

2016-5-4

Colon of calf

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Signalment: Six-month-old, female, mixed breed calf (*Bos taurus*).

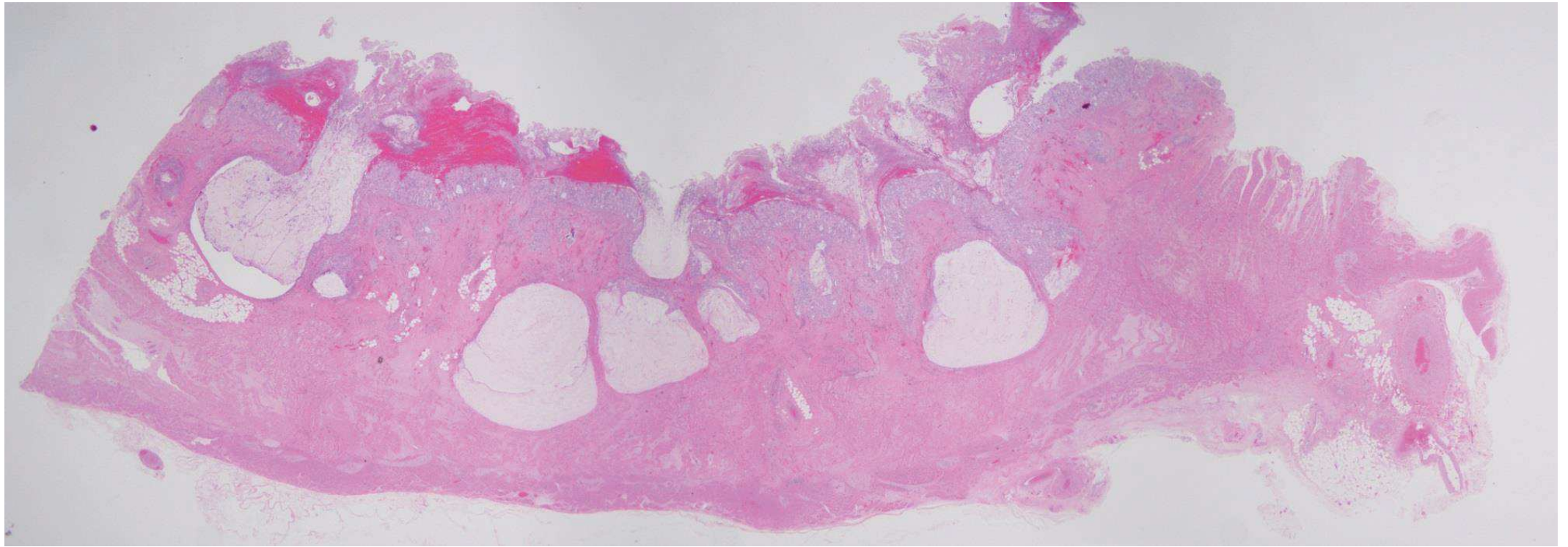
History: Fever at 39.8 °C. Treated with Baytril® and oxytetracycline, but died a week later.

