

病理專科獸醫師甄審

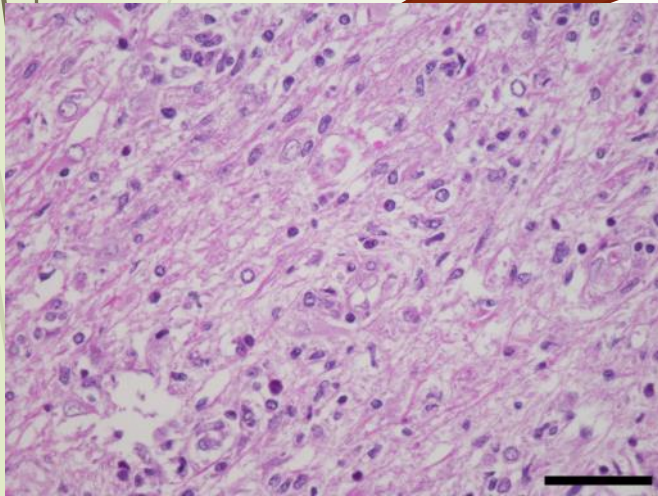
組織病理學

李文達 DVM, PhD

待業中。

中華鯨豚協會 理事/獸醫師

組織病理學

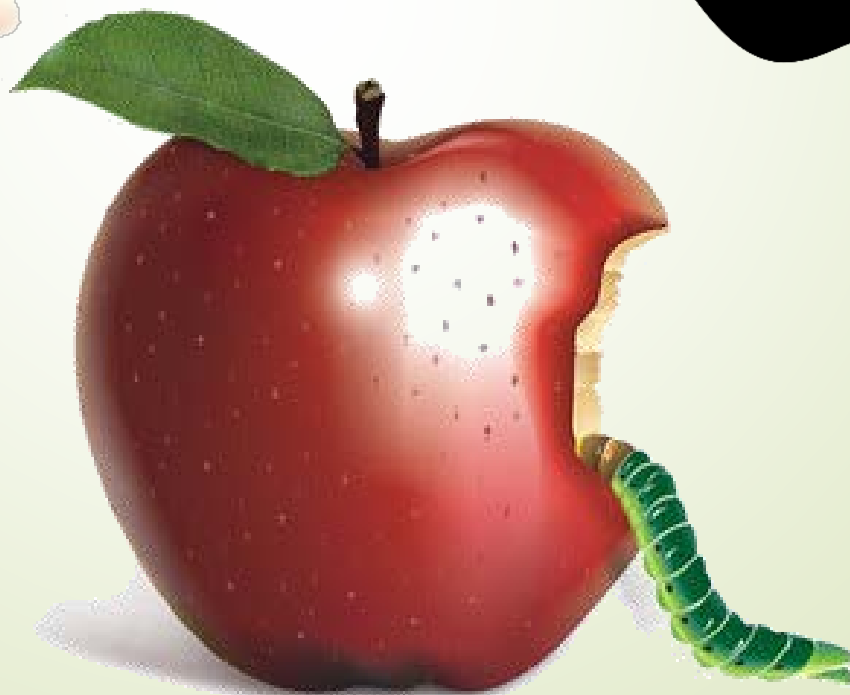


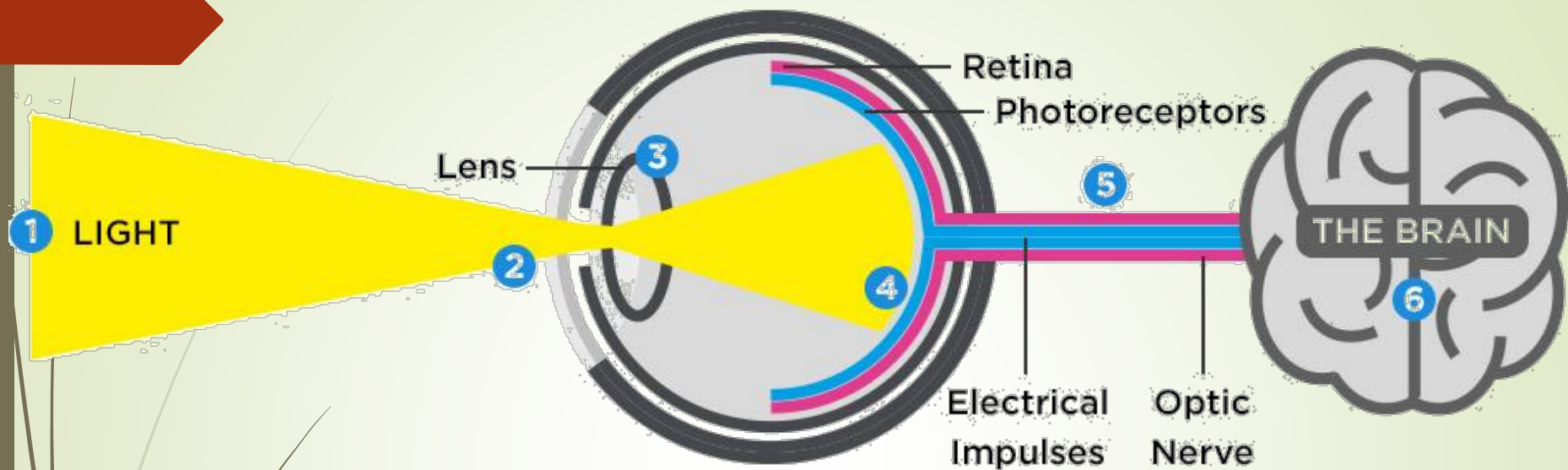
組織學

疾病診斷/研究

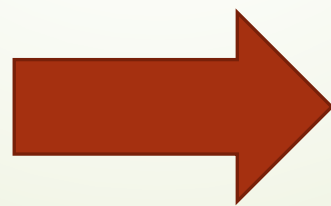
組織病理學 => 形態學







蘋果的顏色？
蘋果的樣子？
是否有蟲？
是商標嗎？



被咬一口的蘋果
被蟲吃的蘋果
蘋果

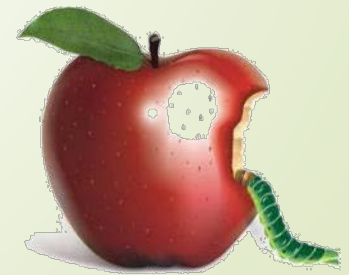
足夠的背景知識



被咬一口的蘋果




被蟲吃的蘋果

