

# RECURRENT VOMITING IN FIRST MONTH

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# 1- HYPERTROPHIC PYLORIC STENOSIS ( HPS)

Clinical presentation :

**Hx:** **vomiting** ( progressive projectile nonbilious vomiting without signs of infection with immediate postprandial vomiting in an infant between two and six weeks of age

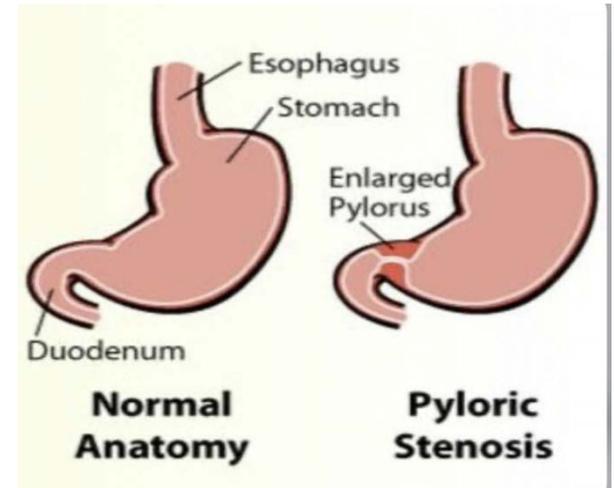
later in the disease course tend to have more severe symptoms, including **marked weight loss and dehydration.**

and may be **lethargic**

**P/E:**

**Visible peristaltic waves**

Palpation of the "**olive**" was palpable in 50 to 90 percent of infants with HPS.



**Incidence: 0.5–5:1000 live births (considered to be the most common cause of gastric outlet obstruction in infants)**

**Sex: M > F (~ 5:1)**

**More common in firstborn children**

**The incidence is higher in White populations.**

### **Etiology:**

**- Environmental factors**

**1- Exposure to nicotine during pregnancy**

**2- Bottle feeding**

**- Genetic factors: Patients with affected relatives have an increased risk of hypertrophic pyloric stenosis.**

**- Macrolide antibiotics: Erythromycin and azithromycin are associated with an increased risk of hypertrophic pyloric stenosis, especially when administered within 2 weeks after birth.**

