

## Surgical treatment of a congenital rectal cystic hamartoma in a 20-day Kurdish foal

Saeed Azizi<sup>1\*</sup>, Seyede Soraya Mahmoudi<sup>2</sup>, Zahra Shamsi<sup>1</sup>, Mohammad Akbari<sup>1</sup>, Dara Azizi<sup>1</sup>

<sup>1</sup> Department of Surgery and Diagnostic Imaging, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran; <sup>2</sup> Department of Pathobiology, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran.

Article Info	Abstract
<b>Article history:</b> Received: 03 August 2025 Accepted: 11 October 2025 Available online: 15 February 2026	Hamartomas are mostly benign tumor-like malformations characterized by a disorganized overgrowth of mature cells and tissues indigenous to the affected anatomical site. A 20-day-old male Kurdish foal was presented to the Veterinary Teaching Hospital of Urmia University, Urmia, Iran, with a history of hematochezia and tenesmus. Clinical examination identified a pedunculated tissue mass within the rectal lumen. The abnormal mass was surgically excised <i>via</i> polypectomy under local anesthesia. Tissue samples were obtained, fixed in 10.00% neutral buffered formalin, and processed routinely for histopathological examination. Histopathological evaluation of the resected tissue confirmed the diagnosis of a cystic polypoid rectal hamartoma characterized by normal rectal epithelium overlying multiple cystic, blood-filled vascular spaces. The foal recovered without complications and no recurrence was noted during a long-term follow-up exceeding 18 months. This report underscored that congenital rectal hamartoma, while rare, should be considered as a differential diagnosis in neonatal foals presenting with hematochezia or dyschezia. Prompt surgical intervention is curative and associated with a favorable prognosis.
<b>Keywords:</b> Foal Rectum Congenital malformations Cystic hamartoma Polypectomy	

© 2026 Urmia University. All rights reserved.

### Introduction

A polyp is a benign, typically pedunculated mass, protruding into a lumen from an epithelial surface. While polyps can develop throughout the digestive tract, they are most commonly identified in the colon and rectum. Non-neoplastic intestinal polyps are categorized as hyperplastic, inflammatory, or hamartomatous.<sup>1,2</sup> Hamartomas are mostly benign malformations consisting of a disorganized mixture of mature cells and tissues indigenous to the affected anatomical site.<sup>1</sup>

The clinical manifestations of gastrointestinal polyps are variable and depend on factors, such as size, location, and vascularity. Common presenting clinical signs include tenesmus, hematochezia, abdominal discomfort, and in chronic cases, weight loss.<sup>3-5</sup> Complications may include mechanical obstruction, or serve as a lead point for intussusception, necessitating emergency surgical intervention.<sup>6,7</sup>

Diagnosis of gastrointestinal tract polyps relies on digital rectal examination, diagnostic imaging (*e.g.*, ultrasonography and contrast radiography), and endoscopy with definitive diagnosis achieved through histopathological study.<sup>3,5,6</sup> Reports of rectal polyps,

particularly hamartomas, in foals are scarce.<sup>5,8</sup> To the authors knowledge, this was the first documented case of a congenital cystic rectal hamartoma in a Kurdish foal, highlighting its diagnostic and therapeutic significance.

### Case Description

A 20-day-old, 40 kg male Kurdish foal was referred to the Veterinary Teaching Hospital of Urmia University, Urmia, Iran, for evaluation of hematochezia and pronounced tenesmus of two days duration. The owner reported no history of trauma and noted the foal was otherwise bright and nursing normally with a visible tissue mass prolapsing during defecation.

On admission, the foal was in a good body condition with vital parameters within normal limits (heart rate: 80 bpm, respiratory rate: 38 bpm, and rectal temperature: 38.20 °C). Mucous membranes were pink and moist with a capillary refill time of < 2 sec. The perineum and caudal thighs were stained with dried blood (Fig. 1A). Digital rectal palpation revealed a firm, pedunculated mass, originating from the left lateral rectal wall approximately 5.00 cm cranial to the anus (Fig. 1B). A complete blood count was unremarkable.