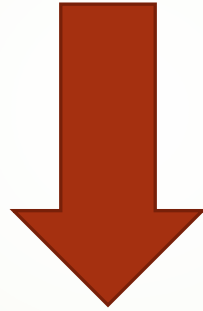


蘋果



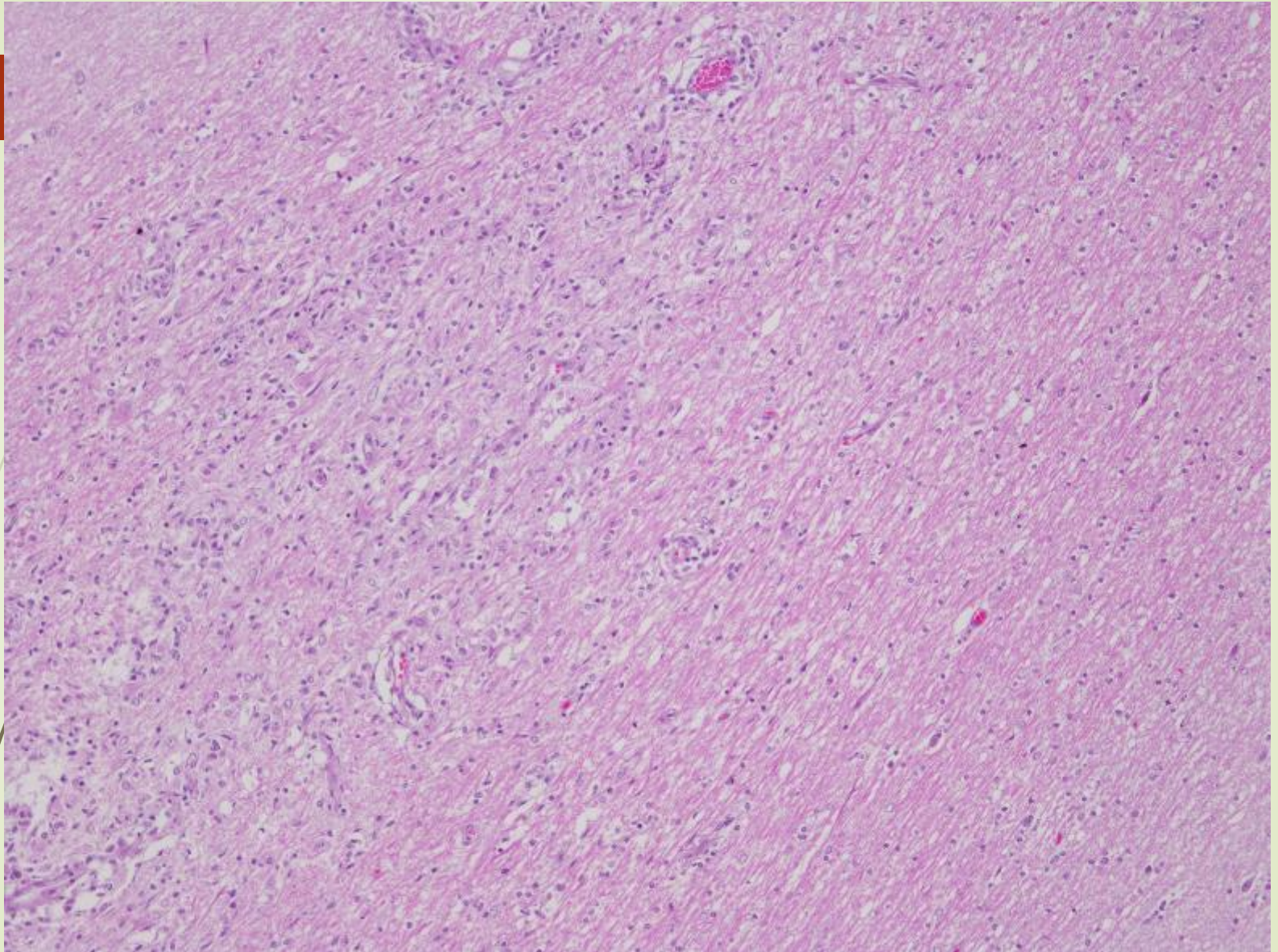


被咬一口的蘋果
被蟲吃的蘋果
蘋果




形態學診斷

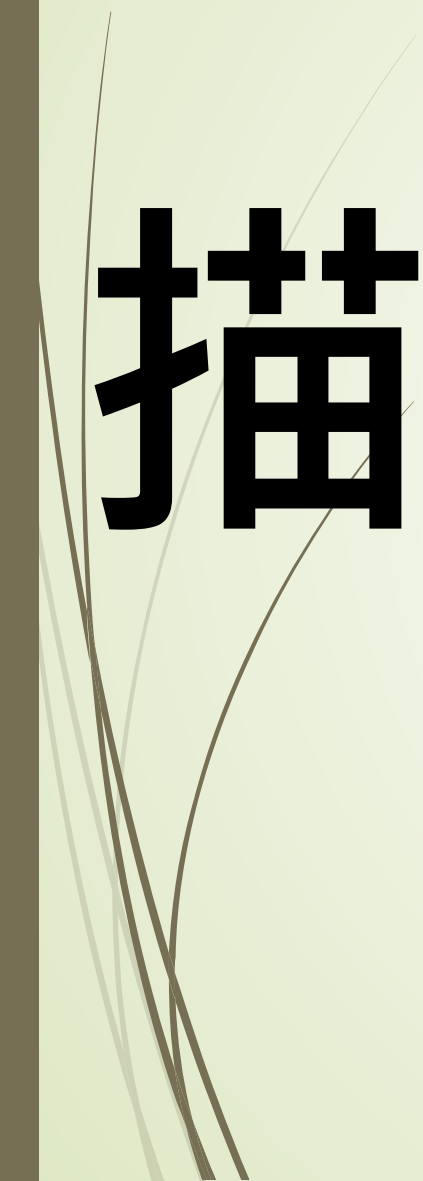
Morphological diagnosis



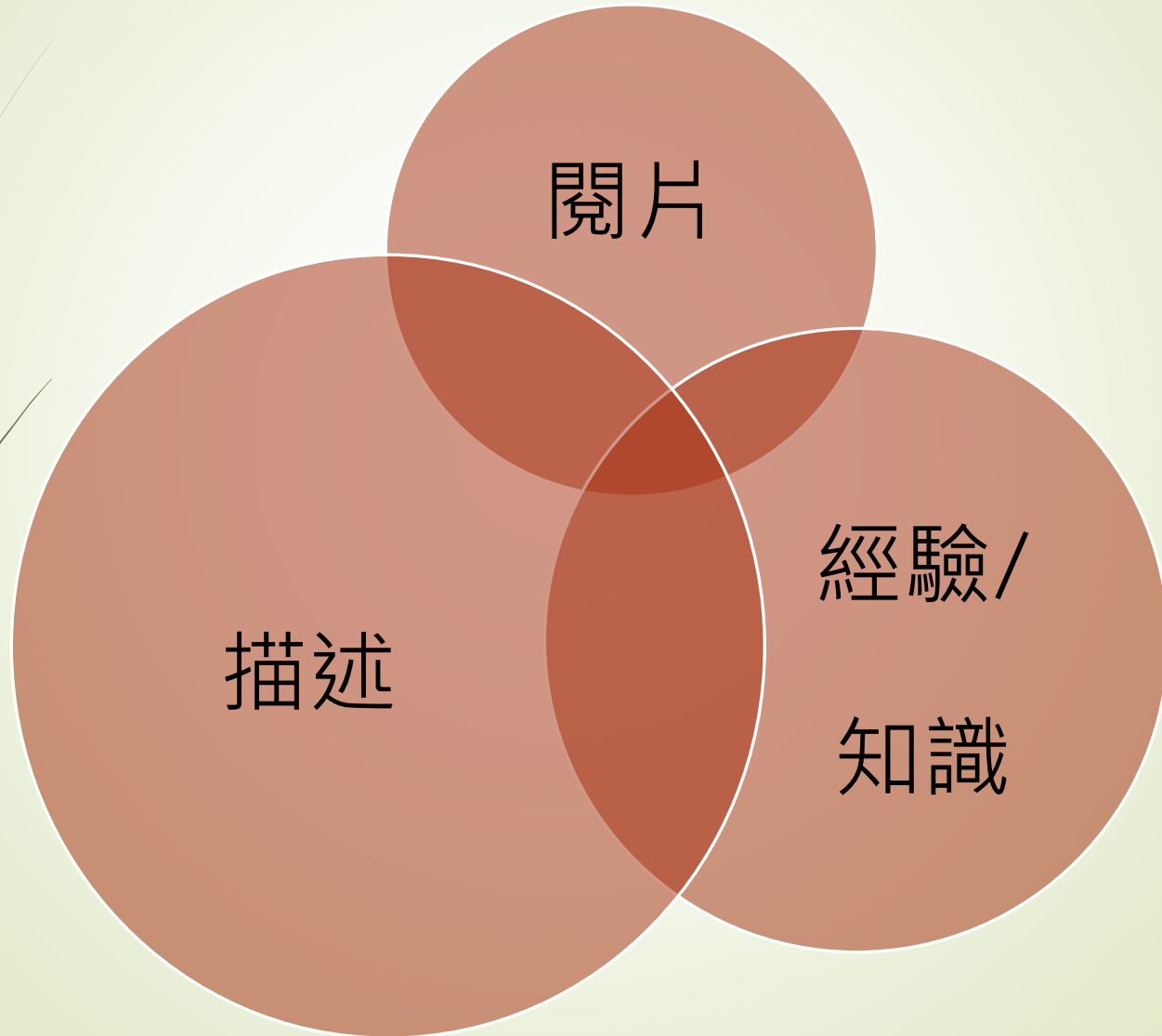
Encephalitis



描述 ≠ 診斷



組織病理學



形態學描述/診斷

- 個人風格
- 簡明但是完整 (特別是考試時...)
- 由大到小、前後連接 (邏輯性)
- 針對不同臟器有一致性的描述 (閱片)
- 描述整體病變的狀況、正常的不用特地提
- 用詞的正確性
- 盡量描寫大小和形狀 (病原或是某些細胞)