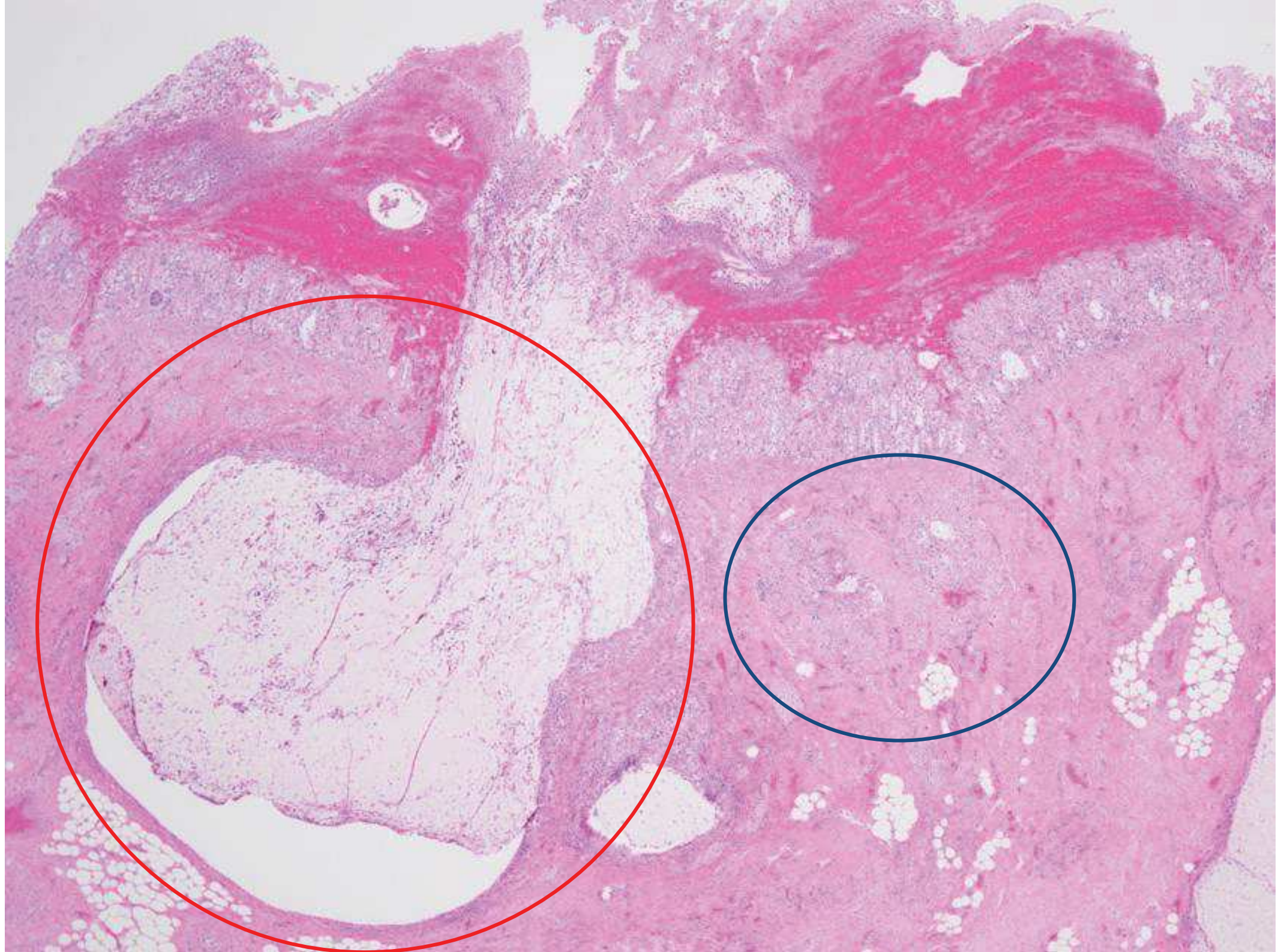
Gross lesions: The mucosa of the distal part of the small intestine was diffusely dark red and the lumen contained dark brown, mucoid, sludgy material.