# DIAGNOSIS & MANAGEMENT

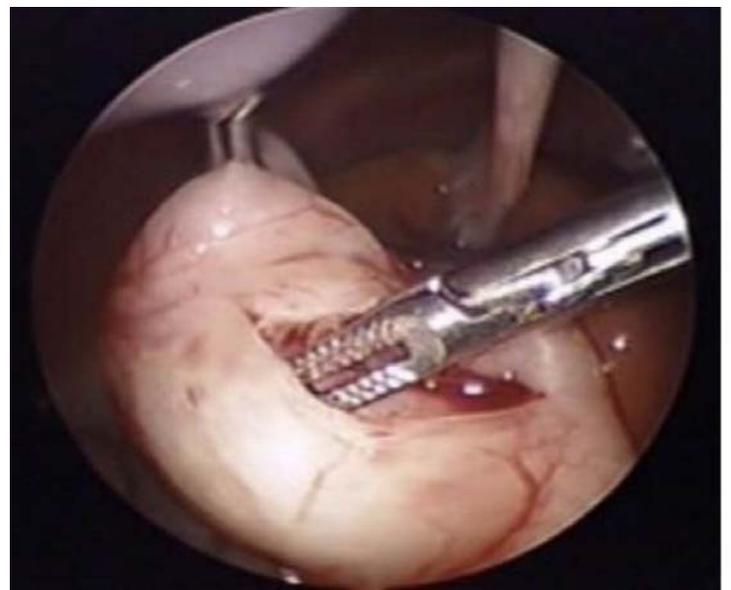
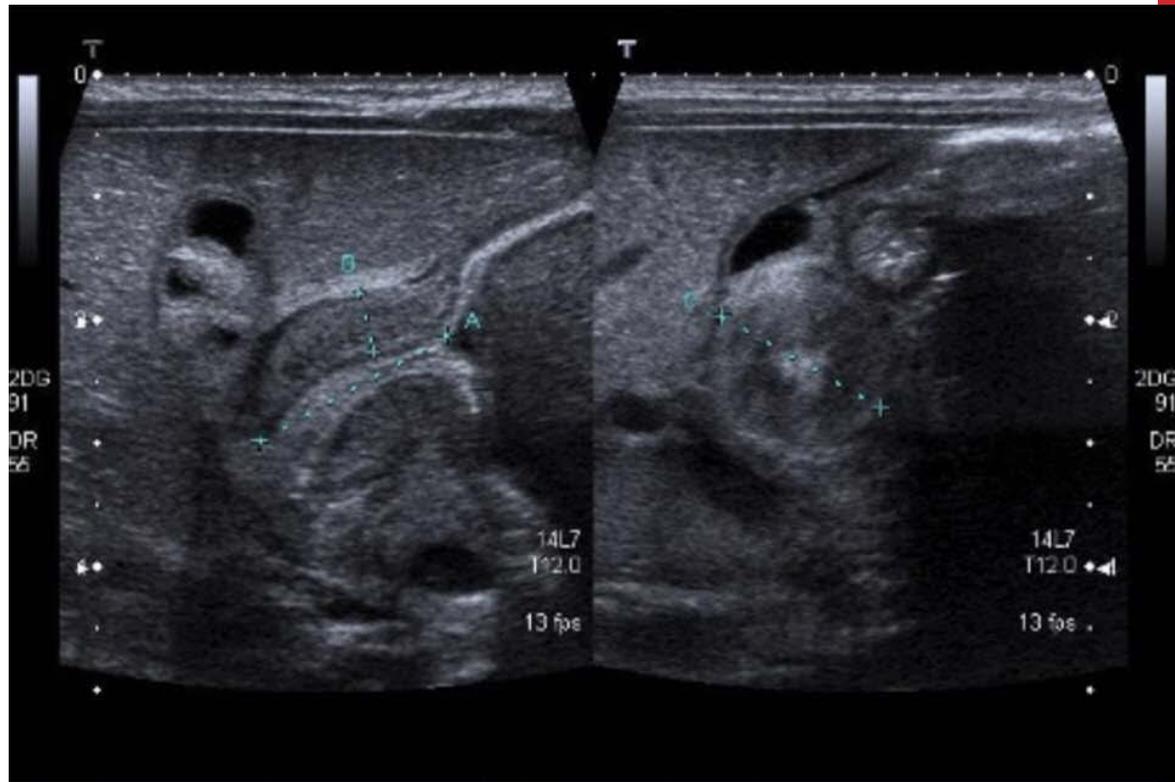
## **Investigations:**

- **US-** The diagnostic criteria for pyloric stenosis are a muscle thickness of  $\geq 4$  mm and a pyloric length of  $\geq 16$  mm, diameter of the pylorus  $\geq 12$  mm. - If the US findings are equivocal, then an upper gastrointestinal series can be helpful in confirming the diagnosis (String Sign).

## **Management**

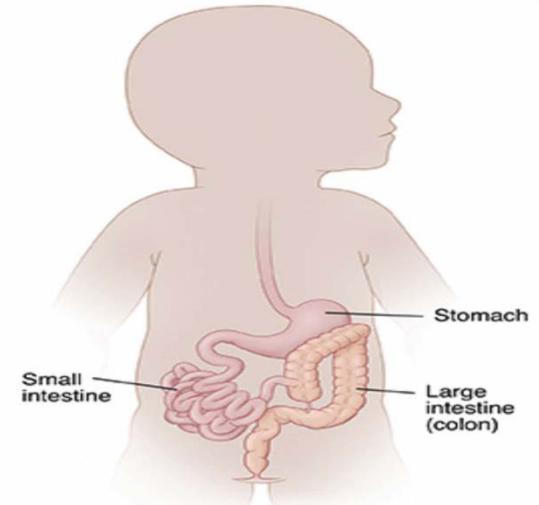
✓ **Pre-op-** NPO, IV fluids, avoid NG tube (exacerbate the electrolyte imbalance!)- Correction of metabolic alkalosis required for safe anesthesia. (hypokalemia  $\rightarrow$  muscle weakness)

