

AVIAN INTESTINAL PATHOLOGY

Eric Gingerich & Fabio Del Piero

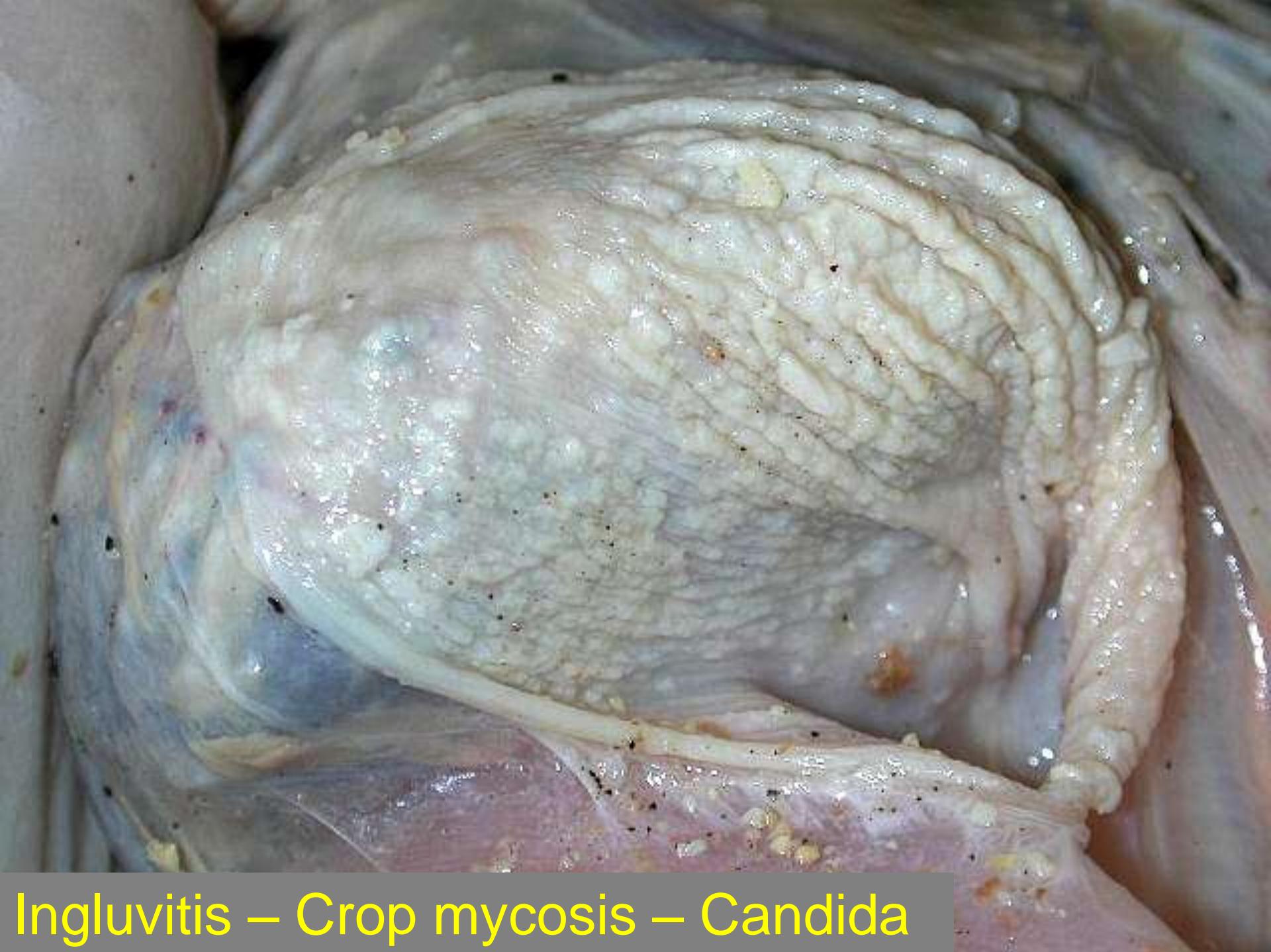
UNIVERSITY of PENNSYLVANIA
School of Veterinary Medicine
Department of Pathobiology
New Bolton Center



Ramphothecitis - beak trimming - bacteria



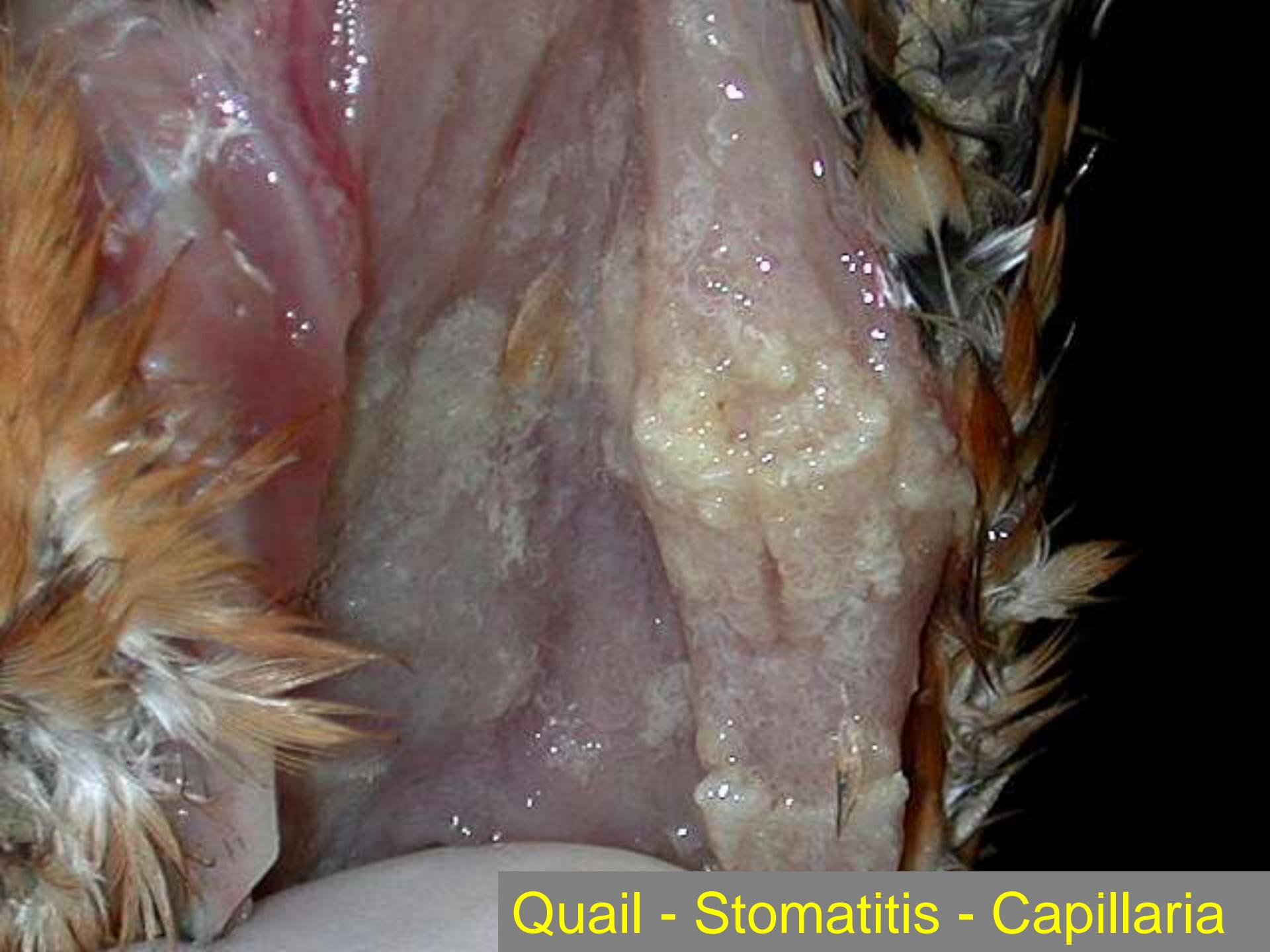
Ulcerative stomatitis – mycotoxins – T2



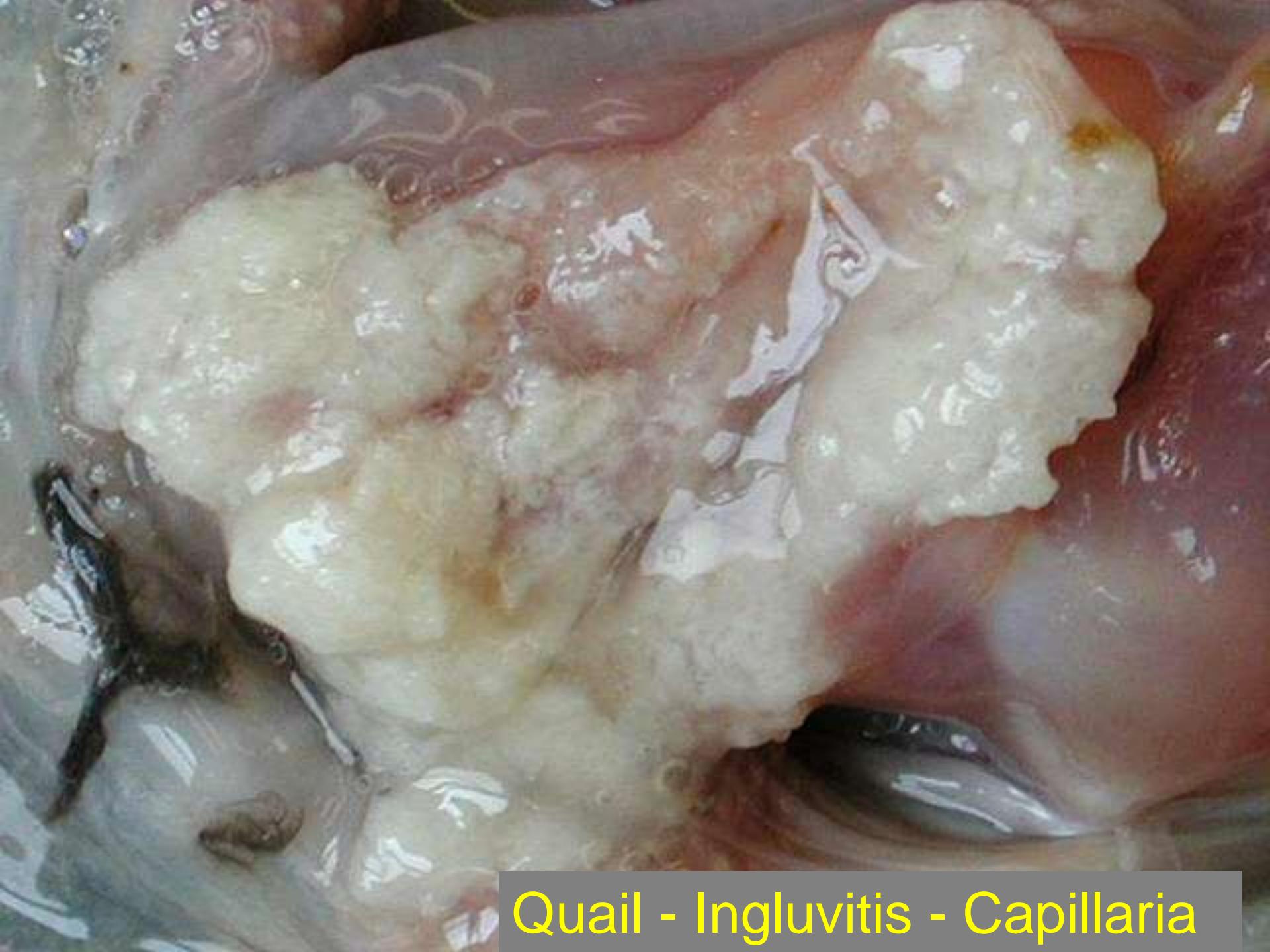
Ingluvitis – Crop mycosis – Candida



Pendulous crop – Clostridium toxin? - unknown



Quail - Stomatitis - Capillaria



Quail - Ingluvitis - Capillaria

Quail - esophagitis - Capillaria

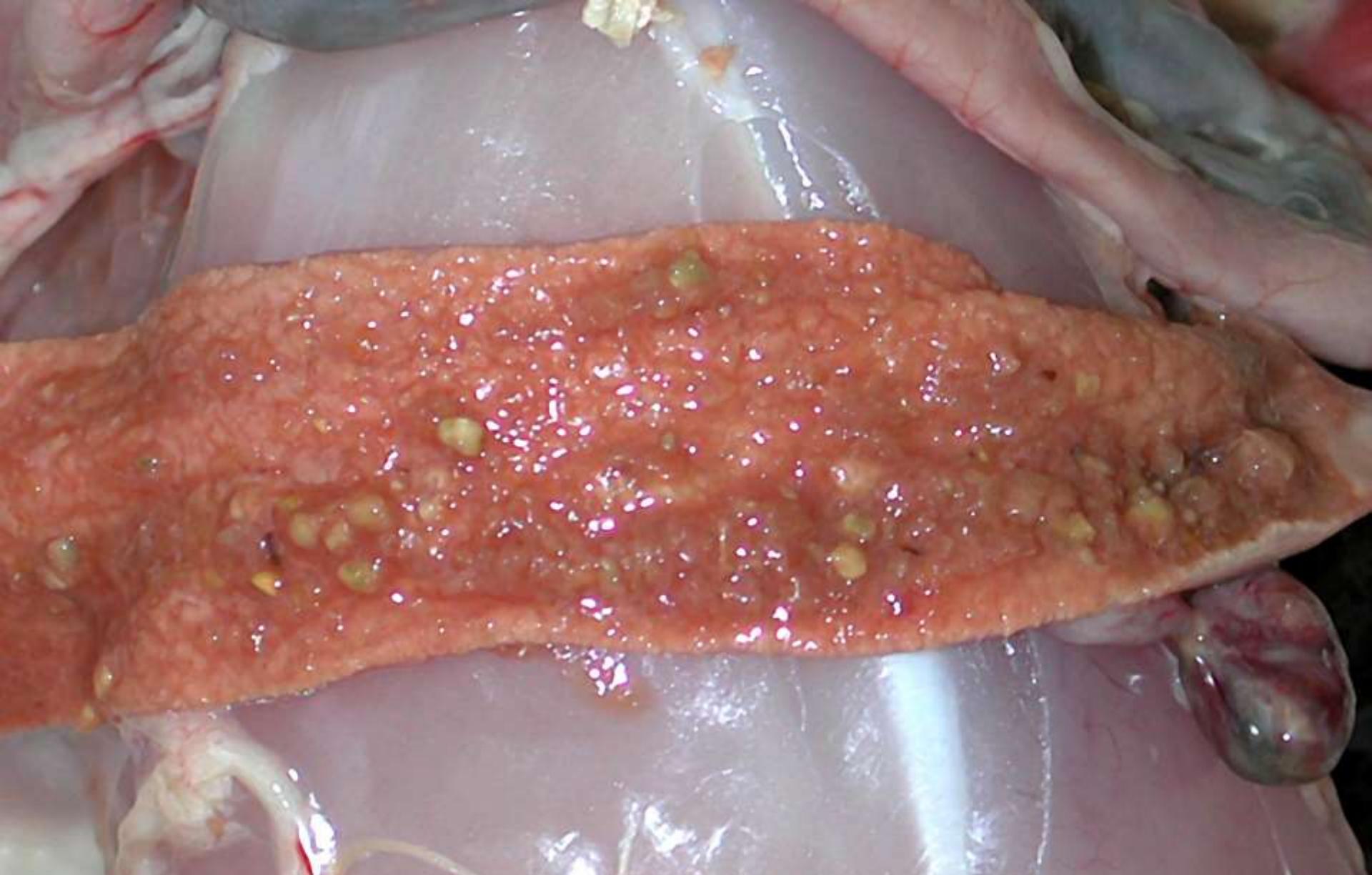




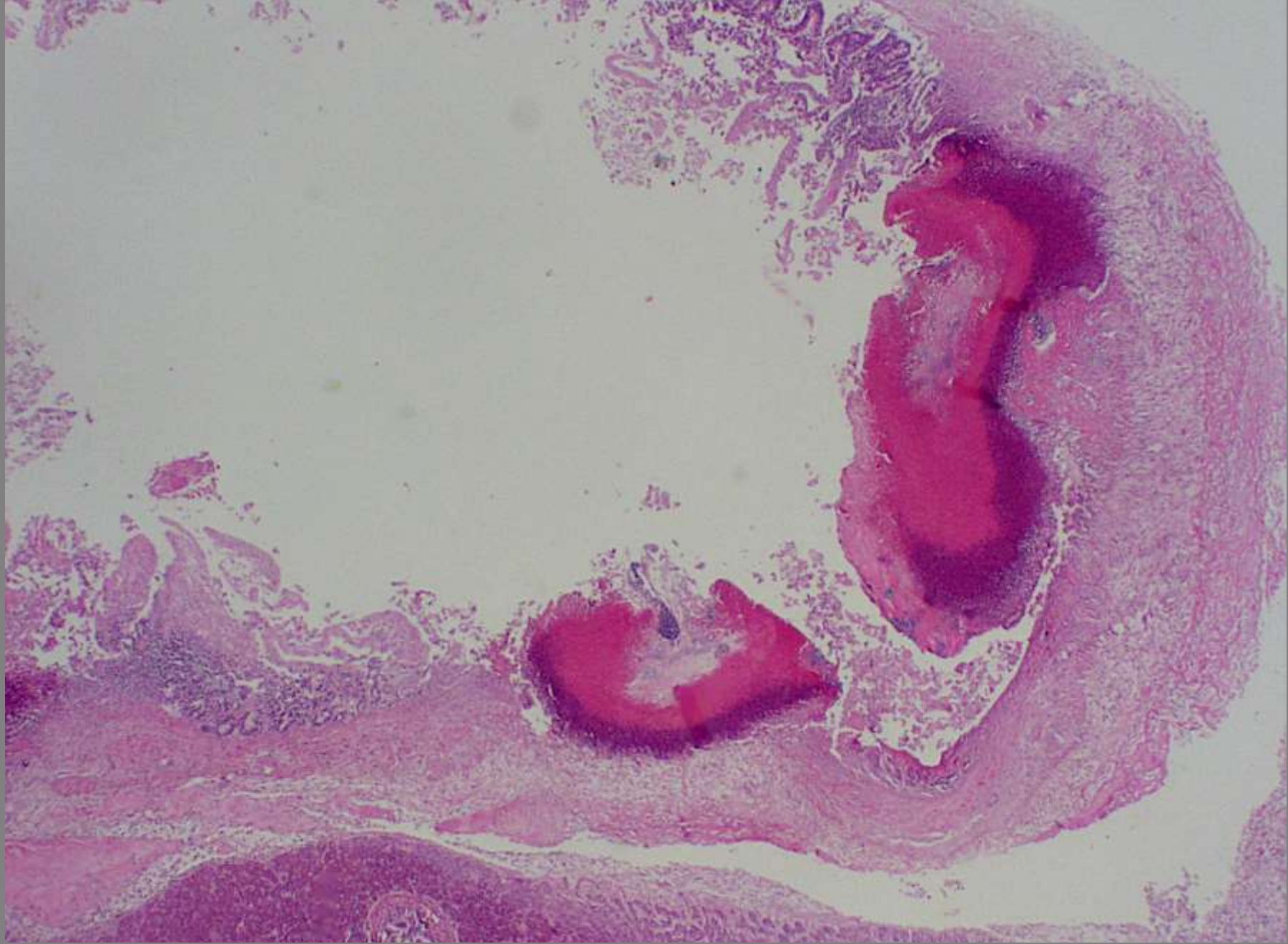
Capillaria 2X



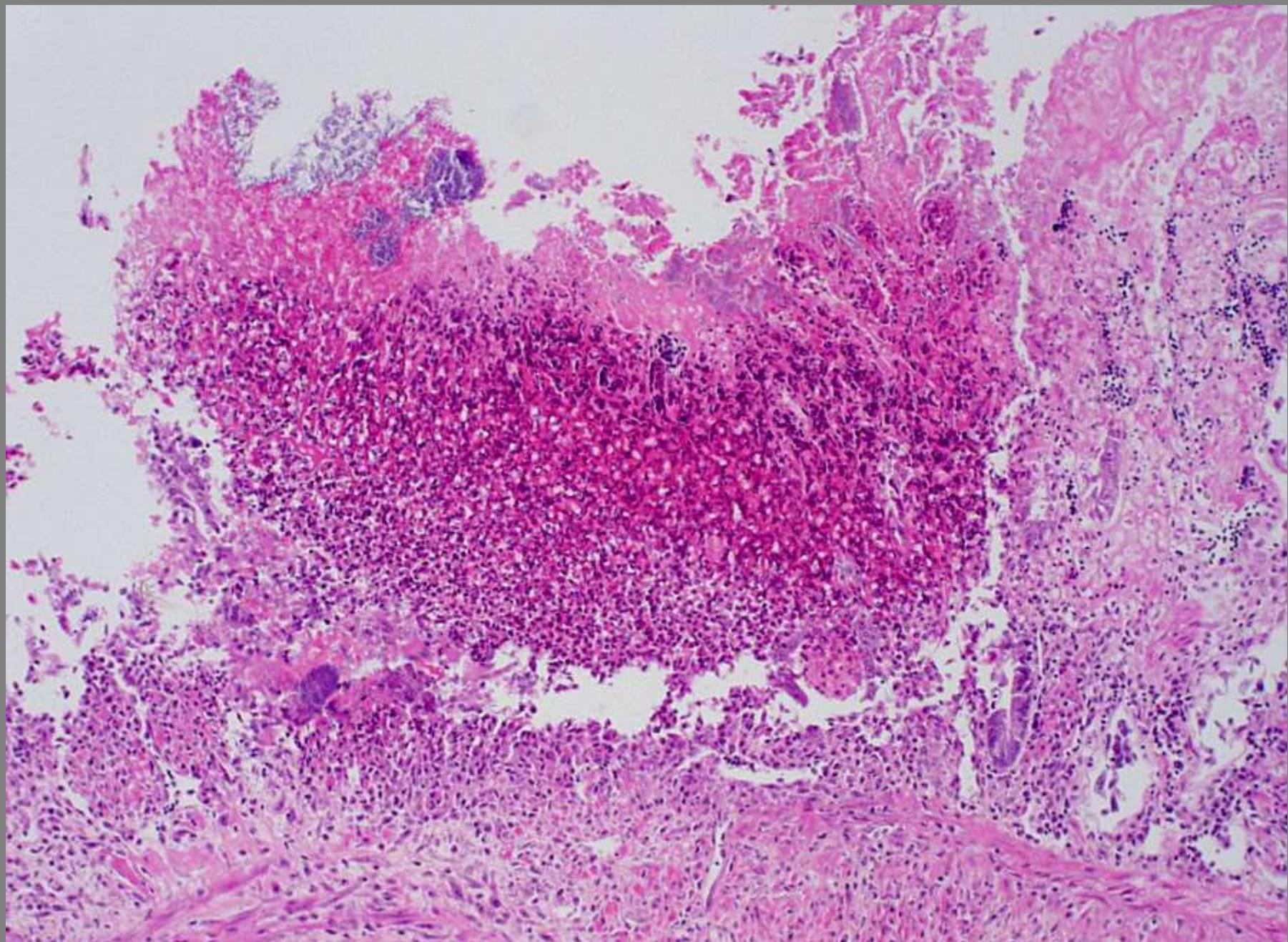
Proventriculi – normal (left) – hyperplasia (right)
unknown



