

# Rectal Stricture in Newly Arrived Domestic Pigs: Differential Diagnosis to Consider

Tami Wells, DVM, CPIA; Noel Johnson, DVM, MPH, DACLAM; Erika Stamp, LVT, LAT;  
Kayla Bales, BS; Jane Fesler, LAT; and Asheley B. Wathen, DVM, MPH, DACLAM

Comparative Medicine, Office of the Vice Chancellor for Research — UNMC, Omaha, NE

## History

Eleven CG36/Landrace cross pigs, 75-94 days of age, sourced from a commercial farm, arrived for biomedical research use. One barrow, 36.5 kg, had diarrhea on arrival, with otherwise normal physical exam findings for all pigs. Fecal flotation for parasites revealed *Balantidium coli*.

Over the next 7 days, the pig was active, eating, and diarrhea appeared to respond to treatment with Probiotic Gel (10g SID PO x 3 days).

On day 9 post-arrival, the pig presented with a recurrence of diarrhea as well as decreased appetite and abdominal bloating, which were non-responsive to a 3-day treatment of carprofen (100mg SQ SID) and enrofloxacin (90mg IM SID). The vendor was contacted and confirmed that no clinical signs were detected prior to shipment.

## Differential Diagnosis

- Intestinal Salmonellosis
- Porcine Proliferative Enteropathy
- Porcine Coronavirus
- Porcine Circovirus

## Exam Findings

The pig was sedated with 150mg Telazol + 75mg Ketamine + 75mg Xylazine IM and masked with isoflurane for physical examination (Fig. 1) and abdominal radiographs (Fig. 2-5).

Figure 1: Sedated patient for radiograph



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## Radiographic Findings

Radiographs revealed dilated gas-filled stomach and intestines (Fig. 2-3). The gas-filled intestines appeared to decrease in size in the pelvic area, and no gas was detected from mid-pelvis to the rectum (Fig. 4-5). A digital rectal exam was performed with resistance approximately 5cm into the rectum, consistent with a rectal stricture. Due to the poor prognosis, the pig was euthanized, and a necropsy was performed.



