Mimics of Inflammatory Bowel Disease

Dr Catriona McKenzie
Royal Prince Alfred Hospital, Camperdown

Mimics of IBD: Overview

- Infections
- Drugs
- Autoimmune
- Other

Infections

Infectious mimics of IBD

IBD mimic	Cause(s)	Populations at risk	Diagnostic clues
Bacterial enteropathogens	*Salmonella*, *Shigella*, *Campylobacter*, *Yersinia*, *E. coli*, *Aeromonas*	• Infections are often food- or water-borne	• Positive cultures/PCR
Mycobacterial infections	*M. tuberculosis*, *Mycobacterium avium-intercellulare* complex	• Tuberculous colitis occurs regardless of immune status • Non-tuberculous colitis affects immunodeficient patients	• Positive cultures/PCR • Acid-fast stains have low sensitivity in paraffin-embedded tissue sections
Sexually transmitted proctocolitis	Syphilis (*T. pallidum*), lymphogranuloma venereum (LGV, *C. trachomatis* serotypes L1, L2, L3)	• HIV-infected men who have sex with men	• Positive serologic studies (syphilis) • Positive culture/PCR (LGV)
Amoebiasis	*Entamoeba histolytica*	• All ages affected • Worldwide distribution	• 25–40 nm, PAS + trophozoites containing erythrocytes within adherent exudate • Positive *E. histolytica* serology
Cord colitis	*Bradyrhizobium enterica* (presumably)	• Cord blood hematopoetic stem cell transplant recipients	• Culture-negative, antibiotic-responsive diarrhoea

Diagnostic Histopathology, 2015

Case 1: NSW does it better

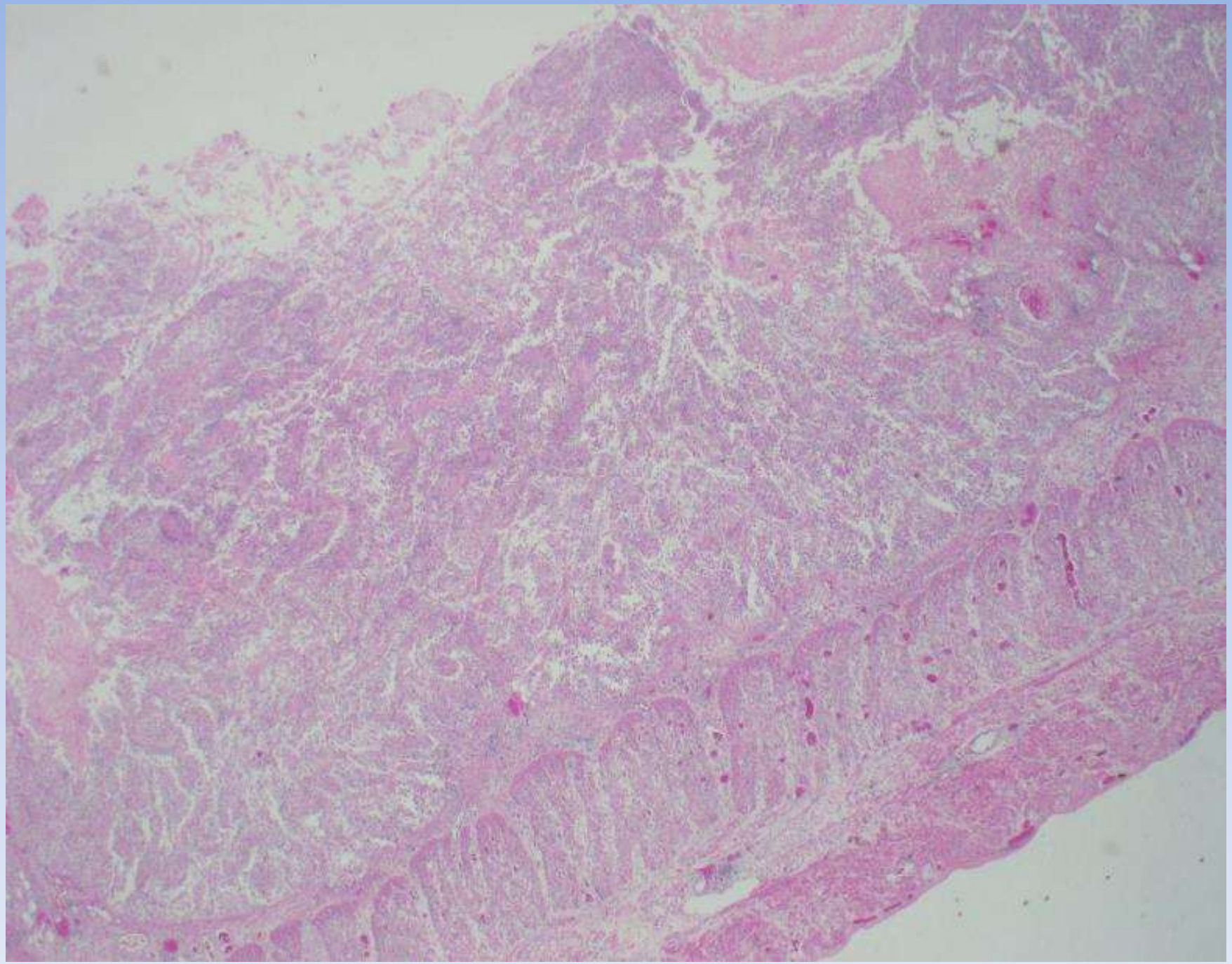
Male	46 years	[redacted]

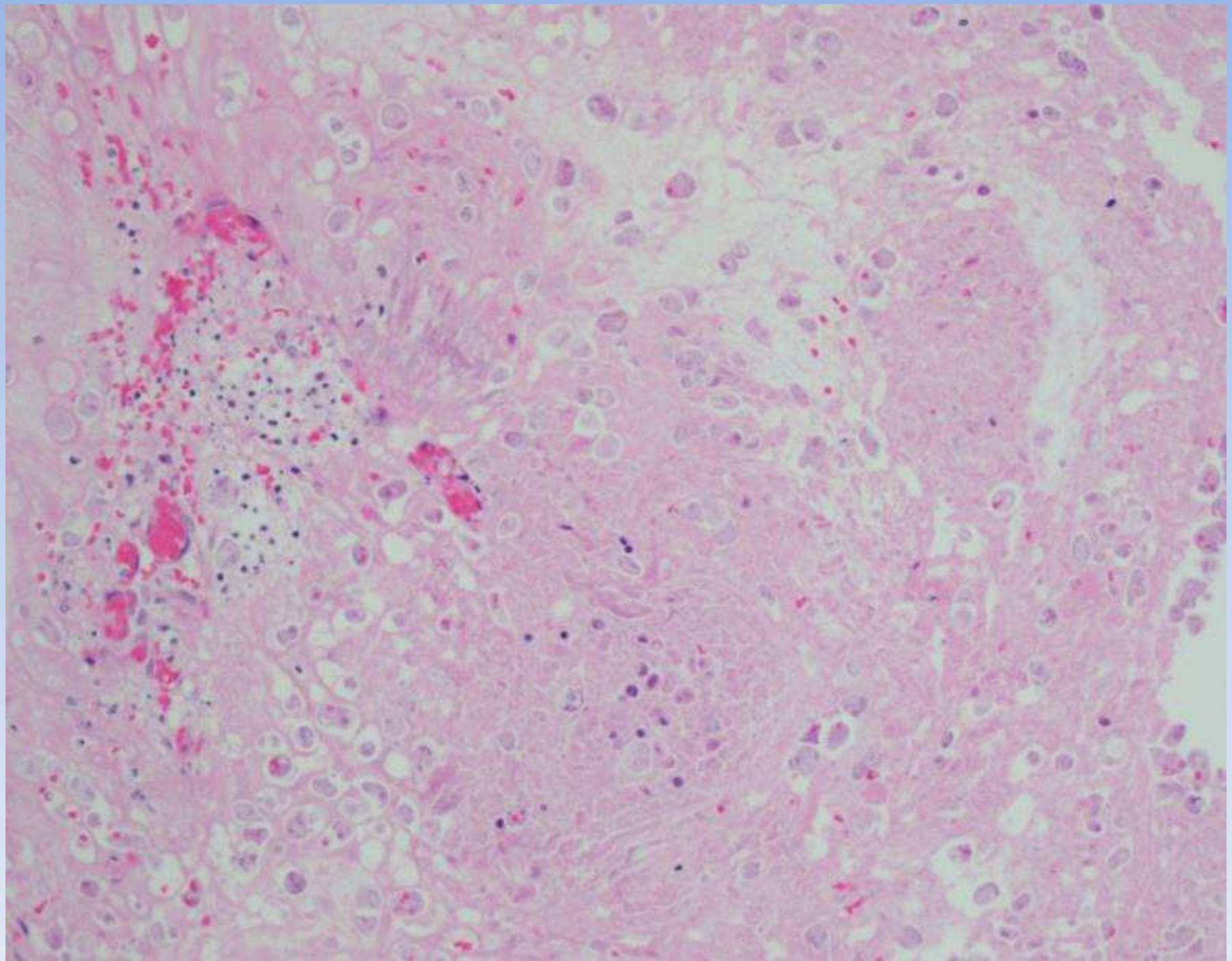
CLINICAL DETAILS

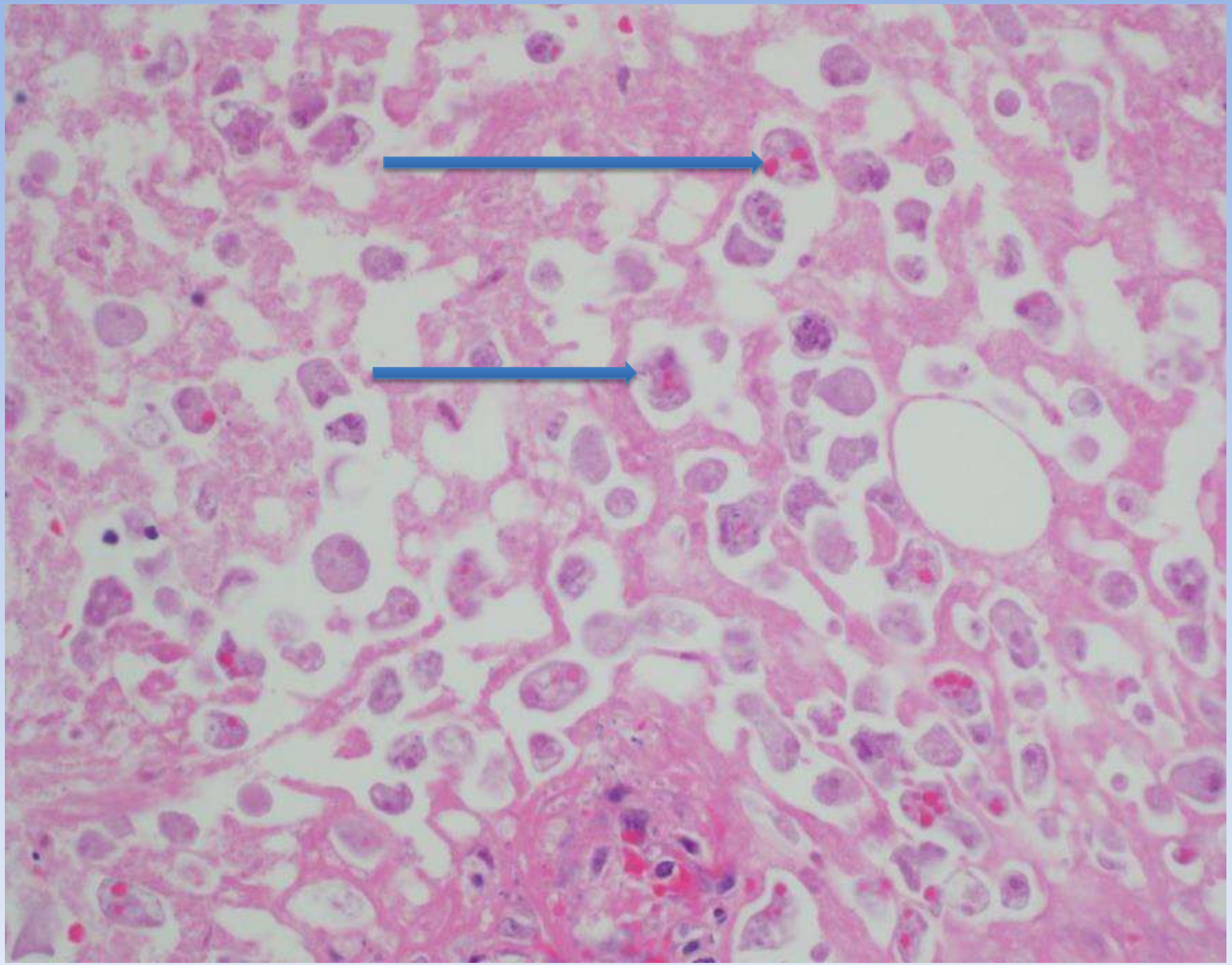
Histopathology. Pancolitis. Ulcerative colitis. Total colectomy - mesenteric lymph node specimen.