### \*Correspondence:

Saeed Azizi. DVM, DVSc

Department of Surgery and Diagnostic Imaging, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran

E-mail: s.azizi@urmia.ac.ir



This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) which allows users to read, copy, distribute and make derivative works for non-commercial purposes from the material, as long as the author of the original work is cited properly.

No other disorder or congenital malformation was observed on clinical examination.

Following owner consent, the decision was made for surgical excision. Pre-operative medication included 1.10 mg kg<sup>-1</sup> flunixin meglumine (Rooyan Darou Pharmaceutical Company, Tehran, Iran) intravenously for analgesia and anti-inflammatory effect, and 20,000 IU kg<sup>-1</sup> penicillin G plus 10.00 mg kg<sup>-1</sup> streptomycin sulfate procaine as prophylactic antimicrobials (Norbrook Laboratories Ltd., Newry, Northern Ireland) intramuscularly.

The procedure was performed under local anesthesia induced by submucosal infiltration of 0.50 mL lidocaine (Pasteur Institute, Tehran, Iran) at the base of the mass stalk. The anus was retracted and the pedicle was double-ligated using 2-0 polyglycolic acid suture (Supa, Tehran, Iran) before transection distal to the ligatures. The excised mass was fixed in 10.00% neutral buffered formalin for histopathological examination.

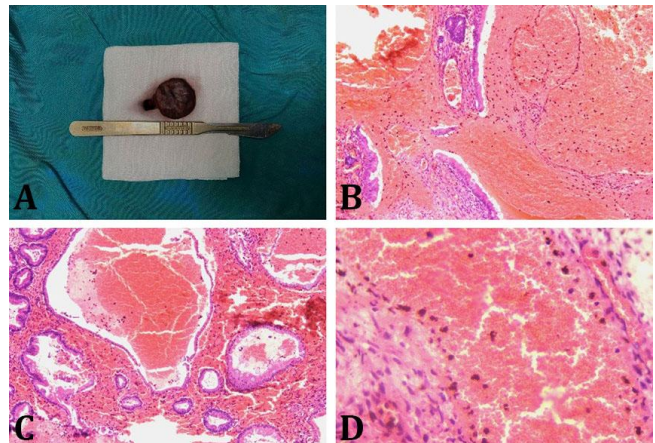
Post-operative care consisted of flunixin meglumine with the same dosage for 48 hr and continued the aforementioned antimicrobial therapy for 72 hr. The foal was monitored for three days post-operatively and showed no signs of tenesmus, hemorrhage, or pyrexia. A long-term follow-up exceeding 18 months confirmed an excellent outcome with no complications.



**Fig. 1.** Clinical presentation and identification of a rectal mass. **A)** Perineum and caudal thighs being stained with dried frank blood; **B)** Intra-operative photograph demonstrating manual exteriorization of the pedunculated rectal mass through the anus.

**Gross and histopathological findings.** The resected mass was a well-circumscribed, polypoid structure measuring 3.50 × 3.00 × 2.00 cm, connected by a 2.50 cm long, 1.00 cm diameter fibrous stalk (Fig. 2A). The surface was dark red-brown and irregular, with multiple blood-filled cysts evident on the cut surface. Histopathological examination revealed a core of disorganized, well-differentiated tissue covered by normal rectal epithelium (Fig. 2B). The stroma contained numerous, variably sized, thin-walled, and cystic vascular channels, exhibiting severe hemorrhage (Figs. 2C and 2D). There was no evidence of

cellular atypia or malignant transformation. These features were consistent with a diagnosis of a congenital cystic polypoid hamartoma.



**Fig. 2.** Gross and histopathological features of the excised rectal mass. **A)** Gross photograph of the solitary, pedunculated polypoid mass. Note the dark red-brown, irregular surface and the narrow, cylindrical stalk; **B)** Photomicrograph of the mass showing normal rectal epithelium (Hematoxylin and Eosin staining; 100 ×); **C)** Stroma with multiple, variably sized cystic vascular spaces and severe hemorrhage (Hematoxylin and Eosin staining; 100 ×); **D)** Higher magnification photomicrograph revealing dilated, thin-walled blood vessels characteristic of the hamartoma's vascular component (Hematoxylin and Eosin staining; 400 ×).