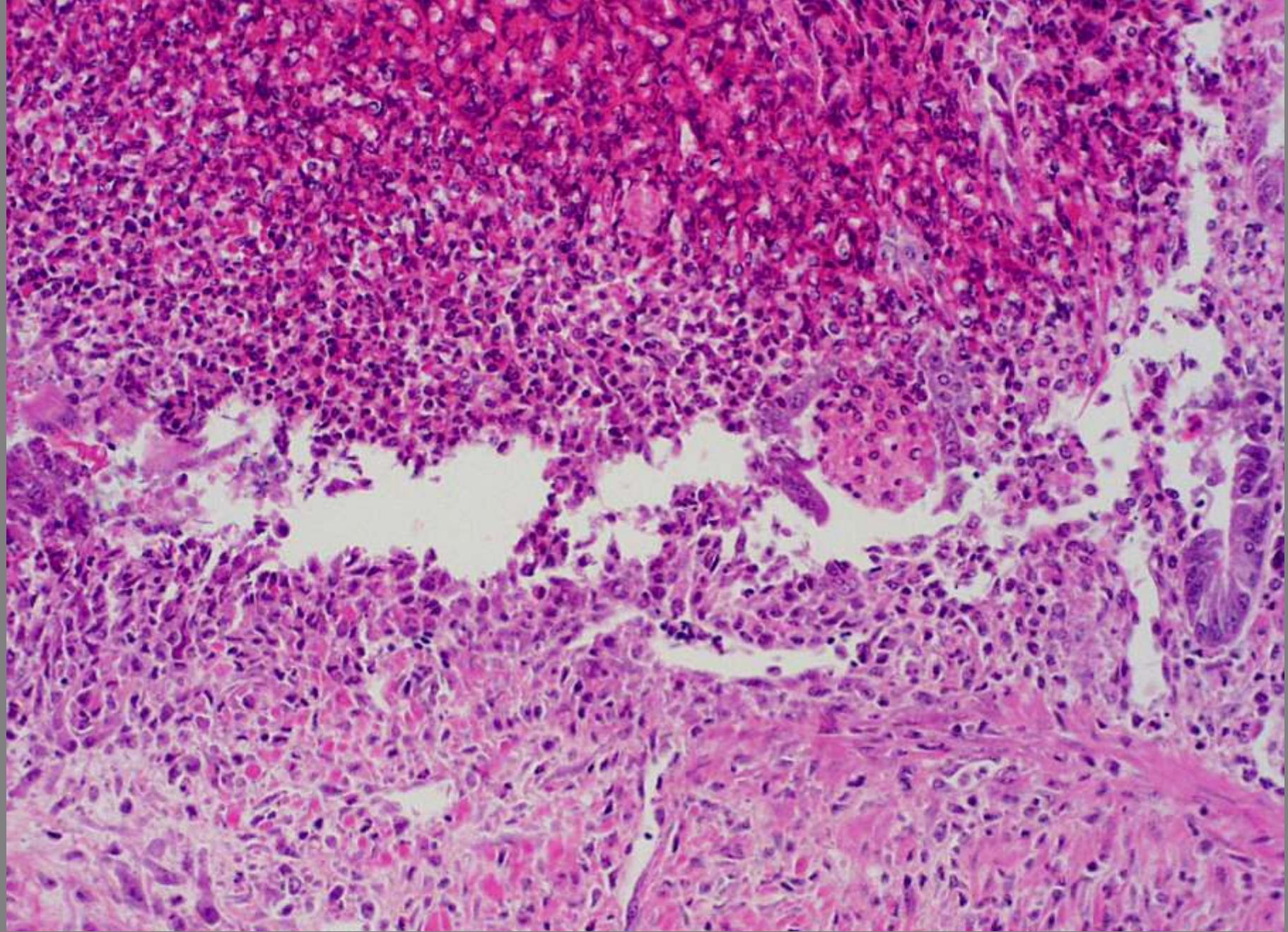
Broiler – necrotic enteritis – *Clostridium perfringens*



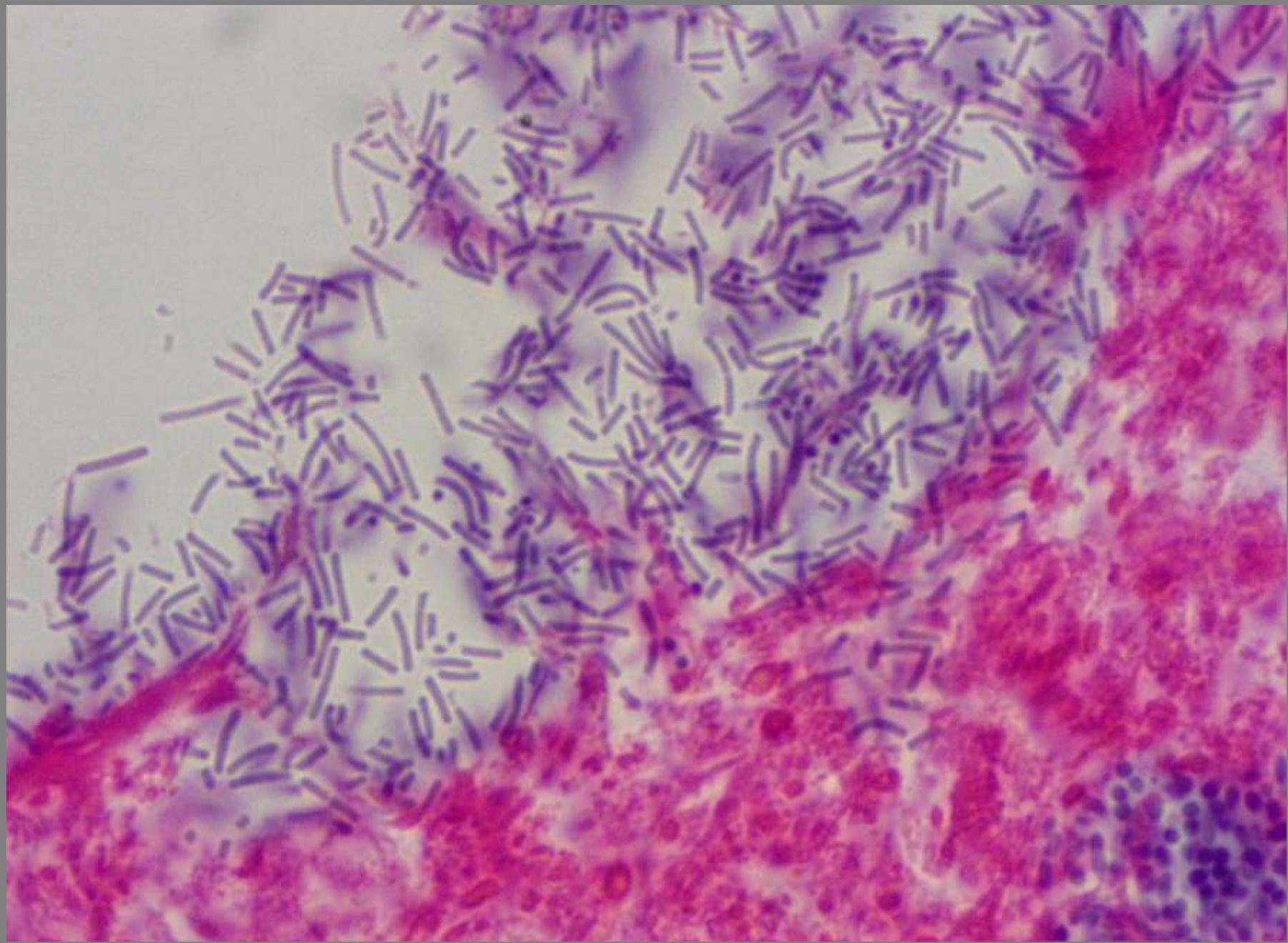
Quail – necrotic enteritis – *Clostridium colinum*



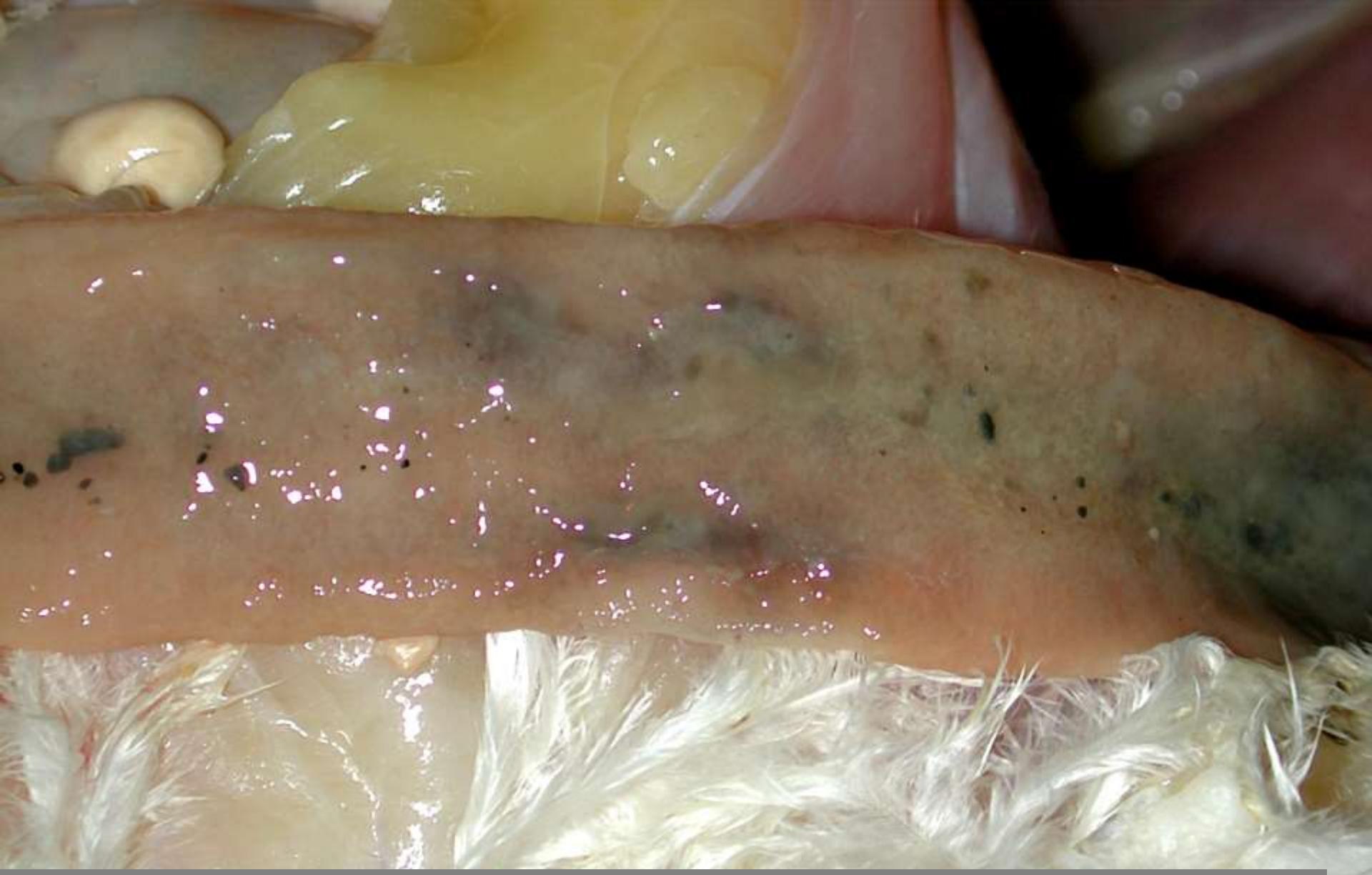
Quail – necrotic enteritis – *Clostridium colinum*



Quail – necrotic enteritis – *Clostridium colinum*



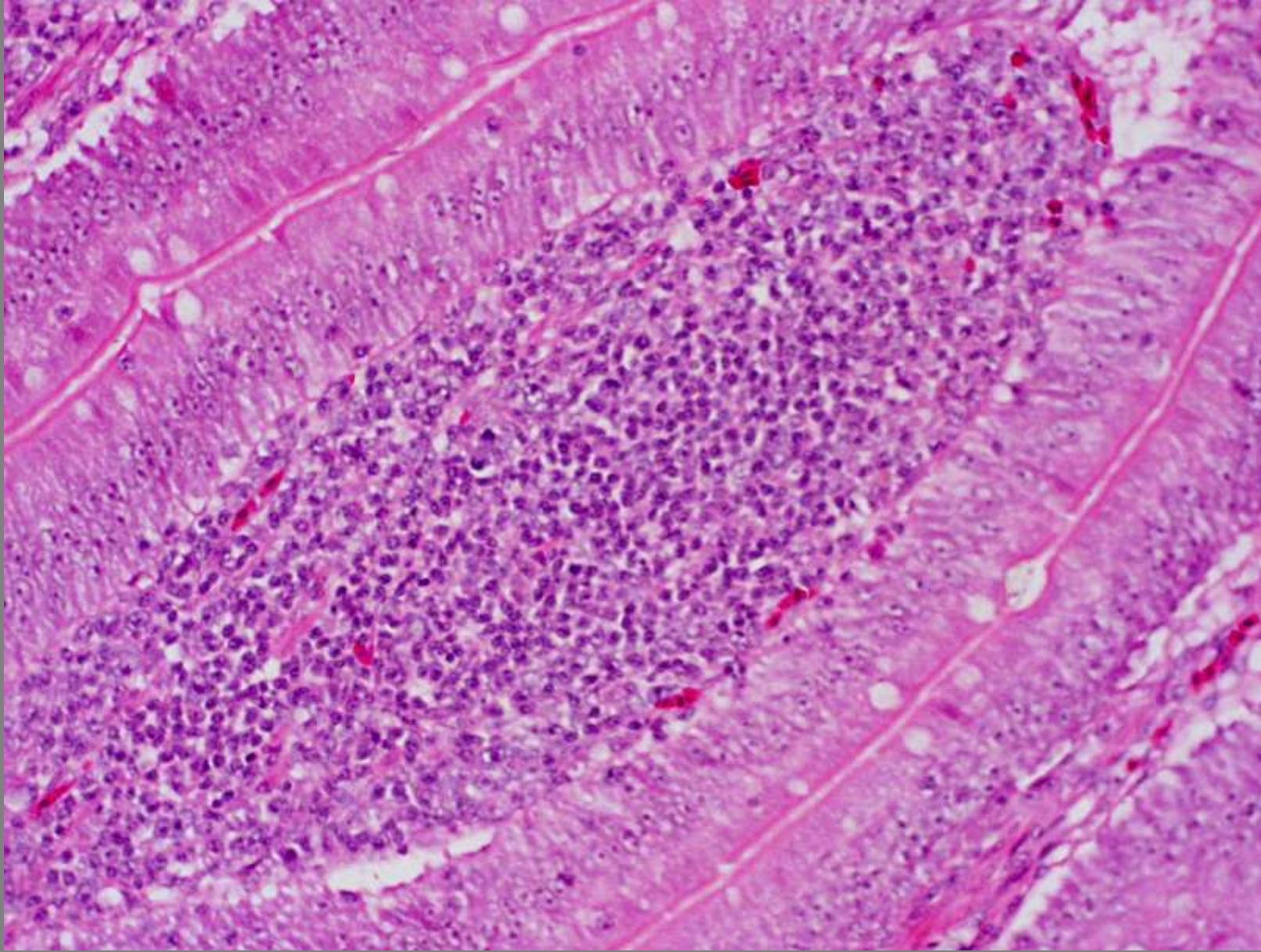
Quail – necrotic enteritis – *Clostridium colinum*



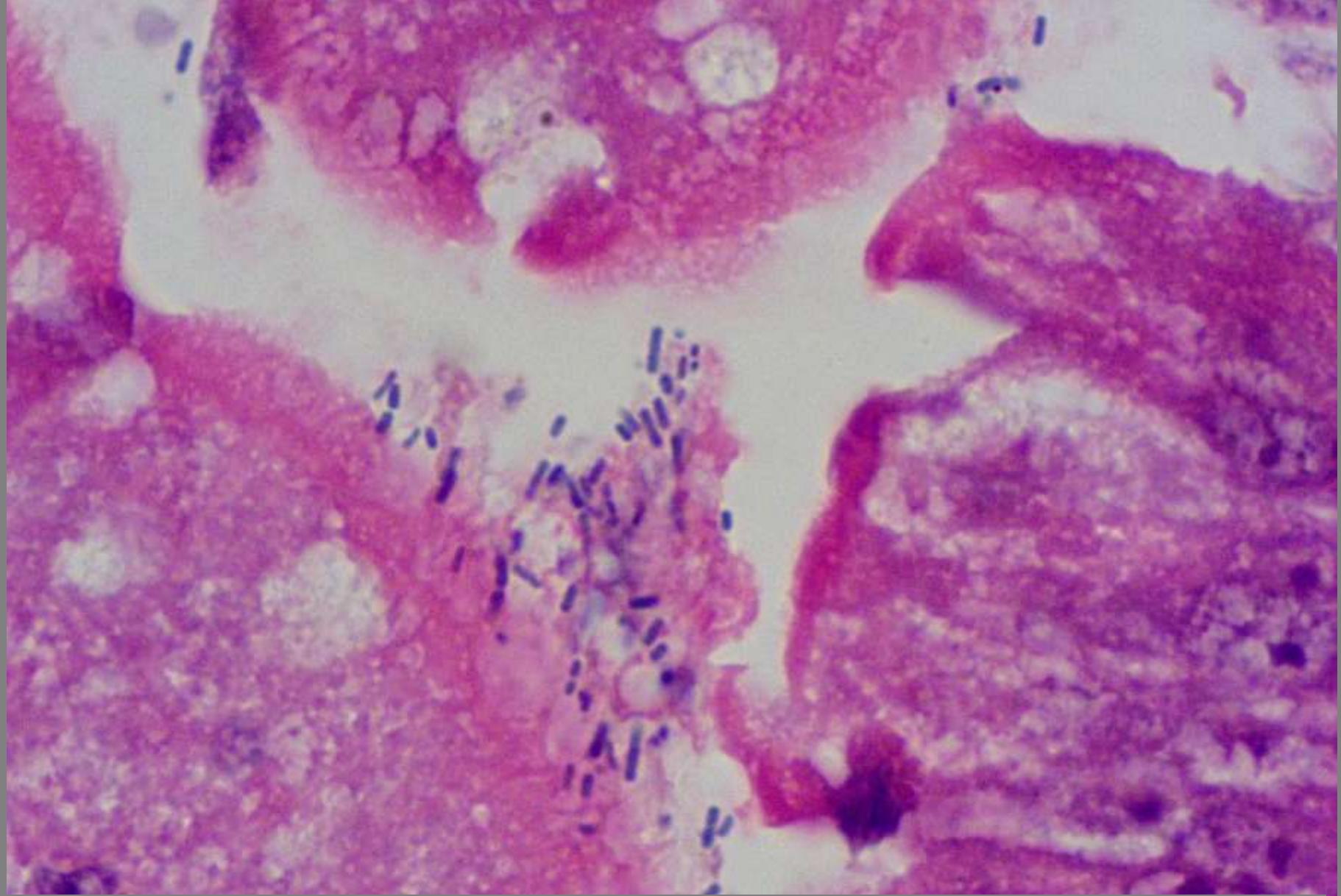
Layers focal duodenal necrosis – filamentous bacteria



Chronic lymphoplasmacytic enteritis associated with short bacilli and poor growth



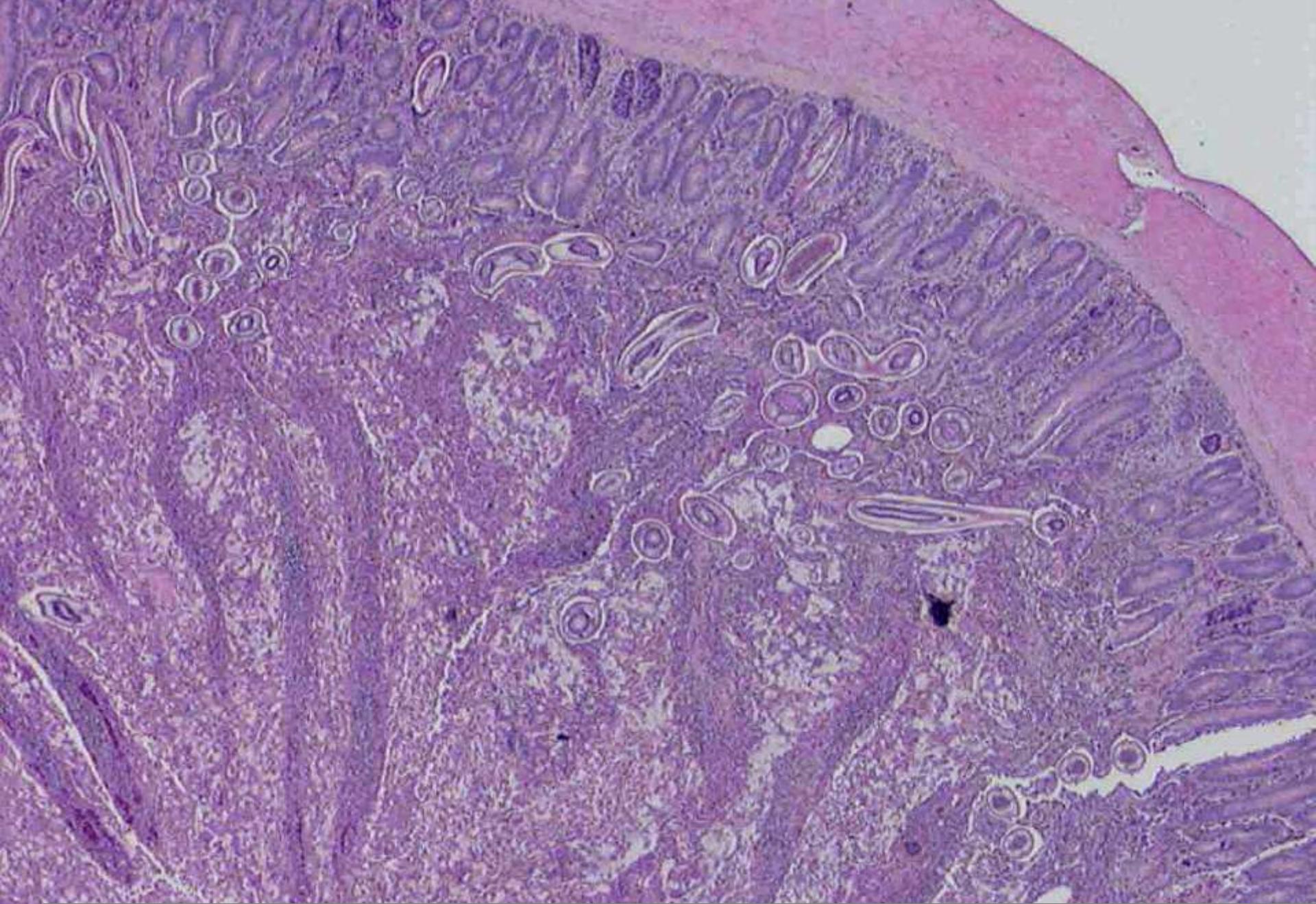
Chronic lymphoplasmacytic enteritis associated with poor growth



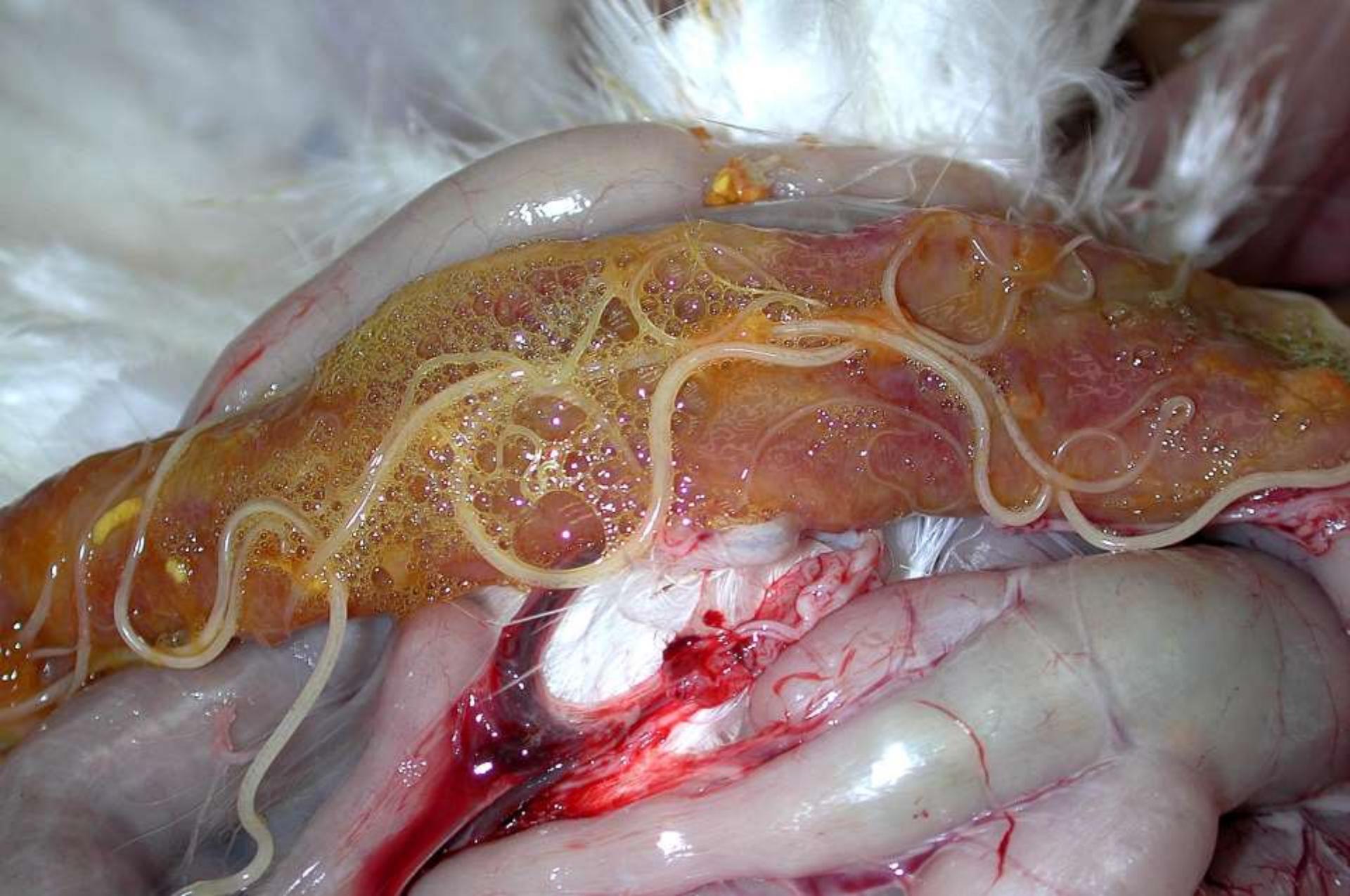
Chronic lymphoplasmacytic enteritis associated with short bacilli and poor growth