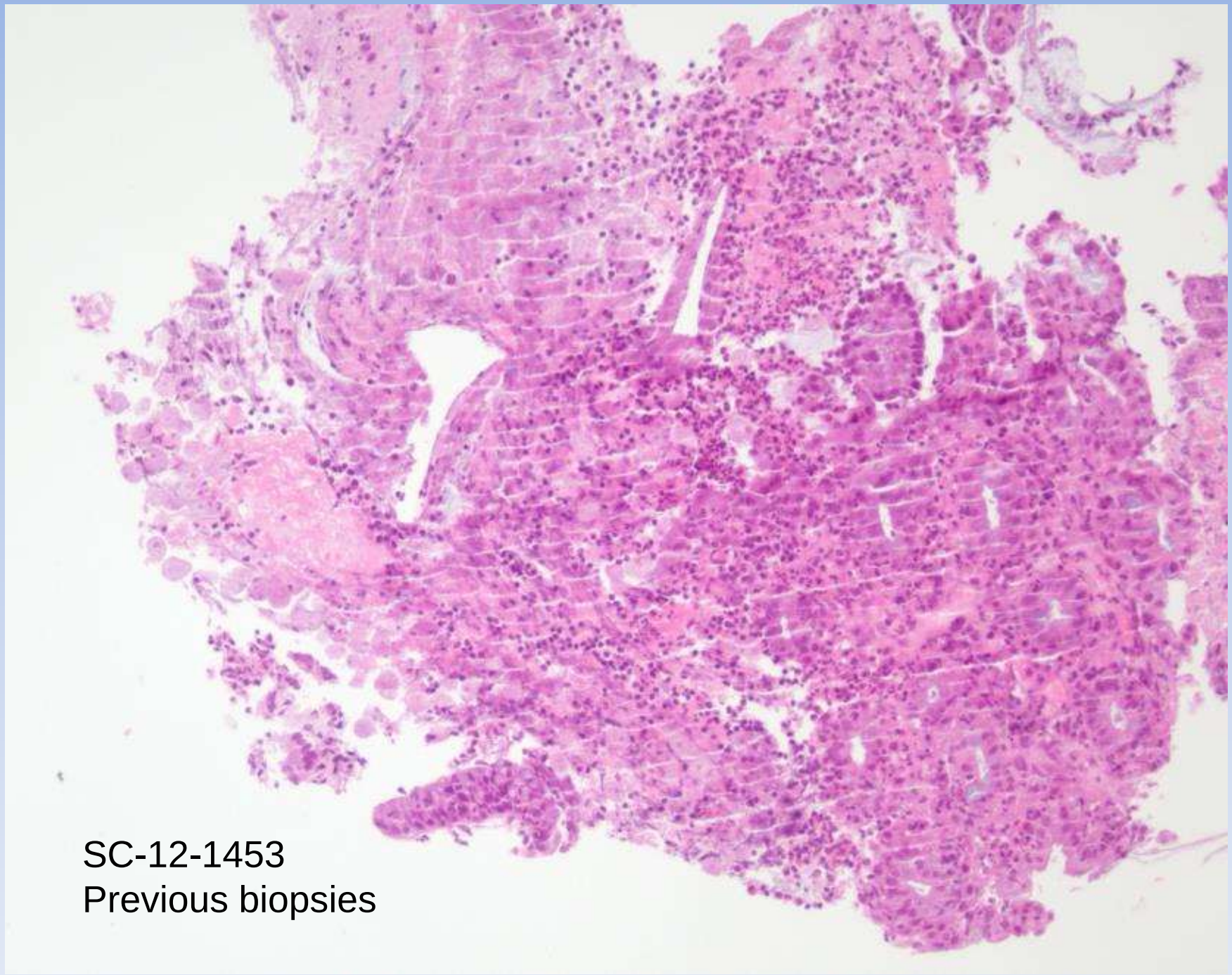
- 46M
- Diagnosed with ulcerative colitis in “the country” on biopsy
- Refractory to treatment with steroids and infliximab
- Transferred to RPAH where he underwent an emergency proctocolectomy

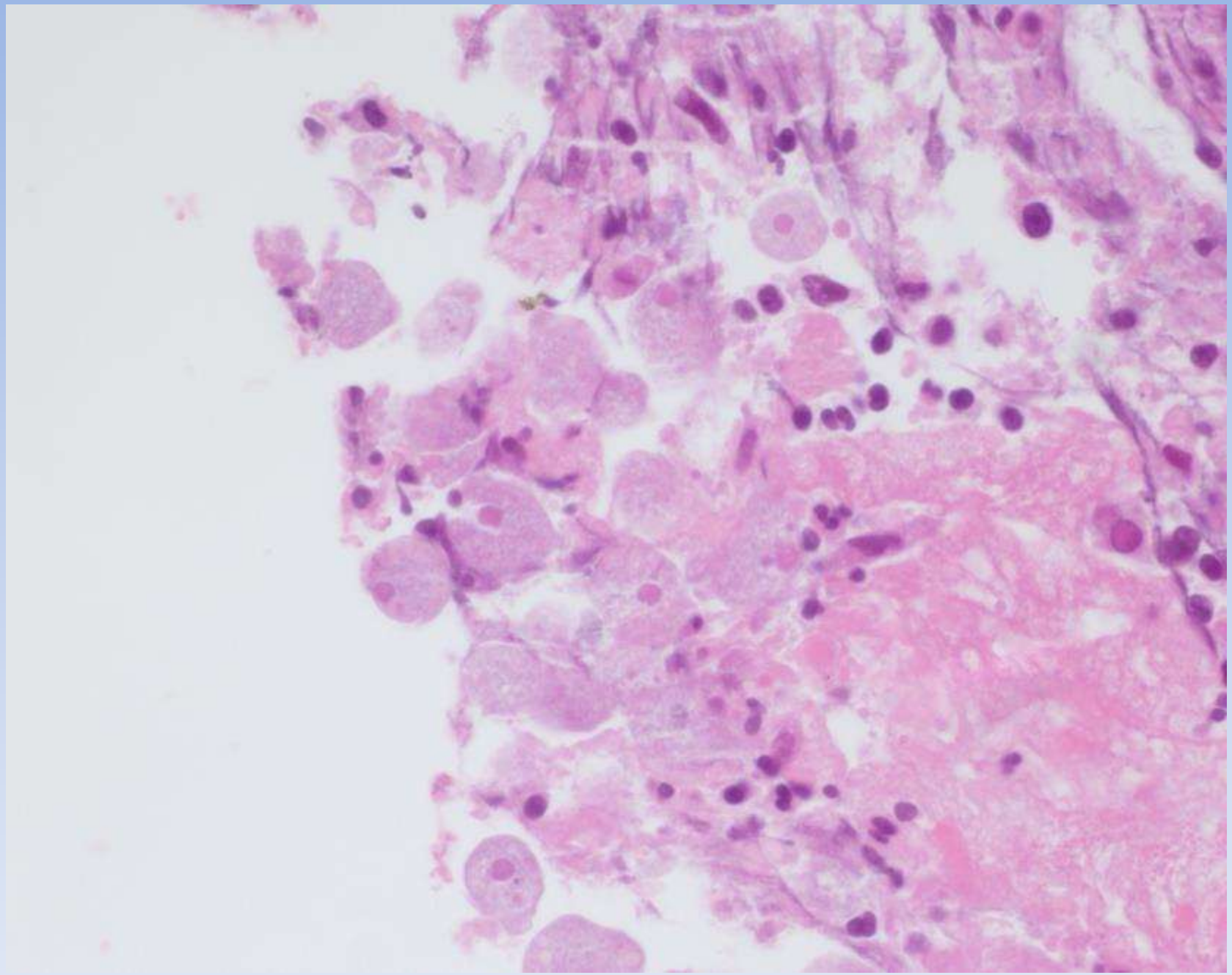
World J Gastrointest Endosc 2017 July 16; 9(7): 327-333








SC-12-1453
Previous biopsies



Entamoeba histolytica

- Parasitic infection, oro-faecal transmission
- 10% of world's population is infected
- Industrialised countries – immigrants, returned travellers, MSM
- Symptoms vary from vague to fulminant colitis
- May form mass (ameboma)
- May disseminate (liver, CNS)

PLOS neglected tropical diseases, 2016

PLOS | NEGLECTED TROPICAL DISEASES

RESEARCH ARTICLE

Fulminant Amebic Colitis after Corticosteroid Therapy: A Systematic Review

Debbie-Ann Shirley[1], Shannon Moonah[2]*

1 Department of Pediatrics, University of Virginia School of Medicine, Charlottesville, Virginia, United States of America, 2 Department of Medicine, University of Virginia School of Medicine, Charlottesville, Virginia, United States of America

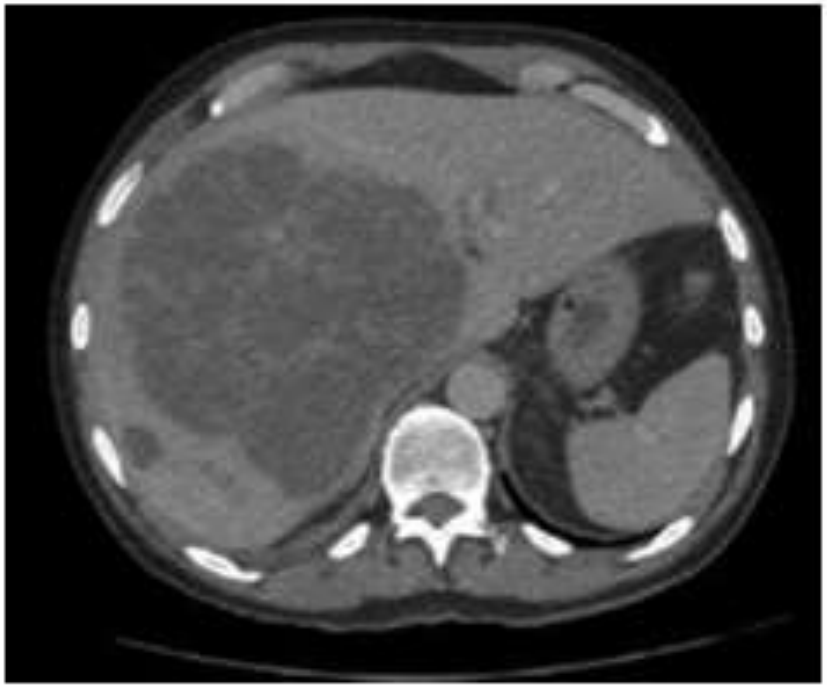
- 24 cases identified of intestinal amoebiasis with concomitant corticosteroid therapy
- 25% cases fatal
- 11 (46%) given steroids for misdiagnosed IBD
- Organisms identified on histology on 47% cases from endoscopic biopsies

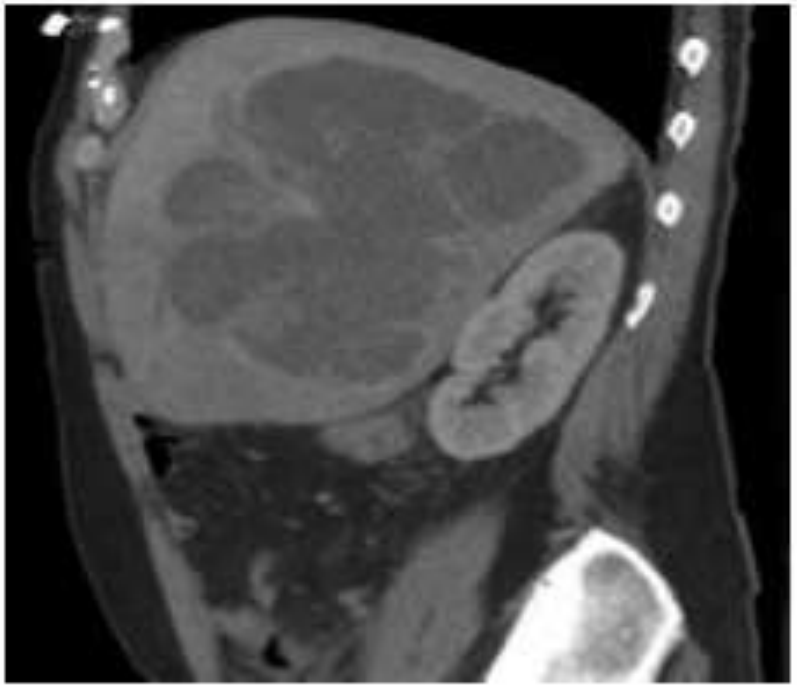
Le Infezioni in Medicina, n. 3, 281-284, 2017

Learning points from a case of severe amoebic colitis

Christina Petridou[1], Adnan Al-Badri[2], Anjana Dua[1], Matthew Dryden[1], Kordo Saeed[1]

[1]Microbiology Department, Hampshire Hospitals NHS Foundation Trust, Royal Hampshire County Hospital, Winchester, United Kingdom;
[2]Pathology Department, Hampshire Hospitals NHS Foundation Trust, Royal Hampshire County Hospital, United Kingdom