✓ **Surgery:-** Pyloromyotomy (Open or Laparoscopic) – Ramstedt surgery



# 2- MALROTATION

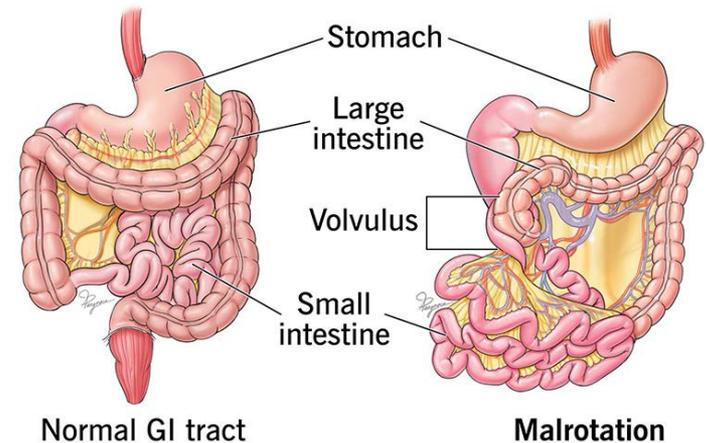
**Malrotation of the intestine** is a congenital anomaly that results from abnormal rotation and fixation of the midgut during embryological development. It can lead to potentially life-threatening complications, such as intestinal obstruction or midgut volvulus, particularly in neonates and infant.



Incidence 1/6000 live births.

90% present in the first year of life (75% in the first month).

## Malrotation in children



## EMBRYOLOGY AND PATHOPHYSIOLOGY:

- During normal development, the midgut undergoes a 270-degree counterclockwise rotation around the superior mesenteric artery (SMA). It also becomes fixed in the abdominal cavity by mesenteric attachments.
- In malrotation , This process is incomplete or abnormal, resulting in:
  1. A narrow mesenteric base (predisposing to volvulus).
  2. Abnormal positioning of the intestines (e.g., small bowel predominantly on the right, large bowel on the left).
  3. The formation of Ladd's bands, fibrous bands crossing the duodenum and potentially causing obstruction.

## Clinical presentation:

- Non bilious vomiting.
- Bilious vomiting: A classic and alarming sign of obstruction.
- Abdominal distension.
- Poor feeding or lethargy.
- Signs of bowel ischemia: Pain, bloody stools, or shock in cases of volvulus.

## Complications:

- **Midgut volvulus**: A twisting of the intestines around the SMA, leading to vascular compromise, bowel ischemia, and necrosis.
- **Intestinal obstruction**: Caused by Ladd's bands or volvulus.

# Diagnosis:

## 1. Imaging:

- Upper GI Contrast Study (Gold Standard):

1. Abnormal position of the duodenojejunal (DJ) junction.
2. Corkscrew appearance in volvulus.

- Plain X-ray:

May show signs of obstruction (e.g., air-fluid levels or double bubble).

- Ultrasound: • Whirlpool sign (for volvulus) and Twisting of mesenteric vessels.