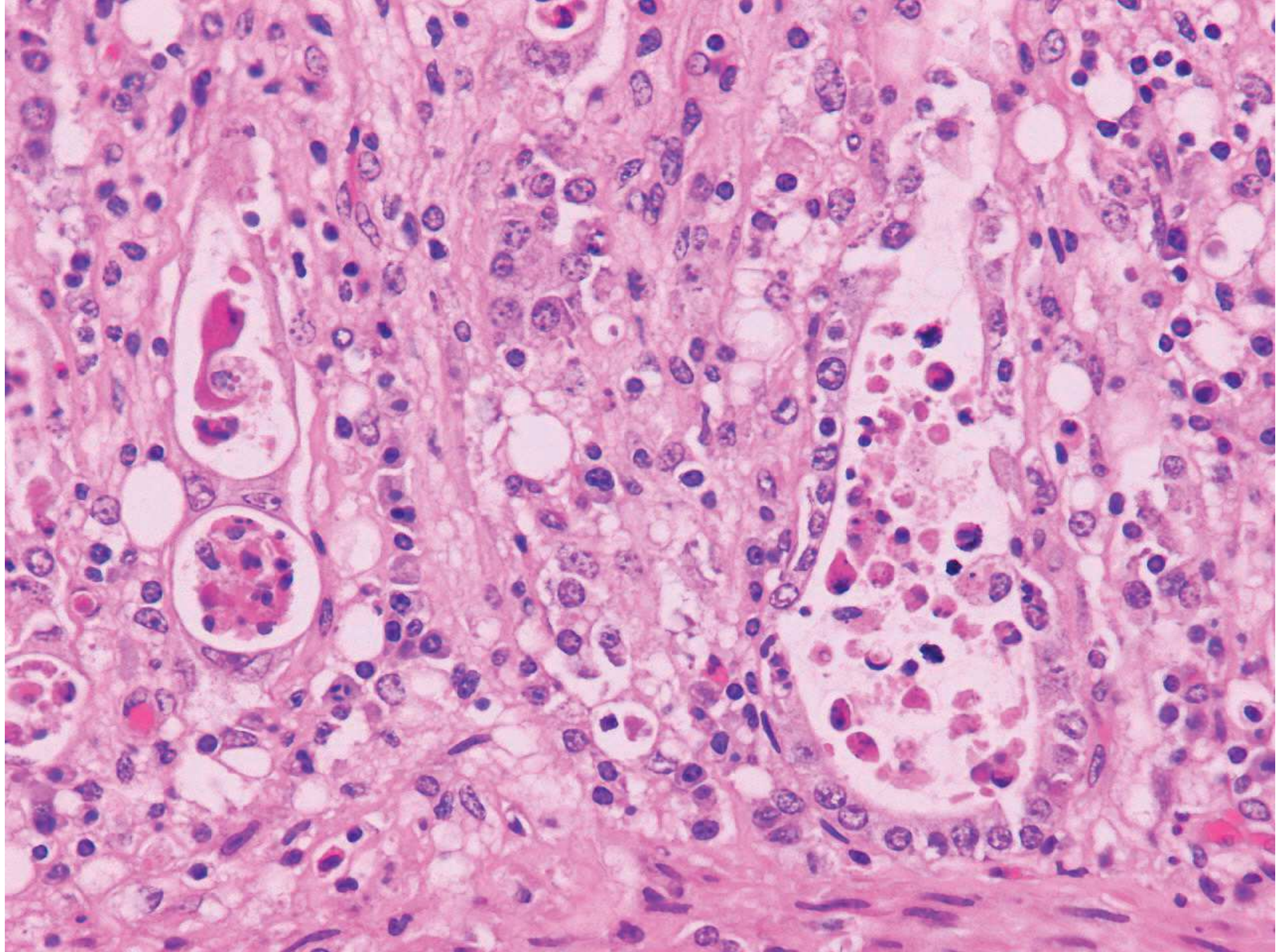
The wall of spiral colon and cecum was thick, edematous and the lumen contained thick clots of blood.