Young turkey – enteritis – ascarid larvae



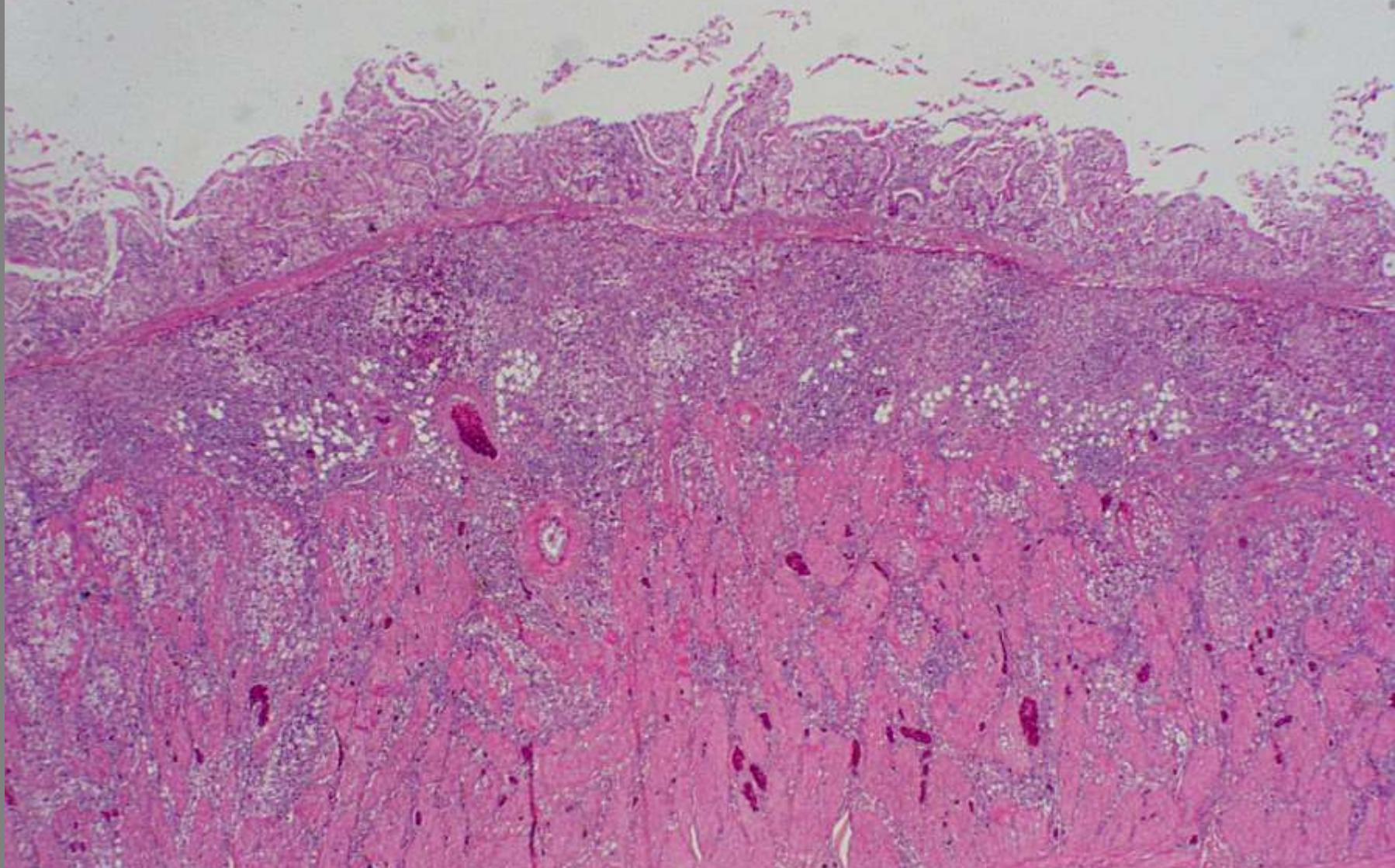
Young turkey – enteritis – ascarid larvae



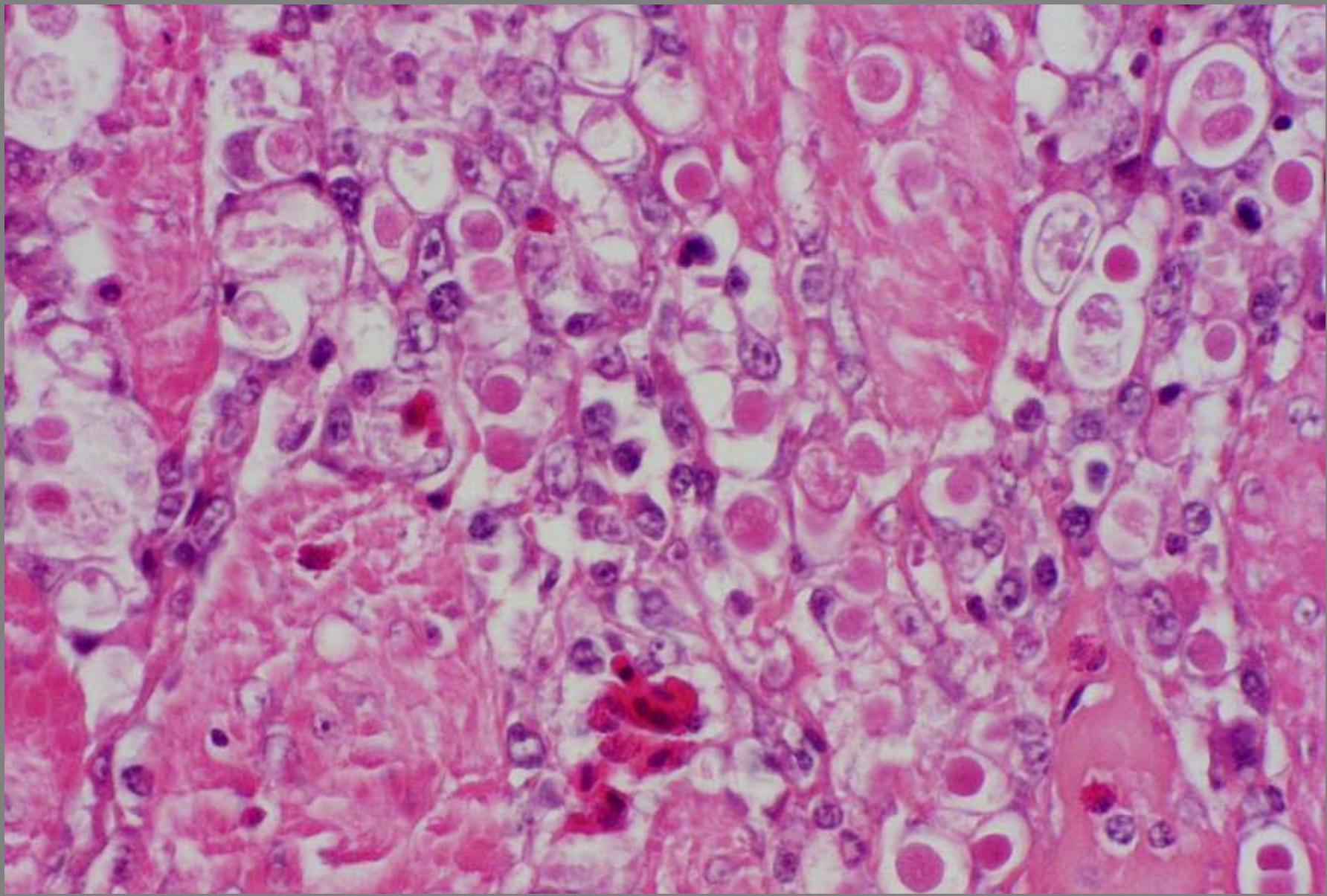
Young turkey – enteritis – *Acaridia galli*



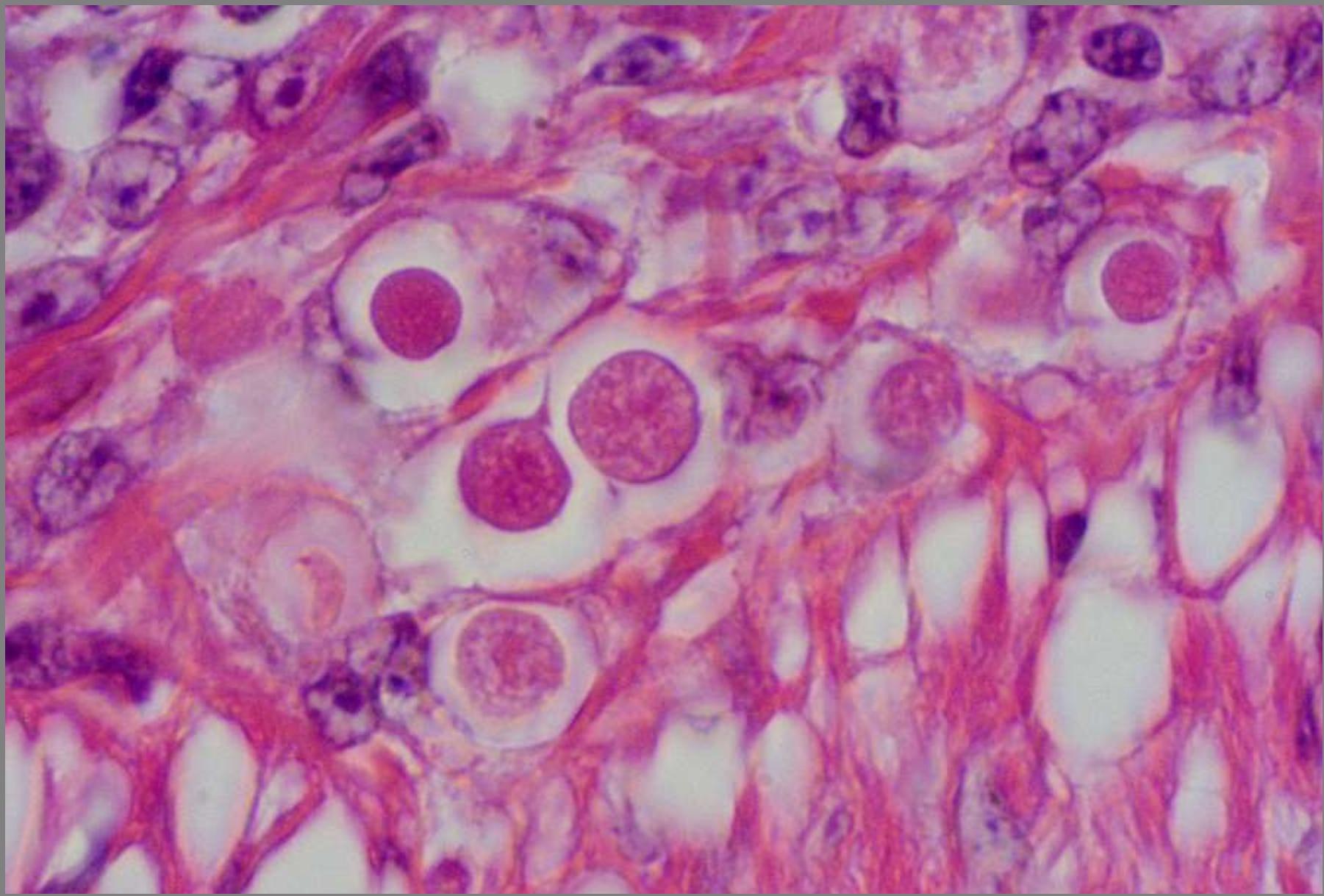
Young turkey – necrotizing typhlitis and hepatitis
– *Histomonas meleagridis*



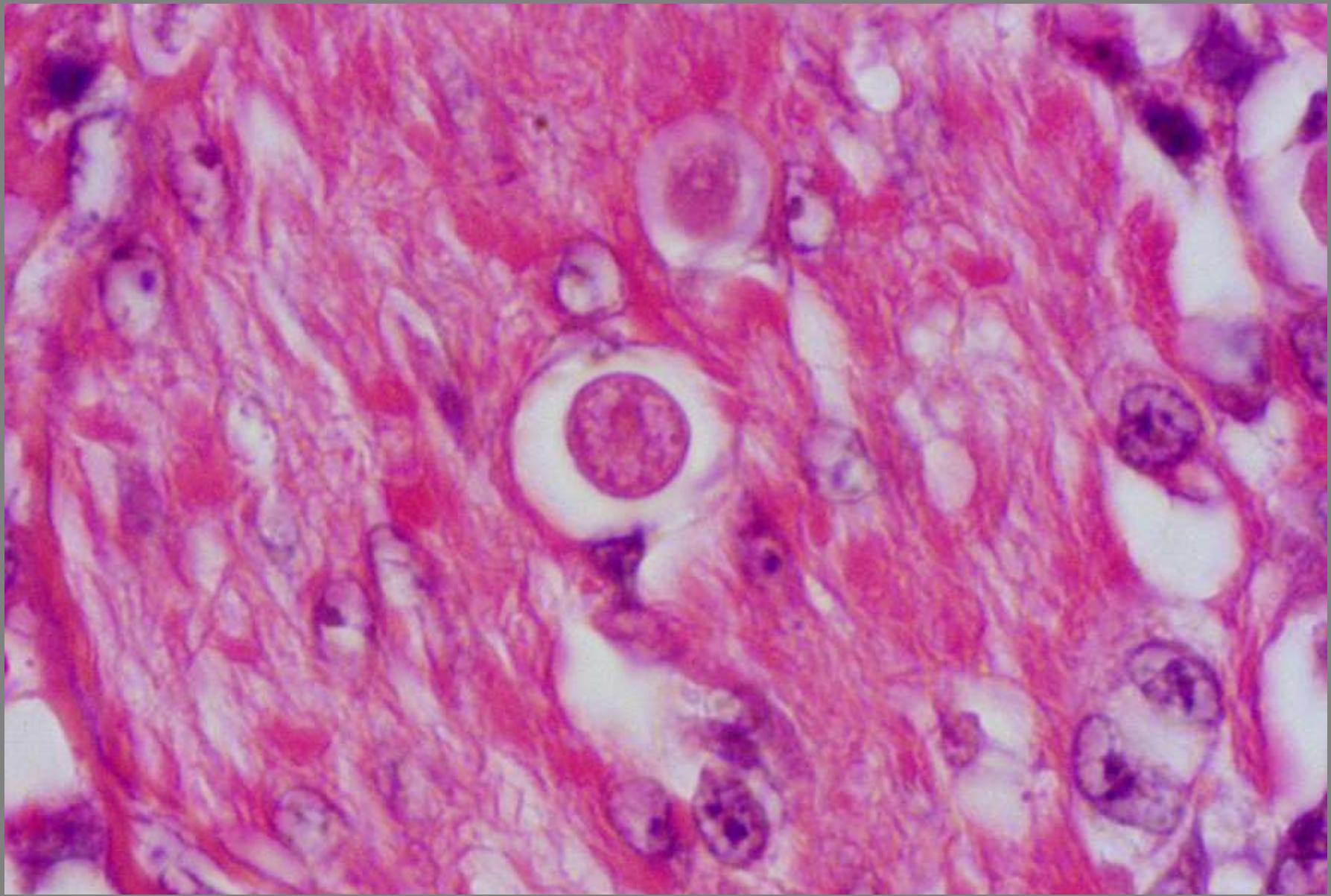
Young turkey – transmural typhlitis –
Histomonas meleagridis



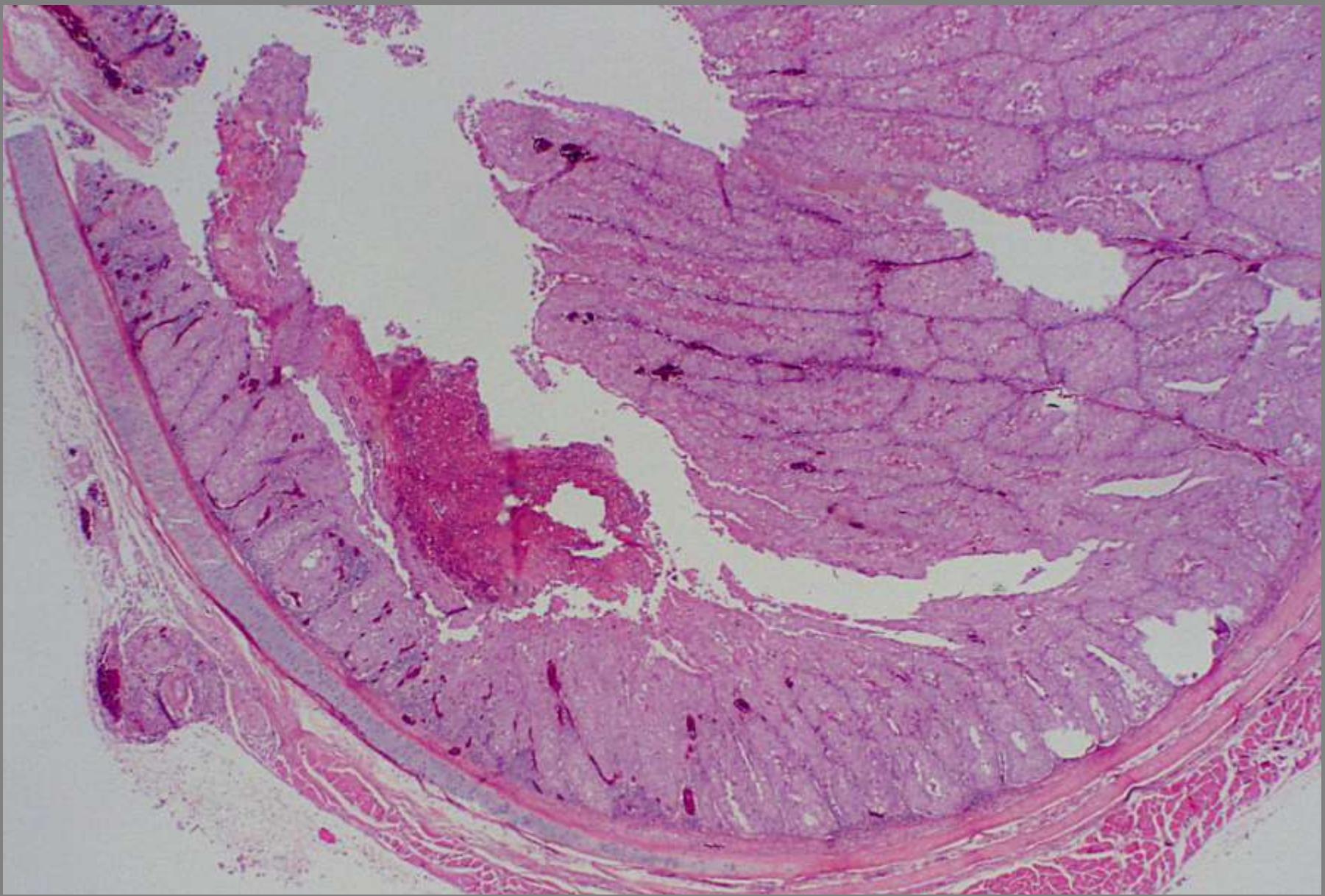
Young turkey – transmural typhlitis –
Histomonas meleagridis



Young turkey – transmural typhlitis –
Histomonas meleagridis



Young turkey – transmural typhlitis –
Histomonas meleagridis



Young turkey – proliferative hyperplastic
tracheitis – *Histomonas meleagridis*

Coccidia

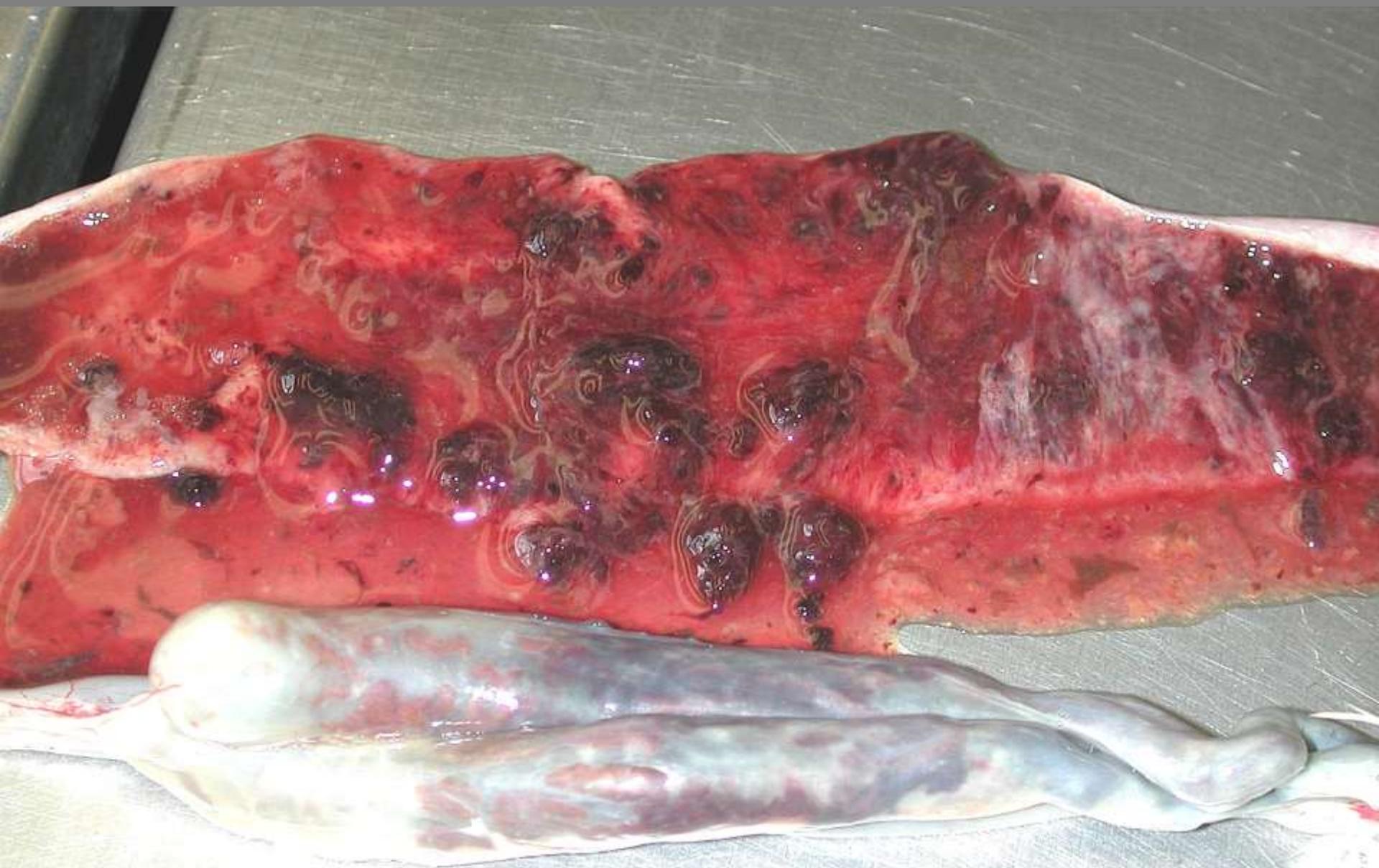
- *Eimeria acervulina* = duodenum
- *E. maxima* and *E. necatrix* = jejunum
- *E. tenella* = cecum