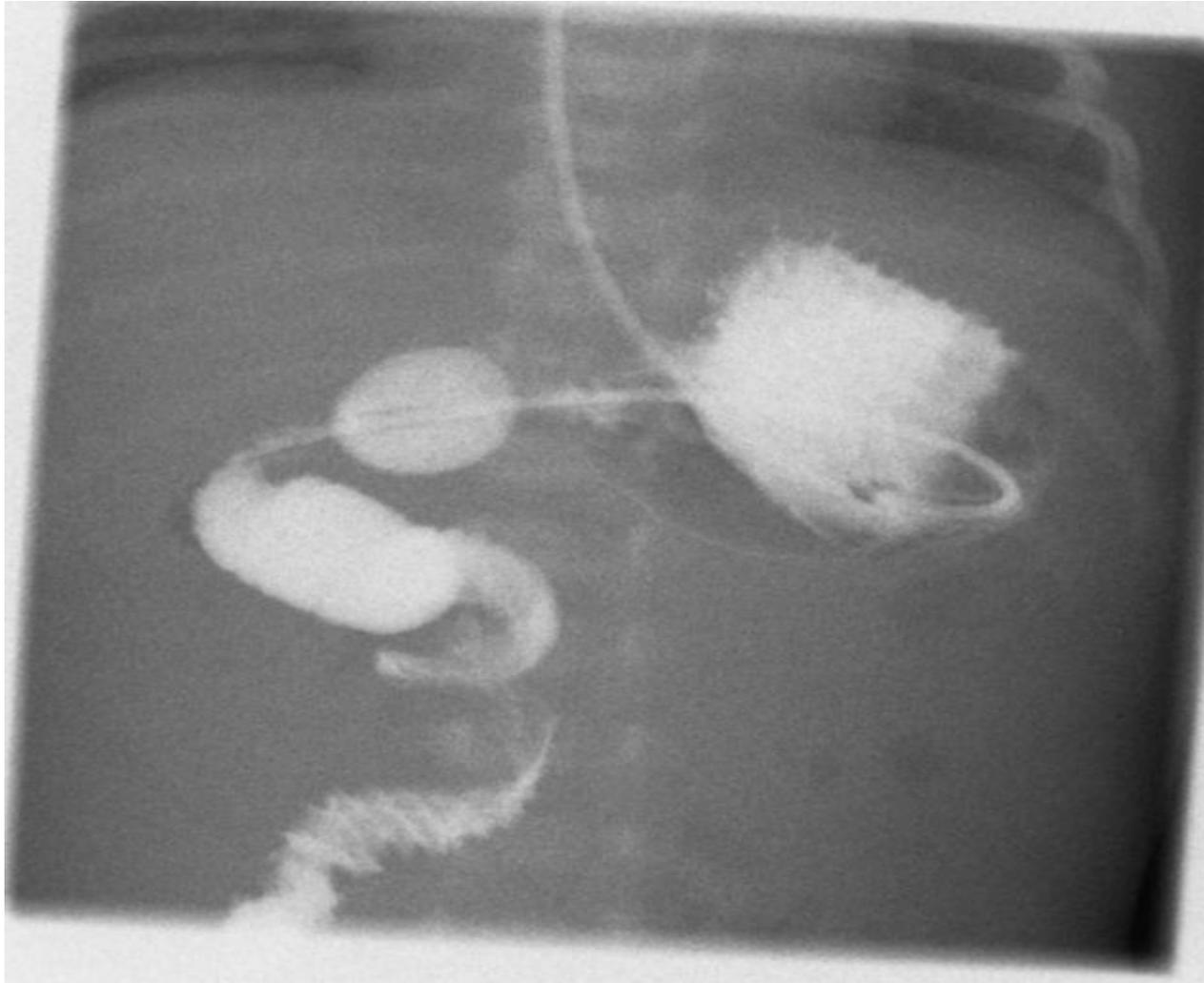
- CT Scan:

Used in older children/adults to confirm abnormal positioning of the bowel.