Figure 2: Ventrodorsal (VD) abdominal radiograph

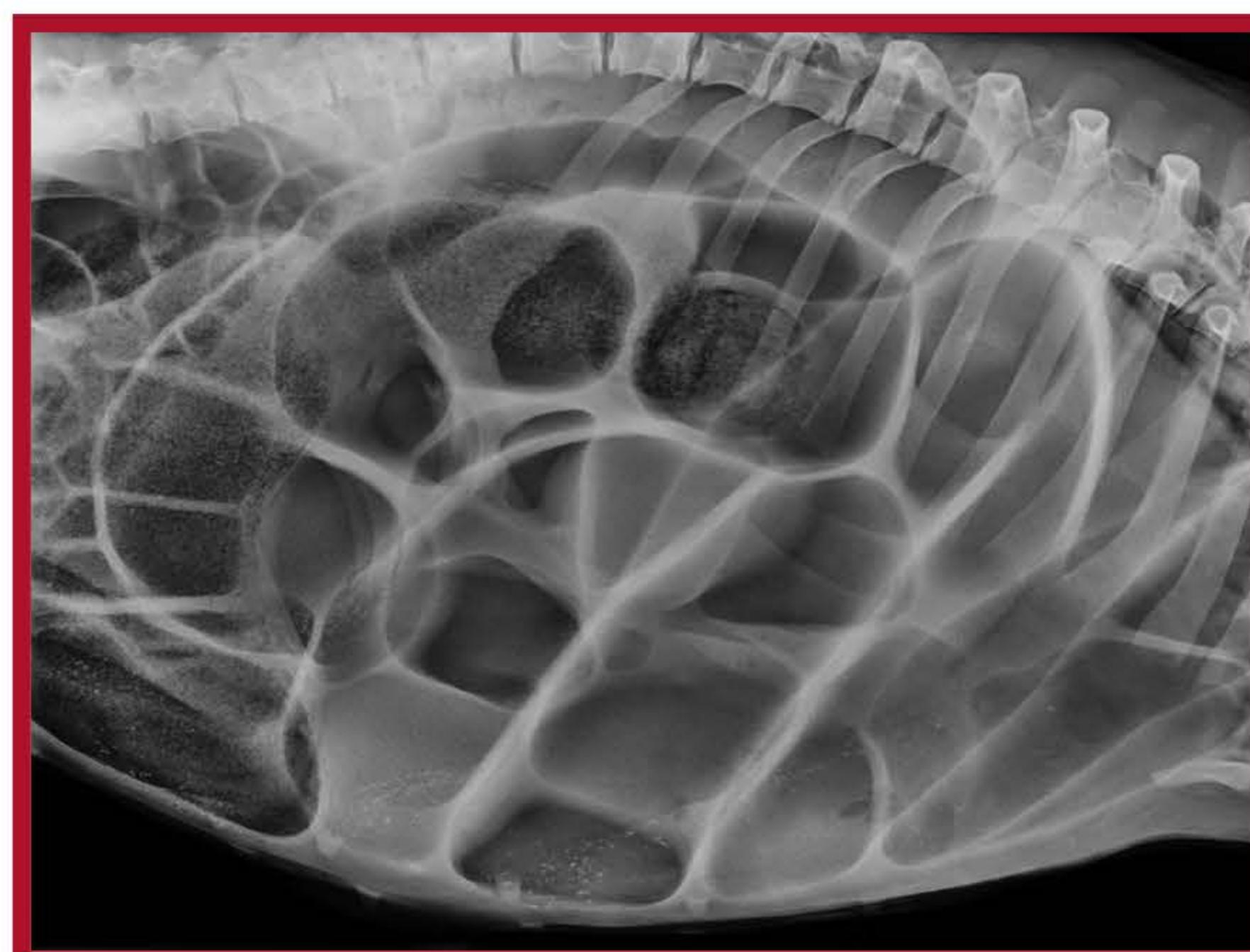


Figure 3: Lateral abdominal radiograph