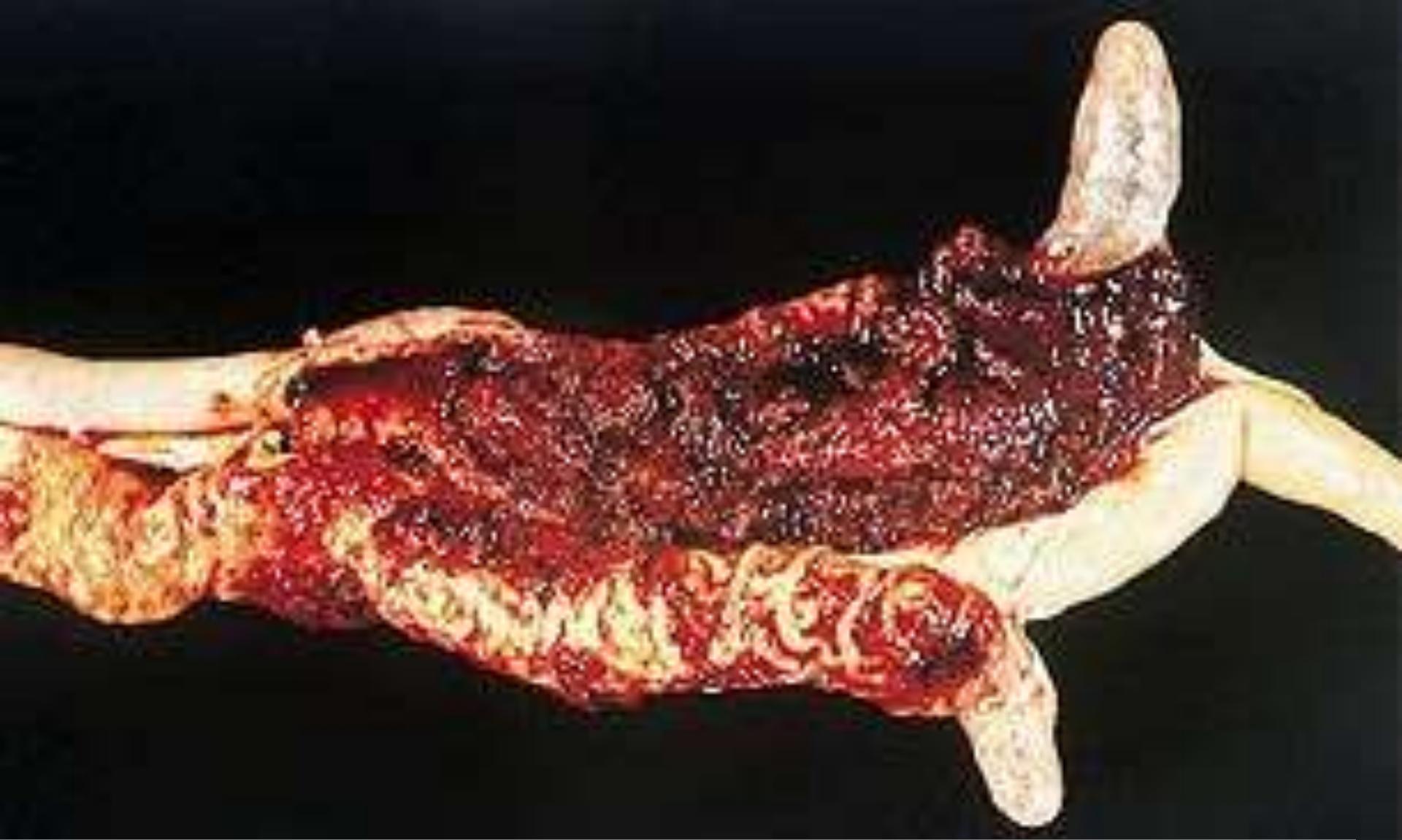
Coccidiosis – *Eimeria necatrix*



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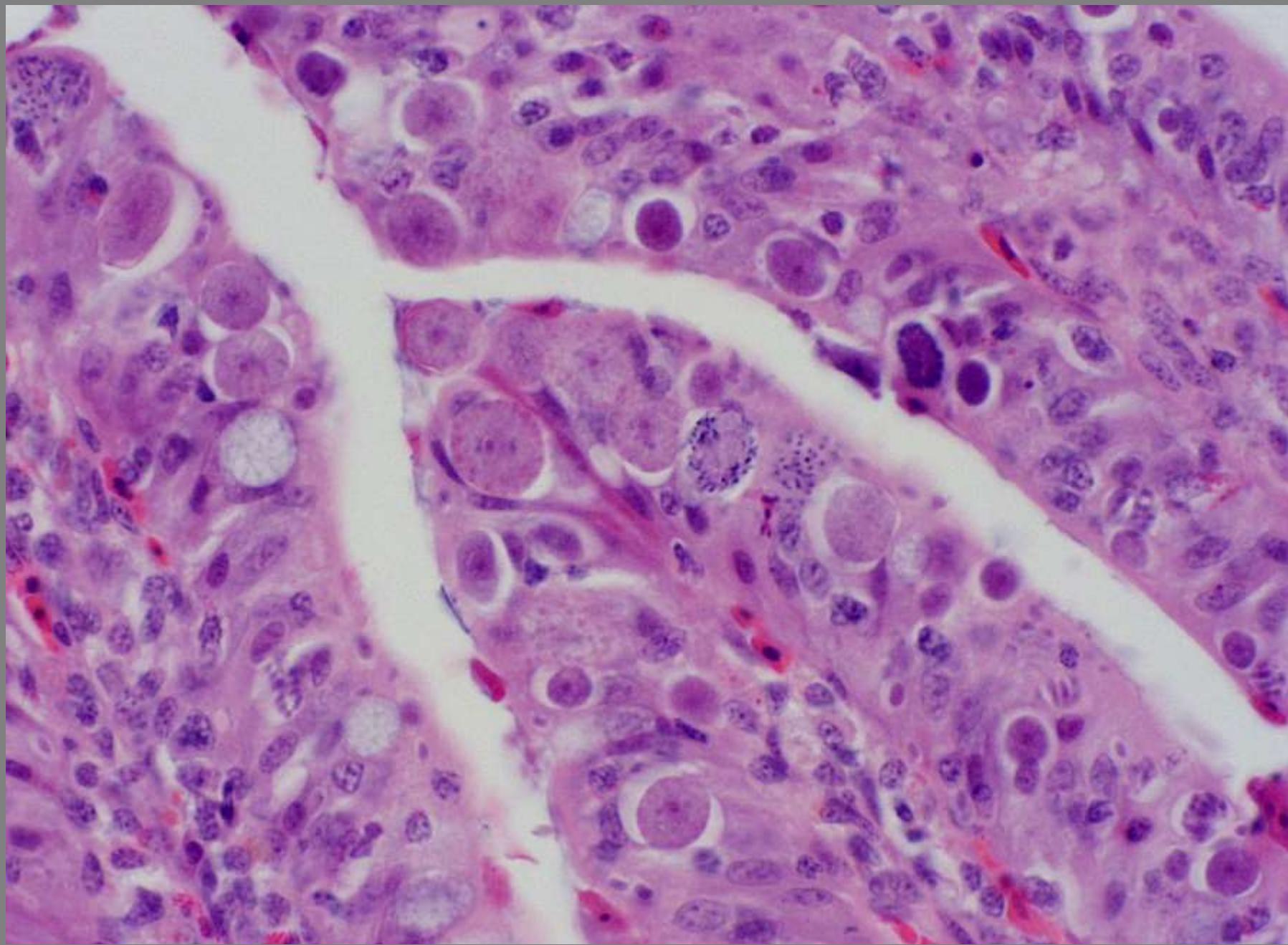
Coccidiosis – *Eimeria necatrix*



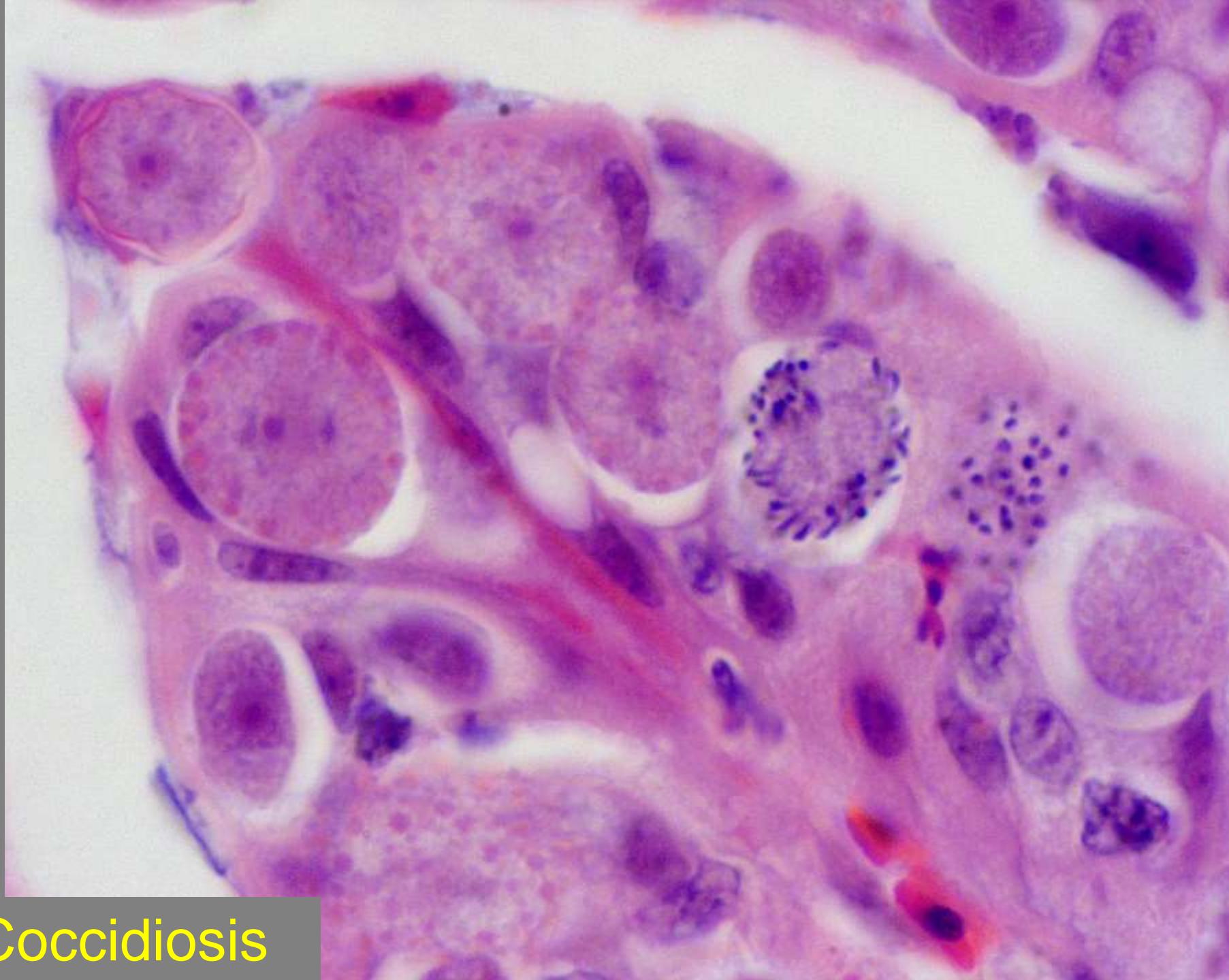
Coccidiosis – *Eimeria tenella*



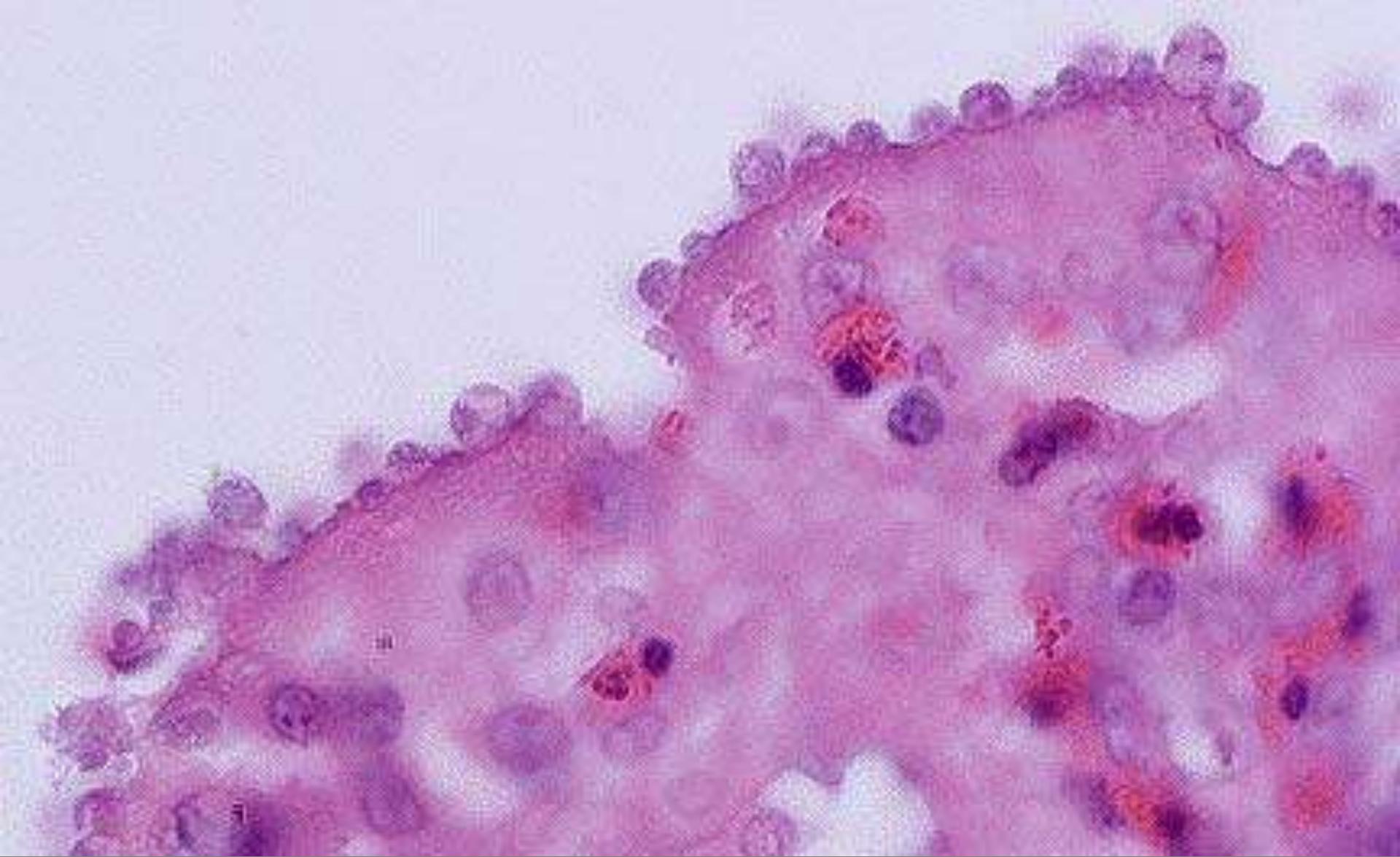
Pheasant - Coccidiosis



Coccidiosis



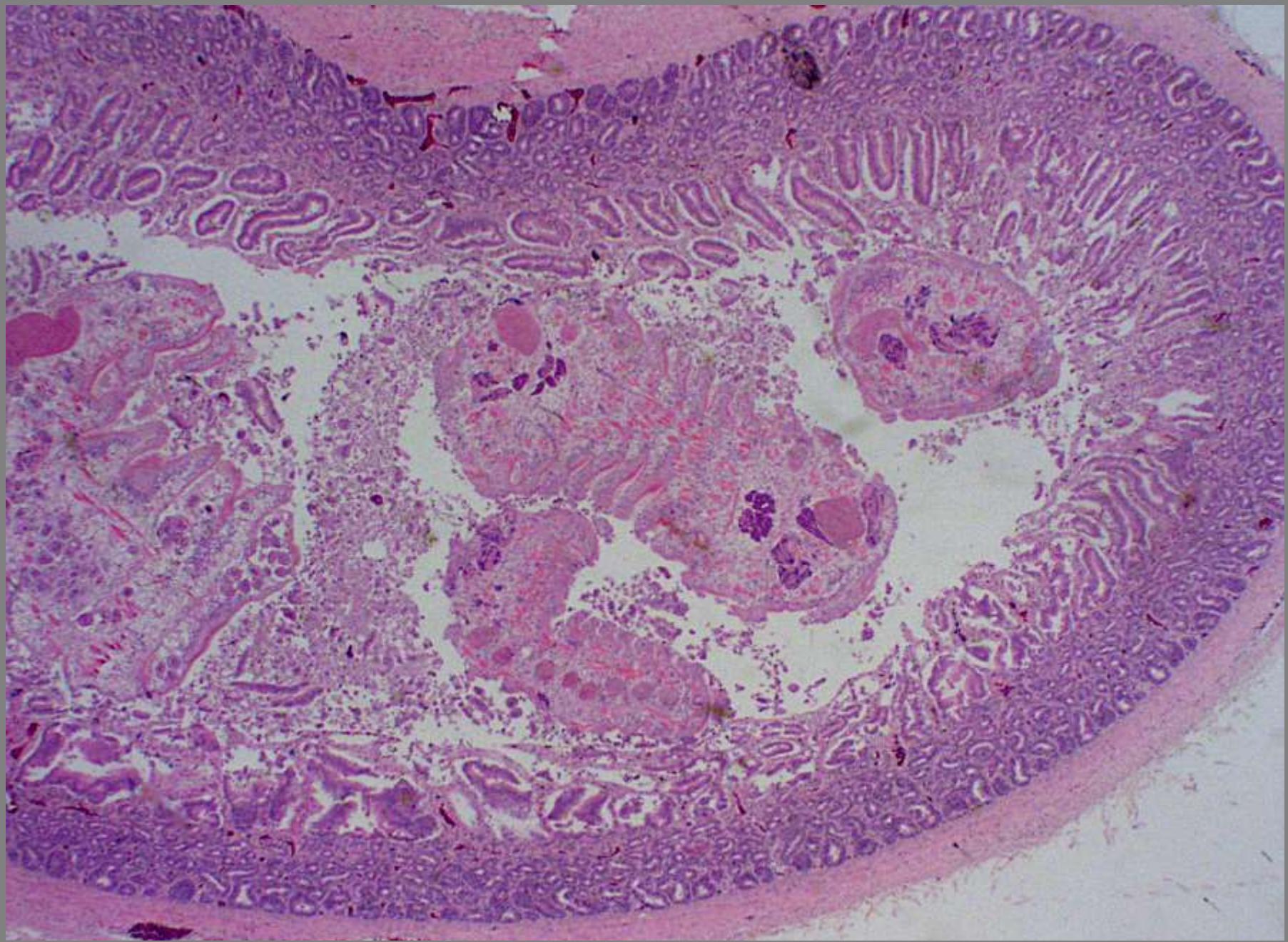
Coccidiosis



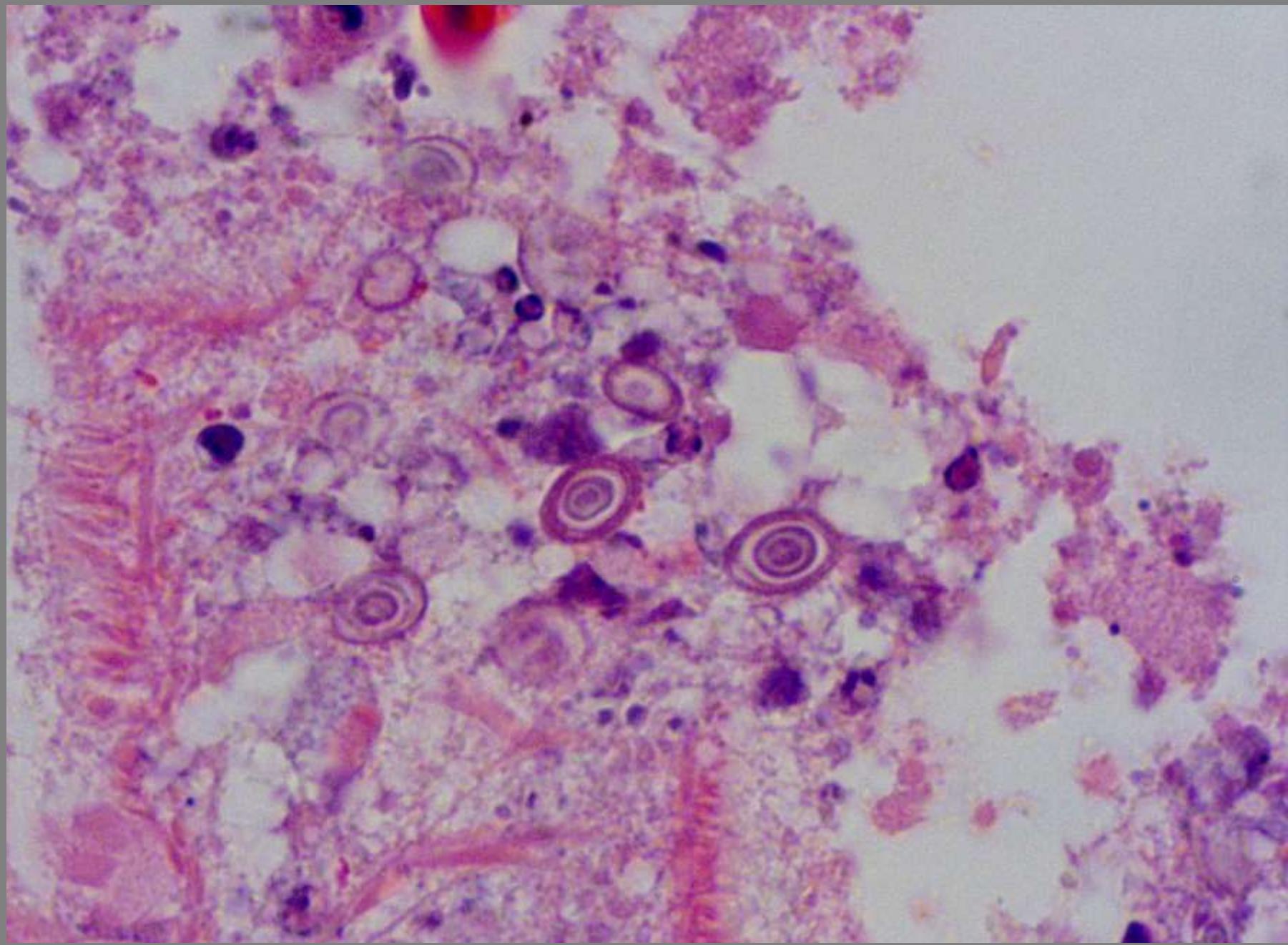
Cryptosporidiosis (Courtesy AFIP)