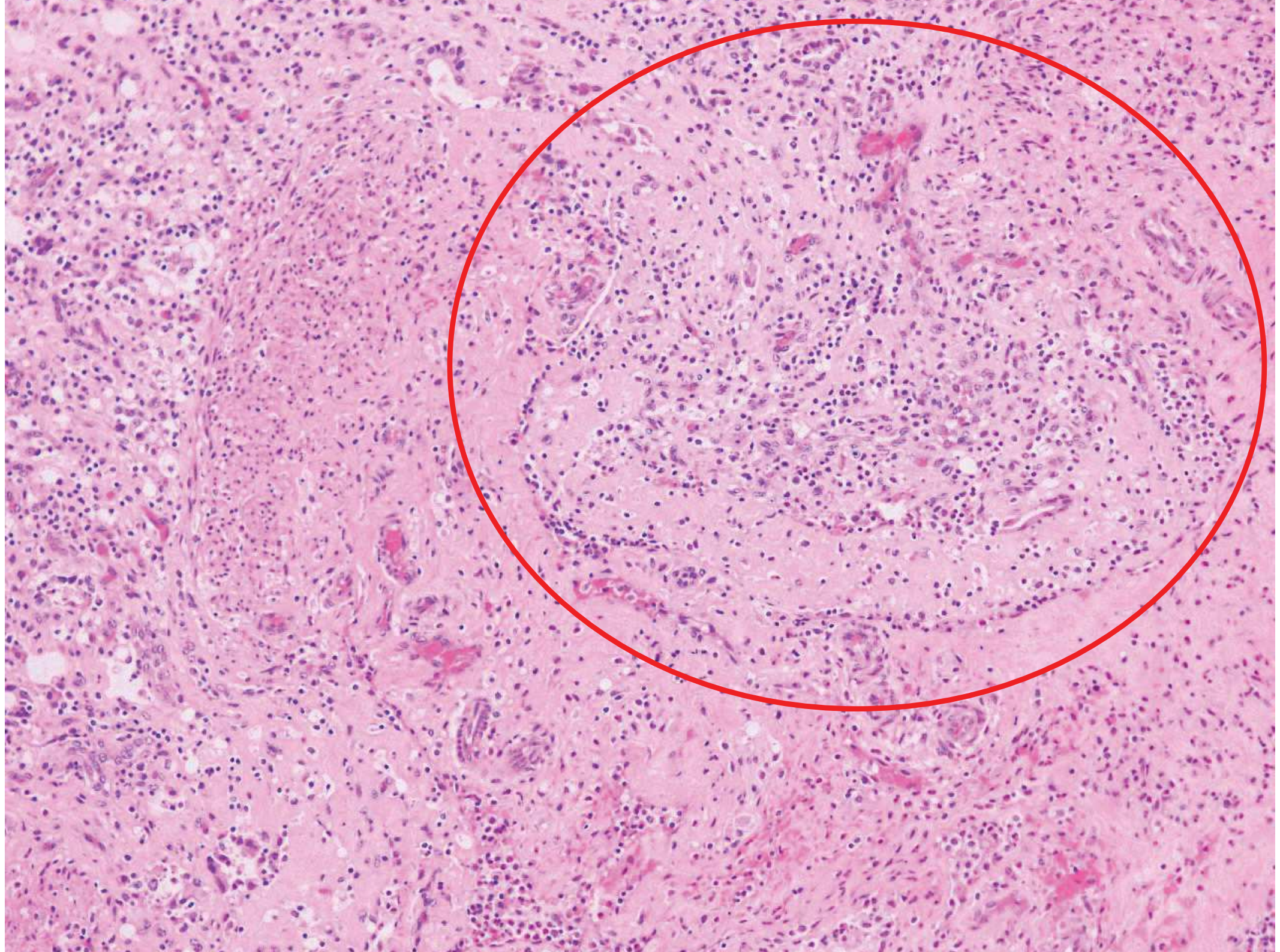
The colonic and cecal mucosae were diffusely dark red.