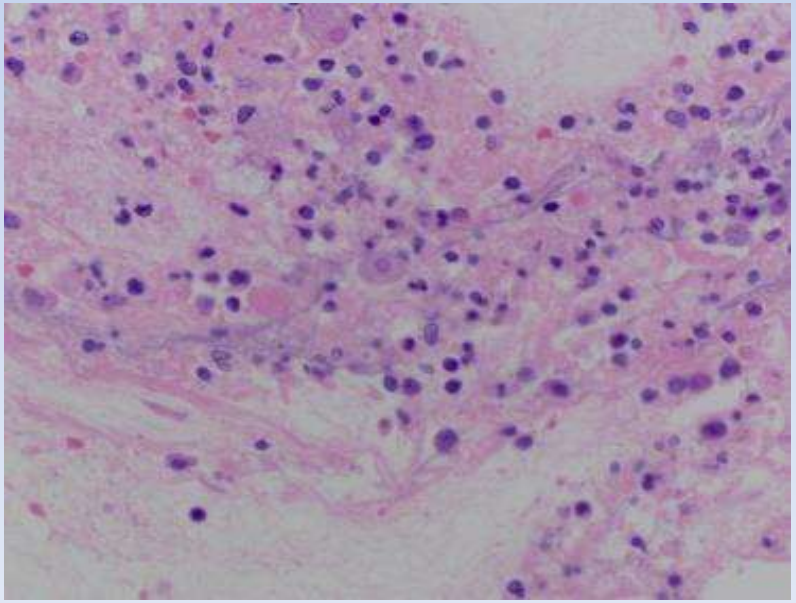


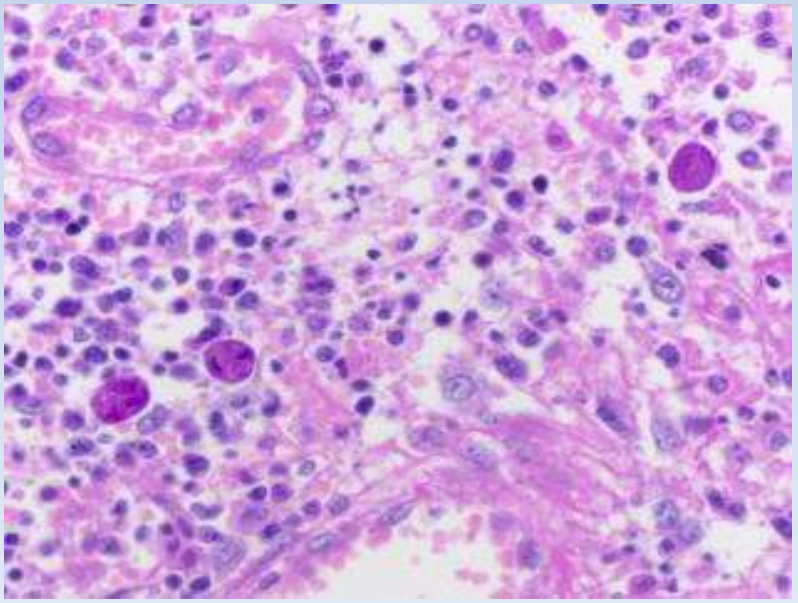
Three subsequent cases

- 67 M
- Cardiac arrest, perforation with 4 quadrant peritonitis

- 75 M
- Perforation and peritonitis

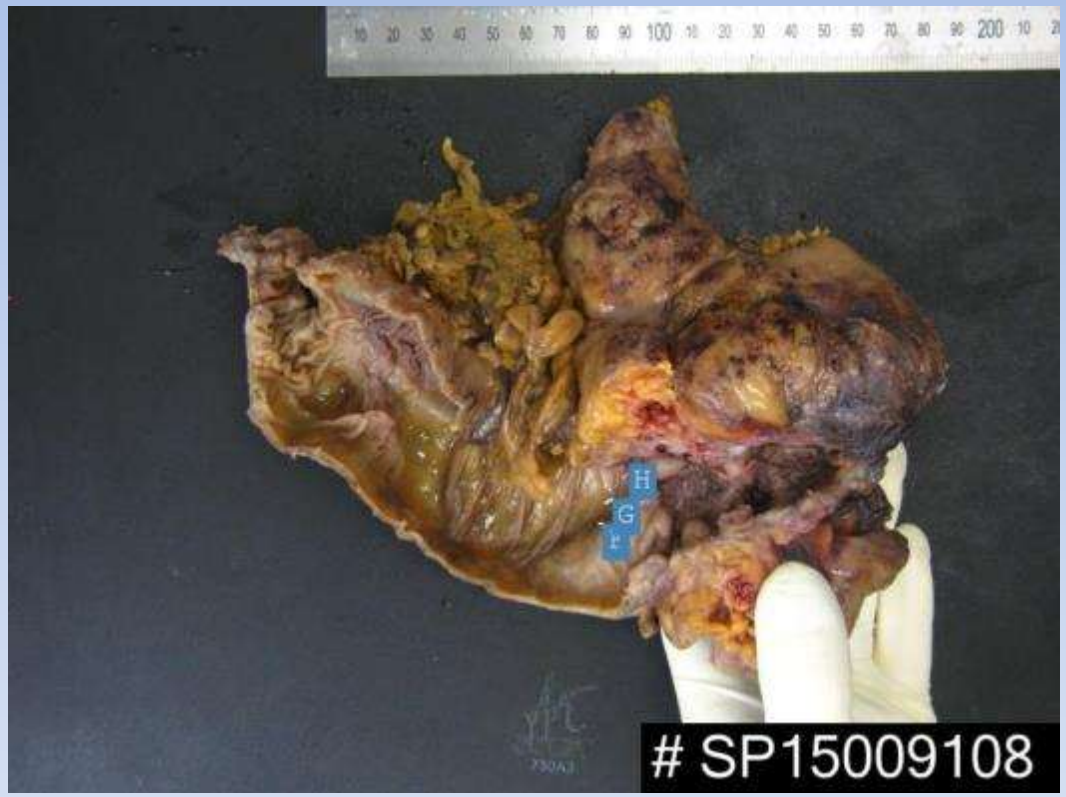
58 M, Caecal “tumour”