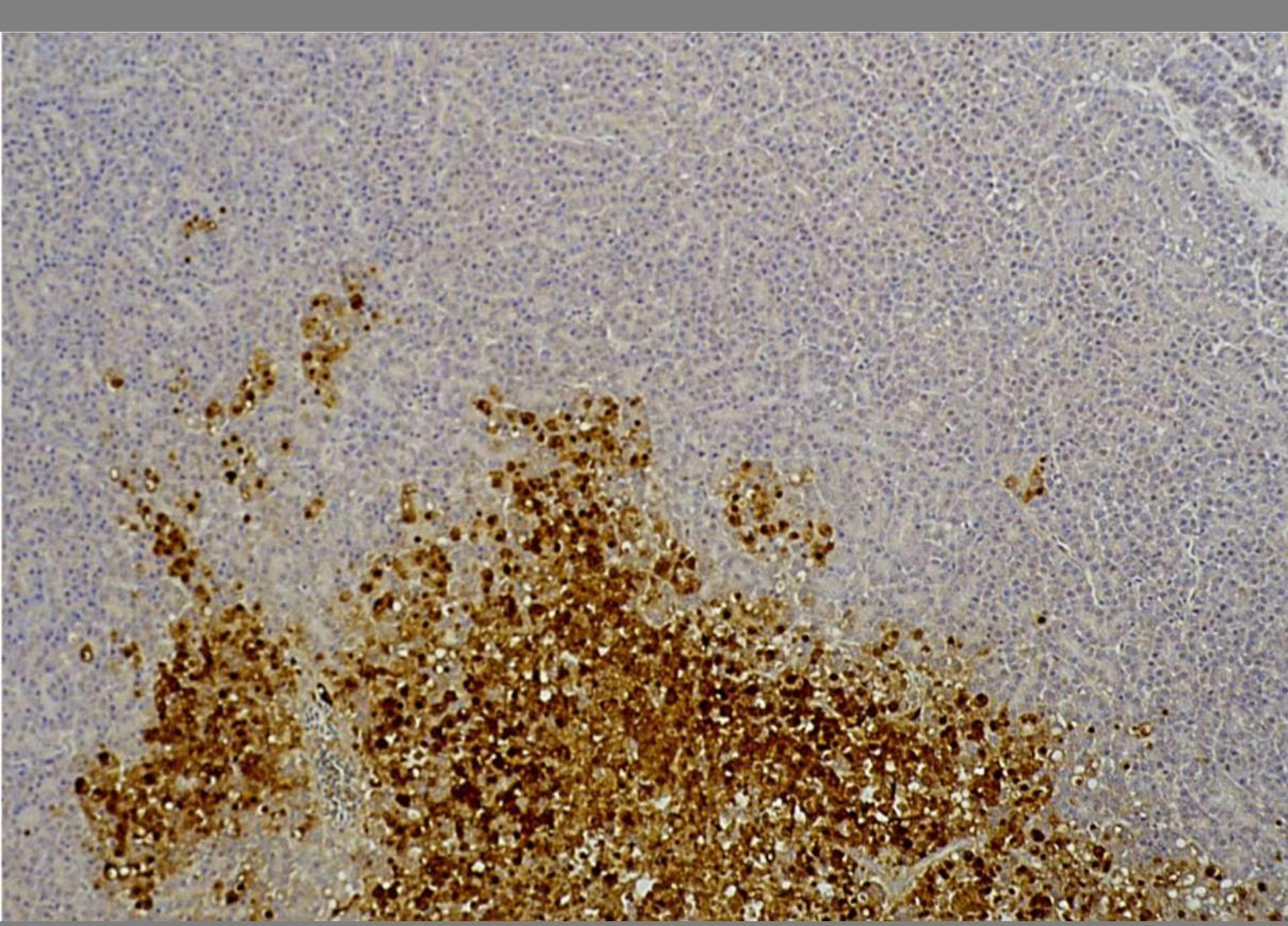
Catarrhal enteritis – Teniasis

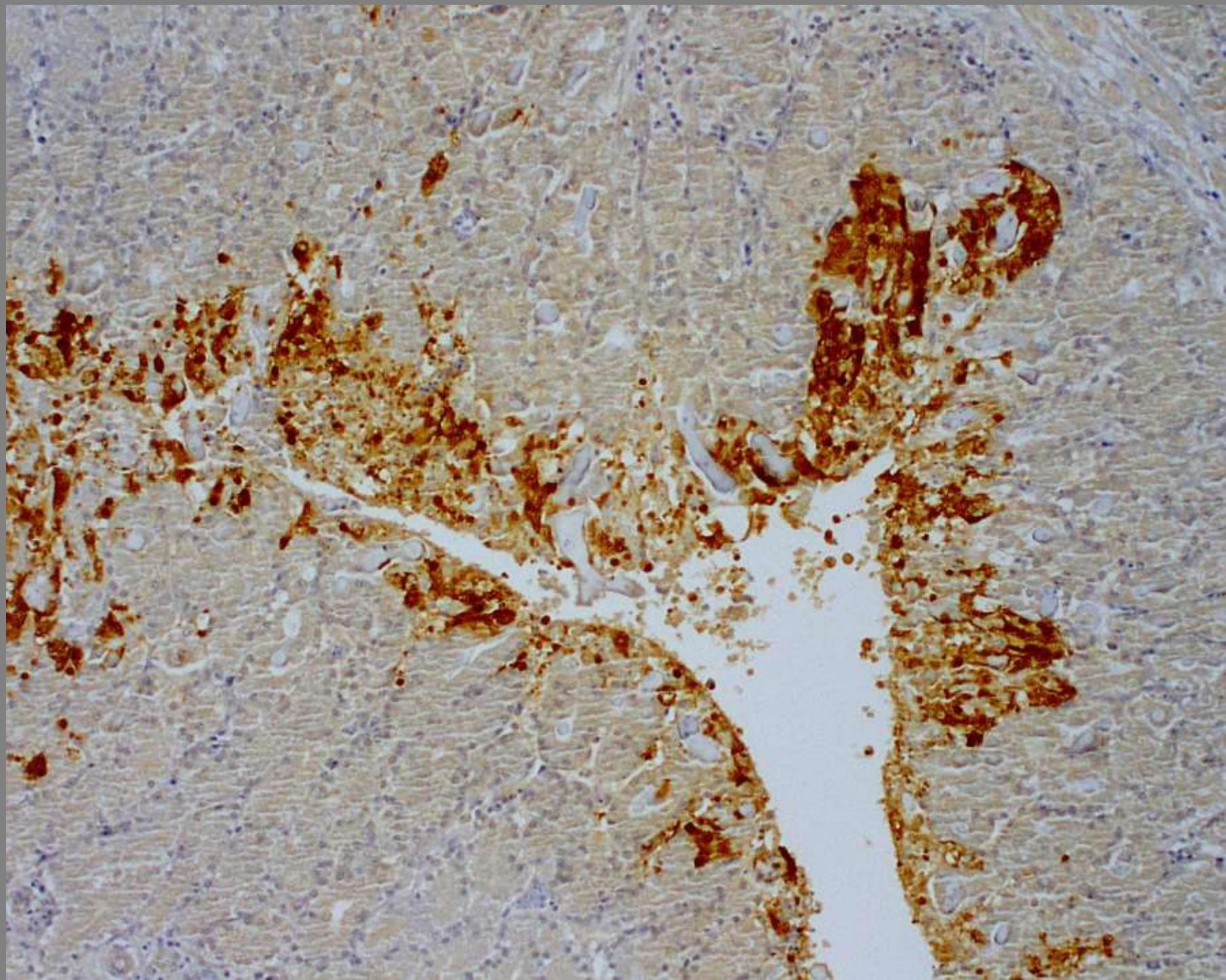


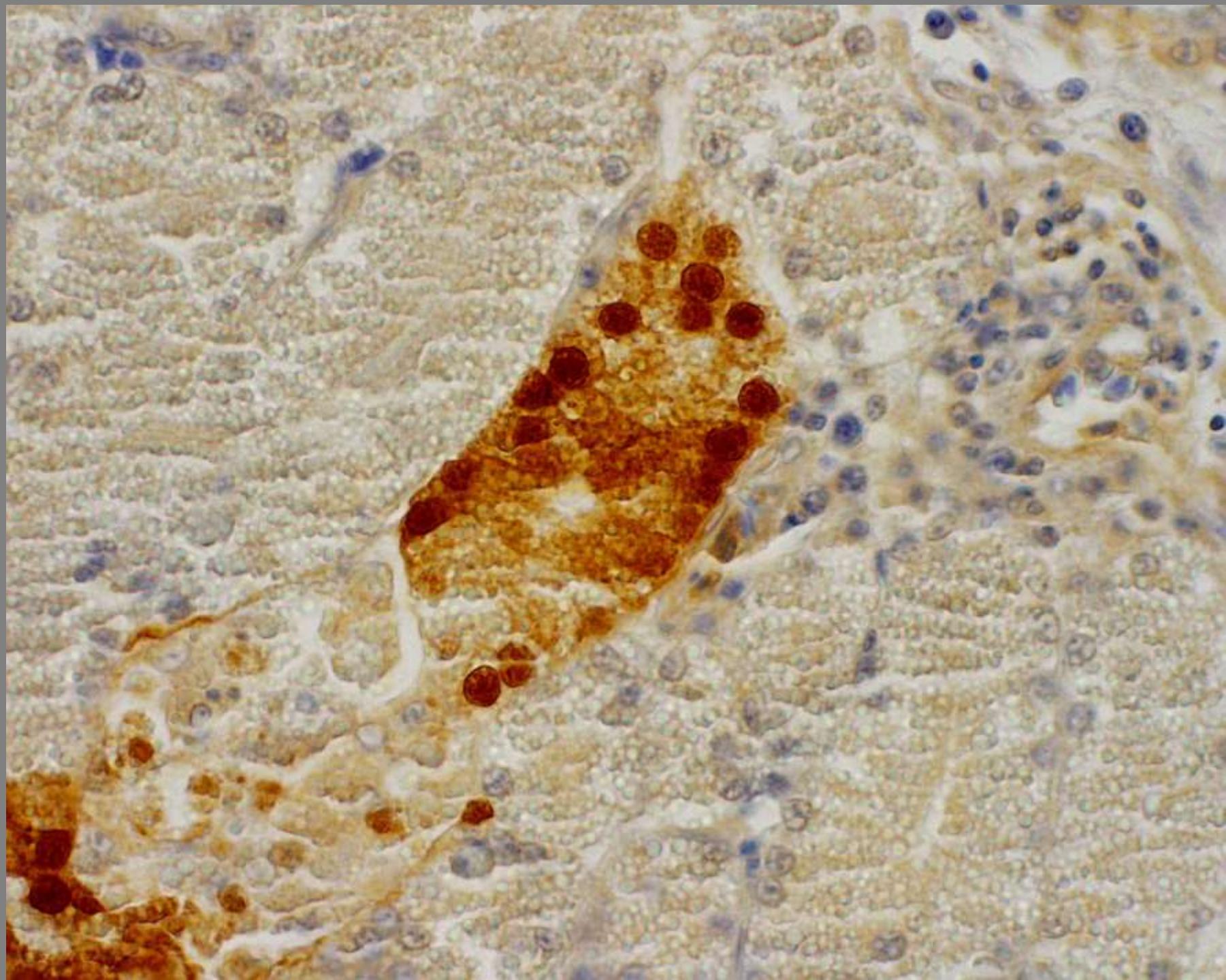
Catarrhal enteritis – Teniasis



Intestine – Teniasis – calcareous bodies



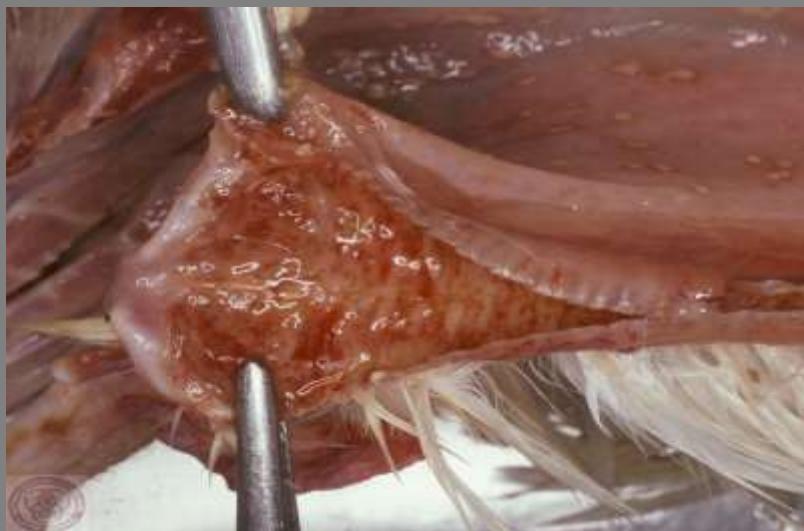


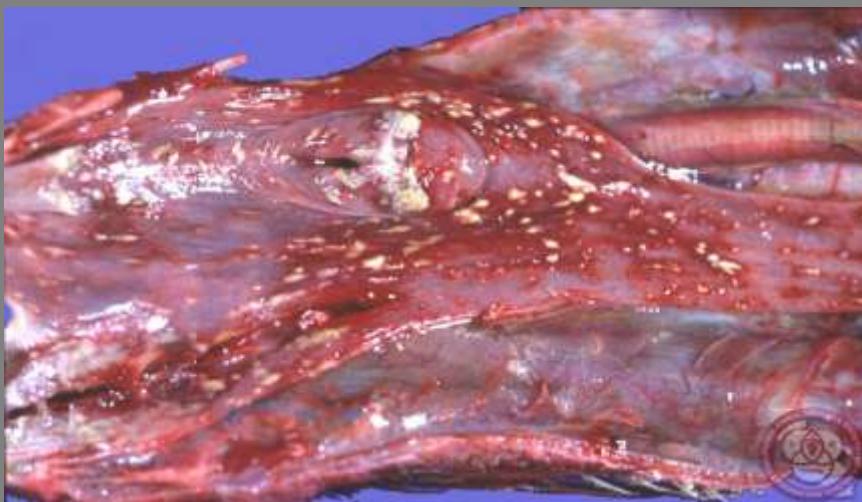
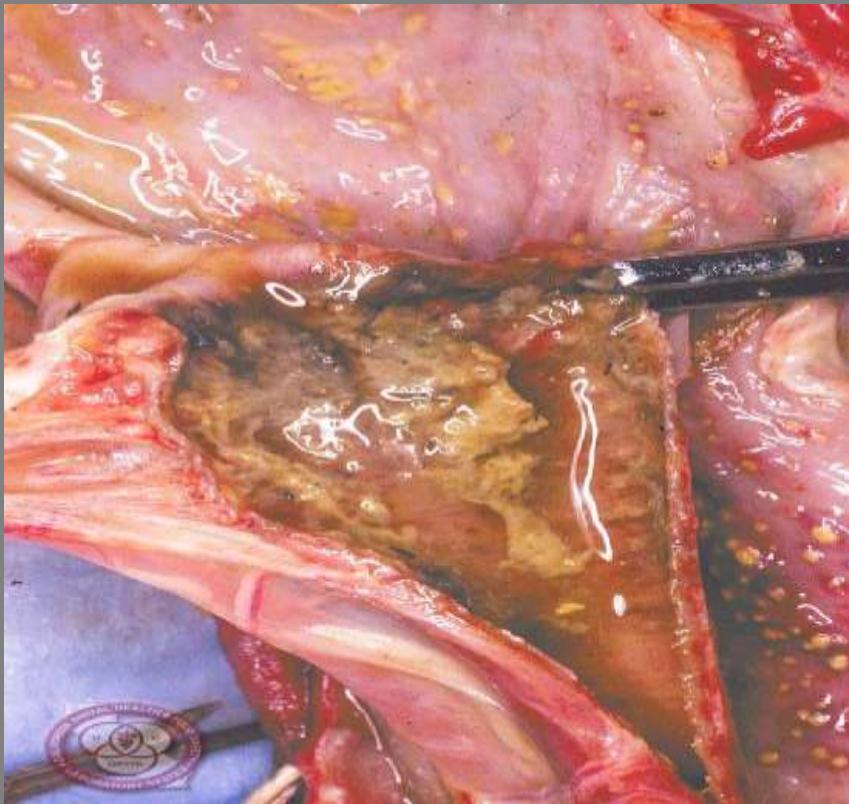


Newcastle disease paramyxovirus

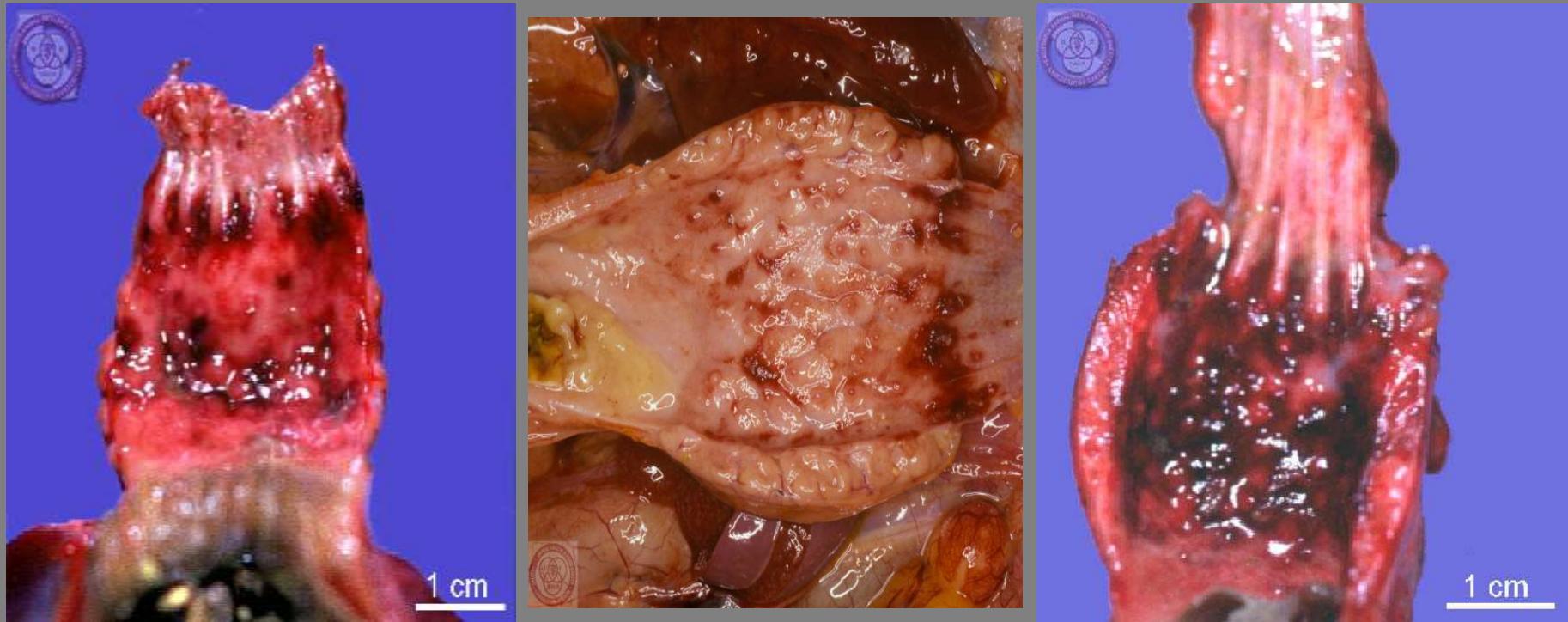


END Compatible Lesions





Proventricular hemorrhages: multifocal/diffuse or at the esophageal junction; proventricular ulceration





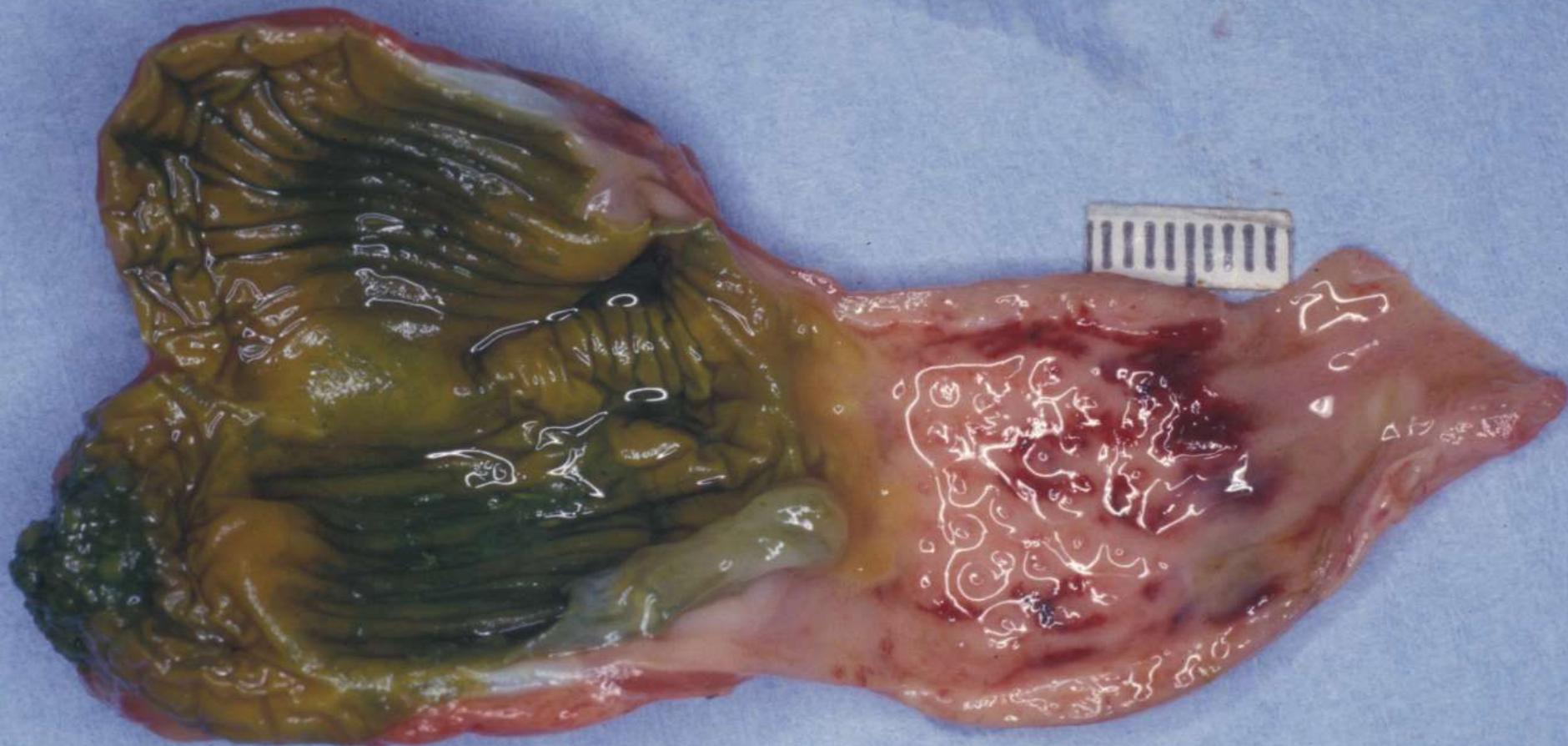
Proventricular hemorrhages – ND



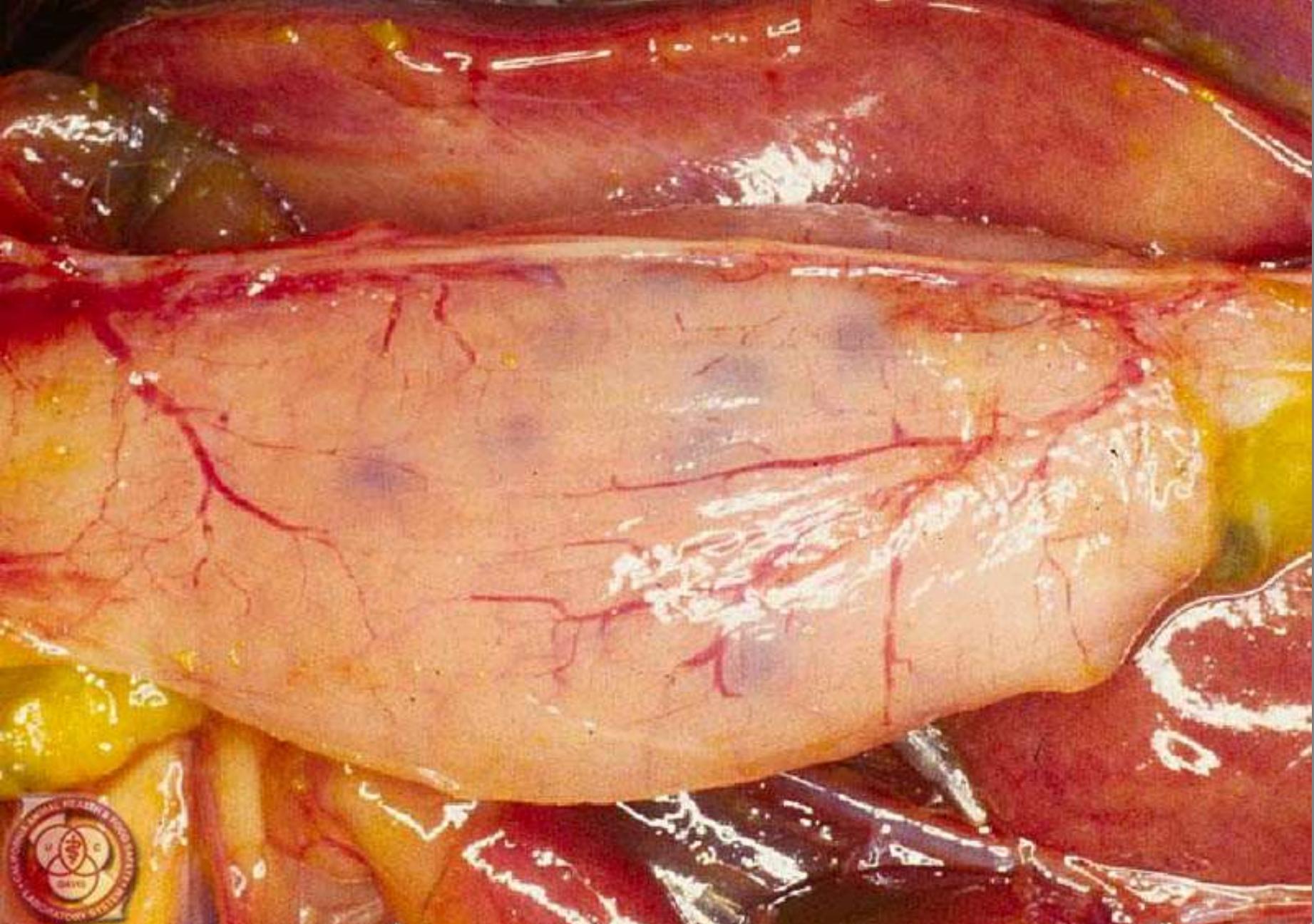
Proventricular hemorrhages – ND



Proventricular hemorrhages – ND



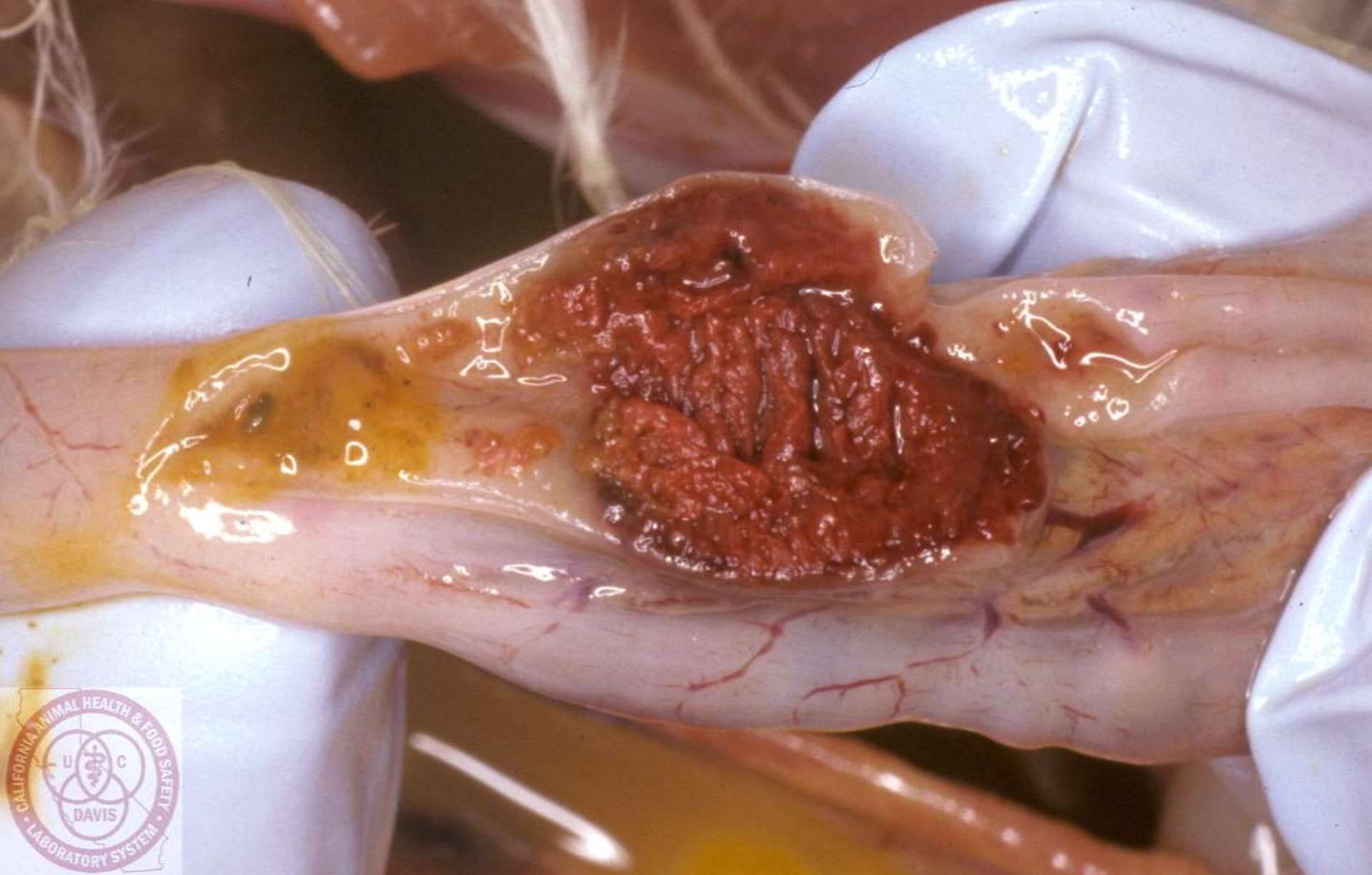
Proventricular hemorrhages and ulcers – ND