形態學描述/診斷

➤ 非腫瘤

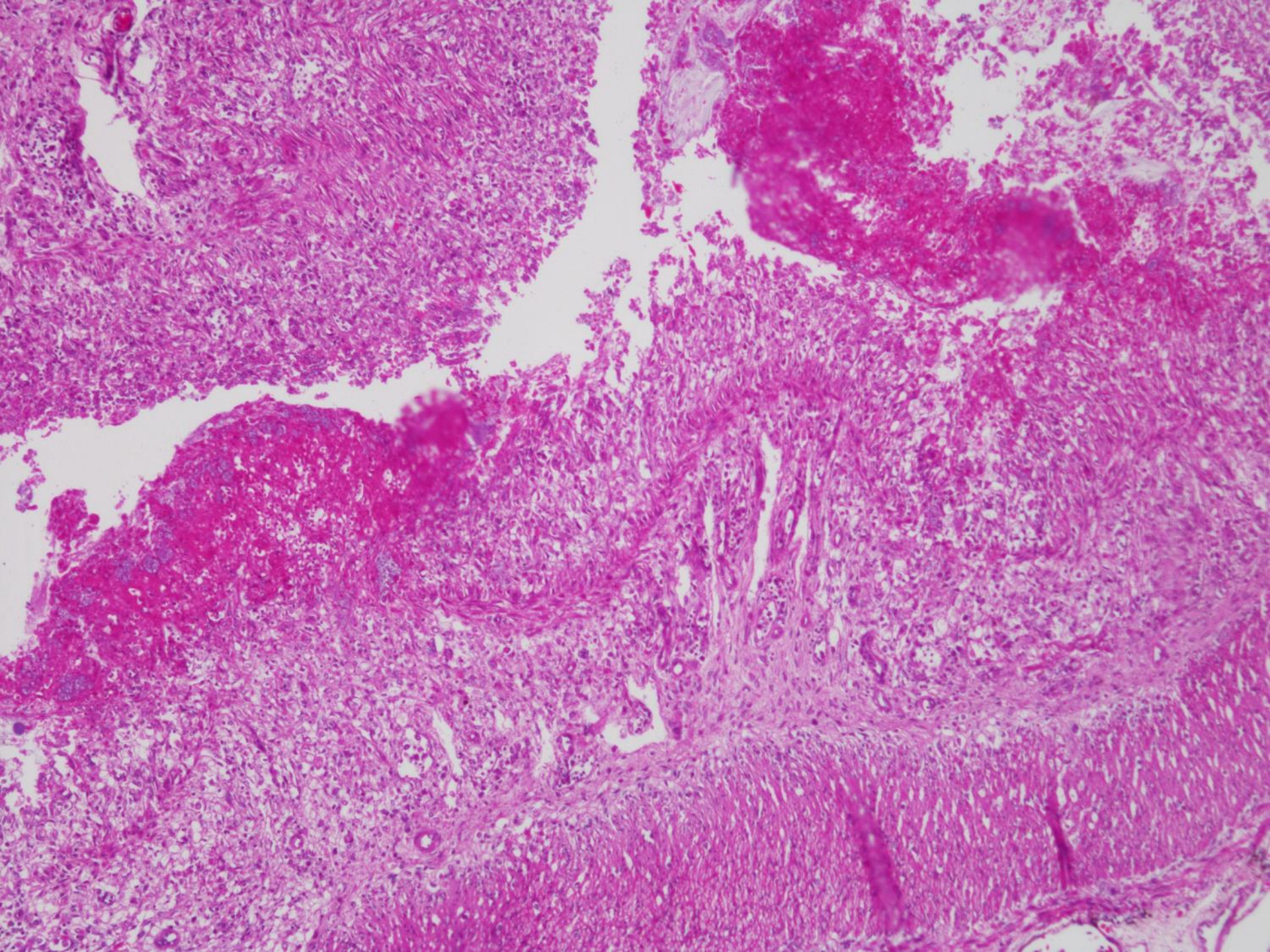
➤ Organ: Location/distribution. Components. Causative agent.

➤ 腫瘤

➤ Organ: Subgross description (location, size, cellularity, demarcated/encapsulated, shape, expansile/infiltrative, and cell population). Patterns of cells and type of stroma. Cytologic features. Unique features. Mitotic activity. Evidence of malignancy. Others.

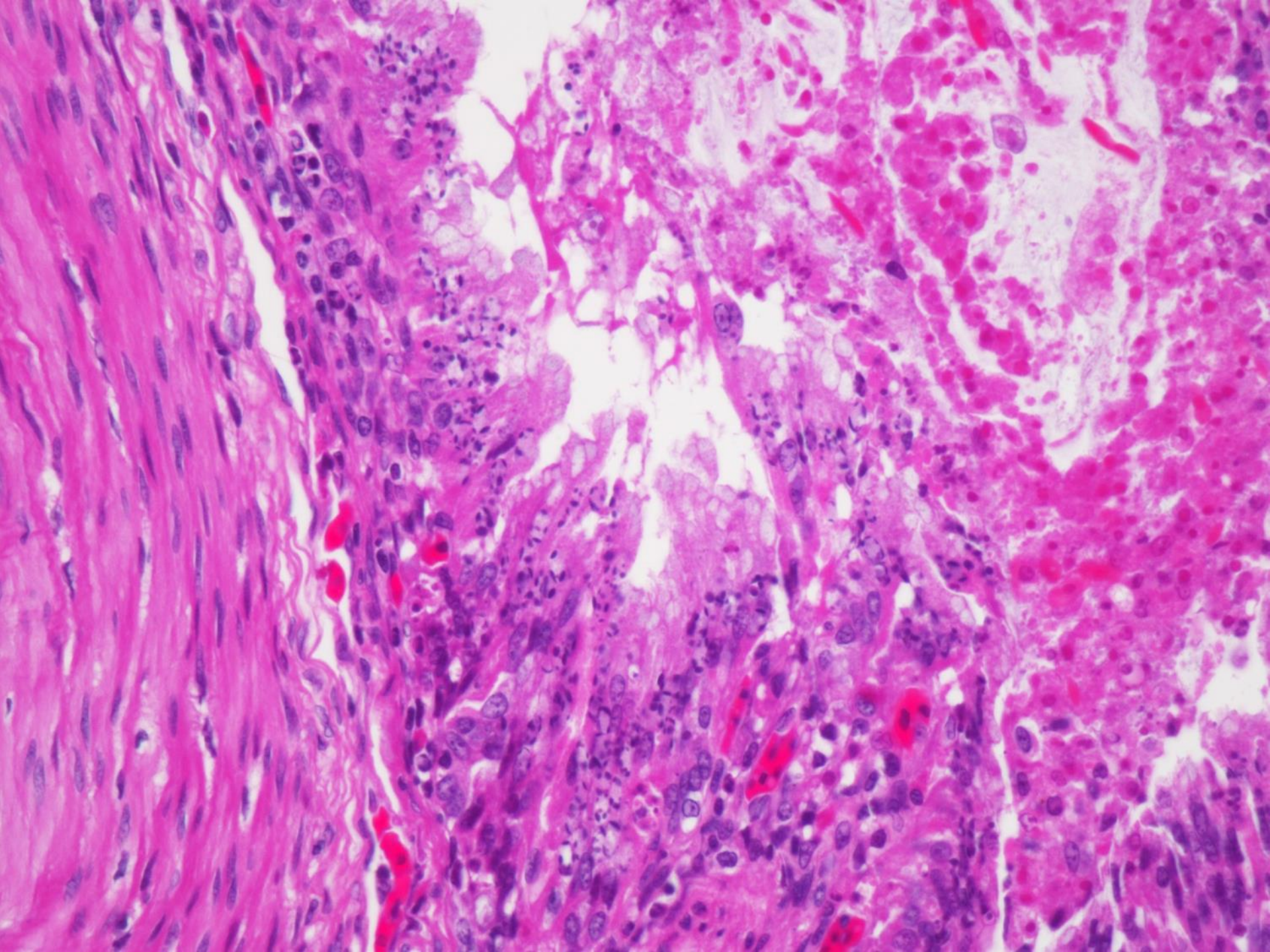
形態學描述/診斷-非腫瘤

- **Intestinal tract:** Segmentally, the normal architectures of the *mucosa* are replaced by a thick layer of necrotic cell debris, *fibrinous/mucoid* substance and *moderate numbers* of *mixed inflammatory cells* with scattered colonies of bacilli. The lesion extends variably to the *submucosa and muscularis* in different individuals. In some sections, the lining epithelial cells are proliferative, and numerous cells with karyorrhexic nucleus are noted in the upper portion of the lining epithelium.....