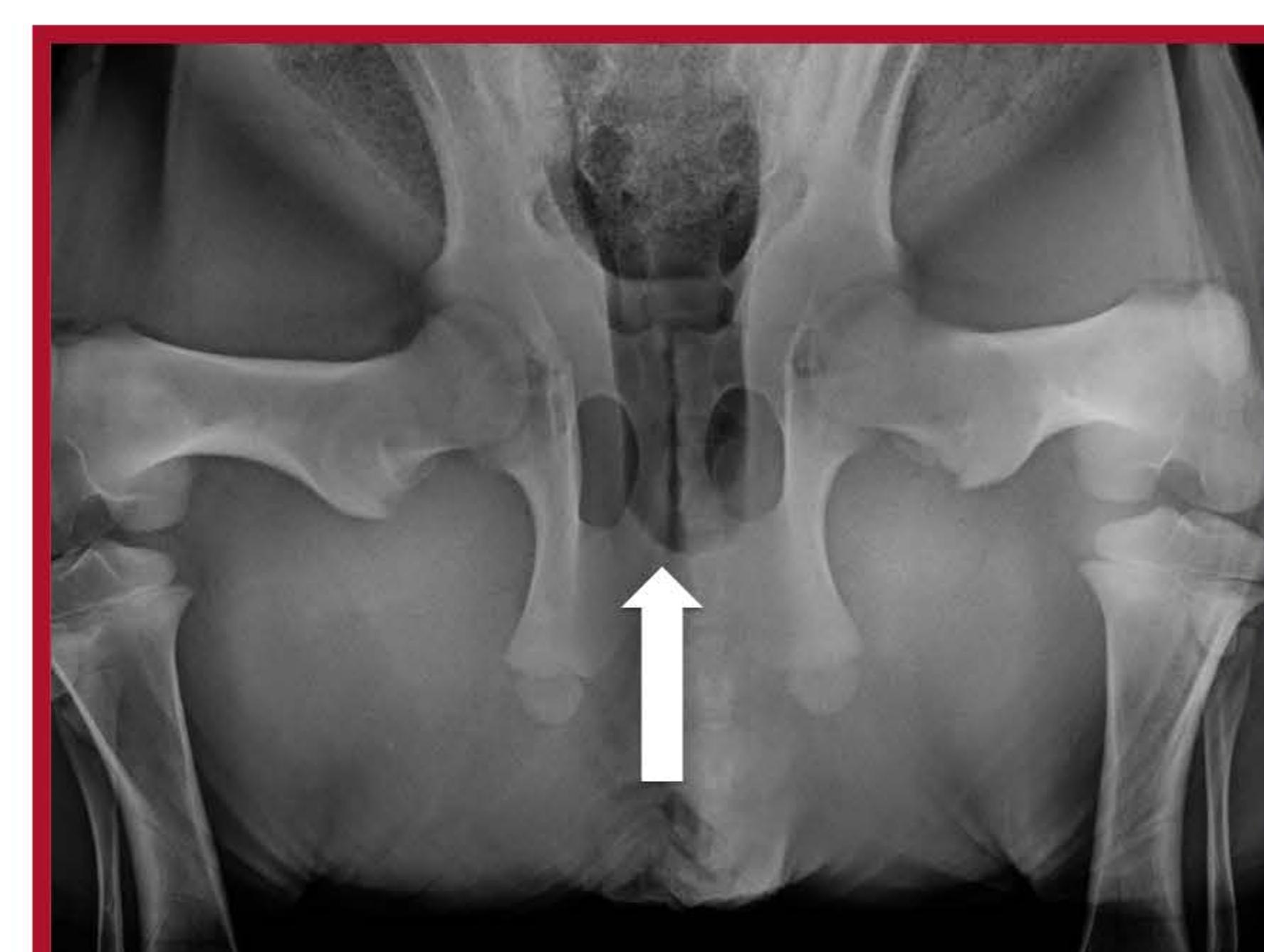


Figure 4: VD radiograph view of pelvic area showing that no gas was detected from mid-pelvis to the rectum (arrow).