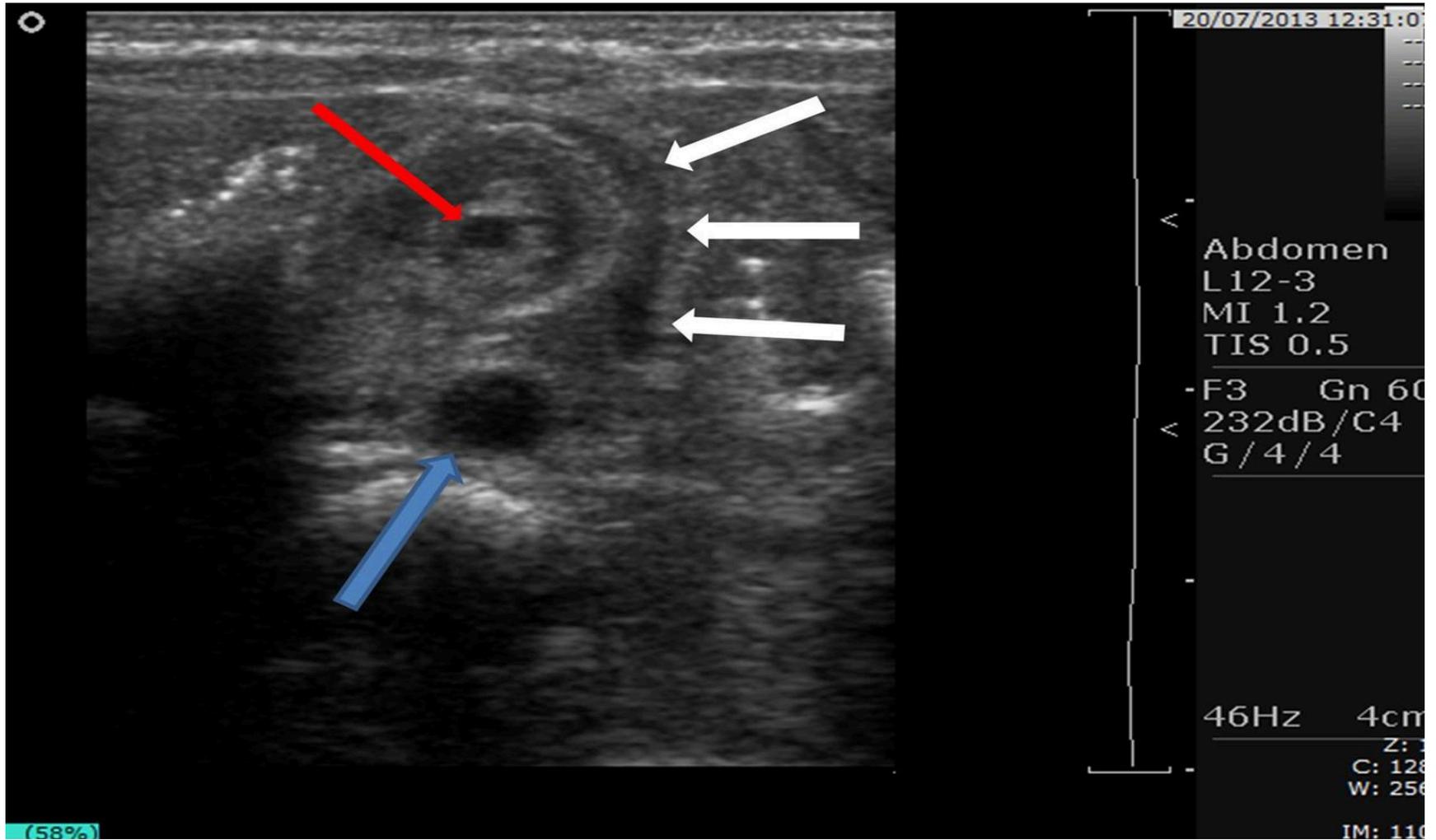
## 2. Blood Tests:

- Evaluate for acidosis, electrolyte imbalances, and signs of sepsis in volvulus.