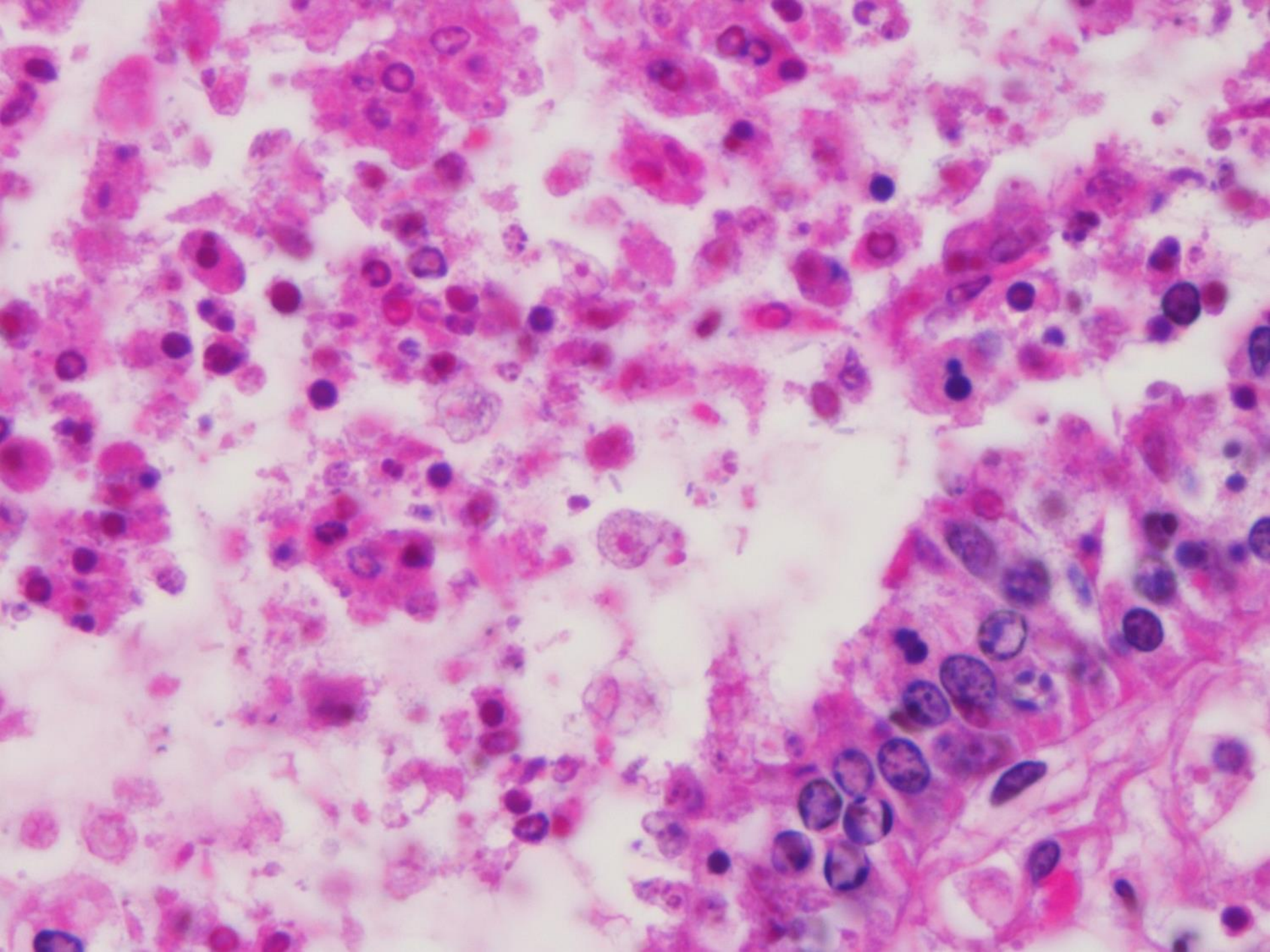
形態學描述/診斷-非腫瘤

- **Intestinal tract:** Segmentally, the normal architectures of the *mucosa* are replaced by a thick layer of necrotic cell debris, *fibrinous/mucoid* substance and *moderate numbers* of *mixed inflammatory cells* with scattered colonies of bacilli. The lesion extends variably to the *submucosa and muscularis* in different individuals. In some sections, the lining epithelial cells are proliferative, and numerous cells with karyorrhexic nucleus are noted in the upper portion of the lining epithelium.....



形態學描述/診斷

- Different types of *protozoan organisms* are noted in above lesions. There are **many 2-6 um round to oval** protozoal organisms, which contain one **1-2 um basophilic** nucleus with eosinophilic cytoplasm and vacuoles (**compatible with *Cryptosporidium* sp. and some stages of Coccidial organisms**), along the apical surface of mucosal epithelial cells. In some cases, **6-8 um, round to oval** protozoal organisms, contain single to multiple 1-3 um basophilic nucleus with vacuolar cytoplasm (they are acid-fast-positive or **PAS-positive**, compatible with *Cyclospora* sp. or some stages of Coccidial organisms), are found in the mucoid substance/necrotic cell debris or infiltrating in the mucosal epithelium. In



形態學描述/診斷

- Enteritis, necrotizing and proliferative, segmental, mild to severe, subacute, with intralesional protozoan organisms (*Cryptosporidium* sp., *Cyclospora* sp. and Coccidial organisms), intestinal tract

形態學描述/診斷

➤ 非腫瘤

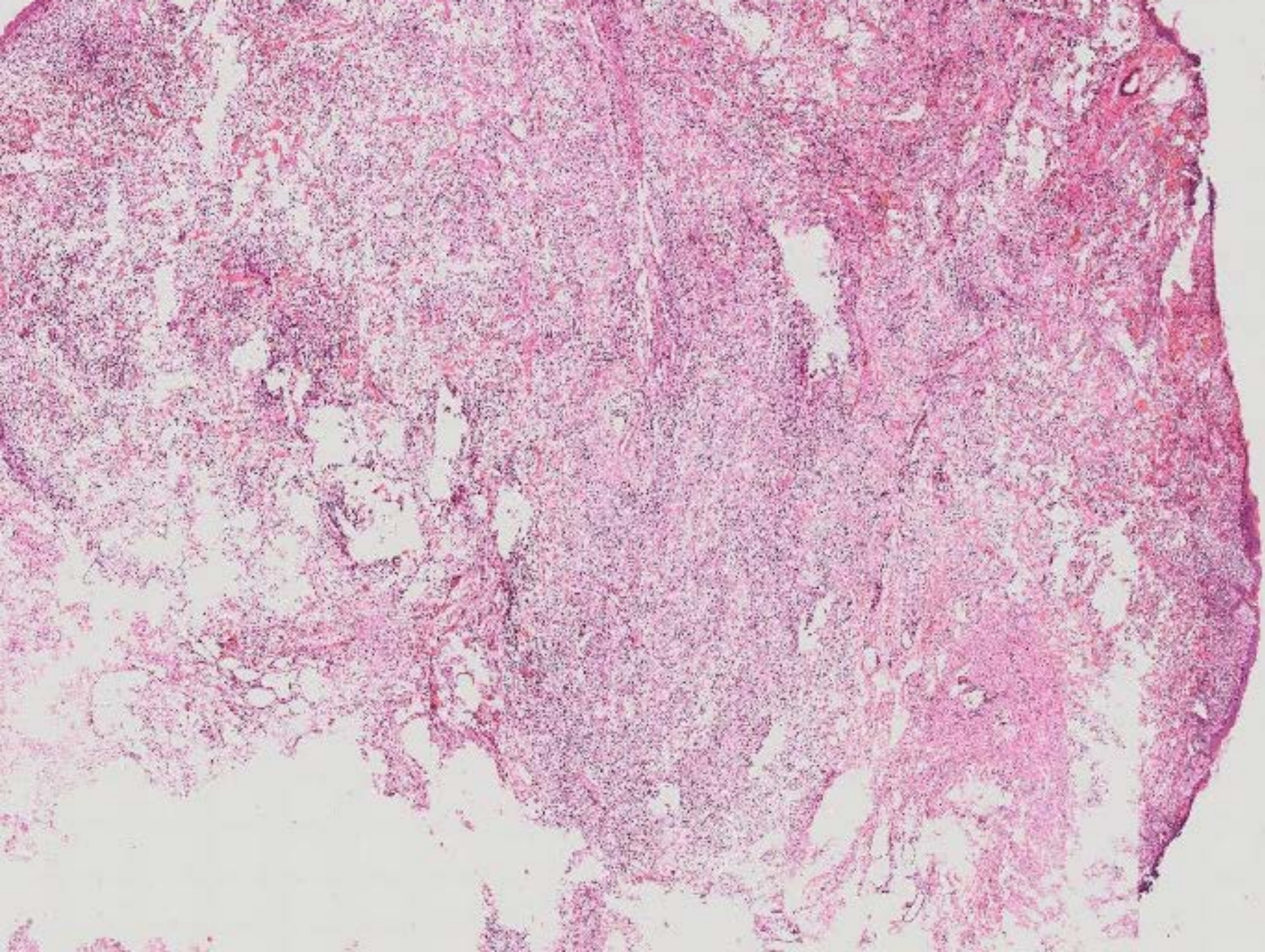
➤ Organ: Location/distribution. Components. Causative agent.