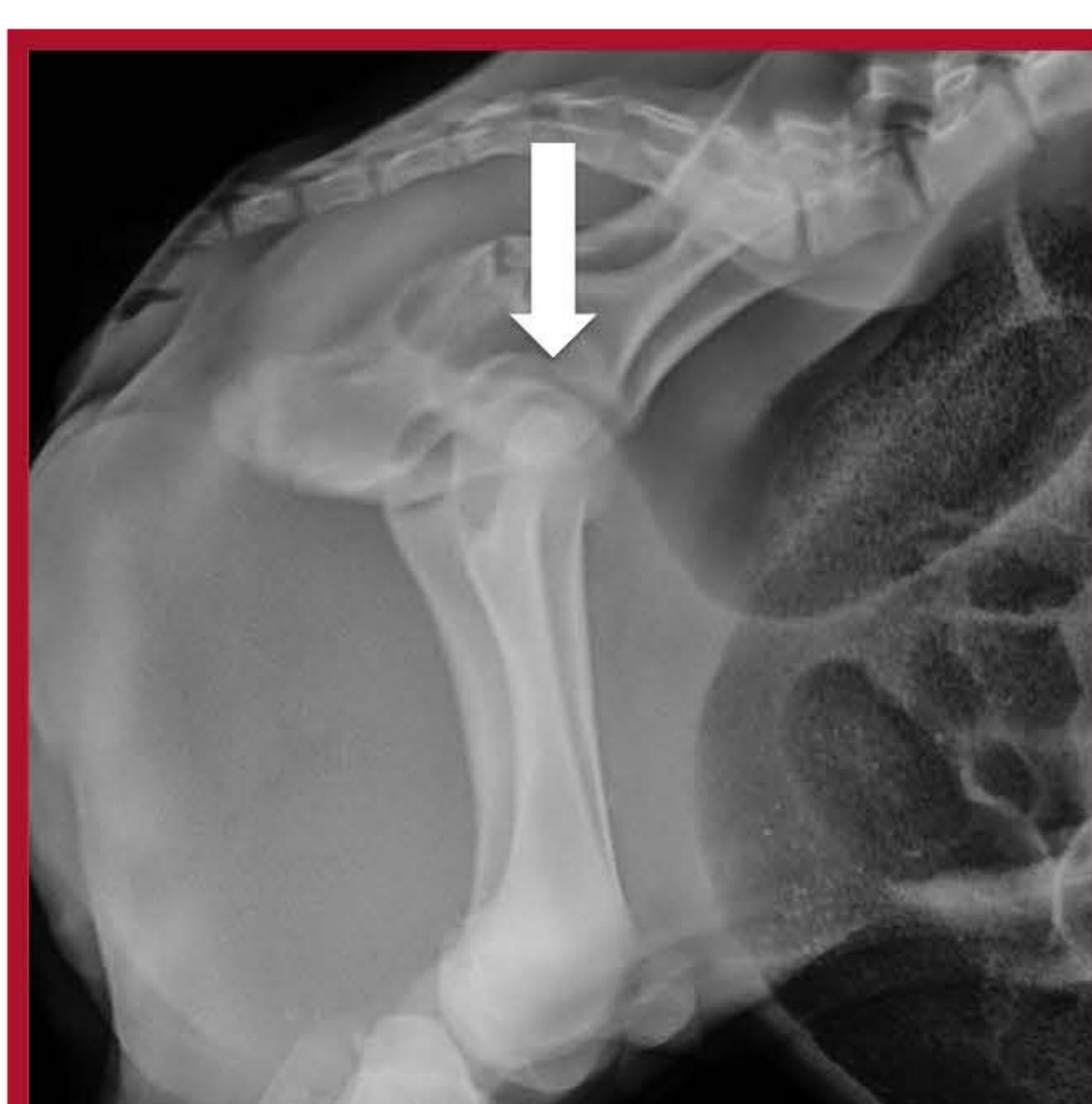


Figure 5: Lateral radiographic view showing no gas detected from mid-pelvis to the rectum (arrow).

## References

1. Wilcock BP, Olander HJ. The pathogenesis of porcine rectal stricture. I. The naturally occurring disease and its association with salmonellosis. *Vet Pathol*. 1977 Jan;14(1):36-42. doi: 10.1177/030098587701400105.
2. Wilcock BP, Olander HJ. The Pathogenesis of Porcine Rectal Stricture: II. Experimental Salmonellosis and Ischemic Proctitis. *Veterinary Pathol*. 1977;14(1):43-55. doi: 10.1177/030098587701400106
3. The Merck Veterinary Manual. Whitehouse Station, NJ: Merck & Co., Inc. Table of Diarrheal Disease in Pigs by Age group. <https://www.merckvetmanual.com/multimedia/table/diarrheal-diseases-in-pigs-by-age-group>

## Necropsy and Histopathology Findings

At necropsy, a fibrous annular stricture was present in the rectum with an ulcerated area cranial to the stricture (Fig. 6-8), along with enlarged colonic lymph nodes. Histopathology confirmed lymphoid hyperplasia; moderate, chronic, diffuse lymphoplasmacytic ulcerative colitis with edema and villous atrophy and fusion; and severe chronic fibroplasia consistent with a rectal stricture.

