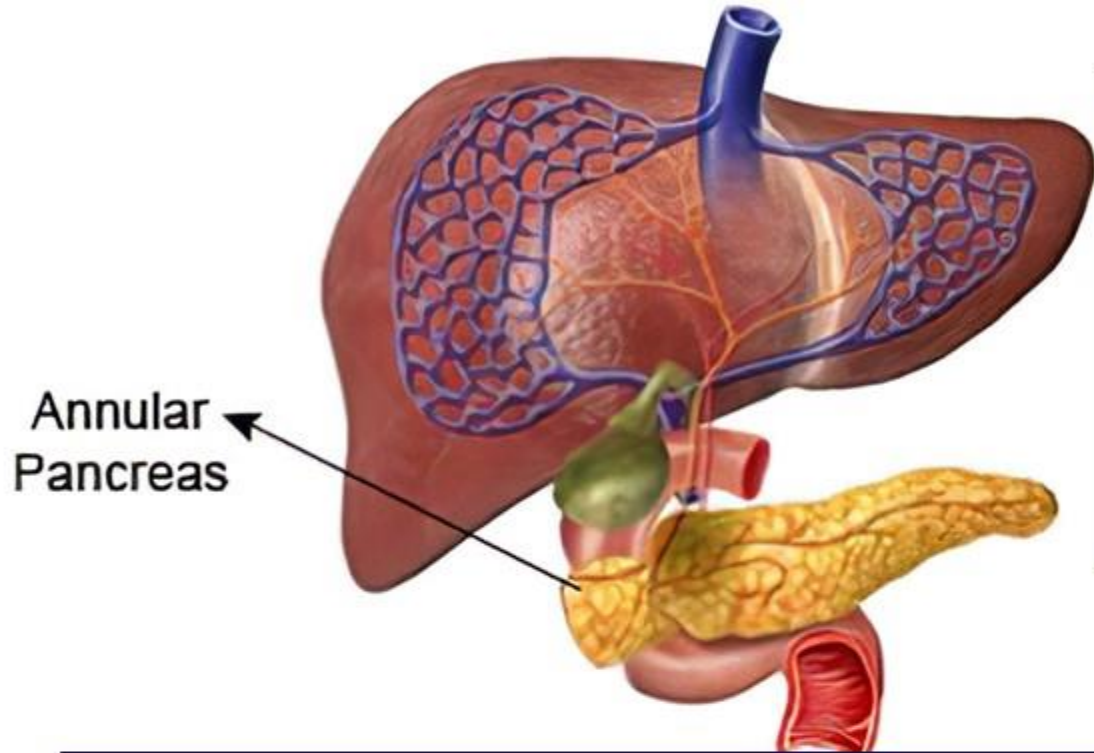
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**** Congenital Anomalies of the pancreas**

- **Ectopic pancreatic tissue:** Pancreatic tissue found in other areas, such as the stomach or intestine,
- **Pancreatic divisum:** Failure of fusion of ventral pancreatic duct and distal part of dorsal pancreatic ducts together.
 - Upper part of head, body and tail drain in **minor duodenal papilla**
 - Lower part of head drains in **major duodenal papilla**.
 - **Pancreatic duct becomes blocked**

WHAT ARE THE SYMPTOMS OF PANCREAS DIVISUM?

• Abdominal pain (most common), Abdominal distention (indigestion and loss of appetite). Nausea and Vomiting. Acute pancreatitis (fever) due to drainage through a smaller duct. Chronic pancreatitis..