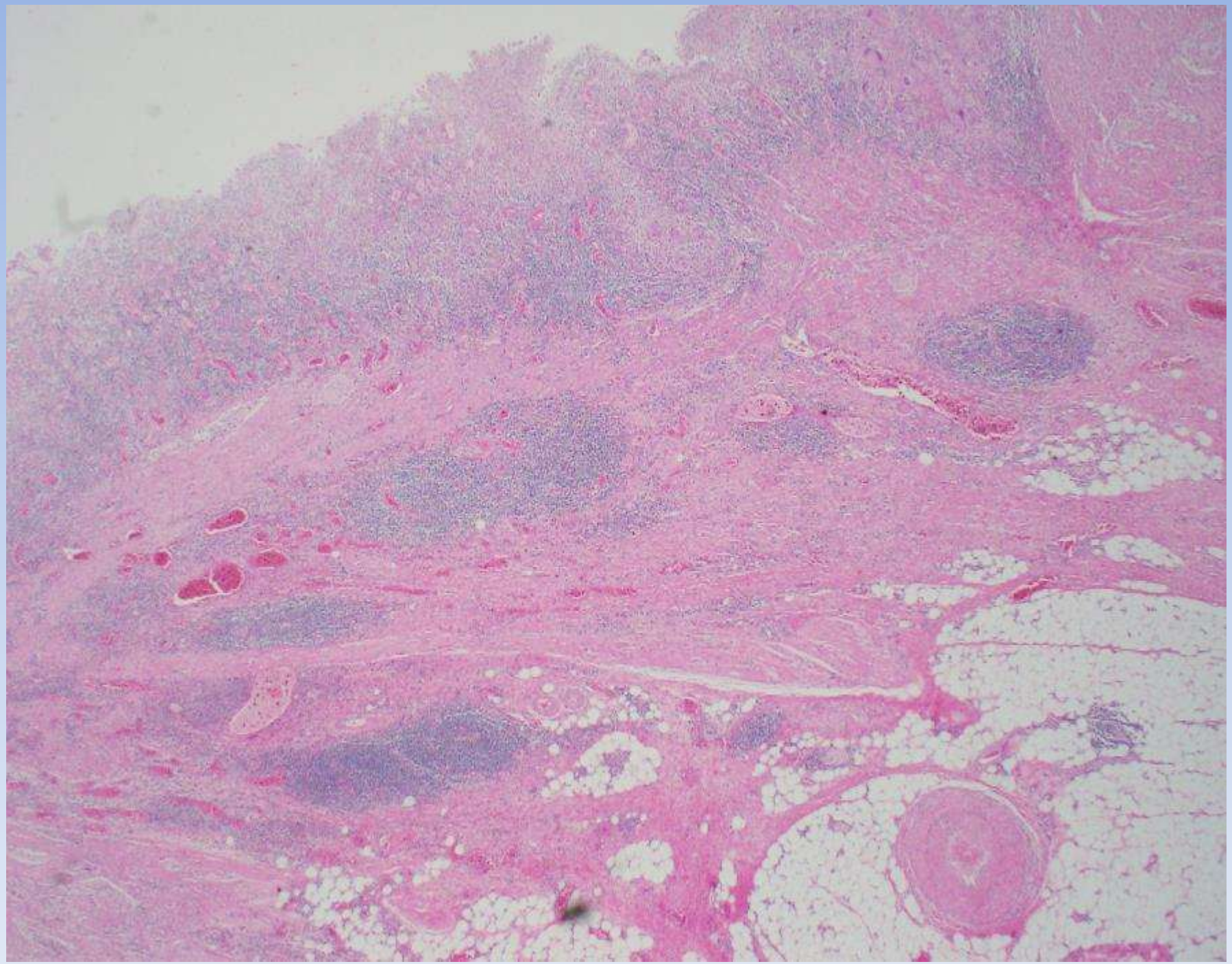


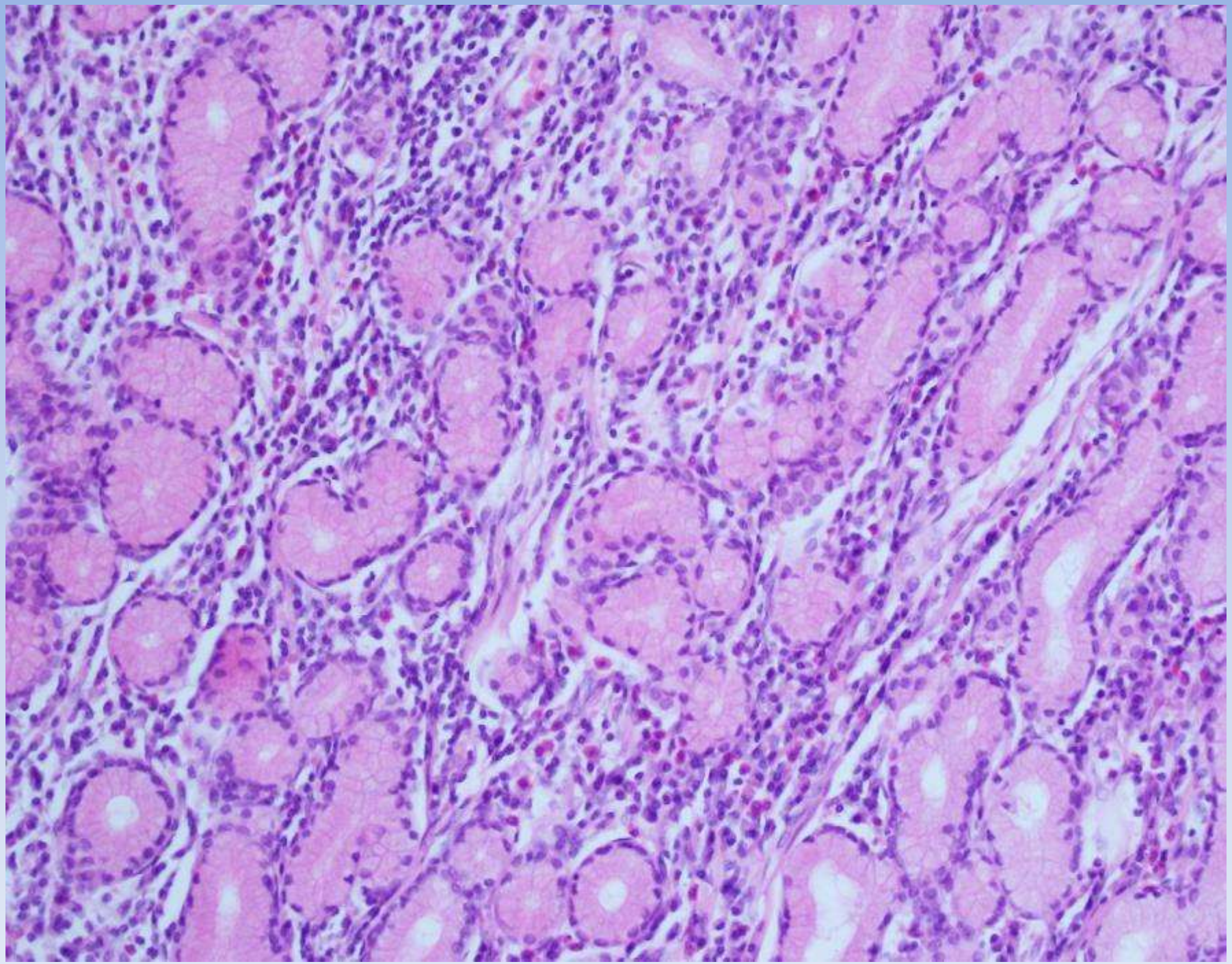


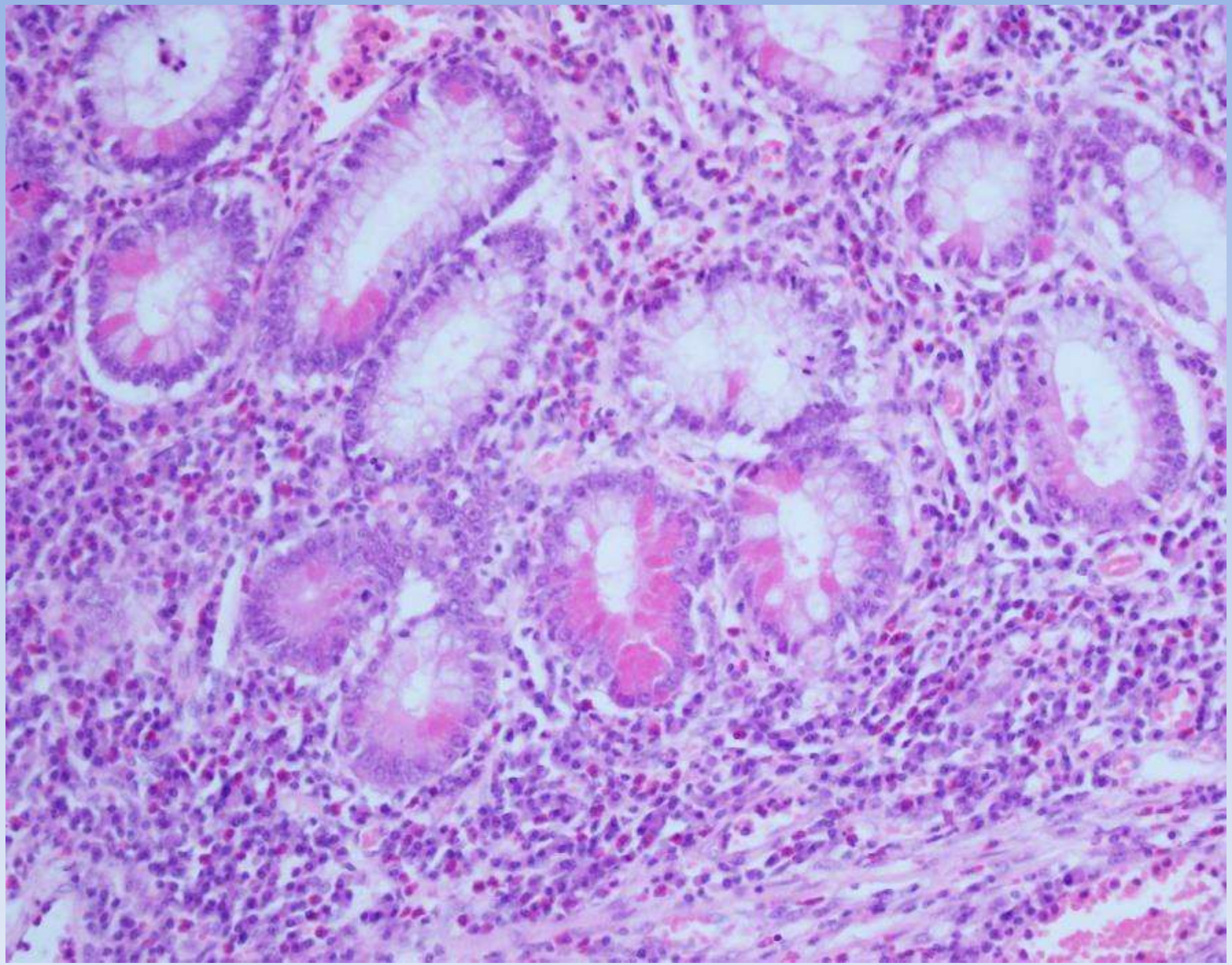
Case 2: Wear a mask

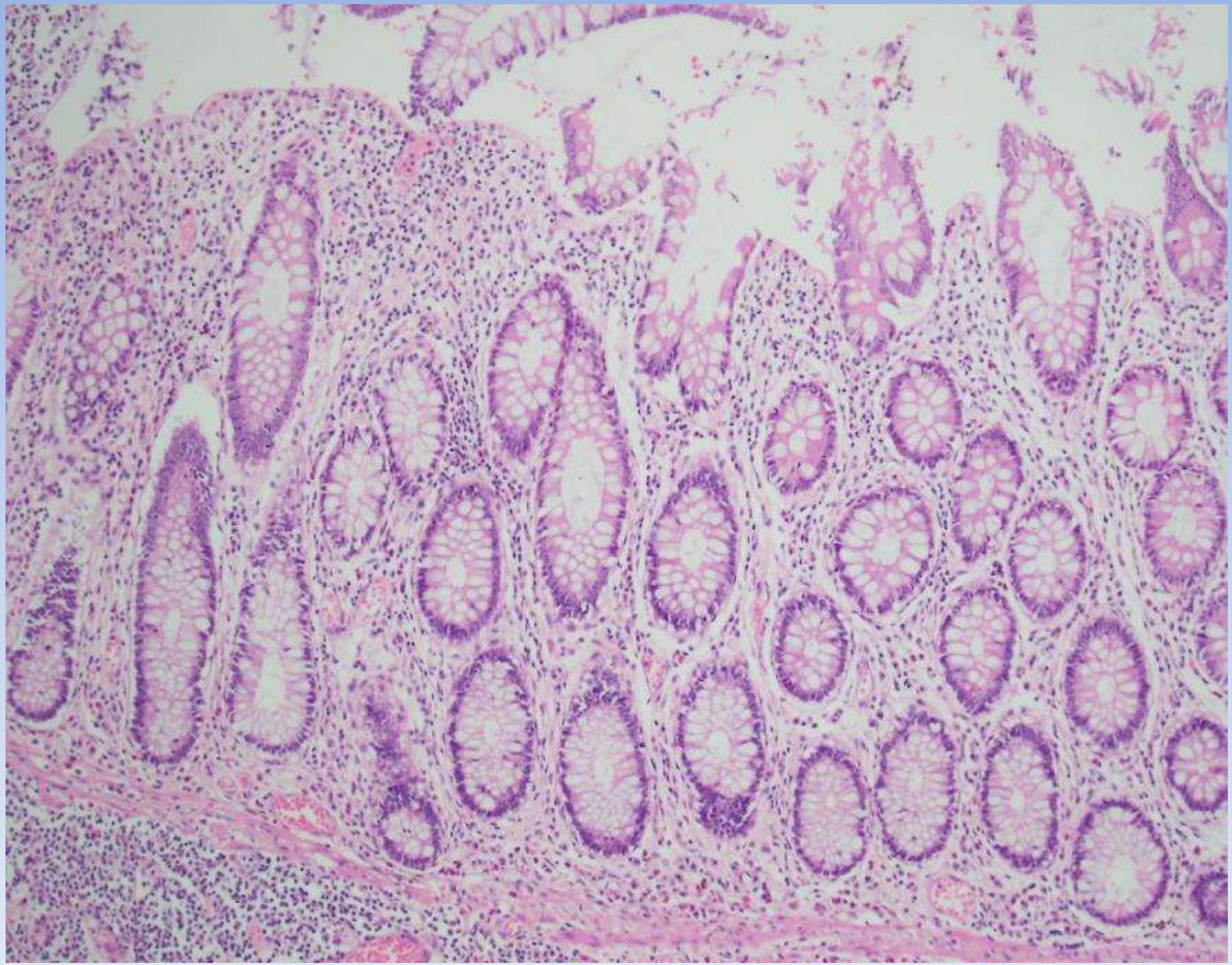
- 61 year old man
- Right hemi colectomy