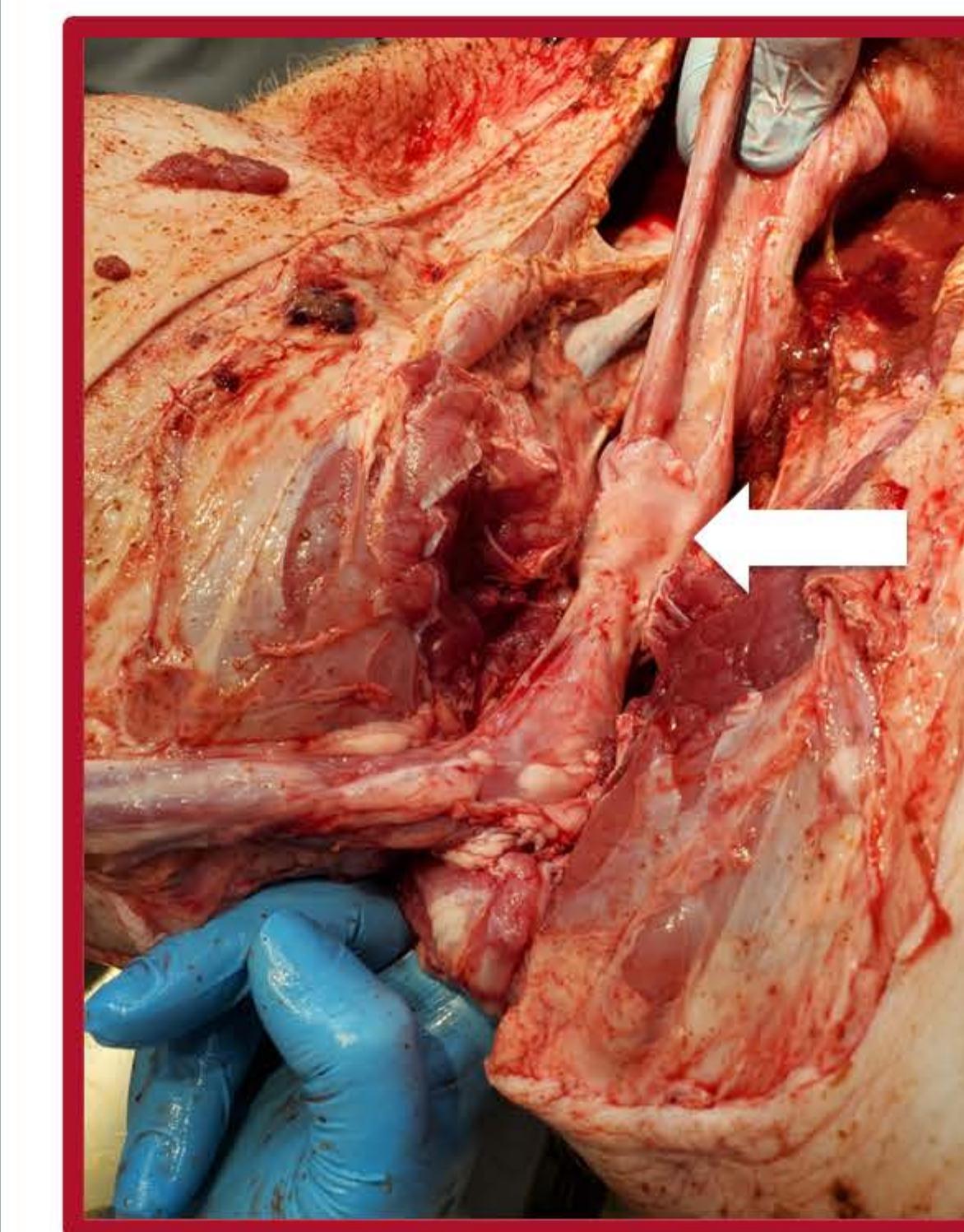


Figure 7: Anus and rectum removed. Highlighting the fibrous stricture.

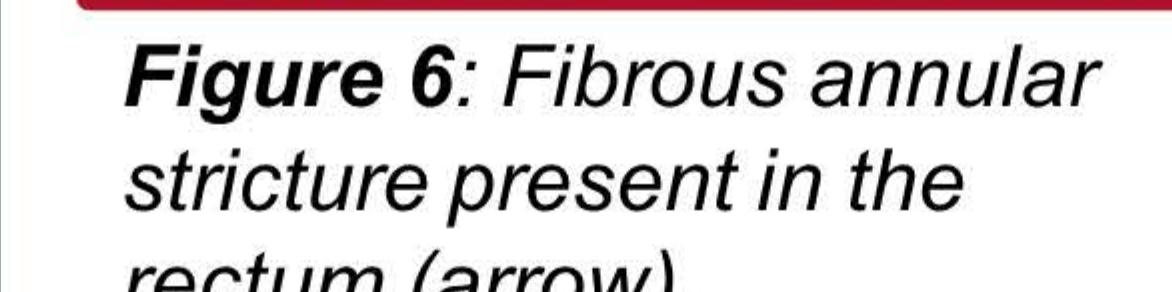


Figure 6: Fibrous annular stricture present in the rectum (arrow).