➤ 腫瘤

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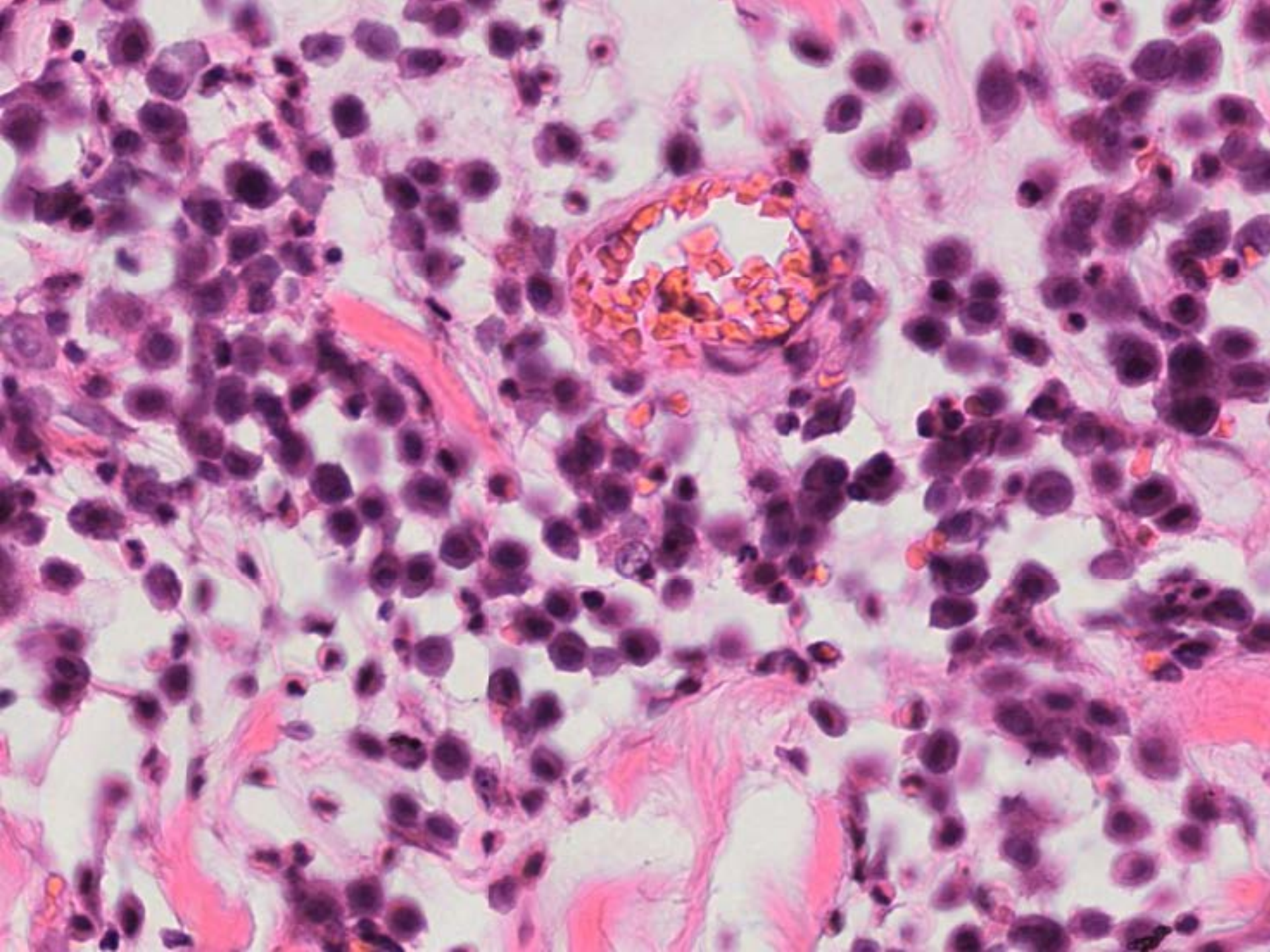
形態學描述/診斷

- Skin mass: The mass is **located at dermis, poorly demarcated, and composed of neoplastic round cells** arranged in broad sheets and cords among the pre-existing collagen bundles. The neoplastic cells have a scant to moderate amount of eosinophilic cytoplasm with varying numbers of intracytoplasmic amphophilic granules, and they contain a variably-sized, round to polygonal nucleus with clump chromatin and conspicuous nucleoli. The neoplastic cells show marked anisokaryosis and anisocytosis. Bi- to tri- nucleated neoplastic cells are occasionally found. Mitotic figures are frequently overserved and ranged from 0 to 3 per high power field (HPF). **(Evidence of malignancy)**. There are scattered eosinophils. **Multifocally, the neoplastic cells are noted at the specimen borders.**



