



Duodenal atresia (DA) is a congenital malformation causing **luminal stricture** of the duodenum, leading to **intestinal obstruction**

Prevalence:

~1 per 10,000 births

Pathophysiology:

Failure of recanalization

Differential Diagnosis

- Duodenal stenosis
- Antral or pyloric web
- Distal intestinal atresia (e.g. jejunal, ileal, colonic)
- Sepsis
- Annular pancreas
- Meconium ileus
- Malrotation with midgut volvulus

NEONATAL PRESENTATION	
HISTORY	PHYSICAL EXAM
<ul style="list-style-type: none"> ❑ Vomiting/intolerance of feeds beginning on first day of life ❑ Nature of emesis <ul style="list-style-type: none"> ● Obstruction proximal to ampulla = non-bilious ● Obstruction distal to ampulla = bilious 	<ul style="list-style-type: none"> ❑ Abdominal distension ❑ Dehydration <ul style="list-style-type: none"> ● Tachycardia, oliguria ● Sunken fontanelle, dry mucous membranes, poor skin turgor ❑ Difficulty breathing (due to aspiration or massive abdominal distension) ❑ Jaundice

Important to rule out: **malrotation with midgut volvulus**, which requires *immediate* surgical management to prevent midgut infarction

Associated congenital anomalies

- Down Syndrome (Trisomy 21)
 - ~30% of DA patients have T21, but only ~2.5% of T21 patients have DA
- Cardiac, genitourinary, and other chromosomal anomalies

DIAGNOSIS

Prenatal Ultrasound in 2nd or 3rd trimester - Signs of obstruction

- ❑ Two fluid-filled bubbles in stomach and duodenum
- ❑ Polyhydramnios

After Birth

- ❑ **Abdominal Plain-Film X-Ray**
 - ❑ Classic “**double bubble**” sign with two air-filled bubbles in the stomach and duodenum (Fig. 1)
- ❑ **Upper GI Contrast Study**
 - ❑ Distinguish between distal DA and midgut volvulus



Figure 1. Duodenal atresia

Workup for other anomalies: echocardiogram, renal U/S, rectal biopsy, genetic testing, etc

MANAGEMENT

Immediate management (neonatal unit)

- ❑ NPO, NG tube decompression
- ❑ IV fluid, IV parenteral nutrition
- ❑ Consult pediatric surgery

Operative repair:

- ❑ Anastomosis of functional intestine proximal and distal to the obstruction
 - ❑ In duodenal atresia: duodenoduodenostomy