

FOALS COLIC

Etiology

Diseases that cause colic in horses less than 1 year of age include both congenital and acquired conditions.

1. **Congenital anomalies:-** Anal atresia ,Colonic atresia , Rectal atresia, Inguinal hernia, Diaphragmatic hernia , Umbilical hernia , Scrotal hernia
2. **Gastrointestinal obstruction with or without infarction:-** Meconium impaction ileus, secondary to extra intestinal disease including neonatal hypoxia , Small and Large-intestinal volvulus, Intussusception, Small and Large colon obstruction , impaction, intussusception and torsion, Necrotizing, Enterocolitis, Adhesions, Foreign body, Ascarid impaction - small intestine.
3. **Other:-** Gastric and duodenal ulcer, abdominal abscess, umbilical abscess, Peritonitis, Tyzzer's disease (*Clostridium piliforme*), Enteritis.

Table (1): Causes of colic in foals of different age groups

Newborn foal	2-5 days old	Older foals
Meconium impaction	Ruptured bladder	Ulcers
Ulcers	Ulcers	Enteritis
Enteritis	Enteritis	Small intestinal volvulus
Inguinal hernia with ruptured tunic	Atresia coli	Intussusception Gastric outflow obstruction

Pathogenesis:

The pathophysiology of colic in foals does not differ qualitatively from that of adult horses. The importance of pain, gastrointestinal distension, motility and absorptive disturbances and loss of barrier function are all similar in foals and adults. **Additionally**, in young foals gastrointestinal disease may prevent nursing and ingestion of colostrum and causing failure of transfer of passive immunity to the foal. Hypoglycemia and dehydration which induced directly by the disease causing colic also causing failure to nursing.

Clinical signs:-

A-Visual examination

*Behavior

- ✓ **Pain** is the cardinal feature of gastrointestinal disease of foals.



- ✓ Foals with mild **abdominal pain** are apprehensive and walk continuously with frequent but brief (<1 min) periods of sternal or lateral recumbency.
- ✓ **Affected foals make frequent attempts to nurse but do not continue to suckle and may butt the mare's udder even though there is let-down of milk.**
- ✓ Rolling , often violently, spend considerable periods of time in dorsal recumbency, **often propped up against walls or fences.**
- ✓ **The foal vigorously moves its tail as if chasing flies, looks at the abdomen and may nip at its flanks.**
- ✓ frequent attempts to urinate or defecate but without passage of significant quantities of urine or feces.

***Abdominal size**

Examined closely for the presence of inguinal, scrotal or umbilical hernias. Abdominal circumference should be monitored frequently by direct measurement to detect changes in the degree of abdominal distension.

B- Physical examination:

-Auscultation of heart and respiratory rate.

Severely affected foals are tachycardic (> 100/min) and tachypneic « 40/min).

-Mucous membrane

Dry mucous membranes , **pale color** and delayed capillary refill(> 2 s) in impaired cardiovascular function. **Bluish tint** and capillary refill is longer than 3 seconds in severe cases.

Cool extremities and signs of, cardiovascular collapse, is indicative of a poor prognosis.

-Auscultation of the abdomen

-Increased or decreased borborygmi sound.

-Pinging sounds on simultaneous flicking in gas distension of the large colon or cecum.

Rectal examination

In foals is limited to exploration of the rectum with one or two fingers.

- The presence or absence of feces should be noted.
- Lack of fecal staining of the rectum suggests a complete obstruction such as intestinal agenesiis.
- Meconium is usually passed within the first 10 to 12 hours (usually 3 hours) after birth. Retention of meconium is evident as signs of colic and the presence of firm meconium in the rectum.
- Palpation of the caudal abdomen may reveal firm material in the small colon.

Clinical pathology:-

-**Radiography** is sensitive technique useful in the evaluation of foals with **colic**, **meconium impaction** and lesions of the **small or large colon**, or gastric outflow obstructions and detection of **anatomic anomalies** of lower gastrointestinal tract such as atresia coli in foals less than 30 days old. The technique is performed by the intrarectal infusion of up to 20 ml/kg of barium sulfate (30% w/v) in sedated, laterally recumbent foals.

-**Ultrasonography** is useful for examination of the foal abdomen can demonstrate intussusceptions, the presence of excessive peritoneal fluid (such as urine ' or blood), edematous intestine, hernias and colonic impaction.

-**Endoscopy** Gastroscopy reveals the presence of any ulcers and their extent and severity.

NECROPSY FINDINGS

The findings on necropsy examination depend on the nature of the disease.

Treatment:-

-**Parenteral nutrition** use in gastrointestinal disease that cannot eat to insure adequate caloric intake.

-**Administration of an enema of soap** and warm water, commercial enema preparations or acetylcysteine in meconium impaction.
Acetylcysteine (8 g in 200 mL of water with 20 g sodium bicarbonate)

has the advantage of actually dissolving part of the meconium,.

-**Analgesics** to control pain.

- **Intravenous fluids** to correct or prevent dehydration.

- **Oral laxatives** such as mineral oil (300 mL via nasogastric tube) and plasma to correct failure of transfer of passive immunity.

- **Surgical correction** of the impaction is rarely required.

Prevention:-

Adequate deworming programs that reduce or eliminate infestation with parasites should be implemented. **Care** should be taken when deworming foals with heavy infestations of *Parascaris equorum*, as rapid killing of the ascarids may lead to impaction and obstruction of the small intestine.