# CORCKSCREW SIGN



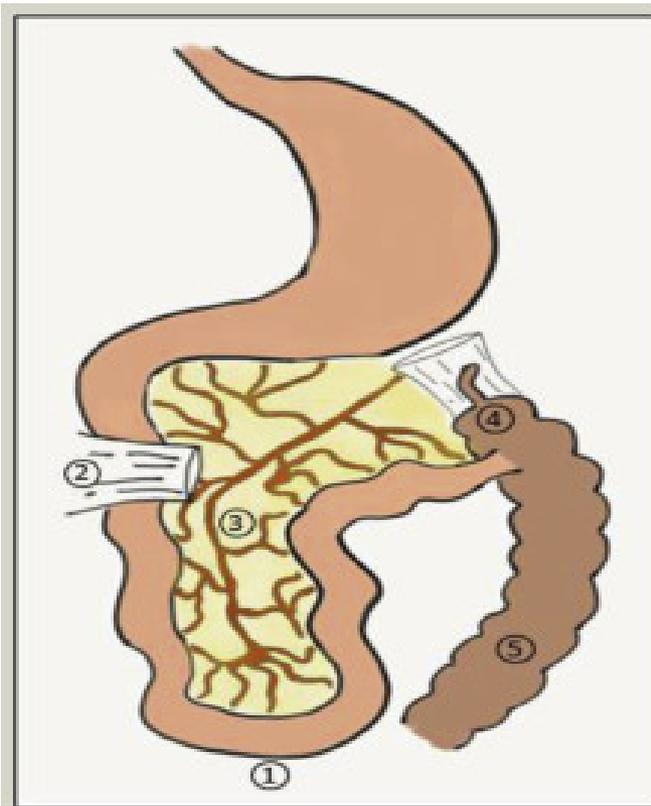
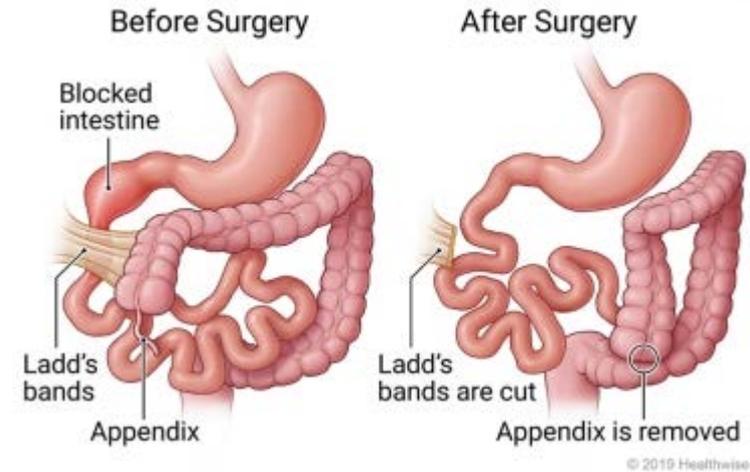
# WHIRLPOOL SIGN



# OPERATION

## Open Ladd's Procedure

- RUQ transverse incision or midline laparotomy.



### Key steps in Ladd's procedure

1	Anti-clockwise de-torsion of volvulus
2	Division of Ladd's bands
3	Widening of the small bowel mesentery
4	Incidental appendicectomy
5	Positioning caecum on the left and small bowel on the right

# 3-GERD

## Etiology:

persistent lower esophageal sphincter insufficiency.