Proventricular hemorrhages and ulcers – ND



Cecal tonsil necrosis and hemorrhage - ND



Cecal tonsil necrosis and hemorrhage – ND



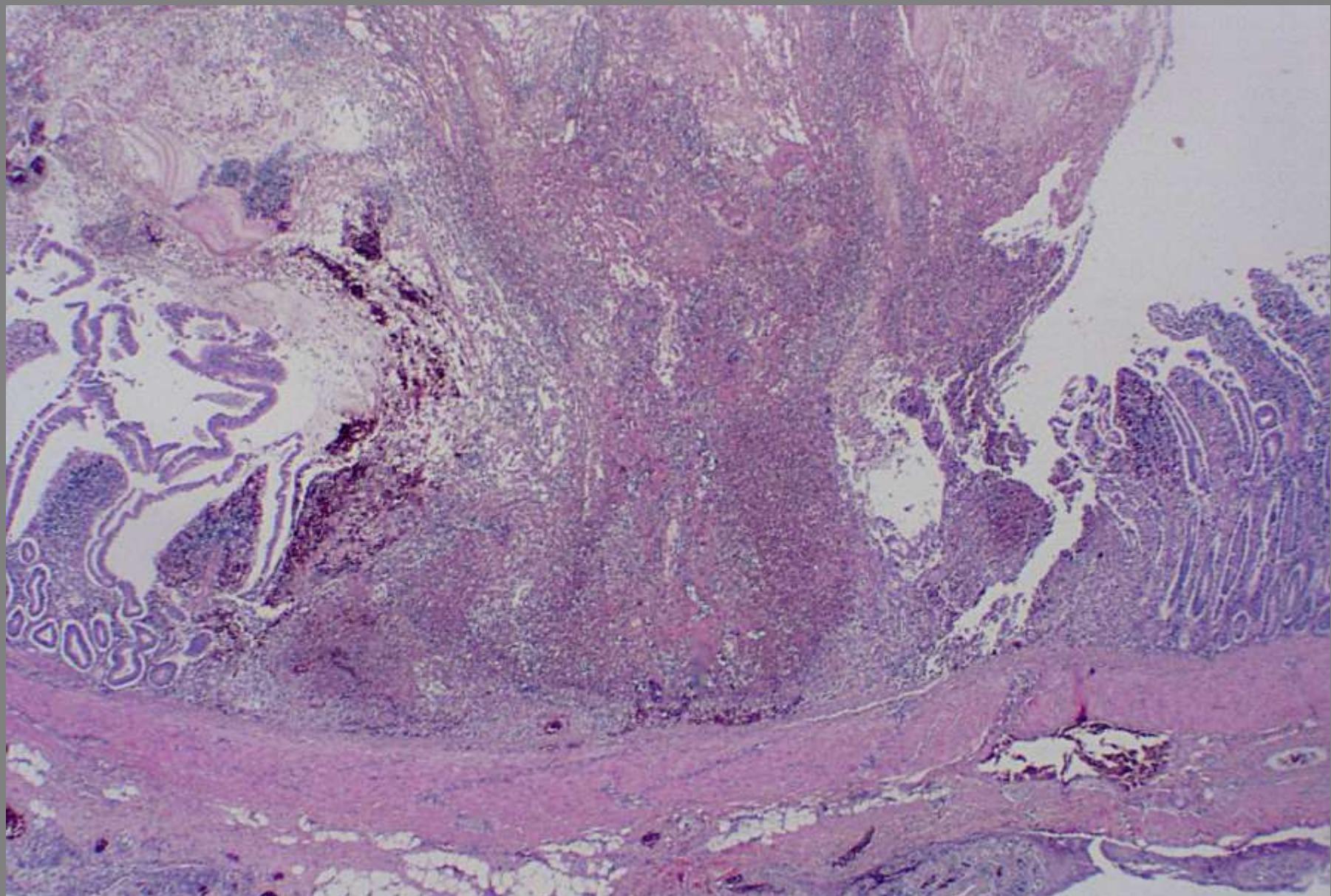
Intestinal hemorrhagic necrosis of lymphoid tissue – ND



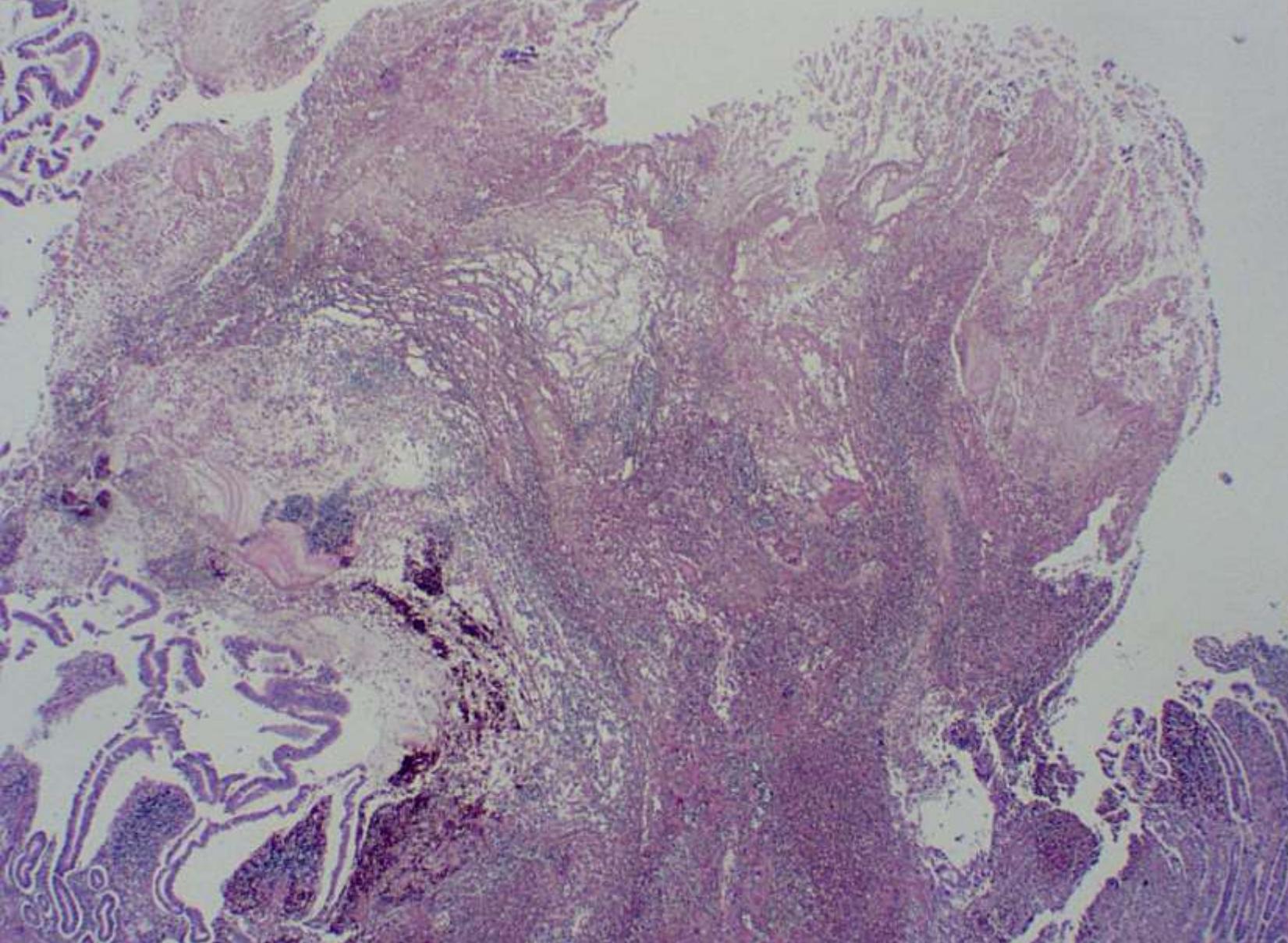
Intestinal hemorrhagic necrosis – ND



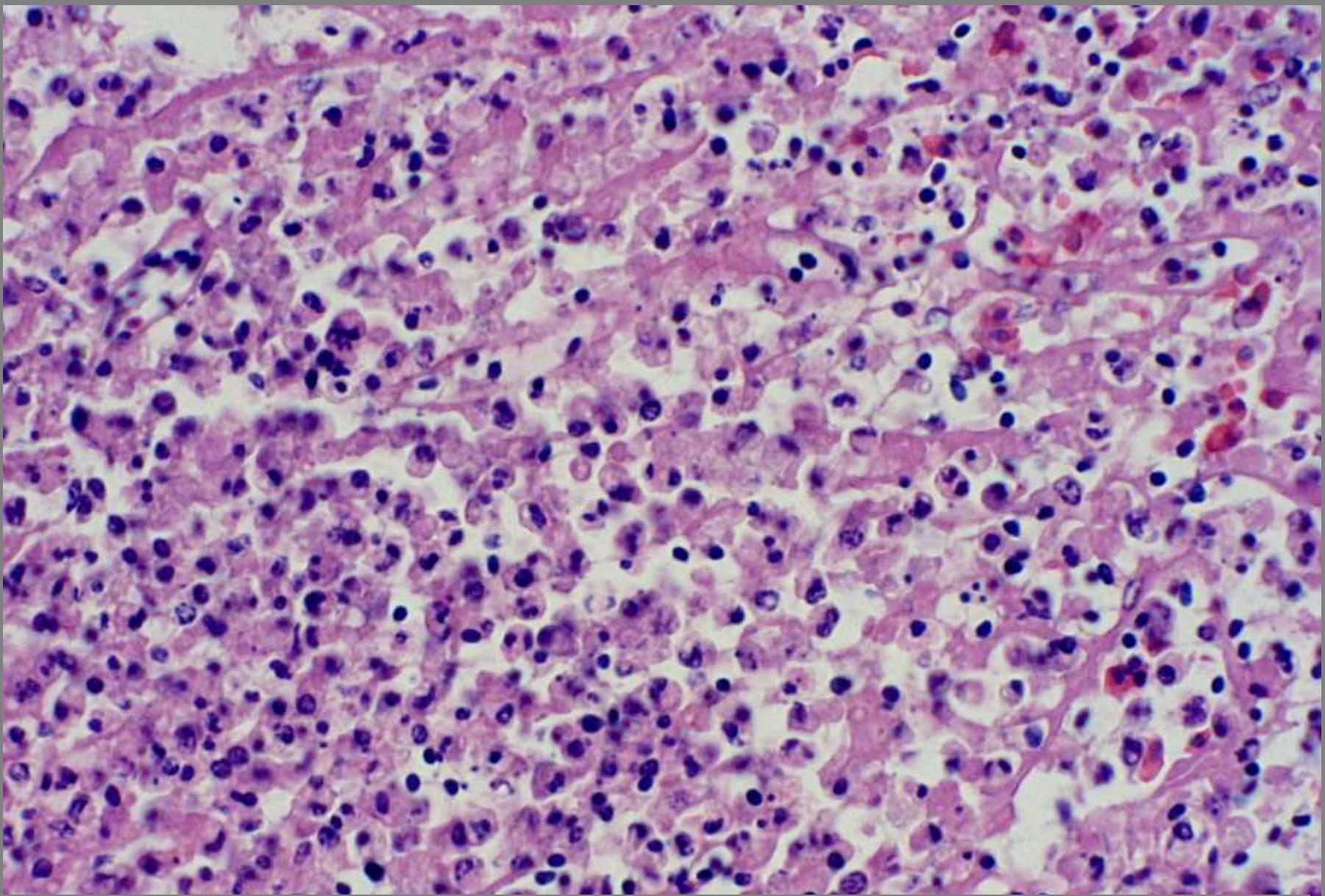
Intestinal hemorrhagic necrosis of lymphoid tissue – ND



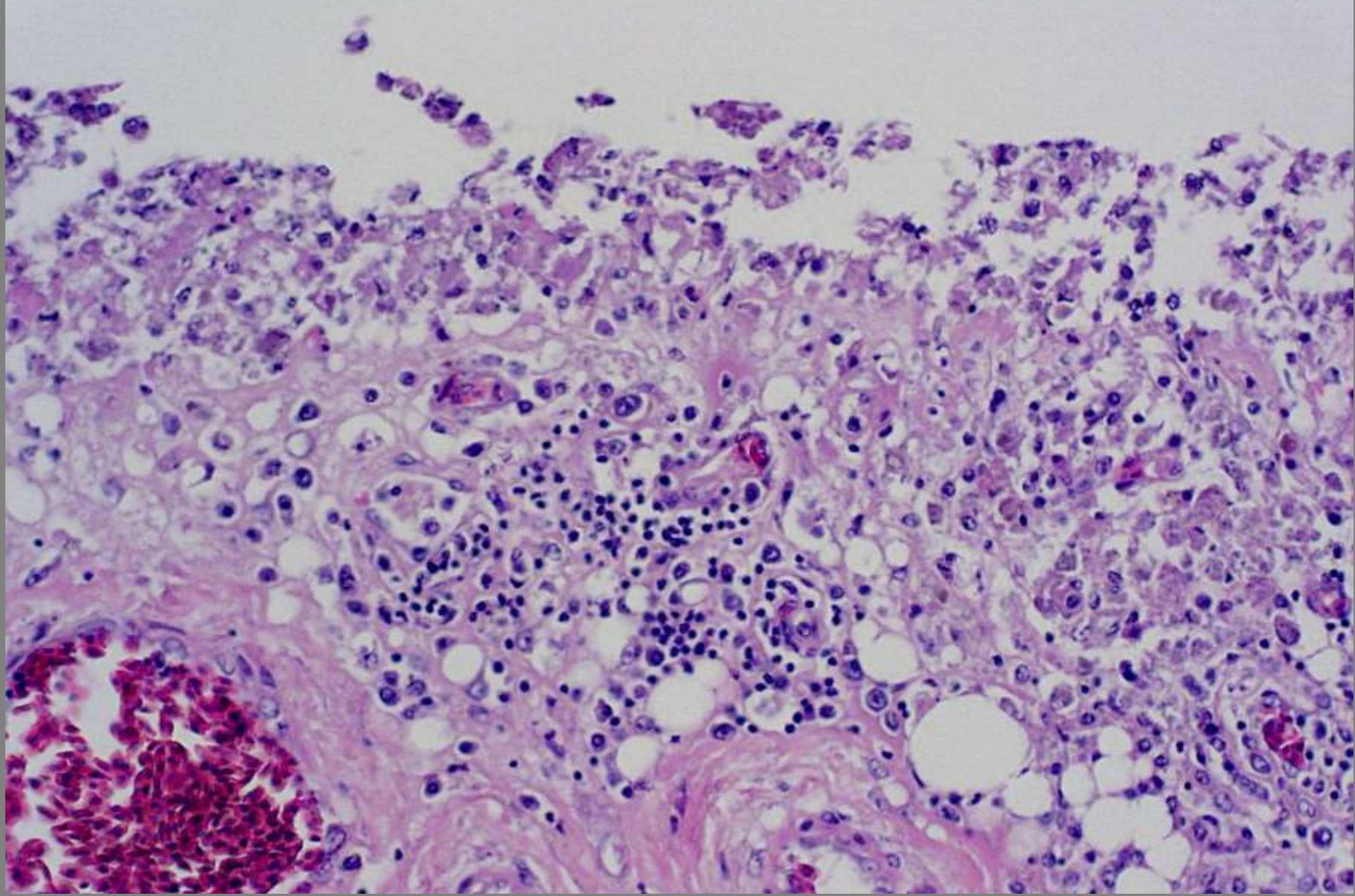
Cecal tonsil necrosis – ND (from Plum Island glass slides set)



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Cecal tonsil necrosis – ND (from Plum Island glass slides set)



Hemorragic edema – ND



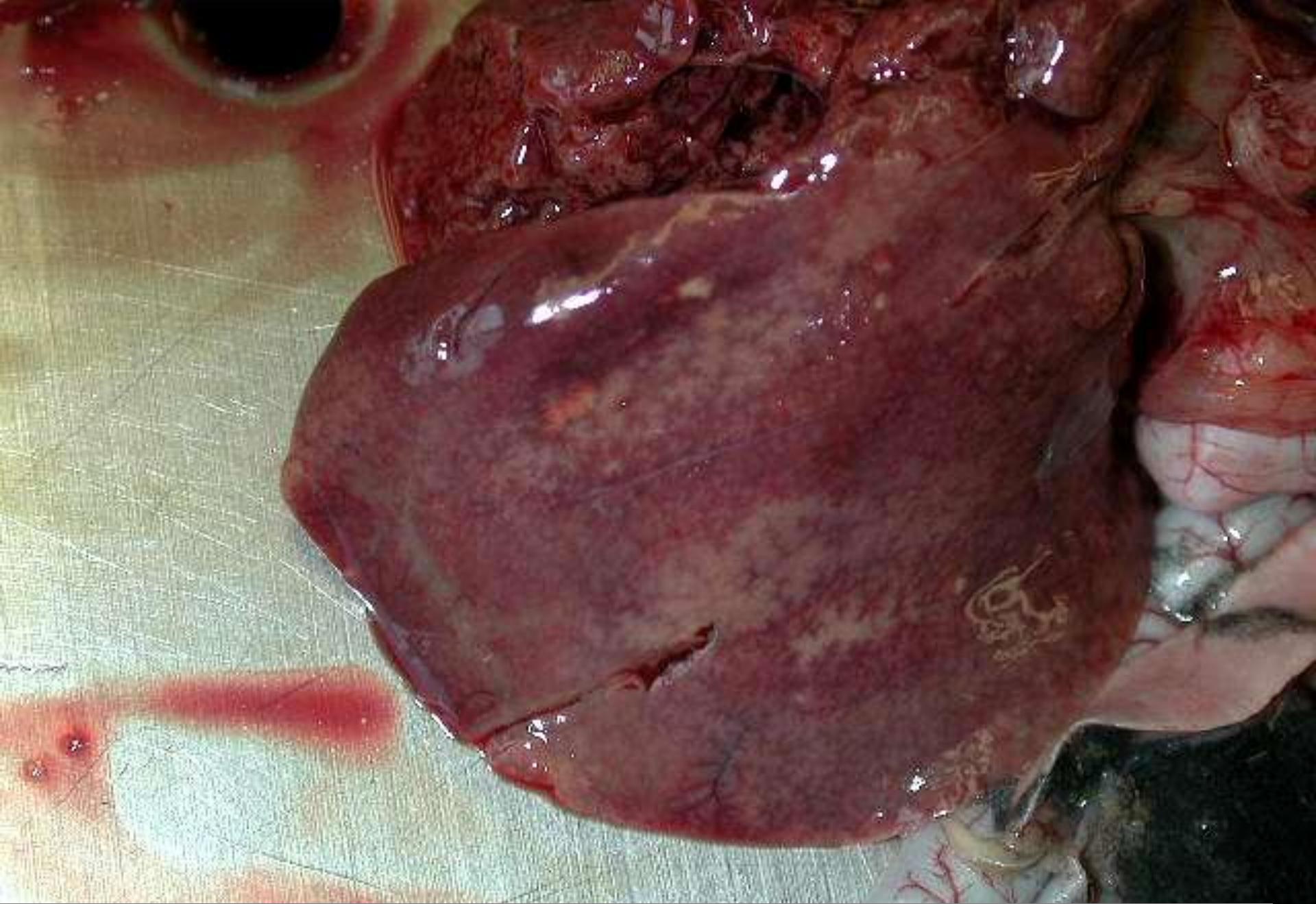
Ovarian hemorrhage – ND



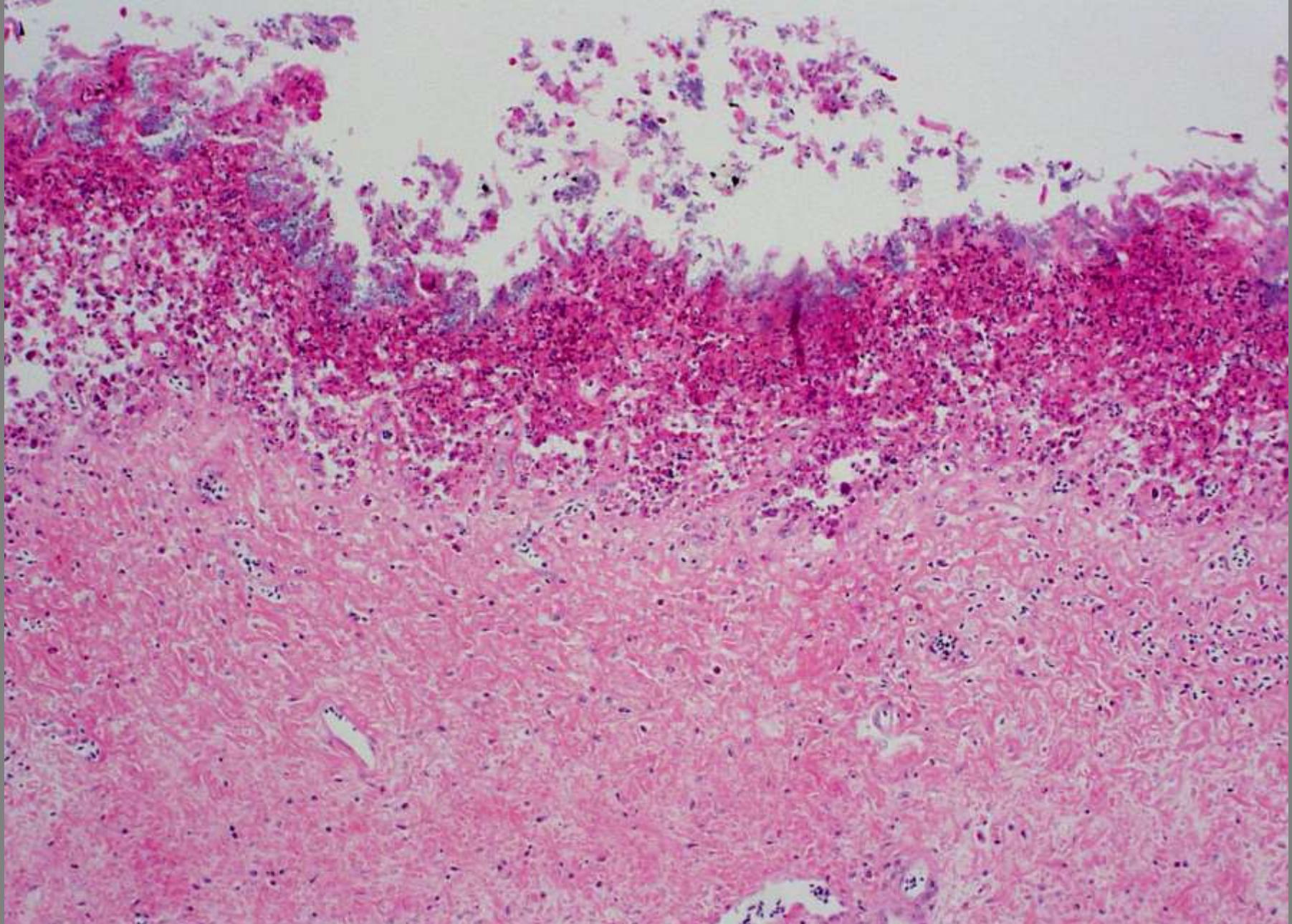
Intestinal and pancreatic hemorrhagic necrosis
– duck plague herpes virus