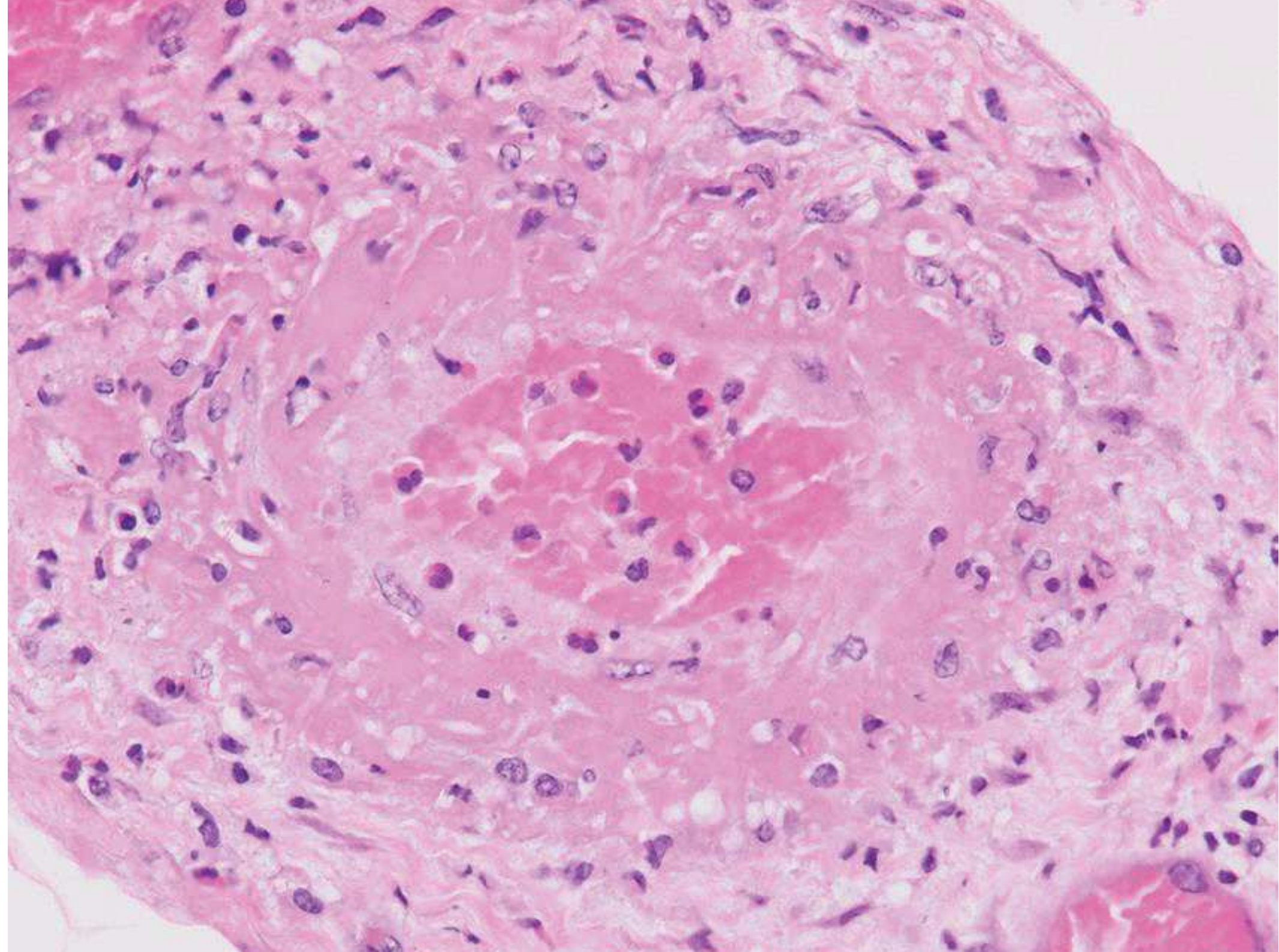
Lab Results: IHC: Bovine viral diarrhea virus: (+). Bovine corona virus: (-).