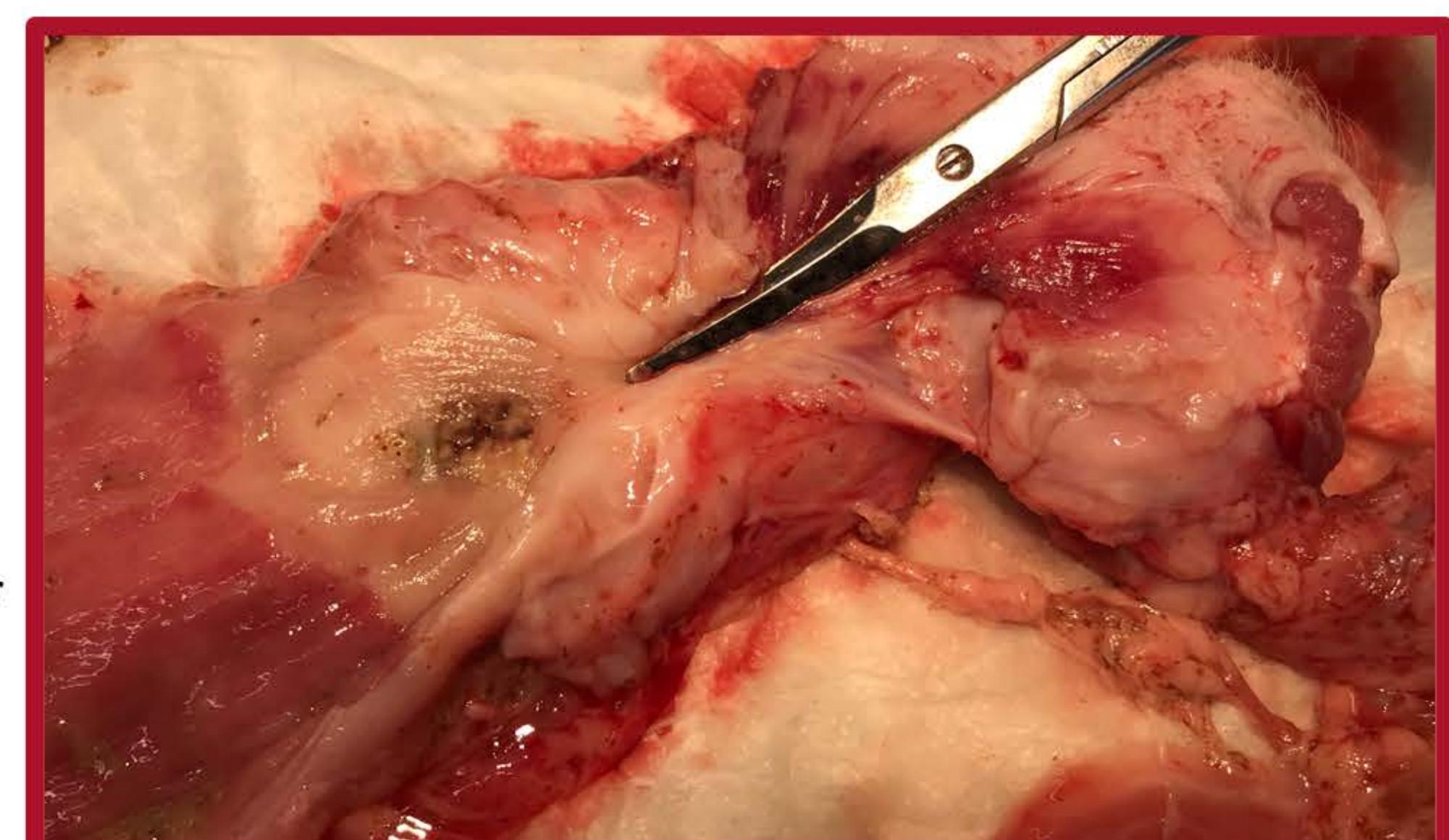


Figure 8: The rectum opened to reveal the ulcerated intestinal mucosa. A pair of scissors lying in the fibrous annular area in the rectum shows the degree of stricture.

## Discussion

In farm settings, it is not uncommon to see rectal stricture secondary to chronic enteric mucosal damage in growing pigs that leads to megacolon. It is often associated with enteric Salmonellosis or rectal prolapse.<sup>1</sup>

The underlying cause appears to be ischemia injury to the rectum resulting from compromised arterial blood flow.<sup>2</sup> The condition appears to be unreported in a biomedical research setting.

This finding highlights the diagnostic challenges in farm-sourced animals without known histories. Communication with vendors on individual and overall herd health is critical with the consideration of utilizing purpose-bred suppliers depending on specific research needs.