## Discussion

This report described the successful diagnosis and treatment of a congenital rectal cystic hamartoma in a foal. Surgical excision was performed to alleviate clinical signs and prevent complications. The diagnosis was definitively confirmed by histopathological examination.

The therapeutic approach and prognosis for gastrointestinal masses are directly influenced by their pathological characteristics. These lesions are typically classified as neoplastic or non-neoplastic, and may be either acquired or congenital in origin. As demonstrated in the present case, histopathological examination is essential for a conclusive diagnosis, particularly to distinguish hamartomas from true neoplasms. This is especially relevant for congenital masses, being defined as those present at birth or identified within the first two months of life.<sup>1,9,10</sup>

Histologically, polypoid hamartomas consist of excessive but well-differentiated native tissues, a feature necessitating differentiation from true neoplasia. Their origin is attributed to aberrant tissue development rather than uncontrolled cellular proliferation, and they consistently exhibit benign biological behavior. These malformations are often defined by the presence of architecturally complex, organ-specific structures, such as vascular networks or glandular follicles.<sup>1,4</sup>

The clinical presentation of hematochezia and tenesmus in the foal was consistent with previous reports of congenital intestinal polyps in equine neonates. Congenital rectal hamartomas have been documented in a 3-week-old American Paint Horse filly and an 18-hr-old Thoroughbred colt, both presenting with hematochezia and hemorrhagic rectal masses.<sup>5,8</sup> Similarly, a congenital jejunal adenomatous polyp causing jejuno-jejunal intussusception was reported in a 3-day-old Trakehner-cross filly.<sup>6</sup> This suggests that such congenital intestinal masses can share a common clinical presentation of tenesmus and defecation distress in neonates.<sup>8,11</sup> In contrast, intestinal polyps in older horses more commonly manifest as colic and weight loss, though their potential congenital origin remains undetermined.<sup>1,6</sup>

While hamartomas are rare congenital malformations in horses with no documented breed or sex predisposition,<sup>12</sup> existing literature suggests a predilection for the intestinal tract in foals.<sup>5-8,13</sup>

The diagnosis of gastrointestinal polyps is clinically challenging, as their presentation often mimics more common conditions, such as parasitism, enteritis, or mechanical obstruction.<sup>3,5</sup> Hence, to ascertain the condition, paraclinical diagnostic modalities, such as ultrasound or endoscopy, are necessary. If left untreated, these lesions carry a significant risk of complications, including persistent hematochezia, tenesmus, protein-losing enteropathy, peritonitis, or serving as a lead point for intestinal intussusception which can result in severe morbidity or mortality.<sup>3,13</sup> Although reports in foals are rare, congenital polyps should be considered a differential diagnosis in neonates presenting with rectal bleeding or colic.<sup>13,14</sup> The literature often describes a guarded prognosis, heavily influenced by the timeliness of intervention and polyp location and size.<sup>5,13,15</sup> In the present case, the favorable outcome could be attributed to early recognition and intervention, the mass accessible location and pedunculated nature, and complete surgical excision with minimal tissue trauma.

The histopathological characteristics observed in this case, specifically, the normal rectal epithelium overlying cystic, vascular-rich stroma were in agreement with the descriptions of congenital rectal hamartomas in foals by Dunkel *et al.*<sup>8</sup> and Salazar *et al.*<sup>5</sup>

This pathological entity shares significant morphological similarities with solitary juvenile polyps in humans. In human medicine, such lesions are also classified as inflammatory or retention polyps, and recognized as non-neoplastic. They most frequently occur in children aged 2-5 years, typically presenting as pedunculated, reddish polyps under 3 cm in diameter, and are not considered to have malignant potential.<sup>1,5,16</sup>

Histologically, human colorectal juvenile polyps are characterized by cystic glandular spaces filled with mucus and inspissated inflammatory debris, surface ulceration,

and epithelial regenerative changes. The underlying stroma is typically edematous, richly vascularized, and infiltrated by inflammatory cells, including polymorphonuclear granulocytes.<sup>1,5</sup> It is critical to distinguish isolated juvenile polyps, which carry no malignant potential, from polyps occurring in the context of specific hereditary syndromes (*e.g.*, juvenile polyposis syndrome). In these syndromic cases, germline mutations predispose individuals to the development of numerous polyps with a significant risk of dysplastic change and progression to colonic adenocarcinoma, being reported in 30.00-50.00% of affected patients.<sup>1,5,16</sup> This distinction underscores the necessity for thorough histopathological evaluation in foals to accurately characterize these lesions and determine their clinical significance, as the genetic and long-term implications of intestinal hamartomas in equines remain largely unexplored.