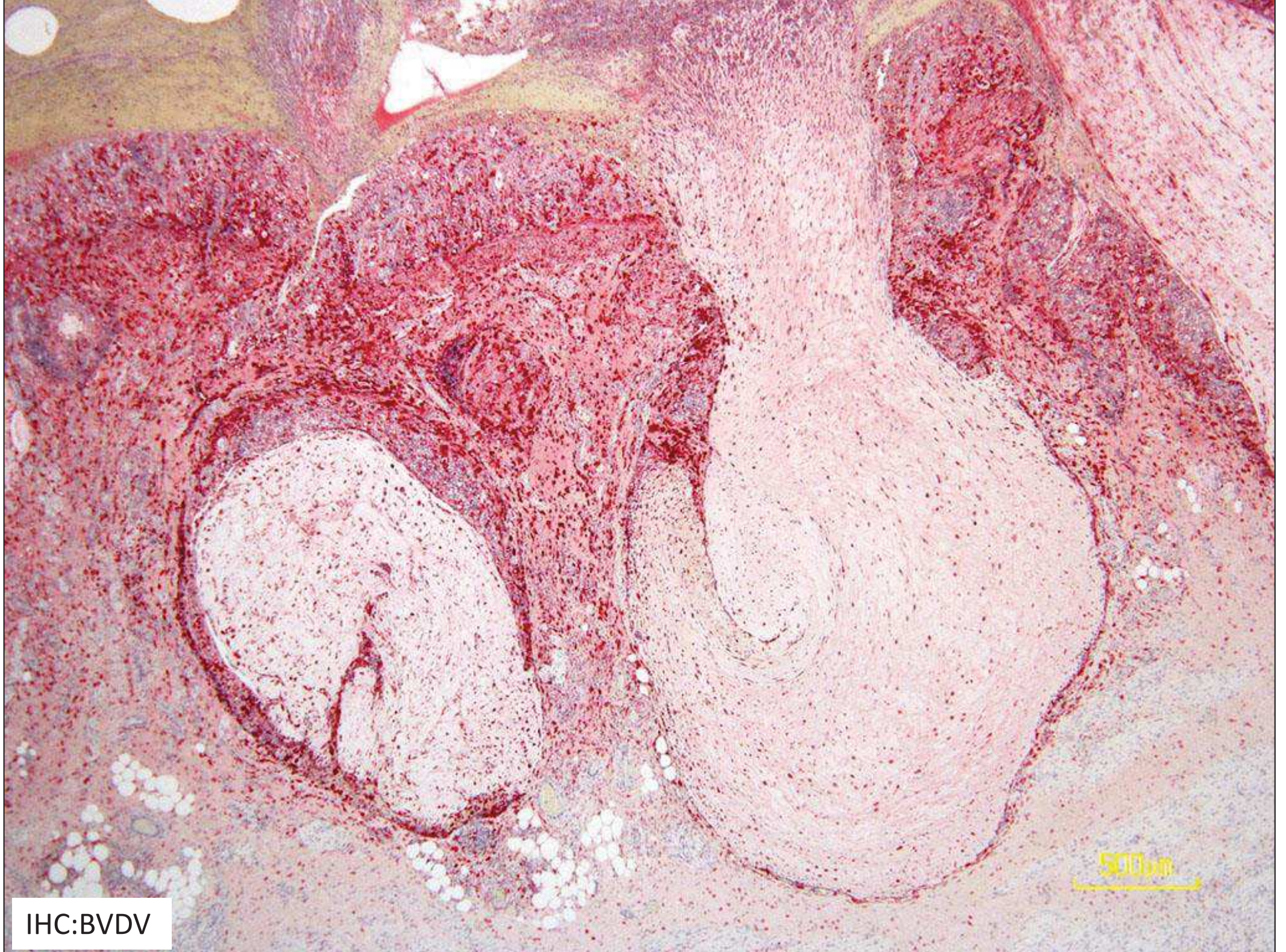












IHC:BVDV

500µm

Contributor's Morphologic Diagnosis:

Colon: Colitis, necrotizing, diffuse, severe, with multifocal crypt abscessation.

JPC Diagnosis:

Colon: Colitis, necrotizing diffuse, severe with pseudomembrane formation, marked crypt abscessation, crypt herniation, and lymphoid depletion, mixed breed calf, *Bos taurus*.

Contributor's comments

- Bovine viral diarrhea (BVD) is caused by BVD virus which belongs to *Pestivirus* genus of the family *Flaviviridae*.
- Genotypes: BVDV-1 and BVDV-2.
- Biotypes: non-cytopathic (ncp), cytopathic (CP).
Ncp doesn't induce apoptosis in cultured cells and is ubiquitous unlike **cp**.
- Acute ncp BVDV infection (**transient**): low-grade fever, diarrhea and coughing, clearing in days (endemic areas).
- Fetal infection with ncp (**persistent**) followed by post-natal infection with cp: **Mucosal disease**, characterized by widespread necrosis of the alimentary mucosa and lymphoid tissues.

Conference comments

- Two forms of clinically severe BVDV:
Mucosal disease in persistently infected cattle.
Severe acute BVD caused by highly virulent strains of BVDV-1 and BVDV-2, but usually ncp BVDV-2.
- Severe acute BVD; high morbidity and mortality with fever, sudden death, diarrhea, or pneumonia, thrombocytopenic syndrome.
- In addition to PI, early embryonic death, and abortion, in-utero infection can induce **teratogenic lesions** if a fetus is infected between 90-120 days of gestation, e.g. microcephaly, cerebellar hypoplasia, defective myelination of spinal cord, retinal degeneration, etc.