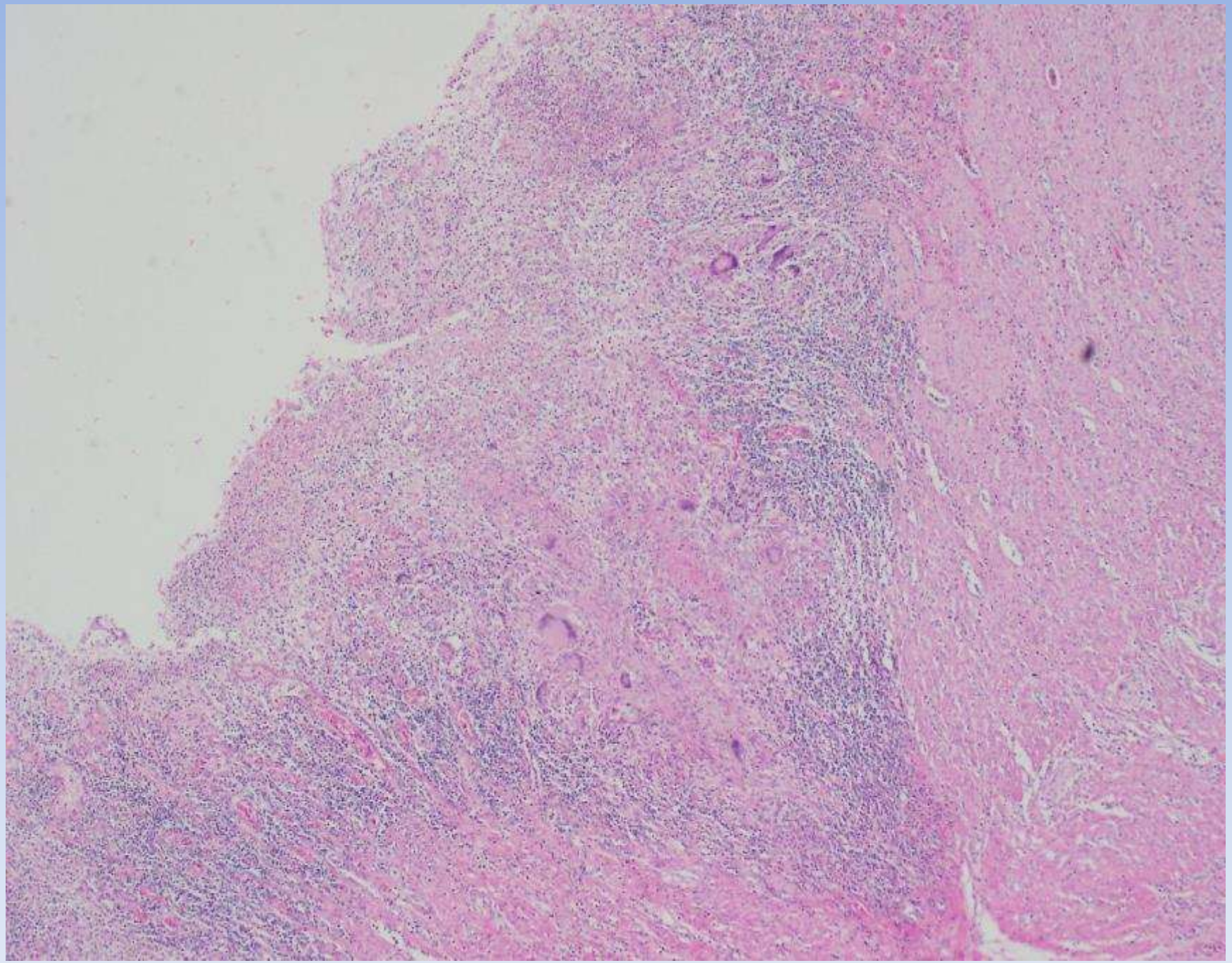


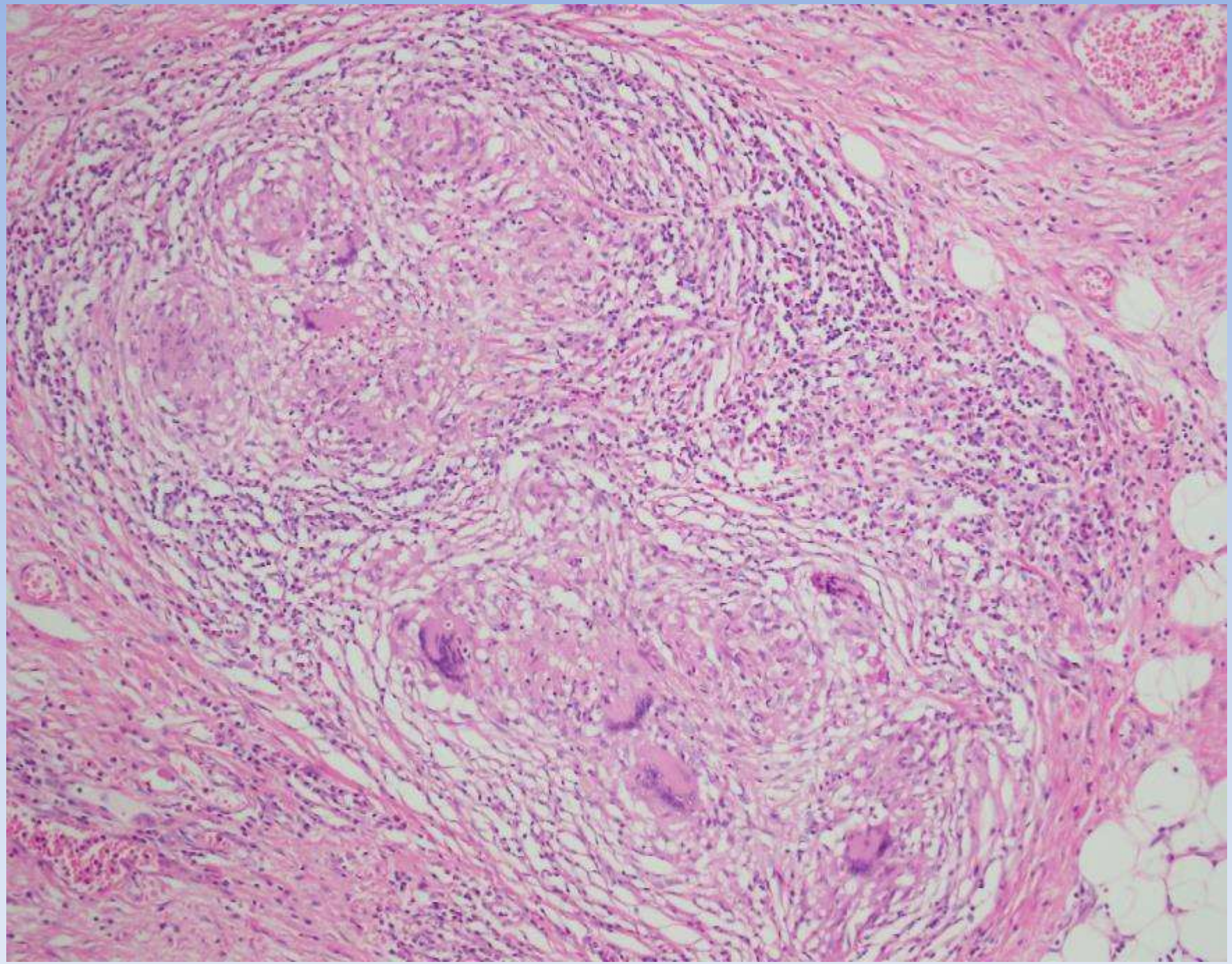


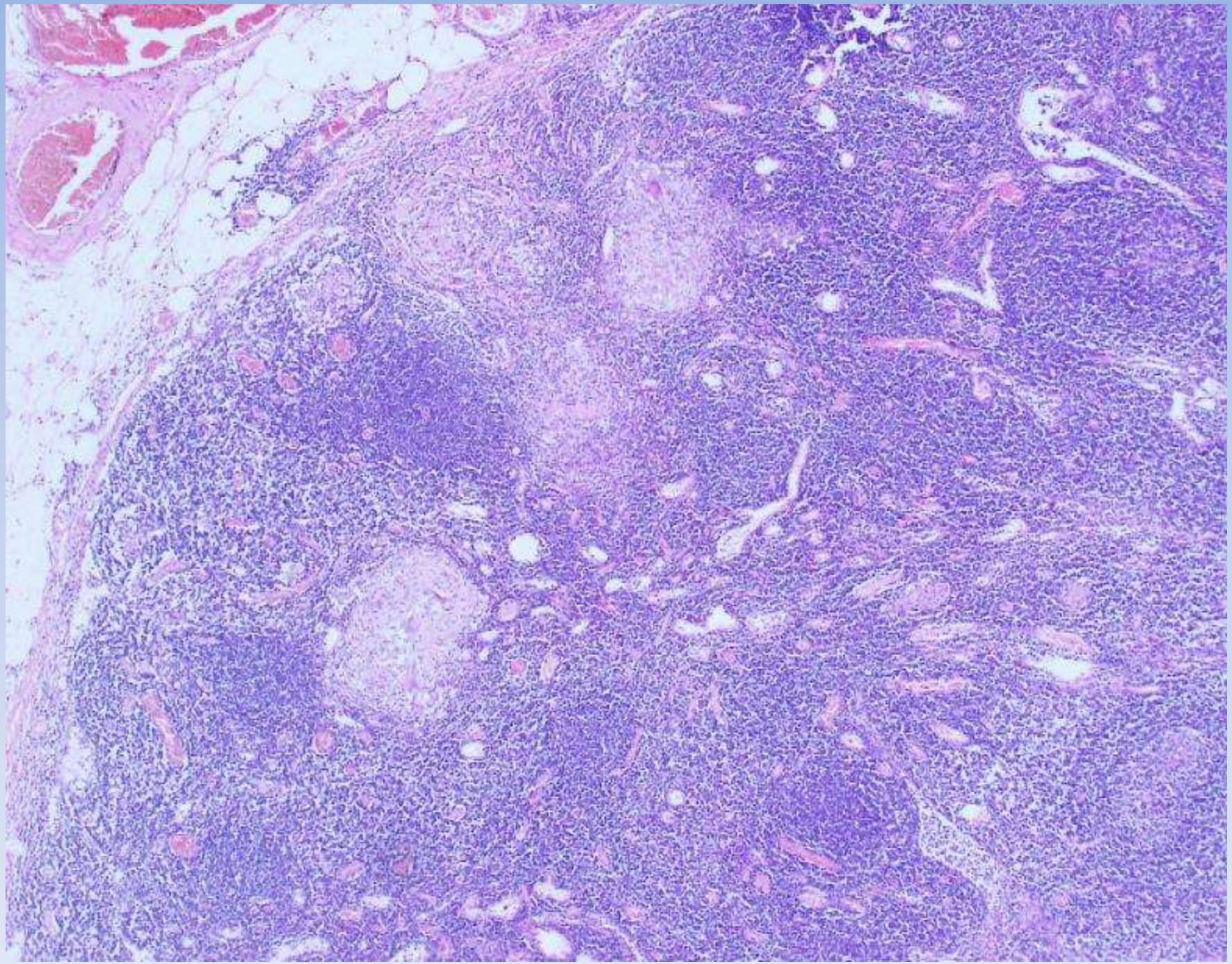


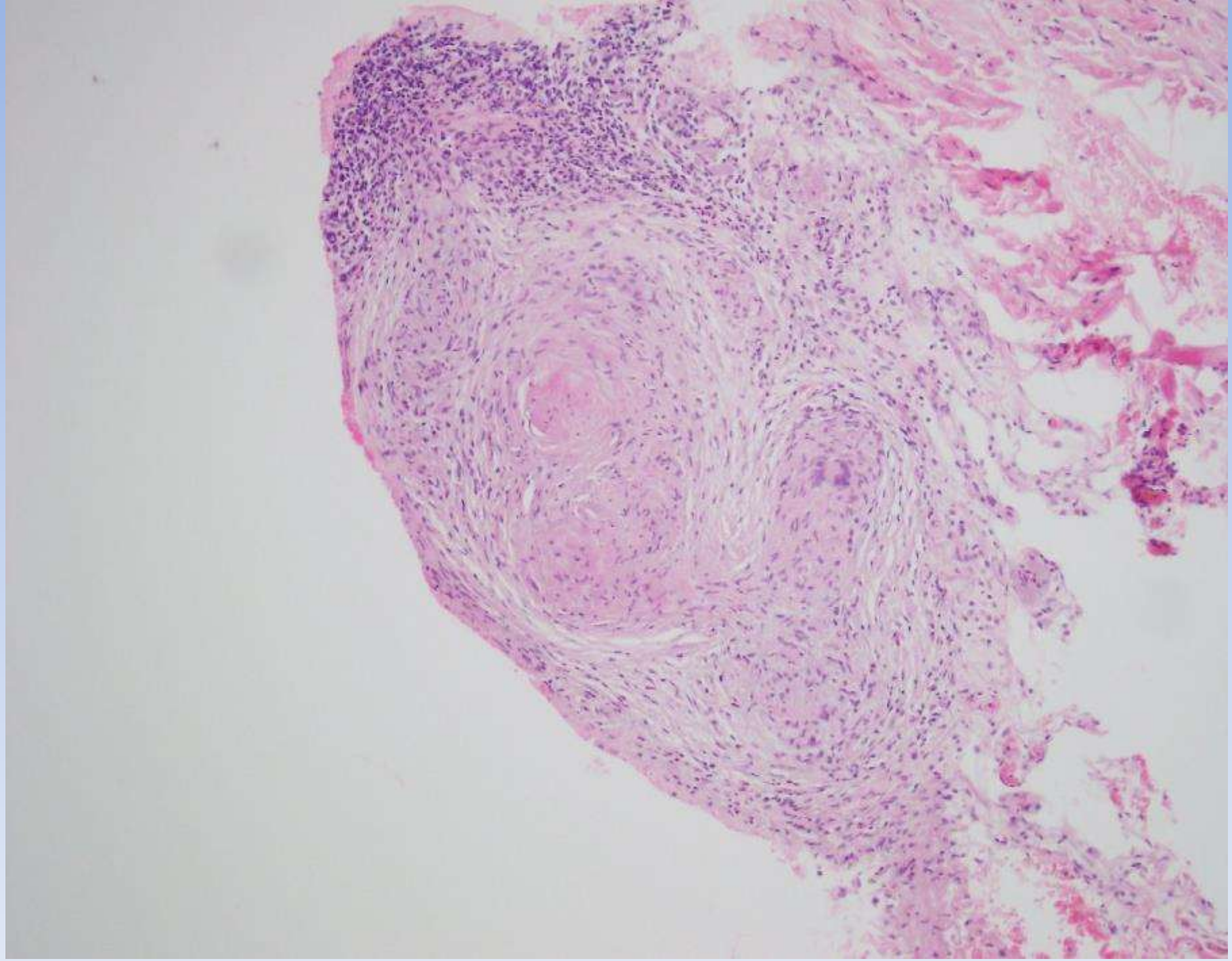






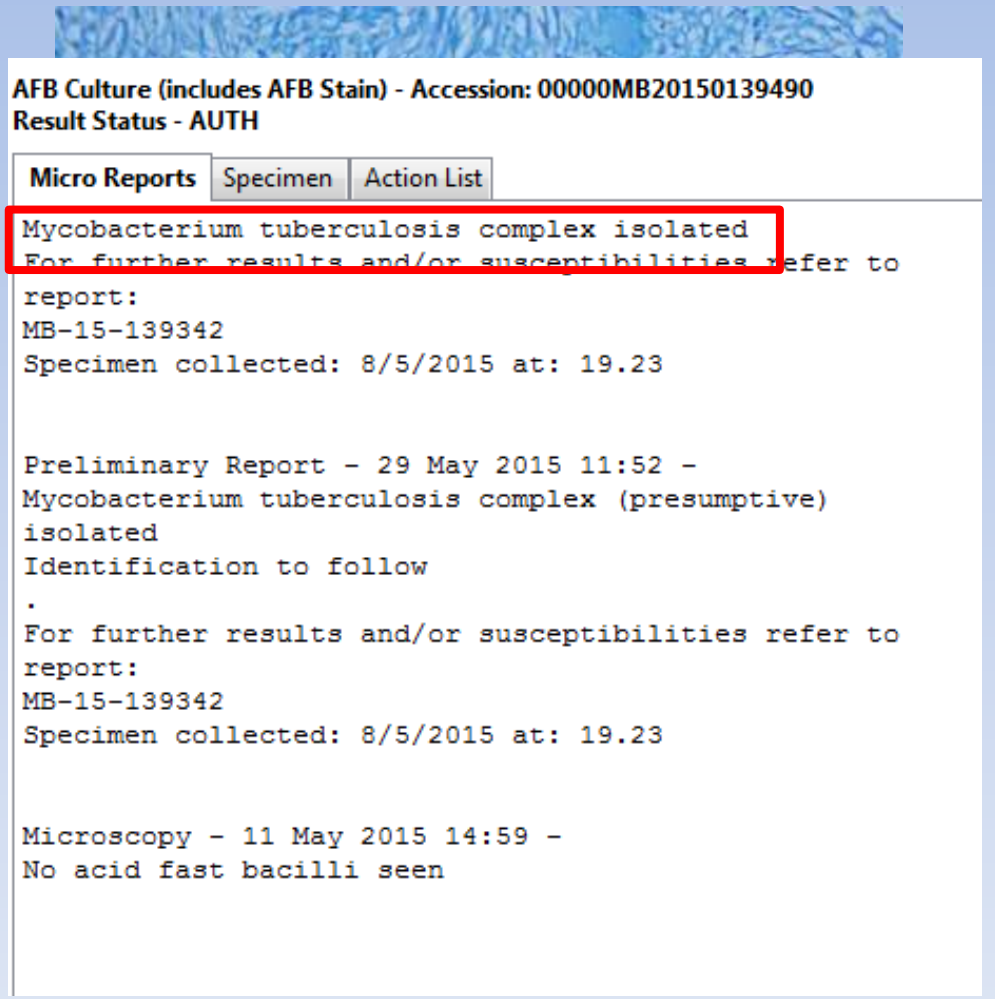






Further history/ subsequent course

- No history of IBD or recent overseas travel
- ZN (and other organisms stains) negative
- Mycobacterial PCR negative
- Culture of peritoneal nodules negative
- Treated presumptively for TB



AFB Culture (includes AFB Stain) - Accession: 00000MB20150139490
Result Status - AUTH

Micro Reports | Specimen | Action List

Mycobacterium tuberculosis complex isolated
For further results and/or susceptibilities refer to
report:
MB-15-139342
Specimen collected: 8/5/2015 at: 19.23

Preliminary Report - 29 May 2015 11:52 -
Mycobacterium tuberculosis complex (presumptive)
isolated
Identification to follow
.
For further results and/or susceptibilities refer to
report:
MB-15-139342
Specimen collected: 8/5/2015 at: 19.23

Microscopy - 11 May 2015 14:59 -
No acid fast bacilli seen

World J Surg (2013) 37:984–990
DOI 10.1007/s00268-013-1935-7

World Journal of Surgery

Tuberculosis: Experience in a Low Endemic Area Australian Tertiary Hospital

Preetjote Gill · Nicholas R. Coatsworth · Justin S. Gundara · Thomas J. Hugh · Jaswinder S. Samra

- 20 year period 841 patients identified with TB, 2.4% abdominal involvement, <1% ileo-caecal or small bowel involvement

Review article: the diagnosis and management of Crohn's disease in populations with high-risk rates for tuberculosis

D. EPSTEIN*, G. WATERMEYER† & R. KIRSCH‡

© 2007 The Authors, *Aliment Pharmacol Ther* **25**, 1373–1388

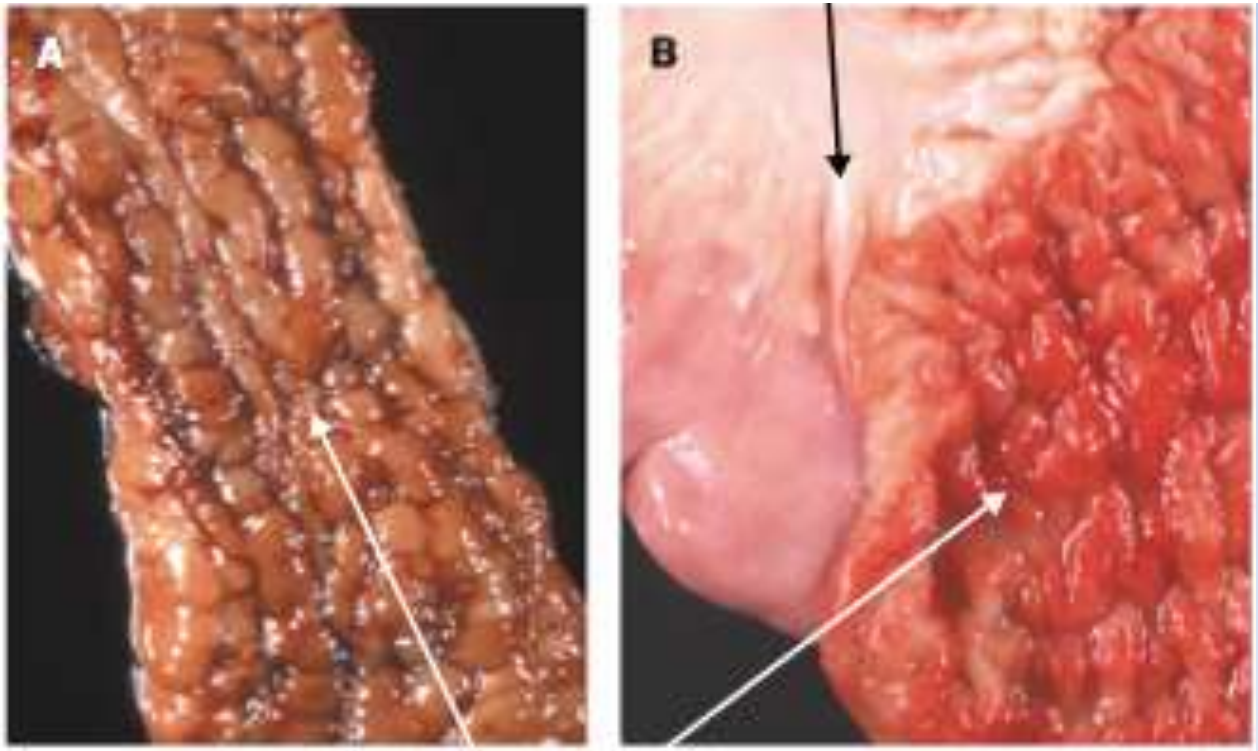
Table 2. Prevalence of selected histological parameters in patients with intestinal tuberculosis (ITB) and Crohn's disease (CD): A comparison of three similar studies.[94–96]

	Pulimood *et al.* (1999) Southern India		Pulimood *et al.* (2005) Southern India		Kirsch *et al.* (2006), Cape Town, South Africa	
	ITB (n = 20)	CD (n = 20)	ITB (n = 33)	CD (n = 31)	ITB (n = 18)	CD (n = 25)
Caseous necrosis	40	0	36	0	22	0
Confluent granulomas	60	0	42	3	50	0
≥5 granulomas/biopsy site	40	0	45	0	44	24
≥10 granulomas/biopsy site	–	–	–	–	33	0
Large granulomas	Diameter > 200 μm		Diameter > 400 μm		Area > 0.05 mm^2	
	90	5	51	0	67	8
Submucosal granulomas	45	5	39	6	44	12
Ulcers lined by bands of epithelioid histiocytes	45	5	61	0	61	8
Disproportionate submucosal inflammation	65	5	–	–	67	10
Architectural distortion distant to granulomatous inflammation	–	–	0	62	–	–

Values are given in percentages.

Is Crohn's disease caused by a mycobacterium? Comparisons with leprosy, tuberculosis, and Johne's disease

Robert J Greenstein



Lancet Infect Dis 2003; **3:** 507–14

Detection of organisms with ZN and PCR in ITB

- Reports of AFB positivity on ZN in ITB variable 6-8% to 53.4%
- Reported sensitivity rate of PCR on FFPE tissue of endoscopic biopsies of ITB 22-75%

Am J Surg Pathol • Volume 41, Number 10, October 2017

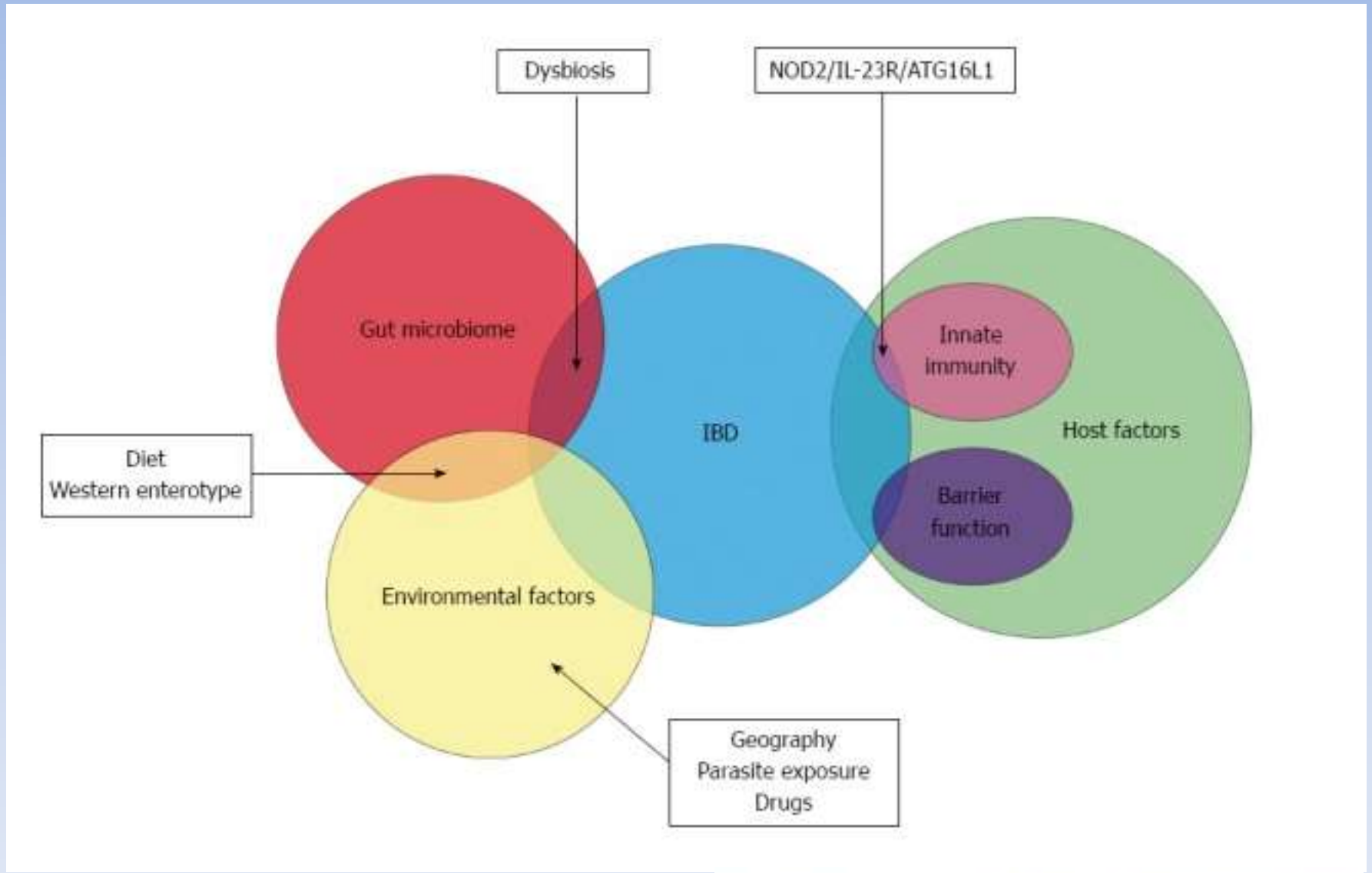
The Utility of Immunohistochemistry in Mycobacterial Infection

A Proposal for Multimodality Testing

Isaac H. Solomon, MD, PhD, Melanie E. Johncilla, MD,* Jason L. Hornick, MD, PhD,* and Danny A. Milner, Jr, MD, MSc (Epi)†*

Epstein et al. Aliment Pharmacol Ther 2007
Dasgupta et al. J Lab Physicians 2009

Aetiology of IBD



World J Gastroenterol. 2014 Feb 7; 20(5): 1192–1210.