形態學描述/診斷

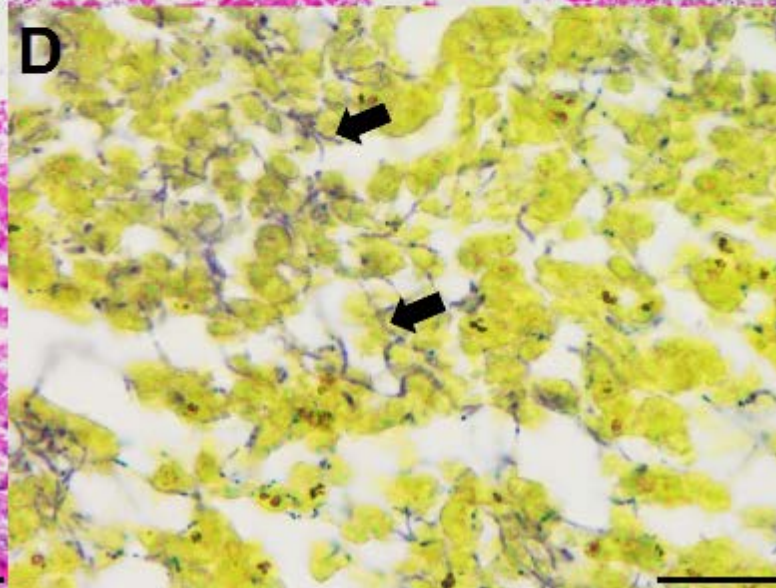
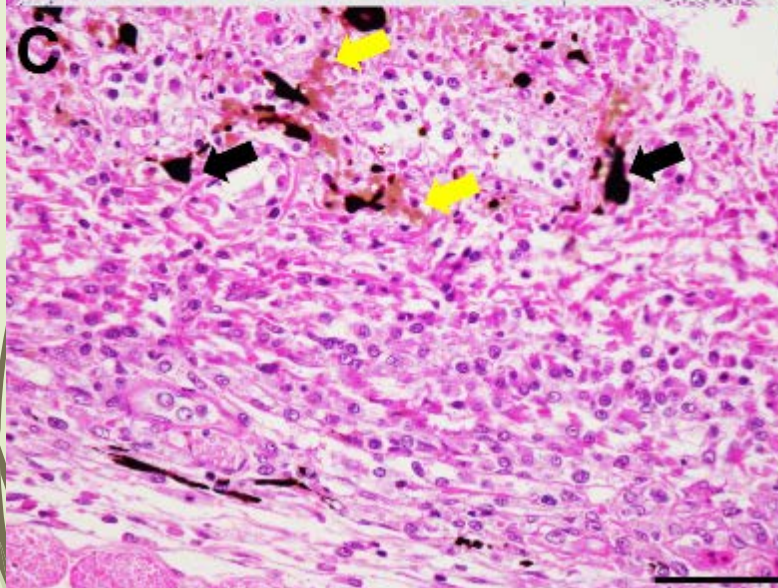
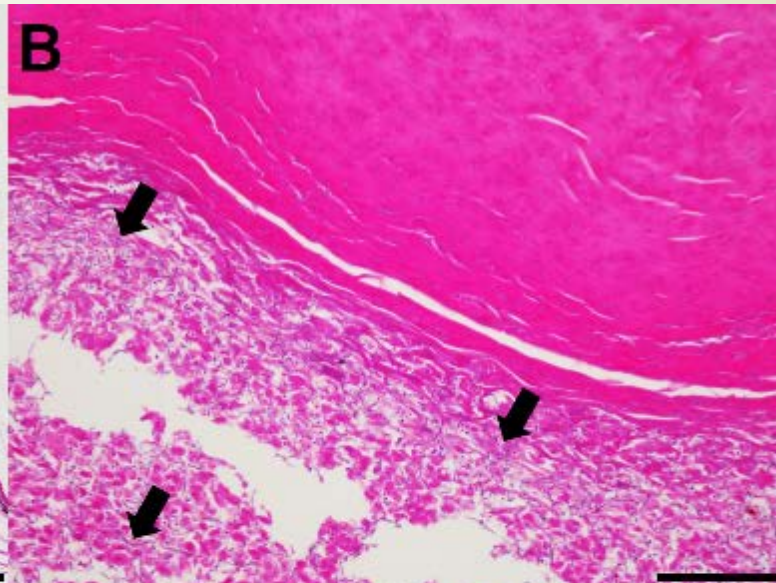
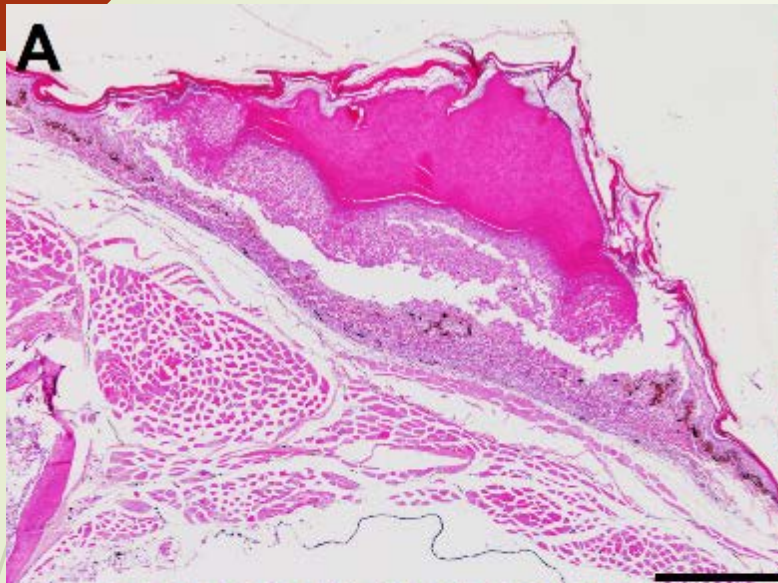
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形態學描述/診斷

- ➔ Mast cell tumor, **grade II to III (high grade)**, skin mass at XXX

不同的形態學診斷



不同的形態學診斷

- **Dermatitis**, hyperkeratotic, heterophilic, and granulomatous, severe, subacute to chronic, multifocal, with intralesional gram-positive filamentous bacteria compatible with *A. chelonae*, skin
- Severe, subacute to chronic, multifocal, hyperkeratotic, heterophilic, and granulomatous **dermatitis** with intralesional gram-positive filamentous bacteria compatible with *A. chelonae*

閱片技巧

- ➔ 跟寫報告是一樣的
- ➔ 熟練度
- ➔ 線上 VS. 實體 (CSVP線上切片)

知識

- ➔ 永遠不夠 => 敘述的重要性
- ➔ 就算夠腦袋也放不下
- ➔ 用經驗來累積知識

線上資源

- Online Veterinary Pathology Atlas
- http://www.fmv.ulisboa.pt/atlas/atlas_ing.htm



Faculdade de Medicina Veterinária
Universidade de Lisboa



Anatomia
Patológica
Veterinária
FMV - ULisboa



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English

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Authors

Materials and
Methods

Comments and
Questions

Acknowledgements

Copyright

The Online Veterinary Pathology Atlas consists in an alternative approach to learning that uses modern information technologies to provide a new, laid-back and interactive attitude towards study and research. What you see here is the result of a selection of images taken from the archives of the Veterinary Medicine Faculty, at Lisbon (Portugal) as well as from the private collections of some of the teaching staff at this institution. This site also features some images that were given to us for this exact purpose and for which we are extremely grateful. All featured images illustrate clinical, necropsy, slaughter and histopathology findings. The selection was conducted according to primary subjects of interest in Veterinary Pathology and guided by a well-defined purpose to facilitate self-learning by Veterinary Medicine students as well as promoting the development of their taste for necropsy and histopathology-based diagnosis.

It is also our goal to provide an interactive platform for continuing education, where clinical cases of practical interest can be presented and explained to all veterinary practitioners and/or enthusiasts, in order to improve their comprehension and interpretation of both macroscopic and microscopic features associated with various conditions.

[View Atlas](#)

Faculdade de
Medicina Veterinária
FMV-ULisboa

European College of
Veterinary
Pathologists
ECVP

American College of
Veterinary
Pathologists
ACVP

Veterinary Systemic
Pathology Online
VSPO-AFIP

線上資源

- The joint pathology center-VSOP/WSC
- <https://www.askjpc.org/>

Joint Pathology Center
Veterinary Pathology Services
Wednesday Slide Conference
2018-2019
Conference 1
August 22nd, 2018

CASE I: RUSVM-1 (JPC 4020132).

Signalment: 4-year-old, male, African green monkey (*Chlorocebus aethiops sabaeus*)

History: This monkey was euthanized during a recent outbreak of acutely fatal enteric disease in a colony of captive African green monkeys (*Chlorocebus aethiops sabaeus*) in the island of St. Kitts, West Indies. On clinical examination, the monkey had bloody diarrhea, was pyrexic and severely dehydrated. Previous to this case submission, multiple monkeys in the same enclosure had died after a short period of illness characterized by depression, diarrhea and dehydration, or had been found dead in the enclosure. Necropsies performed by the referring veterinarian revealed multifocal, variably-sized, white foci throughout the splenic and hepatic parenchyma. All affected monkeys were part of a large, breeding population maintained by the Behavioral Sciences Foundation, Estridge Estate, St. Kitts, West Indies. Maintenance, testing and all procedures carried out in this facility are approved by the Animal Care Committee of the Behavioral Sciences Foundation, acting under the auspices of the Canadian Council on Animal Care.

Gross Pathology: At necropsy, the monkey was in poor body condition (BCS 2/5), with scant fat reserves and muscle mass. The carcass was moderately dehydrated and the perineum was stained with blood-tinged feces. Multifocal areas of petechiation were present throughout the subcutaneous tissue, and mucous membranes were diffusely pale. The liver and the spleen had multifocal, variably-sized (2 mm-8mm) white foci. The spleen was slightly enlarged. On cut surface, the foci were moderately firm and had a caseated appearance (abscessation /necrosis). The stomach was markedly distended with gas. The mucosa of the small intestine was diffusely reddened. The cecum and the colon contained blood-tinged mucus and there were numerous 1-2 cm white, slender nematodes present (*Trichuris* sp.). The mesenteric lymph nodes were moderately enlarged and slightly edematous. No other gross lesions were present elsewhere.