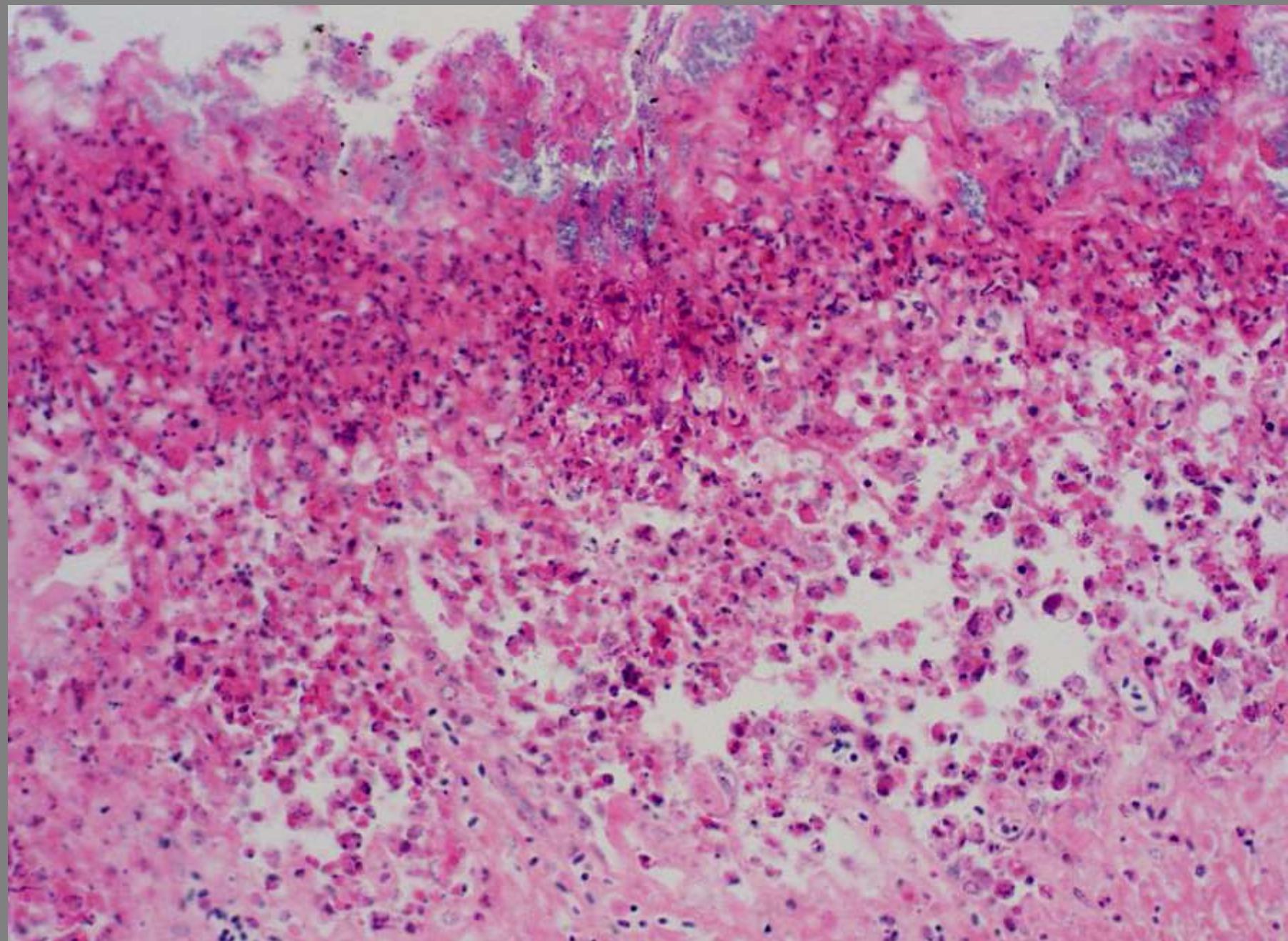
Intestinal necrosis – duck plague herpes virus



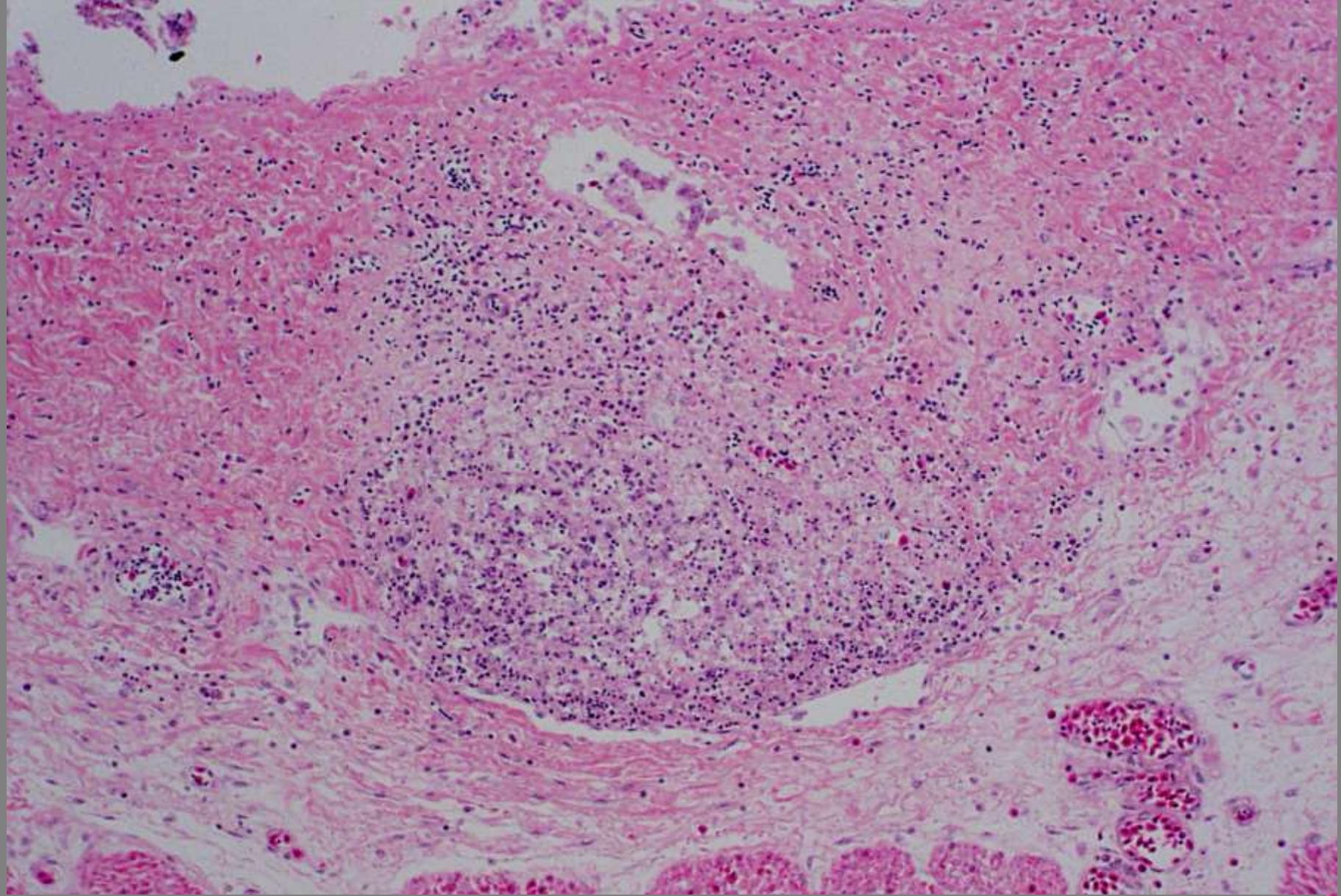
Hepatic necrosis – duck plague herpes virus



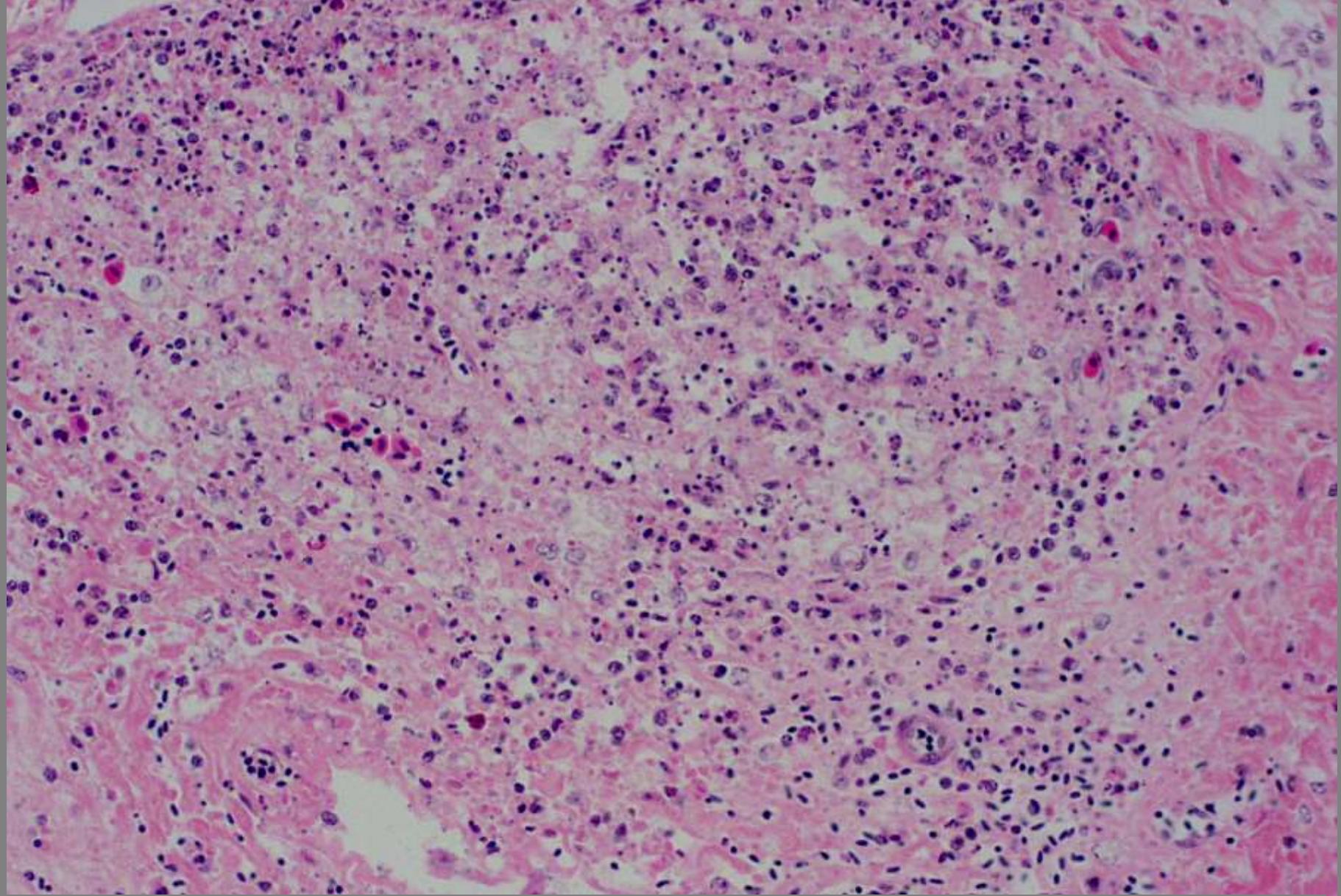
Intestinal necrosis – duck plague herpes virus



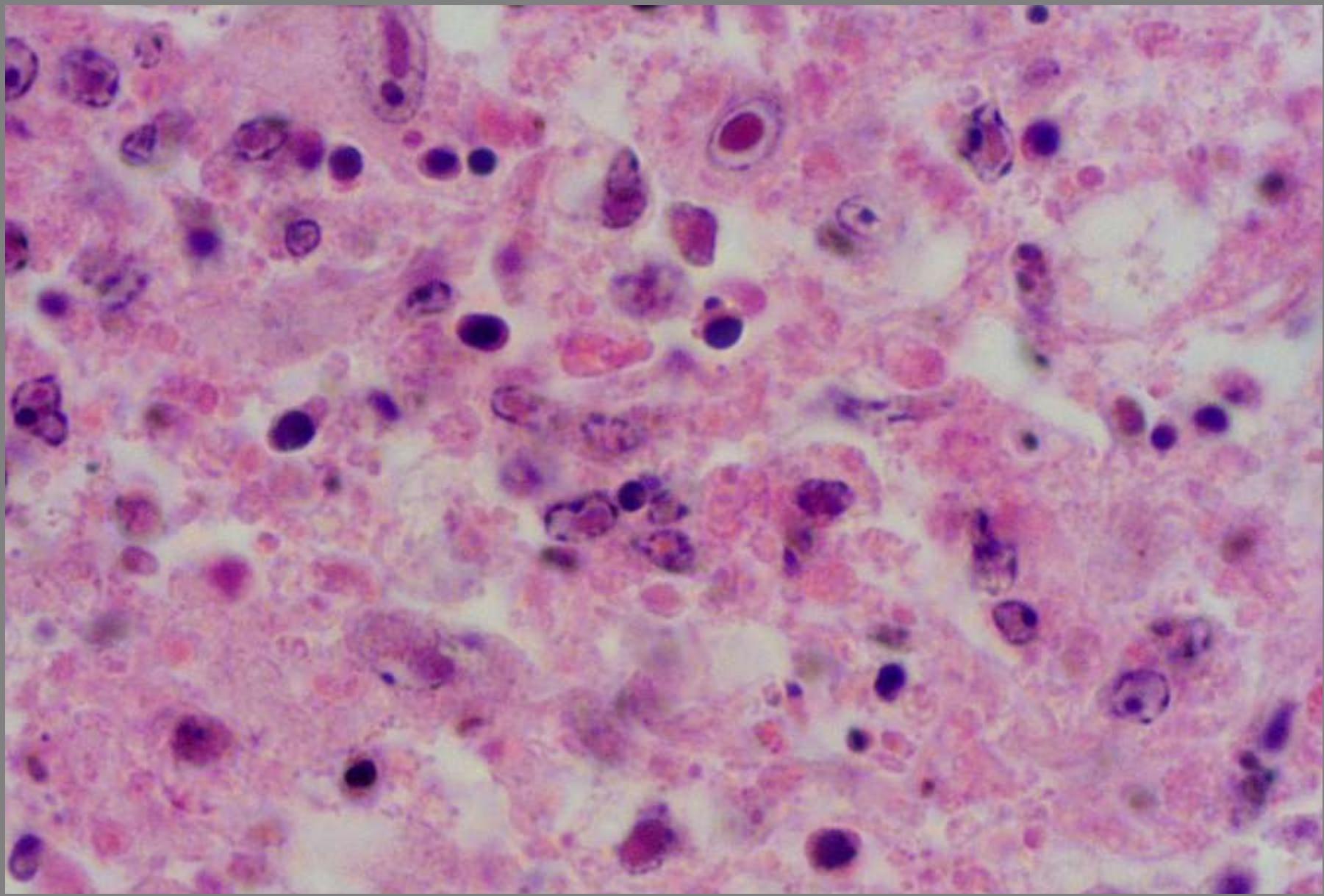
Intestinal necrosis – duck plague herpes virus



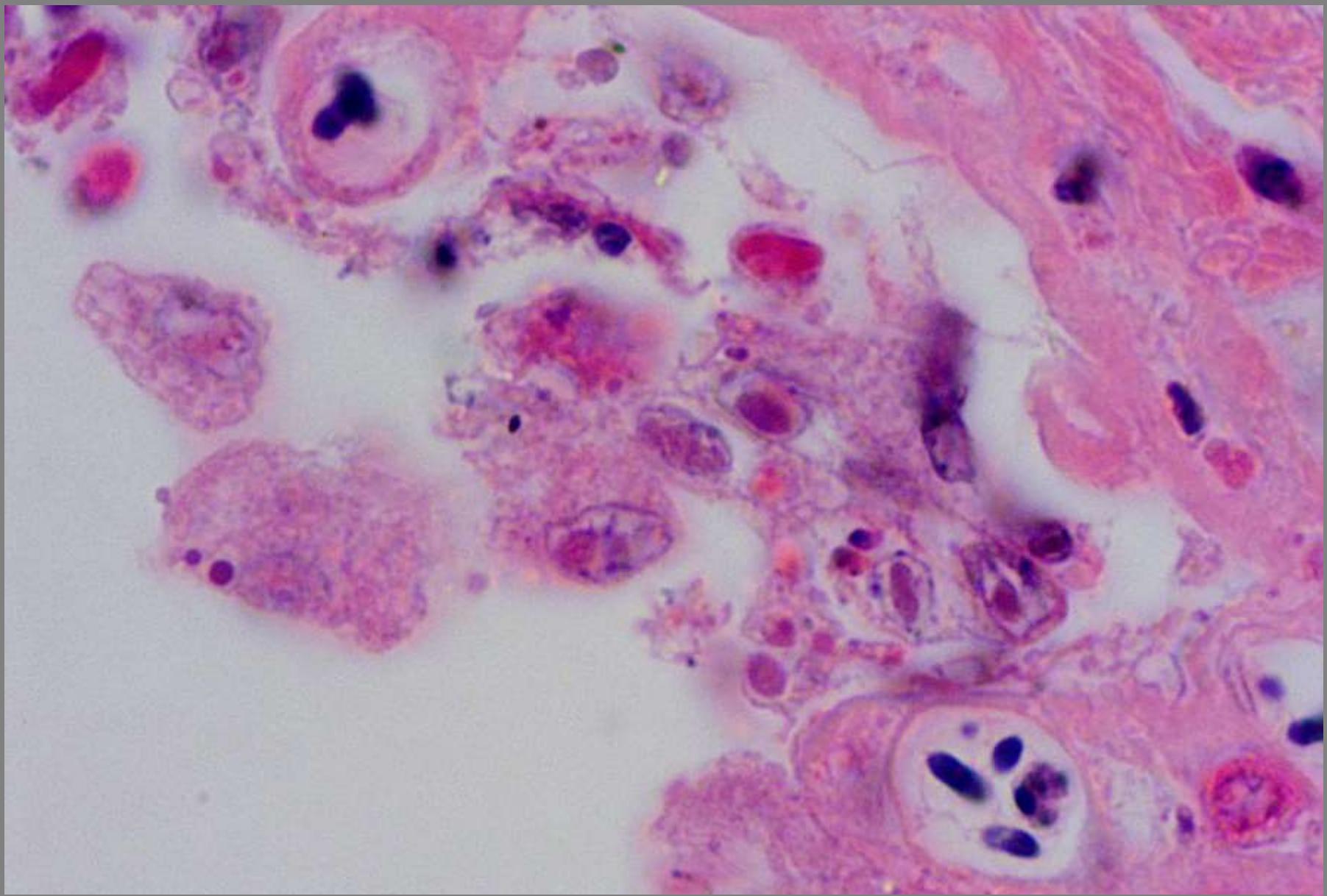
Intestinal lymphoid necrosis – duck plague
herpes virus



Intestinal lymphoid necrosis – duck plague
herpes virus



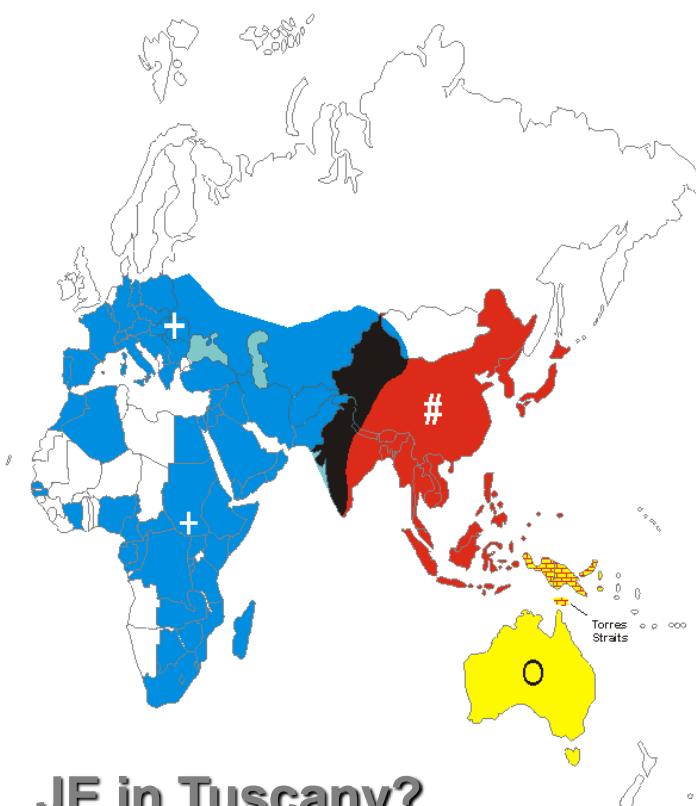
Intestinal lymphoid necrosis – I.B. - duck plague
herpes virus



Intestinal lymphoid necrosis – I.B. - duck plague
herpes virus

The Geographic Distribution of the Japanese Encephalitis Serocomplex of the Family Flaviridae

2005

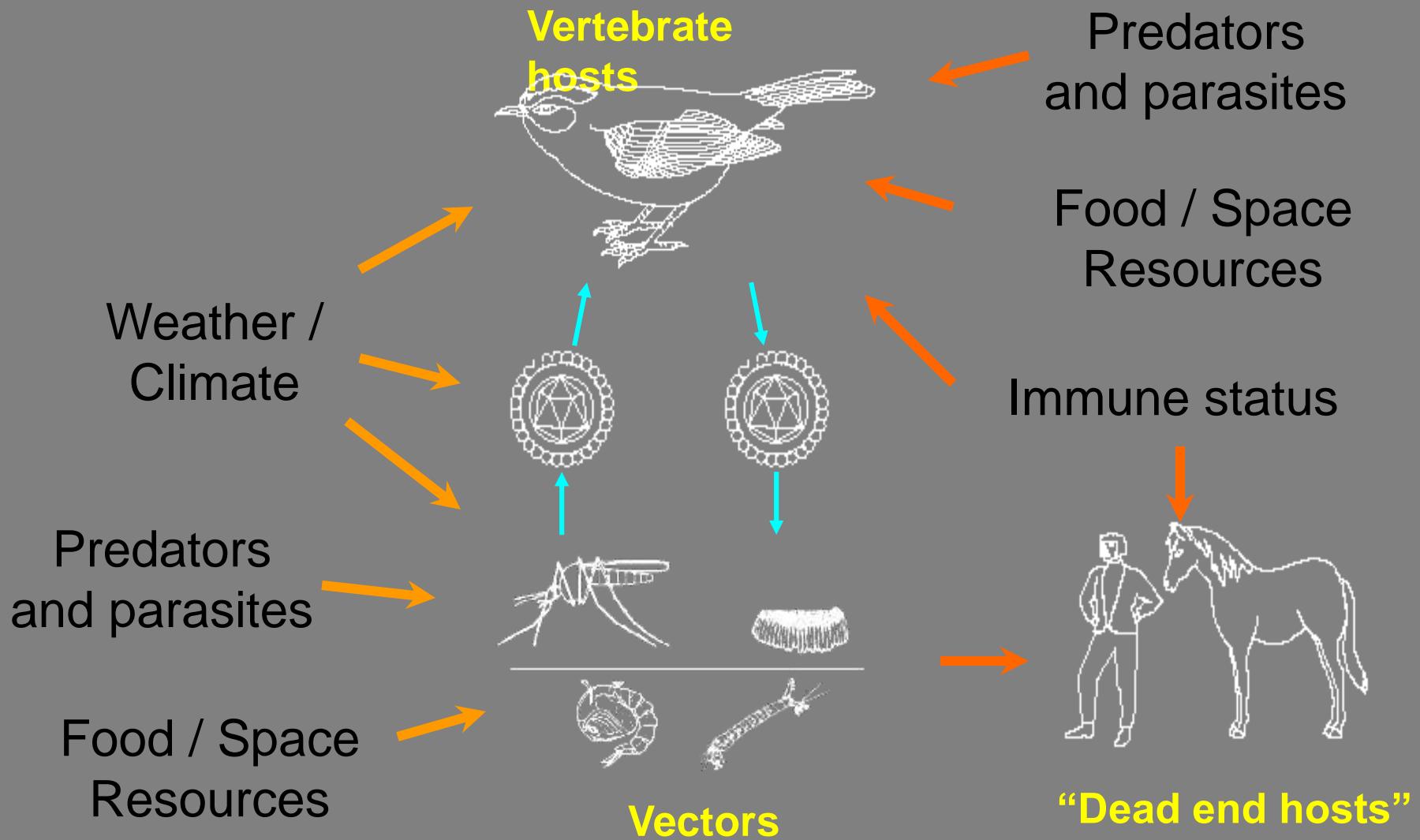


JE in Tuscany?