Case 3: Sexually transmitted infectious proctitis/colitis

- Syphilis and LGV/CT most commonly reported
- Neisseria gonorrhea

BMJ Case Reports

Reminder of important clinical lesson

Lymphogranuloma venereum and HIV infection: misdiagnosed as Crohn's disease

Sheel Patel, Phillip Hay

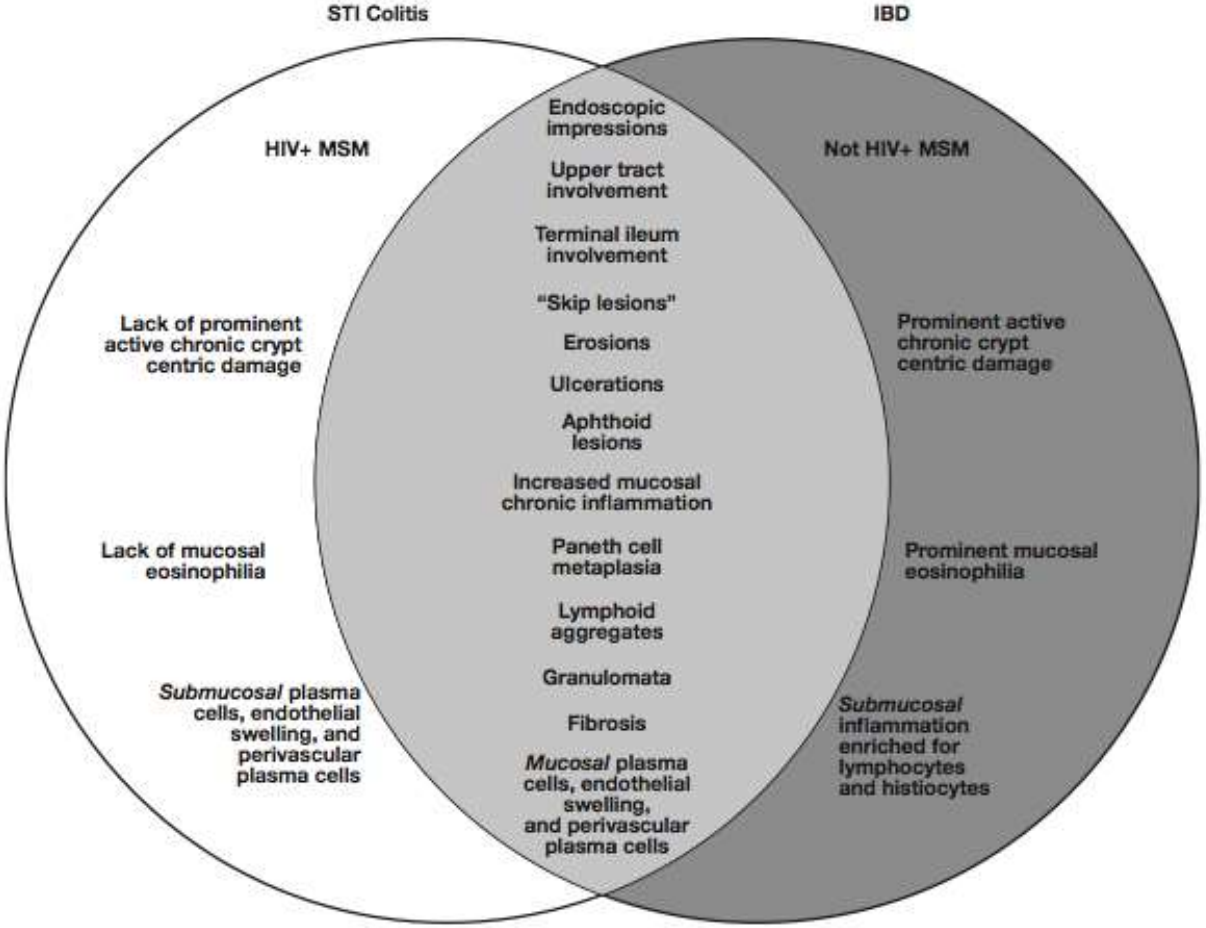
BMJ Case Reports 2010; doi:10.1136/bcr.02.2010.2771

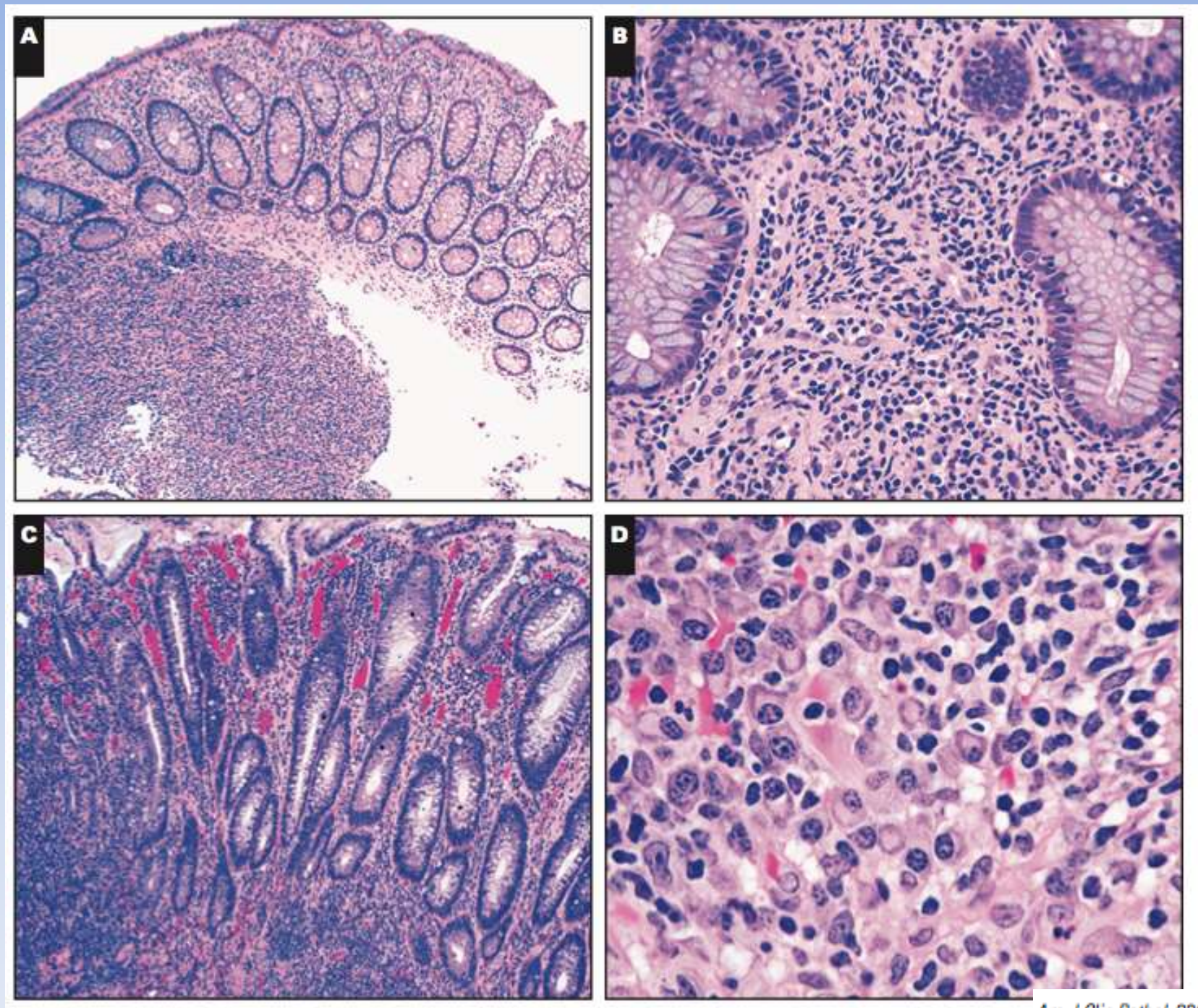
Sexually Transmitted Infectious Colitis vs Inflammatory Bowel Disease

Distinguishing Features From a Case-Controlled Study

Christina A. Arnold, MD,[1] Rachel Roth, MD,[1] Razvan Arsenescu, MD,[2] Alan Harzman, MD,[3] Dora M. Lam-Himlin, MD,[4] Berkeley N. Limketkai, MD,[5] Elizabeth A. Montgomery, MD,[6] and Lysandra Voltaggio, MD[6]