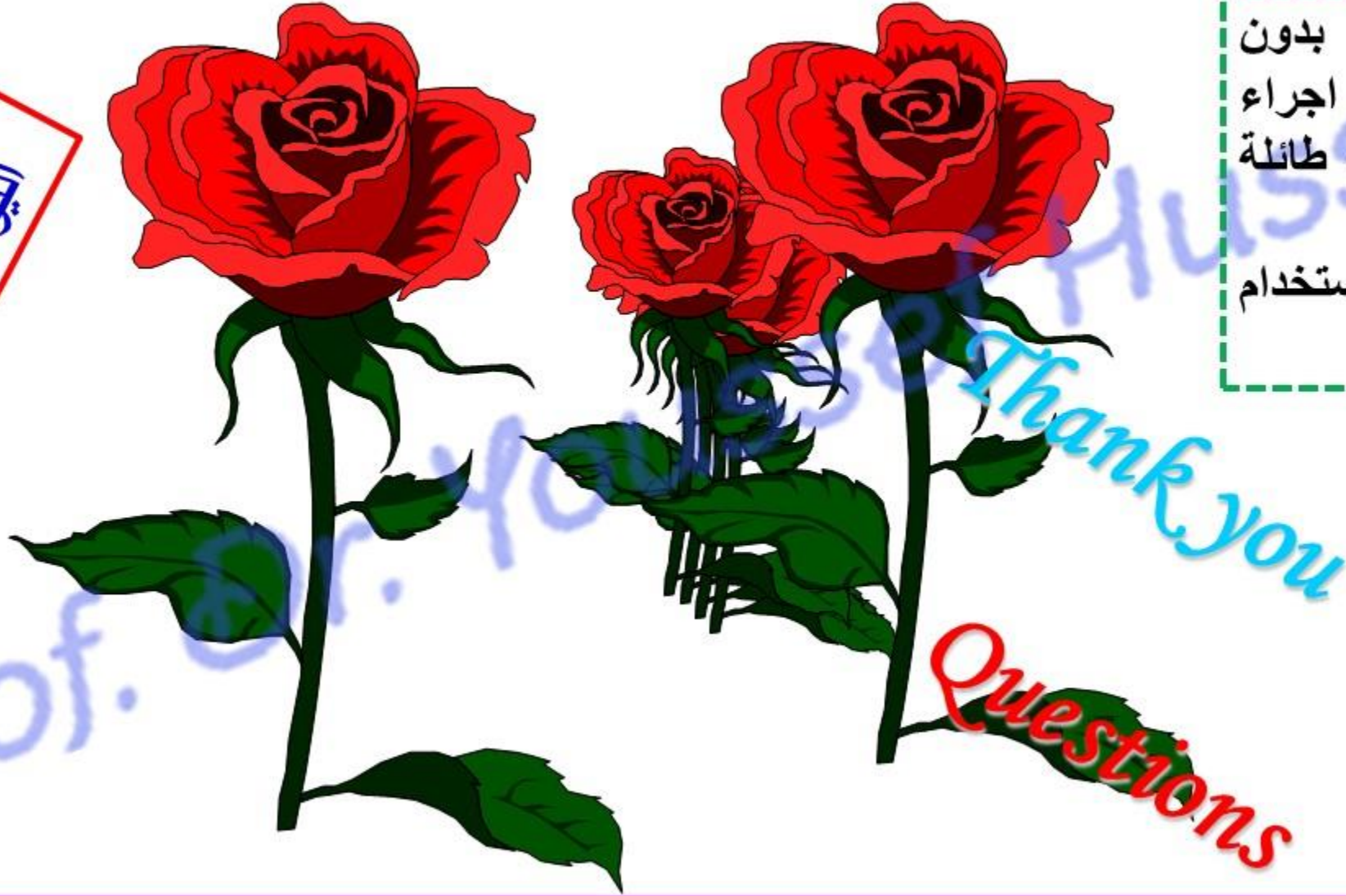
- **Annular pancreas:** a ring of pancreatic tissues surround the second part of the duodenum due to **failure of rotation of the ventral pancreatic bud.**
- It may cause duodenal obstruction

- **Agenesis/Hypoplasia:** Complete or partial absence of the pancreas, which may lead to severe diabetes.
- **Anomalous pancreatobiliary junction :** A rare condition where the pancreatic and bile ducts join outside the duodenal wall, which can cause severe biliary issues.

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