

Partial intestinal Atresia (Stenosis) in a day-old Beetal goat kid: A case report

Chagi Nagalinga, Abhishek Verma and Geeta Devi Leishangthem*

Department of Veterinary Pathology, College of Veterinary Science, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab

***Address for correspondence**

Geeta Devi Leishangthem, Department of Veterinary Pathology, College of Veterinary Science, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, Punjab; E-mail: drgeetapatho@gmail.com

Received: 20.12.25; Accepted: 26.1.26

ABSTRACT

A one-day-old male goat kid was presented for necropsy with clinical signs of abdominal distension, weakness, and absence of faecal passage since birth. Gross examination revealed a segmental narrowing of the ileum approximately 15–20 cm proximal to the ileocecal junction. The affected part had a markedly reduced lumen diameter, resulting in partial obstruction. The proximal small intestine was severely dilated, haemorrhagic and filled with blood-tinged fluid, while the distal intestine was collapsed and empty with reduced lumen size. Histopathology of distal part showed reduced lumen diameter with intact intestinal wall layers, reduced villi and mild mucosal congestion while the proximal dilated segments showed mucosal flattening, loss of villi, congestion and marked submucosal haemorrhage. The condition was diagnosed as partial intestinal atresia (stenosis), a rare congenital anomaly in goat kids.

Keywords: Congenital anomaly, goat kid, intestinal stenosis, partial atresia, pathology

INTRODUCTION

Intestinal atresia is a congenital anomaly leading to obstruction of the intestinal lumen. It is classified into several types, ranging from complete absence of lumen (Type II, III) to incomplete narrowing (Type I, or stenosis)¹. While commonly described in calves and lambs, such congenital anomalies are rare in goat kids^{2,3}. Furthermore, partial atresia or stenosis is not much reported in goat kids. Partial intestinal atresia allows limited passage of intestinal contents. The condition is often incompatible with life and manifests clinically as failure to pass meconium, abdominal distension, and progressive weakness⁴. This report documents partial intestinal atresia in a neonatal goat kid with gross and histopathological details.

CASE DESCRIPTION

A day-old male goat kid was presented to the department for necropsy with the history of failure to pass faeces since birth, reduced suckling, progressive abdominal distension, weakness and death within 24 hours of birth. A thorough necropsy was performed and representative intestinal tissues were collected in 10% neutral buffered formalin and were routinely processed and stained with haematoxylin and eosin.

On external examination of carcass, no significant changes were observed except pale conjunctival mucous membrane. On opening of abdominal cavity, dilated loops of proximal small intestine filled with blood-tinged fluid and gas were observed along with congested mesenteric blood vessels (Fig.1). The ileum showed a segment of stenosis approximately 2 cm in diameter, located around 20 cm proximal to the ileocecal junction. The lumen was markedly narrowed but not completely obliterated (Fig. 2). Proximal intestine was dilated and congested, while distal ileum, caecum, and colon were empty and collapsed. Abomasum was filled up with curdled milk. No other congenital anomalies were observed. Lungs, liver and kidneys only revealed mild congestion.

How to cite this article : Nagalinga, C., Verma, A. and Leishangthem, G.D. 2026. Partial intestinal Atresia (Stenosis) in a day-old Beetal goat kid: A case report. Indian J. Vet. Pathol., 50(2) : 171-172.

On histopathological examination, the stenotic segment showed all layers of the intestine but with narrowed lumen, and small and club shaped villi and predominance of goblet cells along with mild congestion and oedema in the mucosa and submucosa (Fig.3). Whereas the proximal dilated segments showed mucosal flattening, loss of villi, congestion and marked submucosal haemorrhages (Fig. 4).

DISCUSSION

Partial intestinal atresia or stenosis corresponds to Type I intestinal atresia in veterinary classification. It differs from complete atresia by presence of a continuous but narrowed lumen. Type I atresia, is characterized by

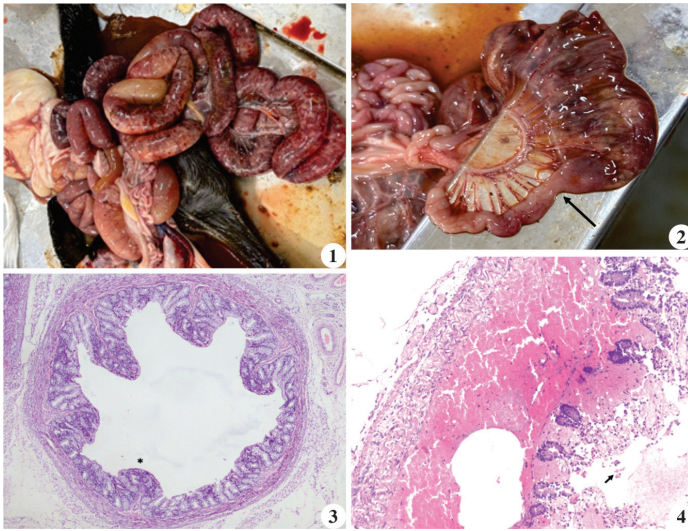


Fig. 1. Gastrointestinal tract of a day-old goat kid showing markedly dilated loops of proximal small intestine due to partial obstruction; **Fig. 2.** Stenotic ileal segment demonstrating reduced lumen (Arrow); **Fig. 3.** Histological section of the stenotic ileum showing narrowing of the lumen (*) with intact mucosa, small and blunted villi, submucosa, and muscularis (H&E 40X); **Fig. 4.** Proximal dilated ileum with submucosal haemorrhages, flattening of villi and denudation of enterocytes (arrow) (H&E 100X).