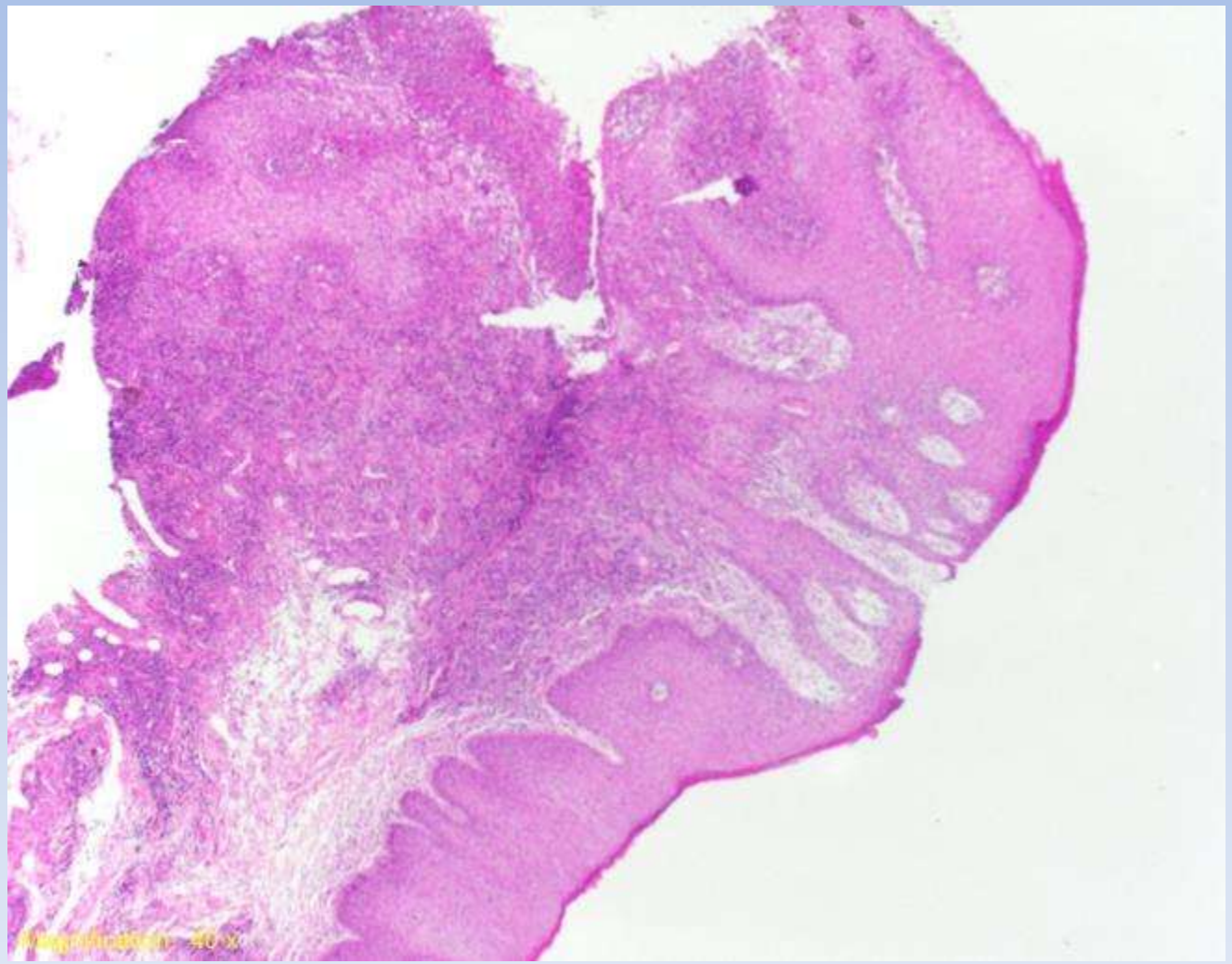
Am J Clin Pathol 2015;144:771-781

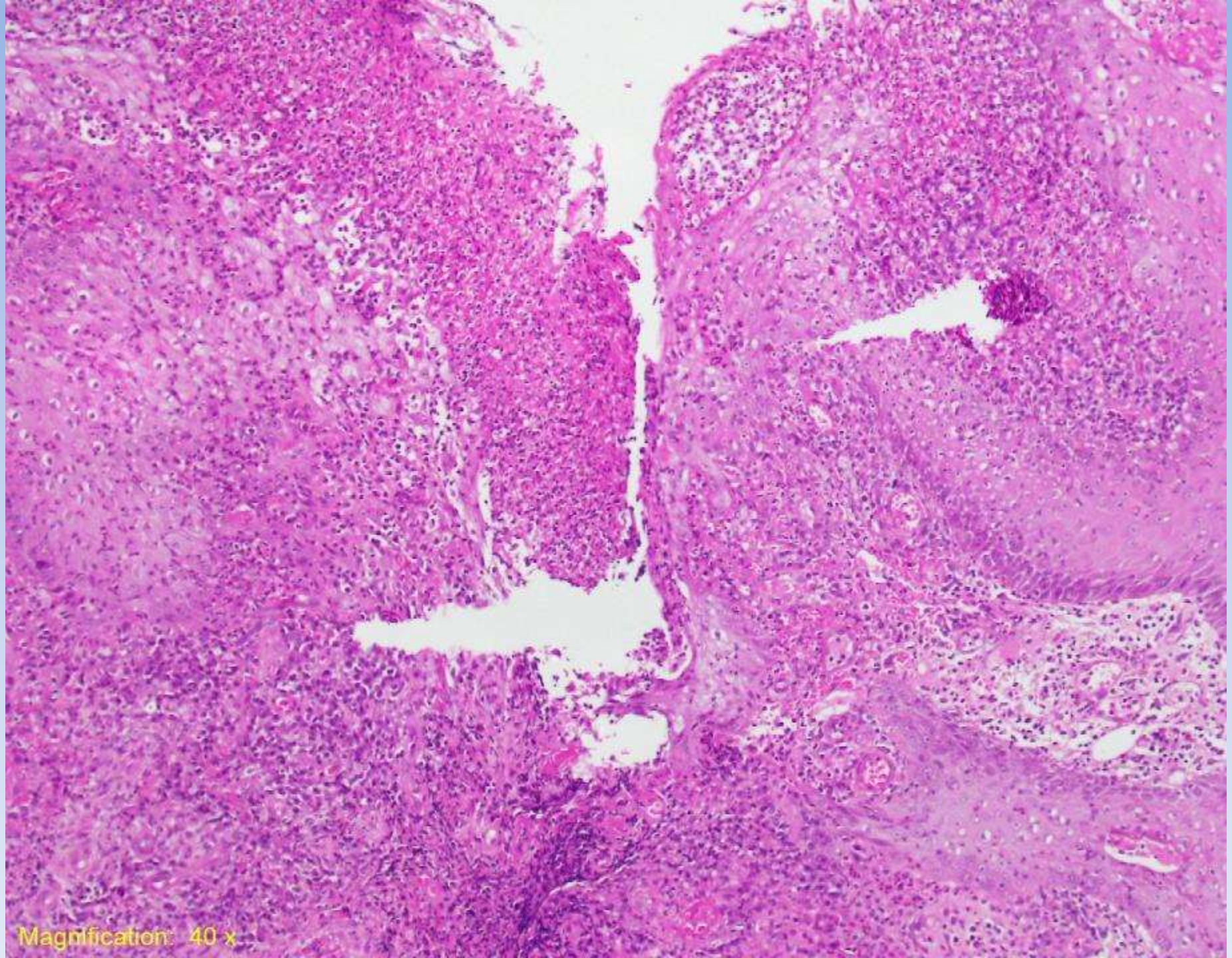




Am J Clin Pathol 2015;144:771-781

56M. Diarrhoea, weight loss. Anal ulcer

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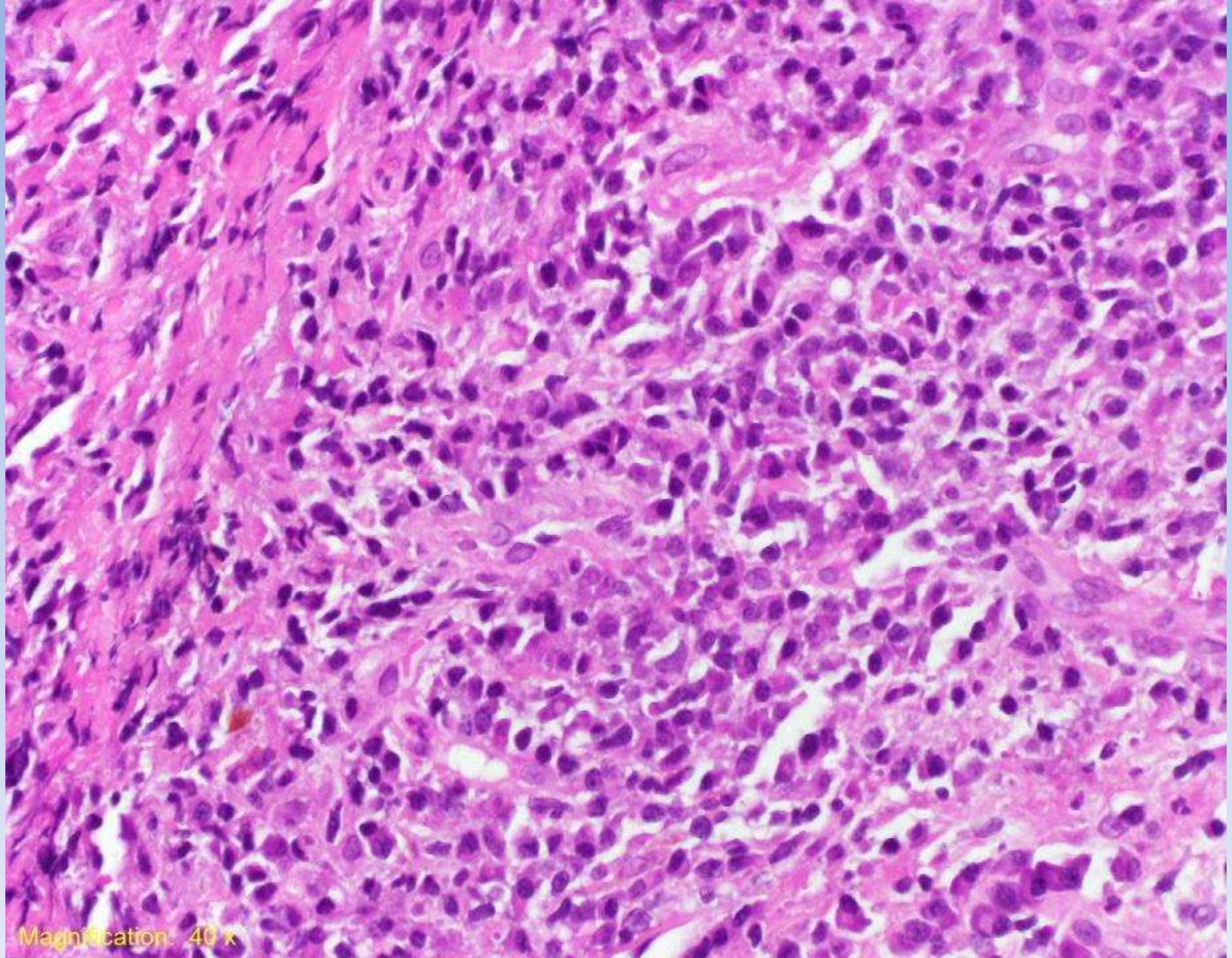
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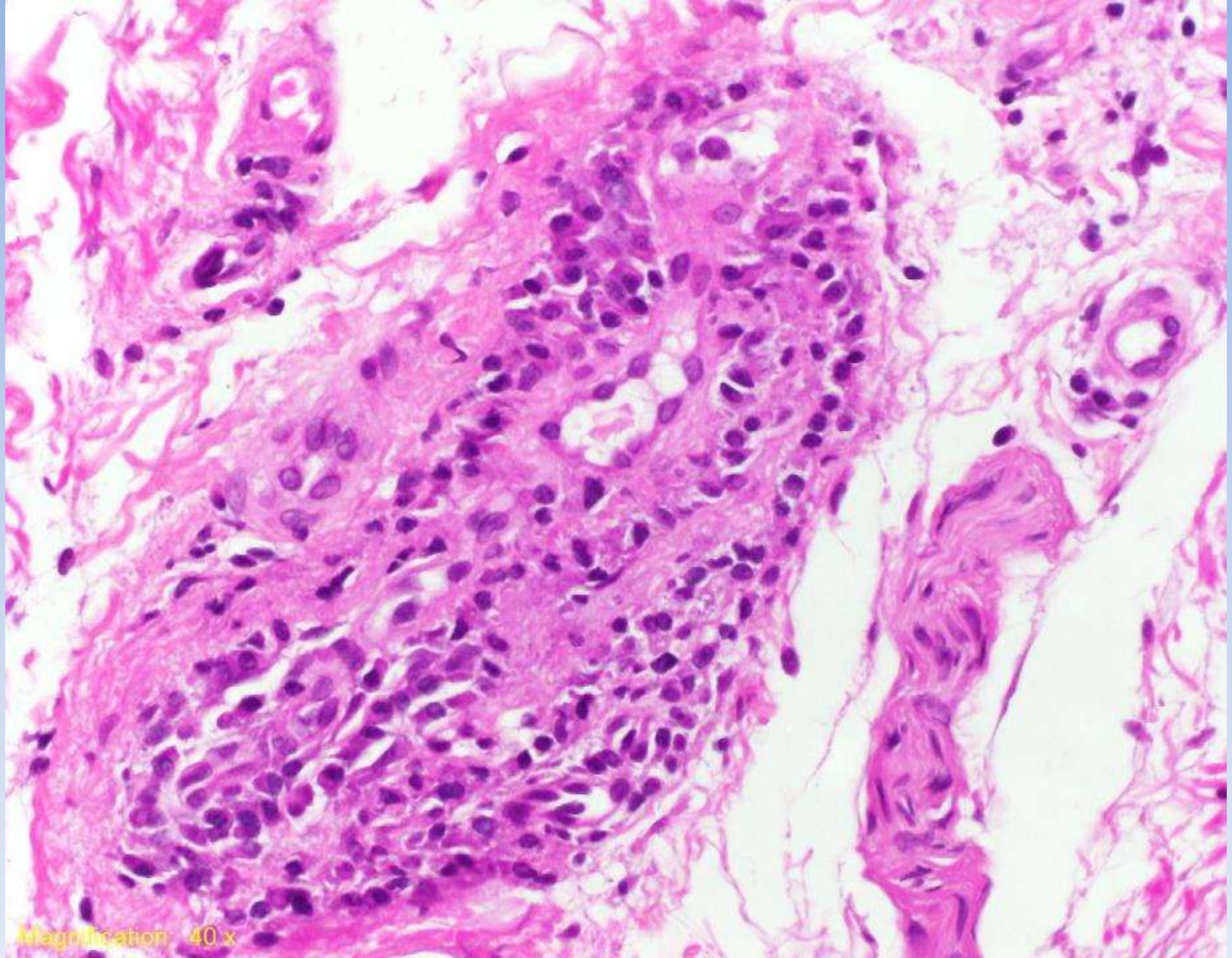
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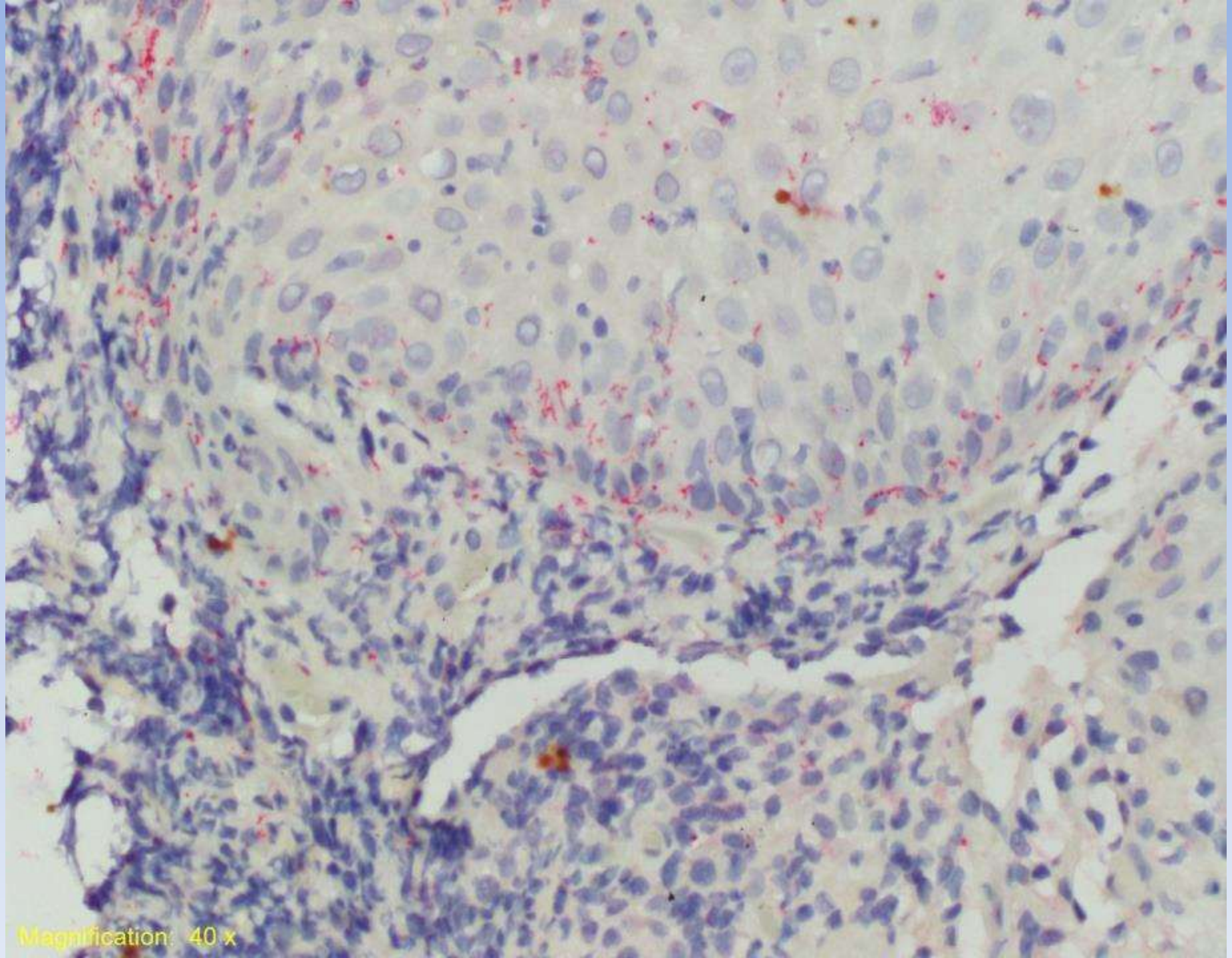