This report underscored that while rectal hamartoma is a rare condition in foals, it is a diagnostically significant differential for neonatal tenesmus or hematochezia. A thorough clinical examination is paramount. Surgical excision is the treatment of choice, and when performed promptly, results in a complete resolution of clinical signs and an excellent long-term prognosis. Further investigation is warranted to elucidate the underlying pathogenesis of such congenital malformations in equines.

## Acknowledgments

The authors thank the clinical staff of the Urmia University Veterinary Teaching Hospital, Urmia, Iran, for their assistance. We also extend our gratitude to the foal owner for the cooperation.

## Conflict of interest

The authors declare no conflict of interest.

## References

1. Kumar V, Abbas AK, Aster JC. Robbins and Cotran pathologic basis of disease. 10<sup>th</sup> ed. Amsterdam, Netherlands: Elsevier 2020; 267-271, 753-822.
2. Meuten DJ. Tumors in domestic animals. 5<sup>th</sup> ed. Hoboken, USA: John Wiley & Sons 2020; 486-563.
3. Freeman DE. Rectum and anus. In: Auer JA, Stick JA (Eds). Equine surgery. 5<sup>th</sup> ed. St. Louis, USA: Elsevier 2018; 643-644.
4. Derek C, Knottenbelt, Janet C, et al. Clinical equine oncology. 1<sup>st</sup> ed. Amsterdam, Netherlands: Elsevier 2015; 232, 428.
5. Salazar T, Caldwell F, Joiner K, et al. Laparoscopic assisted surgical removal of a congenital rectal hamartoma in a foal. *Equine Vet Educ* 2011; 23(2): 55-61.

6. Gold JR, Belgrave RL, Haldorson GJ. Congenital intestinal polyp associated with intussusception in a 3-day-old foal. *Equine Vet Educ* 2006; 18(3): 116-119.
7. Mejia S, Hurcombe SDA, Rodgerson DH, et al. Retrograde intussusception of the descending colon secondary to multiple colonic hamartomas in a neonatal foal. *Equine Vet Educ* 2021; 33(1): e12-e16.
8. Dunkel B, Shokek AB, Wilkins PA. Congenital cystic polypoid rectal hamartoma in a newborn foal. *Vet Pathol* 2004; 41(6): 700-702.
9. Misdorp W. Congenital tumours and tumour-like lesions in domestic animals. 3. Horses. A review. *Vet Q* 2003; 25(2): 61-71.
10. Hepworth-Warren KL. Congenital disorders of the equine gastrointestinal tract. In: Wong DM, Wilkins PA (Eds). *Equine neonatal medicine*. Hoboken, USA: John Wiley & Sons 2024; 421-432.
11. Slovis NM. Gastrointestinal failure. *Clin Tech Equine Pract* 2003; 2(1): 79-86.
12. Robertson JL. Lymphosarcoma and other rare skin tumors. In: White NA, Moore JA (Eds). *Current techniques in equine surgery and lameness*. Philadelphia, USA: WB Saunders 2001; 109-112.
13. Saulez MN, Cebra CK, Snyder SP. Small colon polyp with peritonitis in an Arabian yearling filly. *Equine Vet Educ* 2004; 16 (4): 184-187.
14. Harold C, McKenzie III. Disorders of foals. In: Reed SM, Bayly WM, Sellon DC (Eds). *Equine internal medicine*. 4<sup>th</sup> ed. Philadelphia, USA: Saunders 2018; 1390-1397.
15. Marley LK, Repenning P, Frank CB, et al. Transendoscopic electrosurgery for partial removal of a gastric adenomatous polyp in a horse. *J Vet Intern Med* 2016; 30(4): 1351-1355.
16. Popović M, Knežević A, Dolinaj Škopelja J, et al. Juvenile polyp in adults. *Acta Clin Croat* 2022; 61(2): 354-358.