- St. Louis encephalitis
- * Rocio and St. Louis (Brazil)
- + West Nile virus
- # Japanese encephalitis
- ● West Nile and Japanese encephalitis
- ● Japanese and Murray Valley encephalitis
- ○ Murray Valley and Kunjin

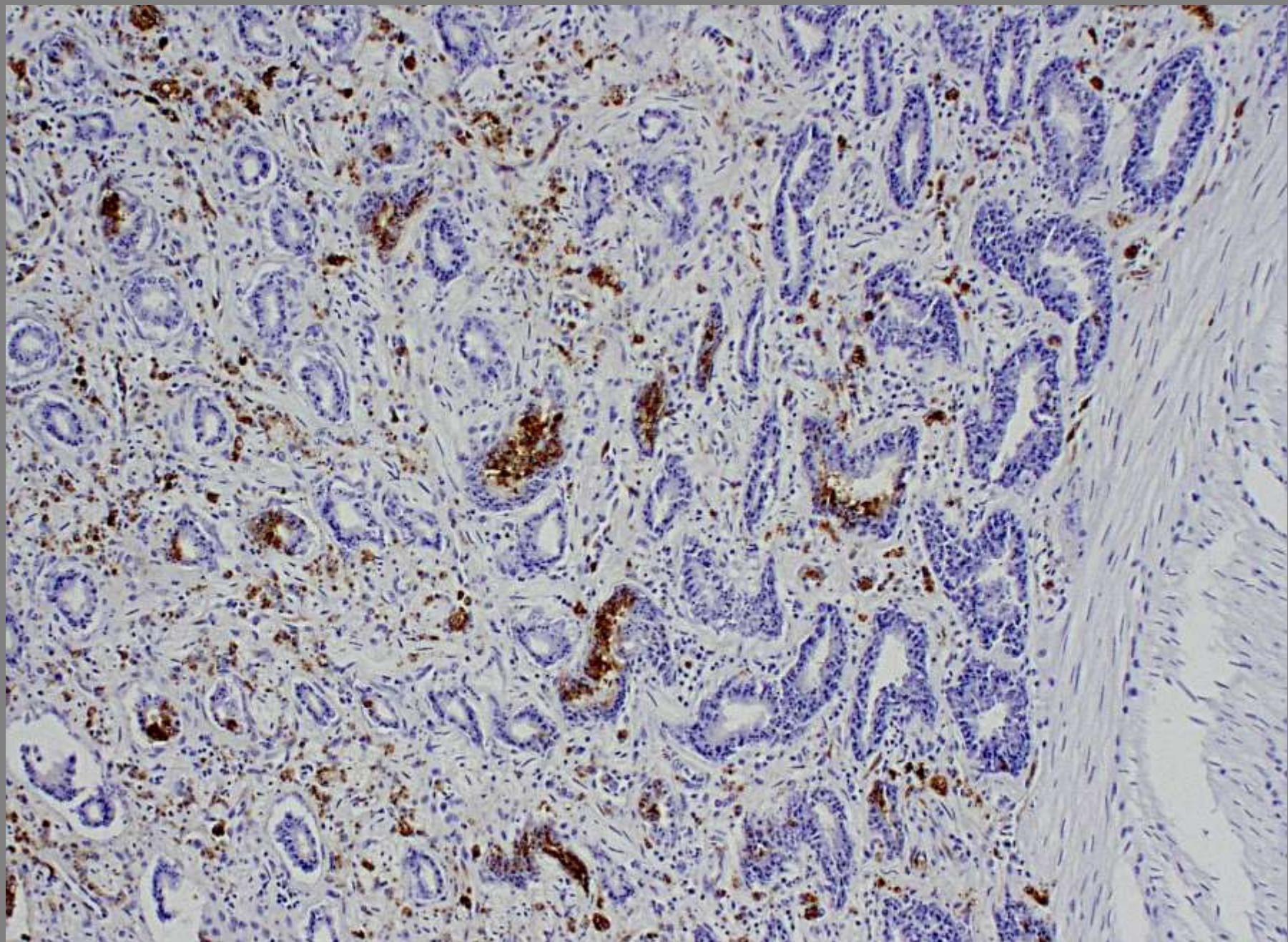


Components in the transmission and maintenance of arboviral encephalitis

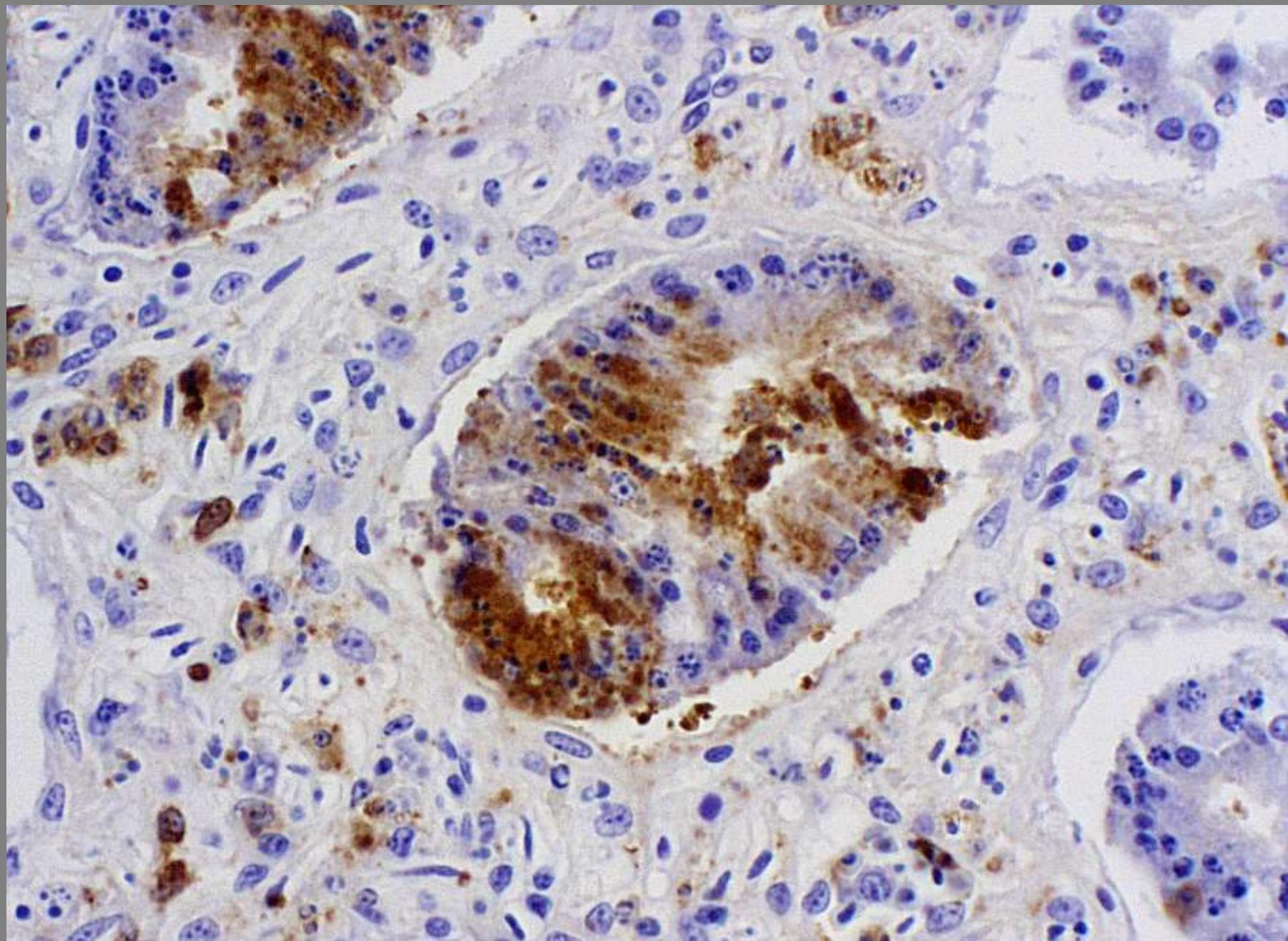




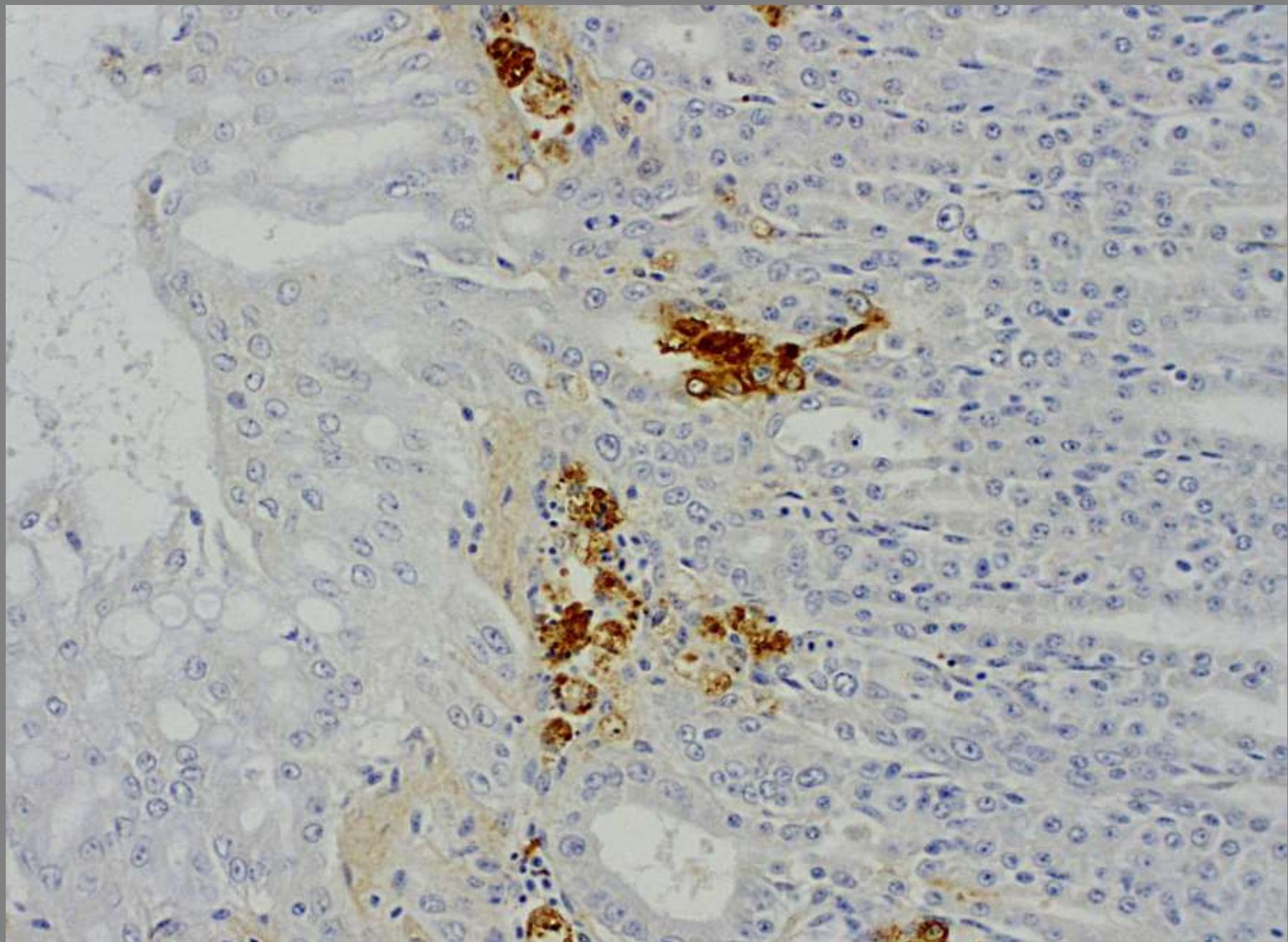
Crow - Enteric necrosis with melena - WNV



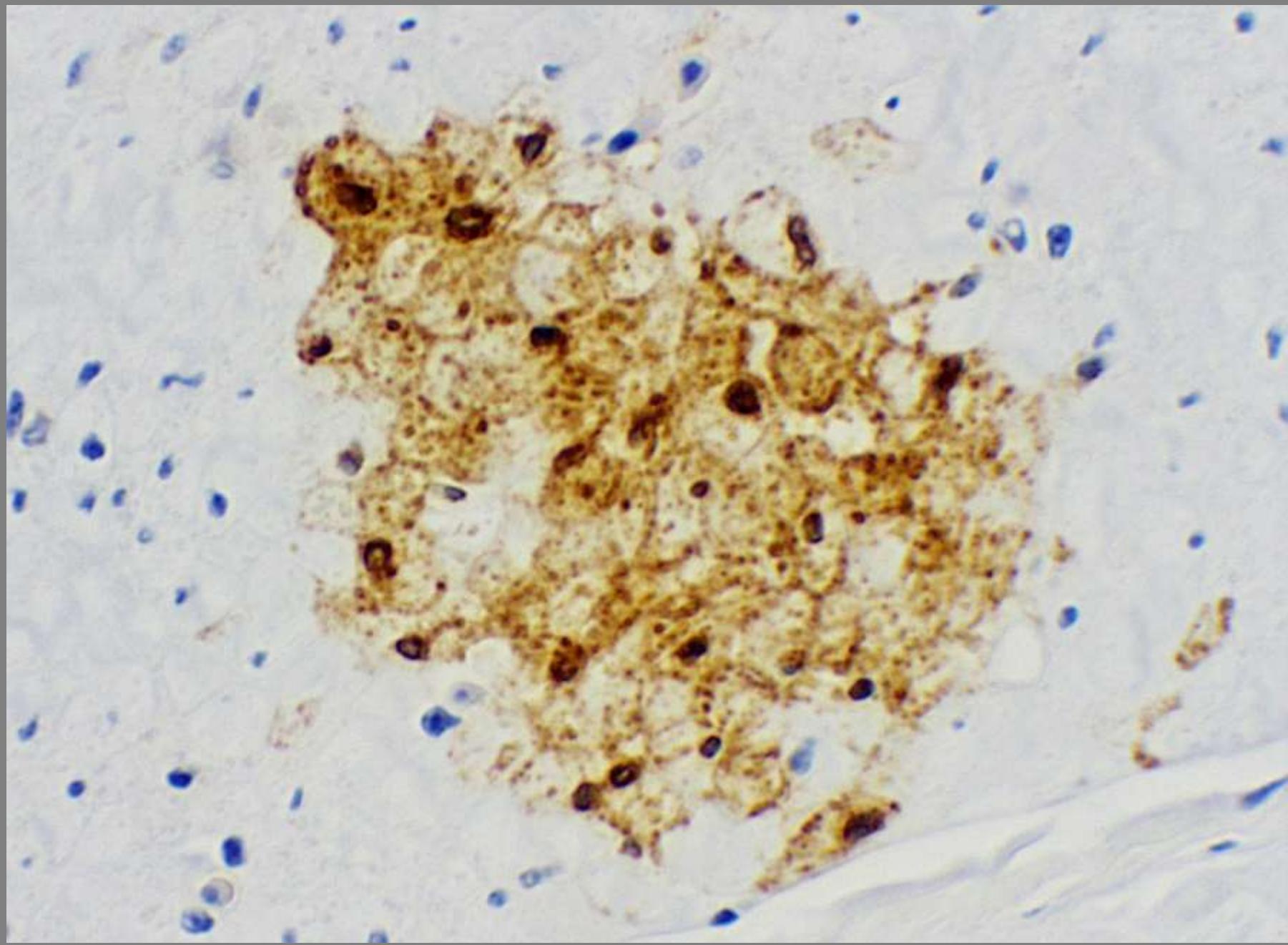
Crow - Enteric WNV crypt infection – IHC



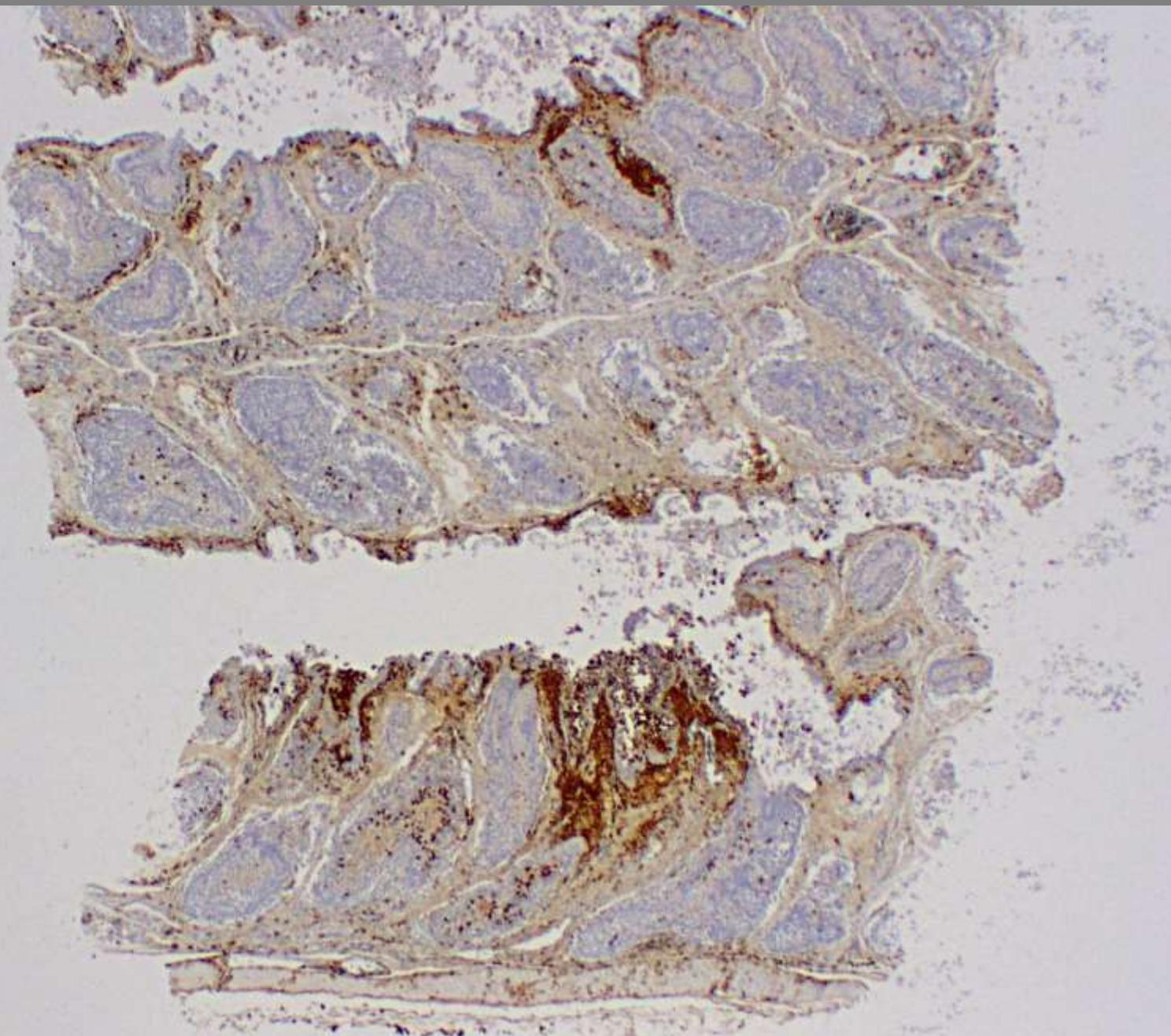
Crow - Enteric WNV crypt infection - IHC



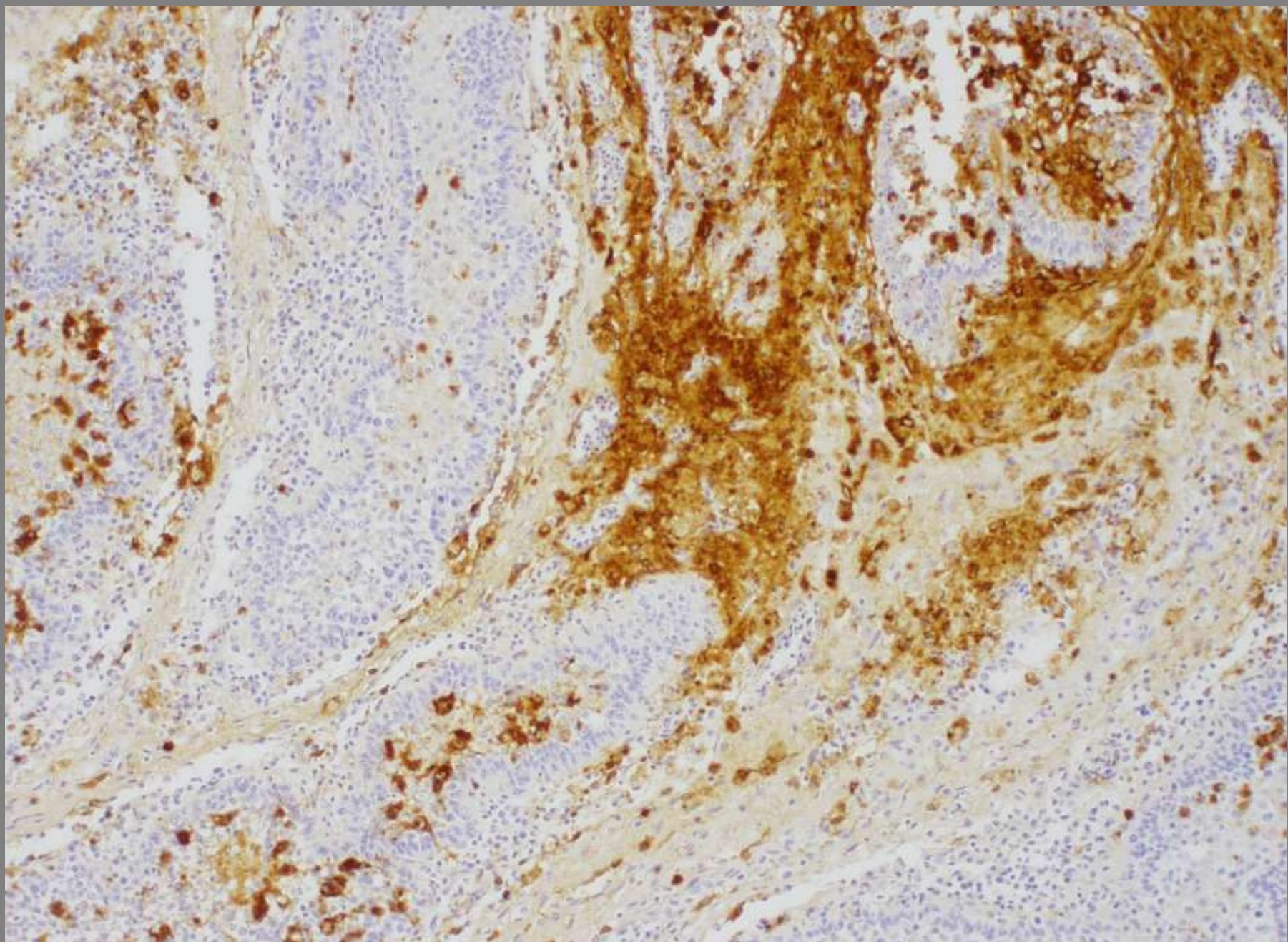
Crow - proventricular WNV crypt infection - IHC



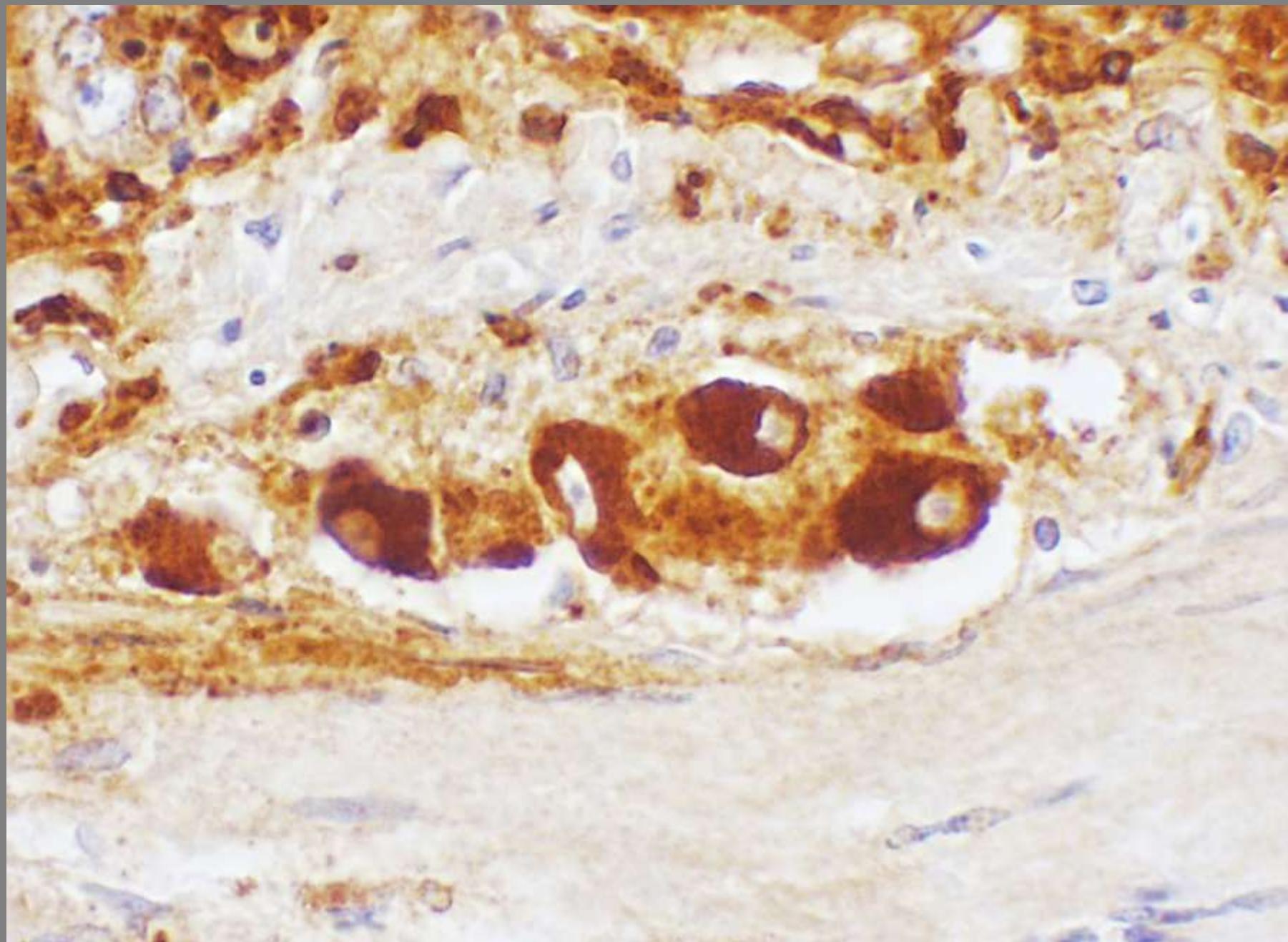
Crow – tunica muscularis WNV infection - IHC



Crow - cloaca WNV infection - IHC



Crow - bursa WNV infection - IHC



Crow – intestinal ganglia WNV infection – IHC