the presence of a thin intraluminal mucosal or membranous septum that completely or partially occludes the lumen. In this form, the proximal intestinal segment becomes markedly dilated due to accumulation of ingesta and secretions, while the distal segment remains collapsed and devoid of contents. Importantly, the mesentery remains intact and the overall intestinal length is preserved, distinguishing this type from other forms of intestinal atresia¹. In ruminants, the ileum is most frequently affected. The clinical picture includes abdominal distension, anorexia, and failure to pass faeces. Death usually results from progressive obstruction and toxæmia^{5,6}. Vascular accidents during late gestation, such as intrauterine ischemia or thromboembolism of mesenteric vessels, have also been implicated as contributory mechanisms, leading to localized necrosis and resorption of affected intestinal segments⁷. In cattle, a genetic predisposition has been suggested, with several reports indicating familial clustering of atresia coli, particularly in Holstein calves⁸.

In small ruminants such as goat kids, surgical correction of congenital intestinal stenosis or atresia is seldom attempted—primarily due to the unfavourable cost-benefit ratio in production animals, limited access to specialist surgical services, and the low economic value of individual animals. Thus, most affected kids are euthanized or die shortly after onset of clinical signs. In contrast, in large animals with higher individual value (e.g., calves and foals), successful surgical correction and survival have been reported. For instance, active surveillance over eight years in dairy herds documented 197 cases of intestinal atresia among 56,454 liveborn calves (incidence ~0.35 %), underscoring that this

condition, while rare, is better characterized in bovines⁸. An earlier veterinary series also reported 34 cases of intestinal atresia or stenosis across various species (29 atresia, 5 stenosis), with the majority in calves and a few in lambs or pigs². Palpation of the amniotic vesicle during pregnancy diagnosis between 36 to 42 days of gestation has been considered one of the reasons for atresia at small intestine and colon⁹. In goats, a rare report describes ileal atresia concurrent with absence of the ileo-caecal valve and volvulus in a goat kid, which remains one of the few documented surgical anomaly cases in small ruminants⁶. Thus, this present case contributes to the very limited literature on congenital intestinal stenosis in goats and highlights the importance of documenting such anomalies in small ruminants.

This case report describes partial intestinal atresia (type I) of the ileum in a neonatal goat kid, a rare congenital anomaly causing intestinal obstruction. Pathological examination is essential for accurate diagnosis and differentiation from complete atresia.

Financial support & sponsorship: None.

Conflicts of interest: None.

Use of artificial intelligence (AI)-Assisted Technology for manuscript preparation: The authors confirm that there was no use of AI-assisted technology for assisting in the writing of the manuscript and no images were manipulated using AI.

REFERENCES

- Oh C. 2023. Jejunoileal Atresia: A contemporary review. *Adv Pediatr Surg*. **29**(2): 89.
- Van der Gaag I & Tibboel D. 1980. Intestinal atresia and stenosis in animals: a report of 34 cases. *Vet Pathol* **17**(5): 565-574.
- Brown CC, Baker DC & Barker IK. 2007. Alimentary system. In M.G. Maxie (Ed.), *Jubb, Kennedy & Palmer's pathology of domestic animals*, 5th ed. Vol. 2. **1**:296. Elsevier.
- Uzal FA, Plattner BL, Hostetter JM. 2016. Alimentary System. In *Jubb, Kennedy & Palmer's Pathology of Domestic Animals: Volume 2*. 2016:1-257.e2. doi: 10.1016/B978-0-70205318-4.00007-3. Epub 2016 Feb 5. PMID: PMC7811793.
- Radostits OM, Gay CC, Hinchcliff KW, Constable PD. 2007. In *Veterinary Medicine A text book of disease of cattle, sheep, pigs and horse* 10th ed. Saunders Elsevier, Edinburgh, Pp. 2007:254-60.
- Kheirandish R & Tajik J. 2017. Ileal atresia concurrent with agenesis of the ileocecal valve and intestinal volvulus in a goat kid. *BJVM*, **20**(1): 73-79.
- Shweta S and Vaiphei K. 2021. Intestinal atresia: histopathologist view. *Int Surg J* **8**: 226-231.
- Keane OM, Carthy TR, Hanrahan JP, Matthews D, McEwan JC, Rowe SJ, Kenneally J & Mee JF. 2023. Risk factors for, and genetic association with, intestinal atresia in dairy calves. *Anim Genetics* **54**(2): 104-112.
- Elsa AT and Onyeyili P. A. 2004. Surgical Management of Small Intestinal Atresia in Sokoto Red Goats. *Pak J Biol Sci*, **7**: 2024-2025.