## Clinical features :

Poor appetite

refusal to feed

weight loss

Failure to thrive

Crying and irritability

Abdominal distention, pain/discomfort

Regurgitation, persistent vomiting

**Extraesophageal symptoms:** wheezing, stridor, hoarseness, chronic cough.

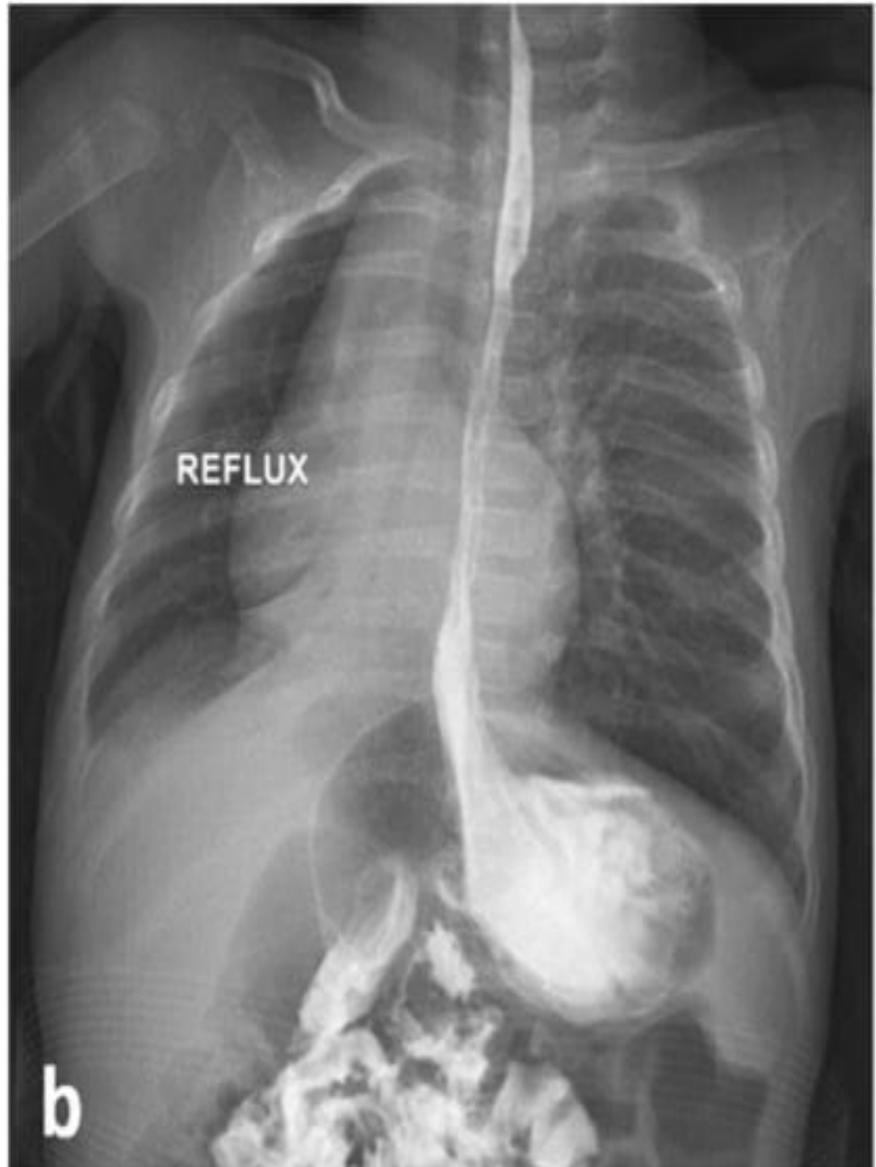
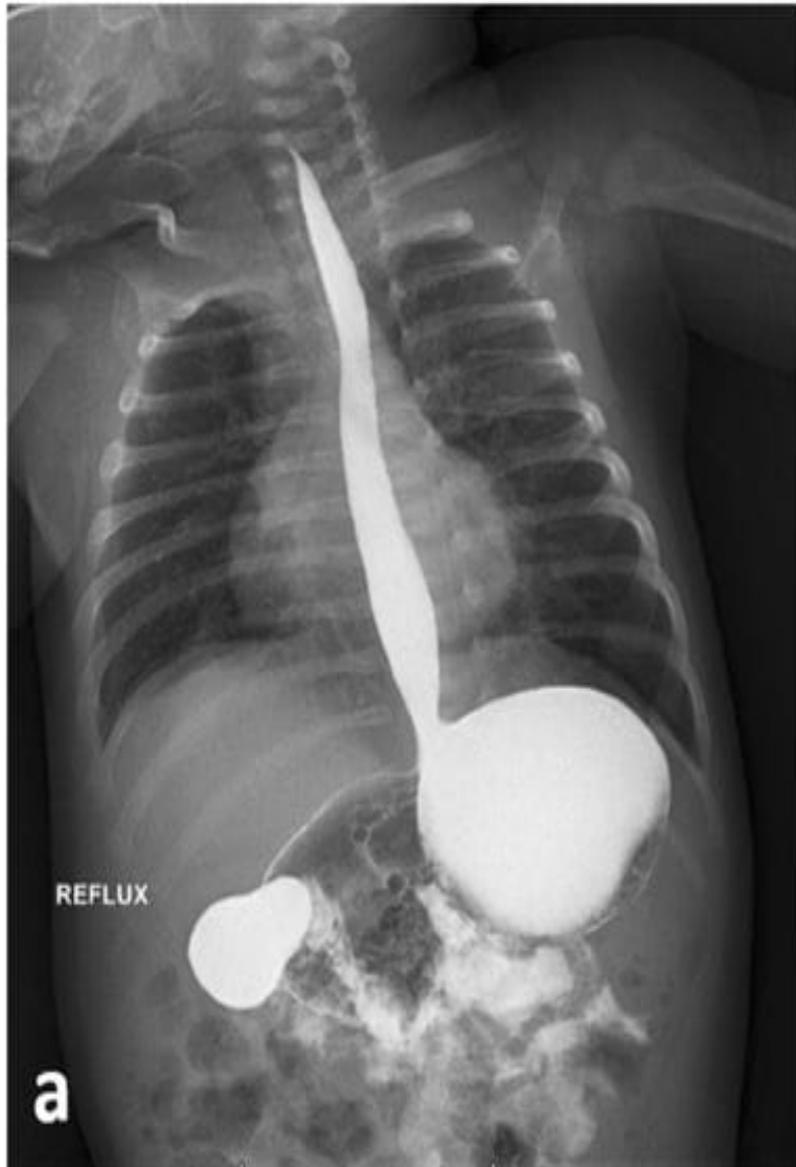
## Diagnostics:

based on clinical findings H&P

**Imaging:** may be indicated if symptoms after initiation of empirical treatment persist .Barium swallow with Trendelenburg position, Esophagogastroduodenoscopy with biopsies Upper gastrointestinal imaging series (suspicion of anatomical abnormalities like malrotation )

HOW TO IMPROVE  
ACID REFLUX IN BABIES





# Baby Reflux

## WHEN TO GET HELP?

Give the doc a call if you're noticing these signs...



# TREATMENT

## **consevative measures:**

**lifestyle and dietary changes should be re-evaluated every 2–4 weeks**

**Positioning therapy: maintain the infant in an upright position for 20–30 minutes after feeding**

**Do not encourage sleeping on prone position**

**Avoid overfeeding**

**AR formula**

**If there is suspicion of cow's milk and/or soy protein intolerance: Remove cow's milk or soy protein from the infant's diet In breastfed infants, remove soy protein, cow's milk proteins, and beef from the mother's diet.**

# TREATMENT

**Avoid exposure to tobacco smoke**

**pharmacological treatment 2–4 week trial with PPIs (e.g., esomeprazole),**

**H<sub>2</sub>-receptor blockers (e.g., cimetidine)**

**Indications Infants with persistent significant symptoms (failure to thrive, feeding refusal, poor weight gain) and in which all conservative measures have failed Esophagitis on endoscopic findings**

**Surgical treatment (complete or partial Nissen fundoplication): indicated in infants with complications from severe GERD who did not respond to conservative and pharmacological treatment**

***Thank you***