Laboratory results: Bacteria recovered from hepatic and splenic swabs collected during necropsy examination were identified by routine culture and biochemical methods as gram-negative, cytochrome oxidase-negative rods. MicroID kits identified the isolates as *Yersinia* spp. Further molecular diagnosis provided by amplification and sequencing of the 16S SSU rRNA gene confirmed the isolates as *Y. enterocolitica*. Leukoagrams of affected monkeys indicated



Click the slide to view.



1-1. Liver, African green monkey.



1-2. Spleen, African green monkey.



1-3. Liver, African green monkey.

線上資源

➔ ECVP

➔ <https://www.ecvpath.org/>

Histology Slide Database + Dx

You can search for a diagnosis keyword here:

 Exact search

To filter the table by category you can use the following filters:

SlideBox ▼ Species ▼ Category ▼ Organ ▼

No. ▼▲	Slidebox ▼▲	Label ▼▲	Group ▼▲	Species ▼▲	Category ▼▲	Organ ▼▲	Description ▼▲	Diagnosis ▼▲	Digital Slide ▼▲
1	SS04	Case No 1	Primates	Marmoset (<i>Callithrix jacchus</i>)	Primate Pathology	Oral mucosa	Case 1	Herpes simplex (<i>hominis</i>)	Link
2	SS04	Case No 2	Primates	Marmoset (<i>Callithrix jacchus</i>)	Primate Pathology	Skin	Case 2	Cow pox infection	Link
3	SS04	Case No 3	Primates	Rhesus monkey (<i>M. mulatta</i>)	Primate Pathology	Optic nerve	Case 3	Simian Virus	Link

線上資源

- Charles Louis Davis and Samuel Wesley Thompson DVM Foundation
- <http://www.cldavis.org/>

Diagnostic Exercises from The Davis Foundation


[Become a Member!](#)

The main goal of these Diagnostic Exercises is to provide the membership and enthusiasts with interesting cases, focusing on the gross pathological lesions and associated histopathologic or cytologic findings. This material can be of great use for veterinary students, in-training pathologists, and ACVP diplomates alike.

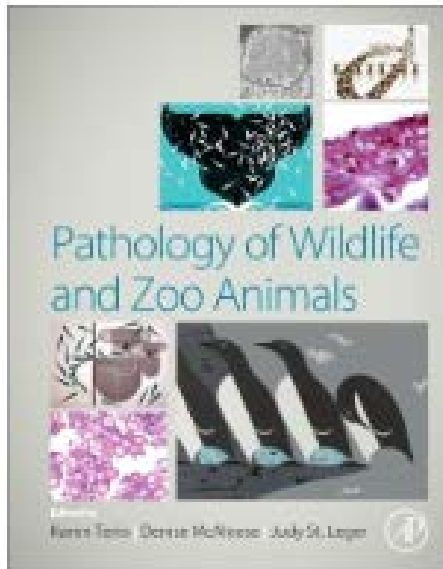
There will be one contribution per month of the year; members and non-members of the Latin American Division are entitled to contribute. To contribute, please contact Dr. Vinicius Carreira at vinicius.carreira@gmail.com to identify a convenient date for your submission and to receive templates to be used. Spots will be filled out on a first-come first-served basis.

Click on any numbered exercises below (for example, #001) to open up a new window that includes contributor information, case history, full-size images, and question prompts (Adobe PDF format). To view the corresponding case synopsis, click on the "Answer" link adjacent to the thumbnail.

Jump to an exercise... ▾

Exercise	Animal	Thumbnail	Answer	Exercise	Animal	Thumbnail	Answer
#103	Equine		TBA	#102	Rodent		Answer

工商時間



Pathology of Wildlife and Zoo Animals

1st Edition

☆☆☆☆☆ [Write a review](#)

Editors: Karen Terio, Denise McAloose, Judy St. Leger

Imprint: Academic Press

Published Date: 31st August 2018

線上資源

- JAVMA- pathology in practice
- <https://avmajournals.avma.org/loi/javma>

Pathology in Practice

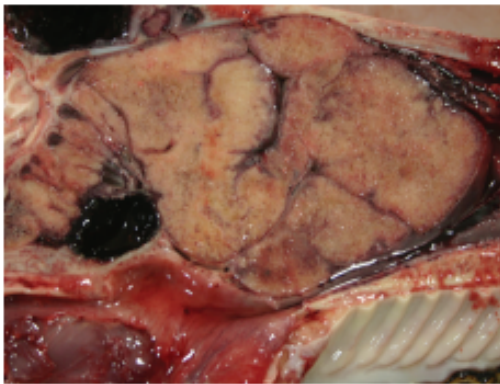
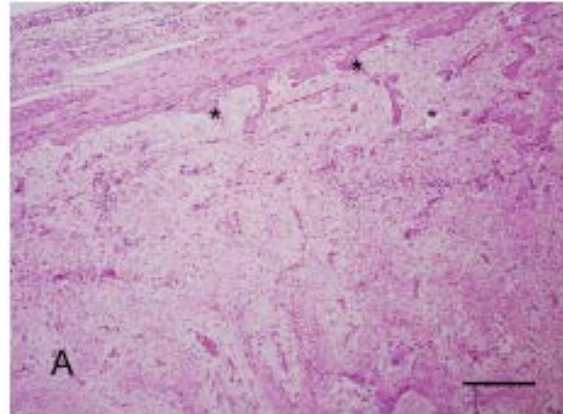
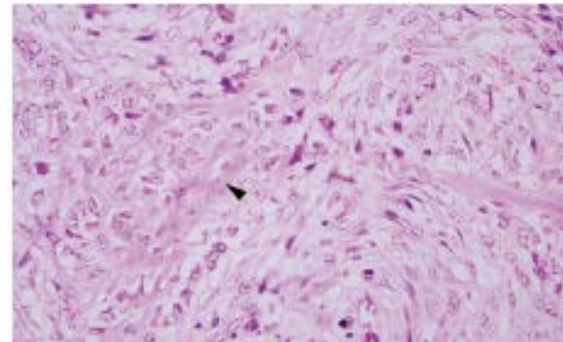


Figure 1—Photograph of a longitudinal section of the left nasal passage of a male Quarter Horse yearling that had continuous bilateral, mucopurulent nasal discharge accompanied by respiratory noise of 6 months' duration and was subsequently euthanized on the basis of diagnostic findings and poor prognosis. Notice that a firm, white, multi-lobulated mass has completely filled the left nasal passage, destroyed the nasal turbinates, elevated the overlying frontal bone, and compressed the surrounding soft tissues.



Histopathologic Findings

The left aspect of the upper respiratory tract (left nasal passage and left frontal and maxillary sinuses) was filled and obliterated by a poorly delineated, densely cellular infiltrative mass composed of solid sheets and interwoven bundles of moderately pleomorphic spindle cells supported by a delicate fibrous stroma (Figure 2). Cell diameters ranged from 15 to 25 μm , and there was a nucleus-to-cytoplasmic ratio of 4:1. Individual cells had a scant amount of pale eosinophilic, streaming cytoplasm, and cytoplasmic borders blended imperceptibly with the adjacent cells. Extracellular spaces were frequently filled with homogeneous, pale to intensely eosinophilic osseoid. Nuclei were round to oval with finely stippled, margined chromatin and 1 or 2 distinct basophilic nucleoli. Three mitotic figures were observed in 10 contiguous hpf (400 \times). Bony trabeculae that had scalloped, irregular contours and were surrounded by osteoclasts were interspersed throughout the mass. In addition, small areas of hemorrhage with scattered hemosiderin-laden macrophages, edema, and small aggregates of attenuated or degenerating respiratory tract epithelium were also present among the neoplastic cell population.



Morphologic Diagnosis and Case Summary

Morphologic diagnosis and case summary: poorly productive, osteoblastic

History

A 1-year-old 195-kg (429-lb) Quarter Horse colt, procured for resale purposes, was evaluated at the Auburn University Large Animal Teaching Hospital because of continuous bilateral, mucopurulent nasal discharge accompanied by respiratory noise of 6 months' duration. The respiratory noise had worsened during the week prior to the evaluation. The colt had been treated inermittently with systemic broad-spectrum antimicrobials without a positive response.

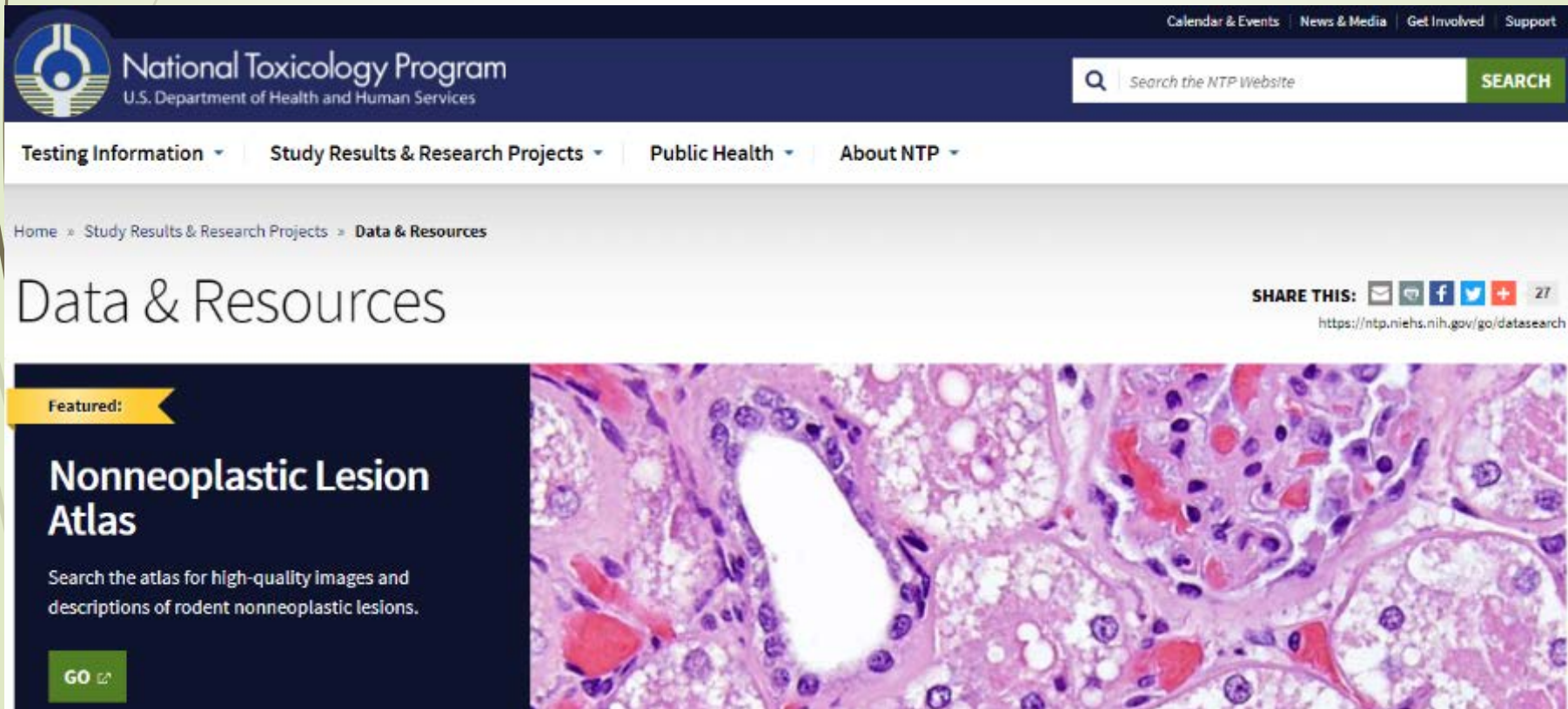
Clinical and Gross Findings

At the evaluation, the colt was bright, alert, and responsive; heart rate, respiratory rate, and rectal temperature were within reference limits. Bilateral, mucopurulent, malodorous nasal discharge was present with dyspnea and respiratory noise. Mild facial deformation primarily on the left side, at the level of the conchofrontal sinus, was evident. No airflow could be detected from the left nostril. Endos-

copy of the increased opacity were poorly defined and extended over the maxillary and conchal sinuses. No fluid line was noted. Centeses of the left caudal maxillary sinus was performed, and an inspissated, purulent aspirate sample was collected. Cytologic evaluation of the aspirate sample revealed a large number of moderately degenerative neutrophils with the presence of intra- and extracellular bacteria of mixed population. Additional diagnostic imaging techniques were recommended but declined by the owner owing to financial constraints. Exploratory sinusotomy was recommended. The colt was anesthetized and placed in lateral recumbency, and a left frontonasal sinusotomy was performed. A white, firm, nonfriable, mineralized mass that completely filled the ventral conchal, dorsal conchal, rostral maxillary, and frontal sinuses was found. No apparent hemorrhage was present on the mass during the surgical procedure. Evaluation of the caudal maxillary sinus was not possible because of the distortion of the normal architecture of the left paranasal sinuses. Given the location and extent of the lesion, the colt's neoplasia was considered nonresect-

線上資源

- National Toxicology Program, NIH
- <https://ntp.niehs.nih.gov/nnl/index.htm>



The screenshot displays the National Toxicology Program (NTP) website. At the top, there is a dark blue header with the NTP logo on the left, the text "National Toxicology Program" and "U.S. Department of Health and Human Services" in the center, and a search bar on the right with the text "Search the NTP Website" and a "SEARCH" button. Below the header is a navigation menu with links for "Testing Information", "Study Results & Research Projects", "Public Health", and "About NTP". The main content area features a breadcrumb trail: "Home > Study Results & Research Projects > Data & Resources". The title "Data & Resources" is prominently displayed. To the right of the title are social media sharing icons and a "SHARE THIS:" label. Below the title is a featured section for the "Nonneoplastic Lesion Atlas", which includes a description: "Search the atlas for high-quality images and descriptions of rodent nonneoplastic lesions." and a "GO" button. The background of the featured section is a histological image showing a cross-section of a glandular structure with a large lumen, surrounded by epithelial cells and connective tissue.

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National Toxicology Program
U.S. Department of Health and Human Services

Search the NTP Website SEARCH

Testing Information | Study Results & Research Projects | Public Health | About NTP

Home > Study Results & Research Projects > Data & Resources

Data & Resources

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<https://ntp.niehs.nih.gov/go/datasearch>

Featured:

Nonneoplastic Lesion Atlas

Search the atlas for high-quality images and descriptions of rodent nonneoplastic lesions.

GO

線上資源

- Veterinary Pathology Image Database
- <http://veterinariavirtual.uab.es/archivopatologia/index.php>

Veterinary Pathology Image Database

Home Quiz Feedback Links

prev next

Search

Species
Marine mammal

Organ
Brain

Lesion
Abscess

Lesion Modifier 1
-

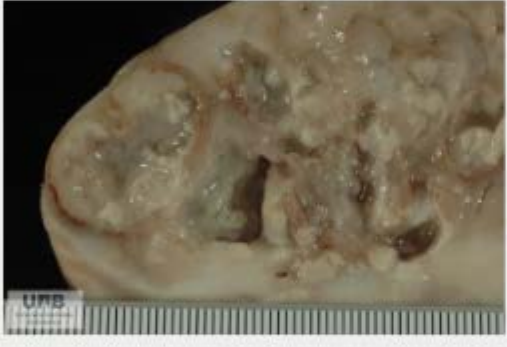



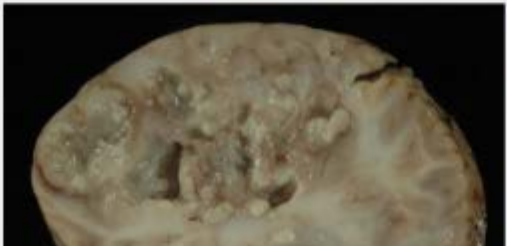


Lesion Modifier 2
-

General Etiology
-

Disease
-

Search

3 Matches

	<p>id 1221 species Marine mammal organ Brain lesion Abscess lesion-mod1 - lesion-mod2 - general etiology Bacterial disease - comment Porphyromonas asaccharolytica and Gram+ bacteria compatible with Nocardia spp.</p>	<p>related</p>   
	<p>id 1222 species Marine mammal organ Brain lesion Abscess lesion-mod1 - lesion-mod2 - general etiology Bacterial disease -</p>	<p>related</p>  

線上資源



CSVP線上切片



CSVP特輯