Magnification: 40 x

Diagnoses: **Early syphilis infection (with concurrent features of both primary & secondary syphilis)**
Anorectal gonorrhoea infection

Fifty shades of chronic colitis: non-infectious imposters of inflammatory bowel disease

Christina A Arnold
Feriyl Bhaijee
Dora Lam-Himlin

Diagnostic Histopathology, 2015

Top etiologic considerations of the chronic colitis pattern

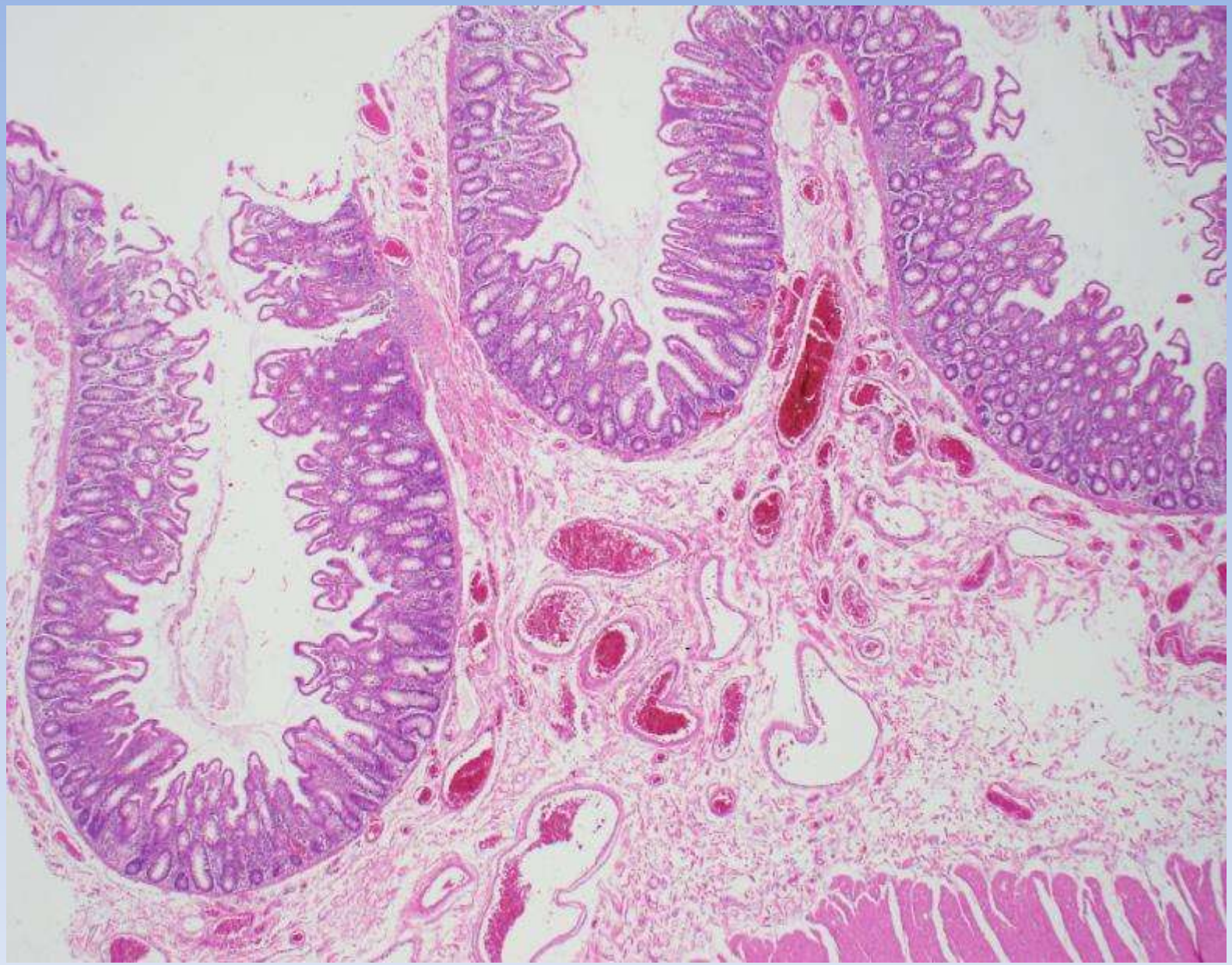
- Diverticular disease
- Diversion colitis
- Therapeutics
  - NSAIDs
  - Resins
  - Ipilimumab
- Vascular injury
  - Ischaemia
  - Radiation
  - Vasculitis
- Autoimmune
  - Sarcoid
  - Common variable immunodeficiency
  - Chronic granulomatous disease
  - Vasculitis
- Infections
  - Stool pathogens
  - Cord colitis syndrome
  - Syphilitic and lymphogranuloma venereum colitis
  - Others

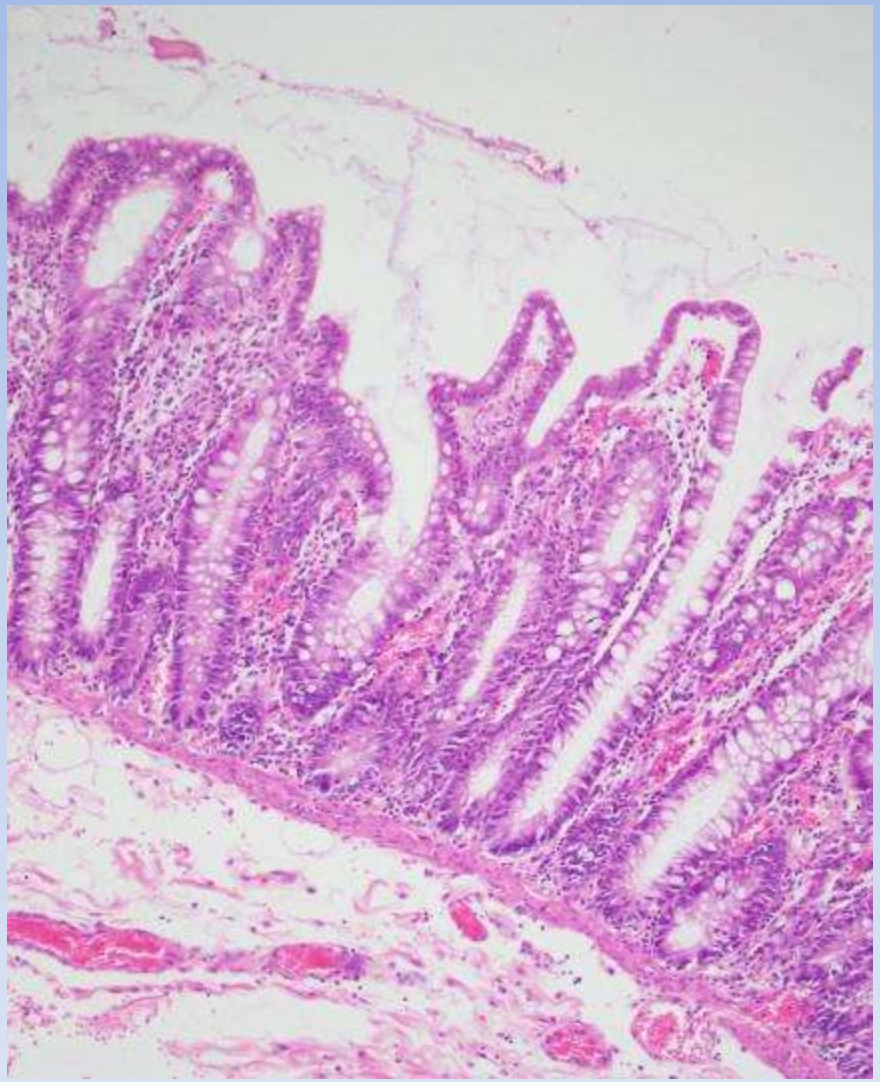
- Infections
- Drugs
- Autoimmune
- Other

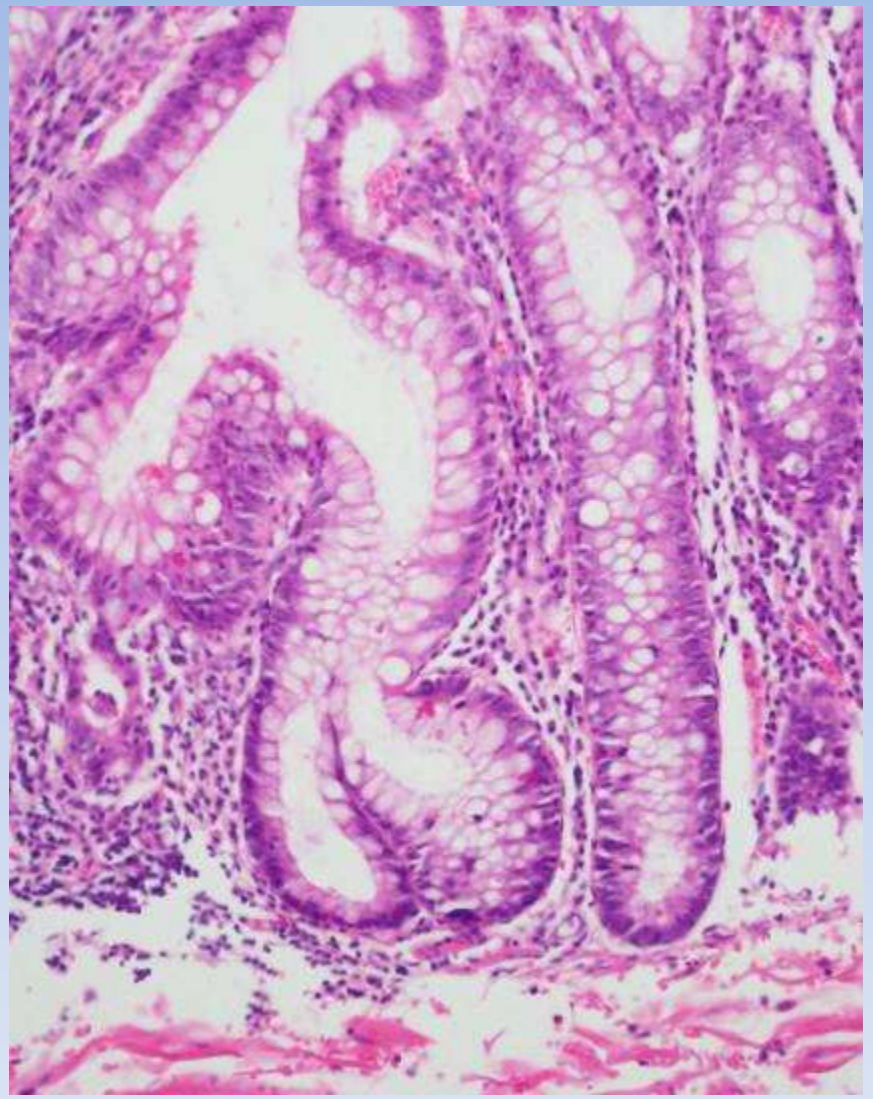
Case 4 #quite severe

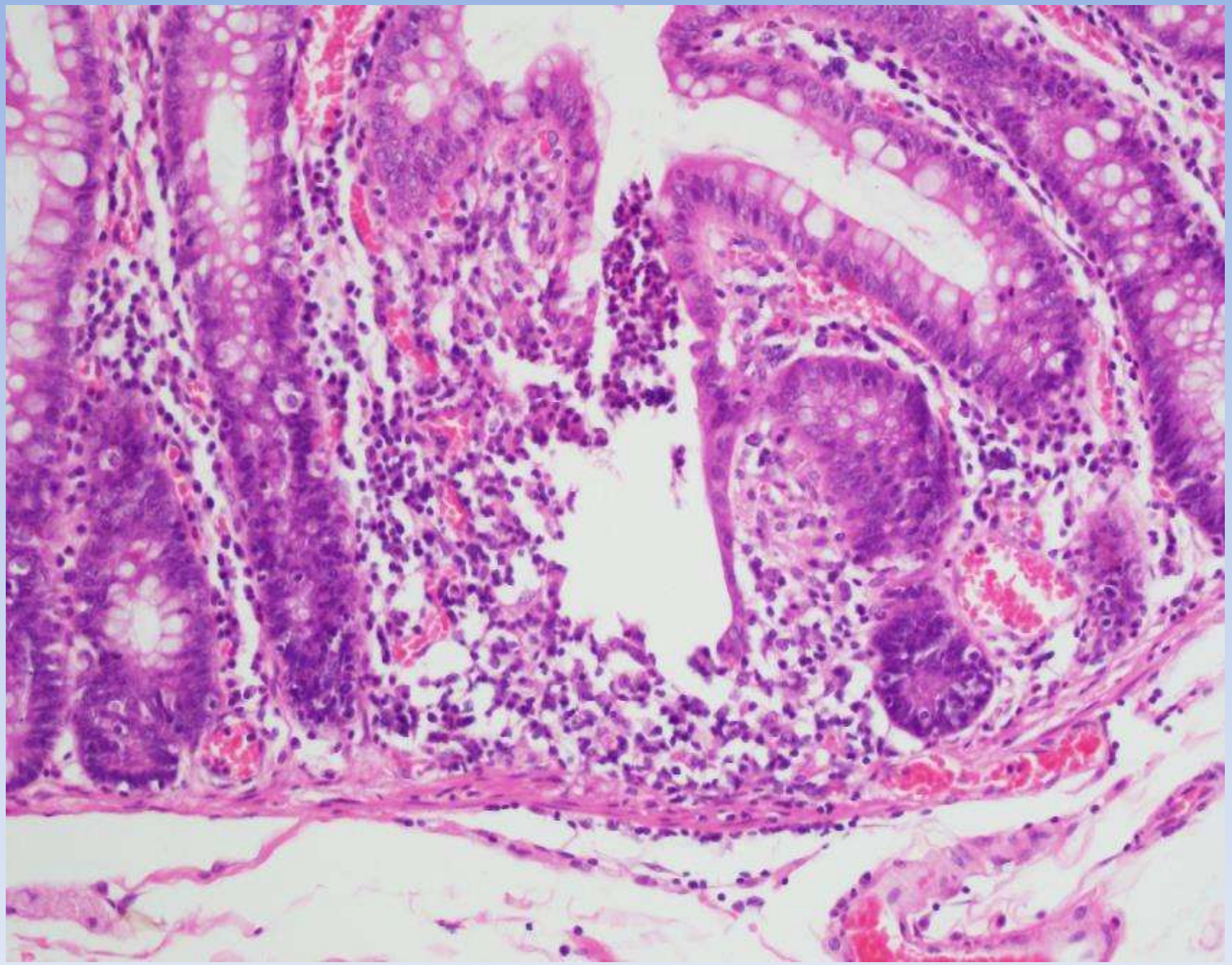
- 69 year old man
- Pan colitis
- ?Toxic megacolon on imaging
- Known metastatic melanoma on treatment with Ipilimumab

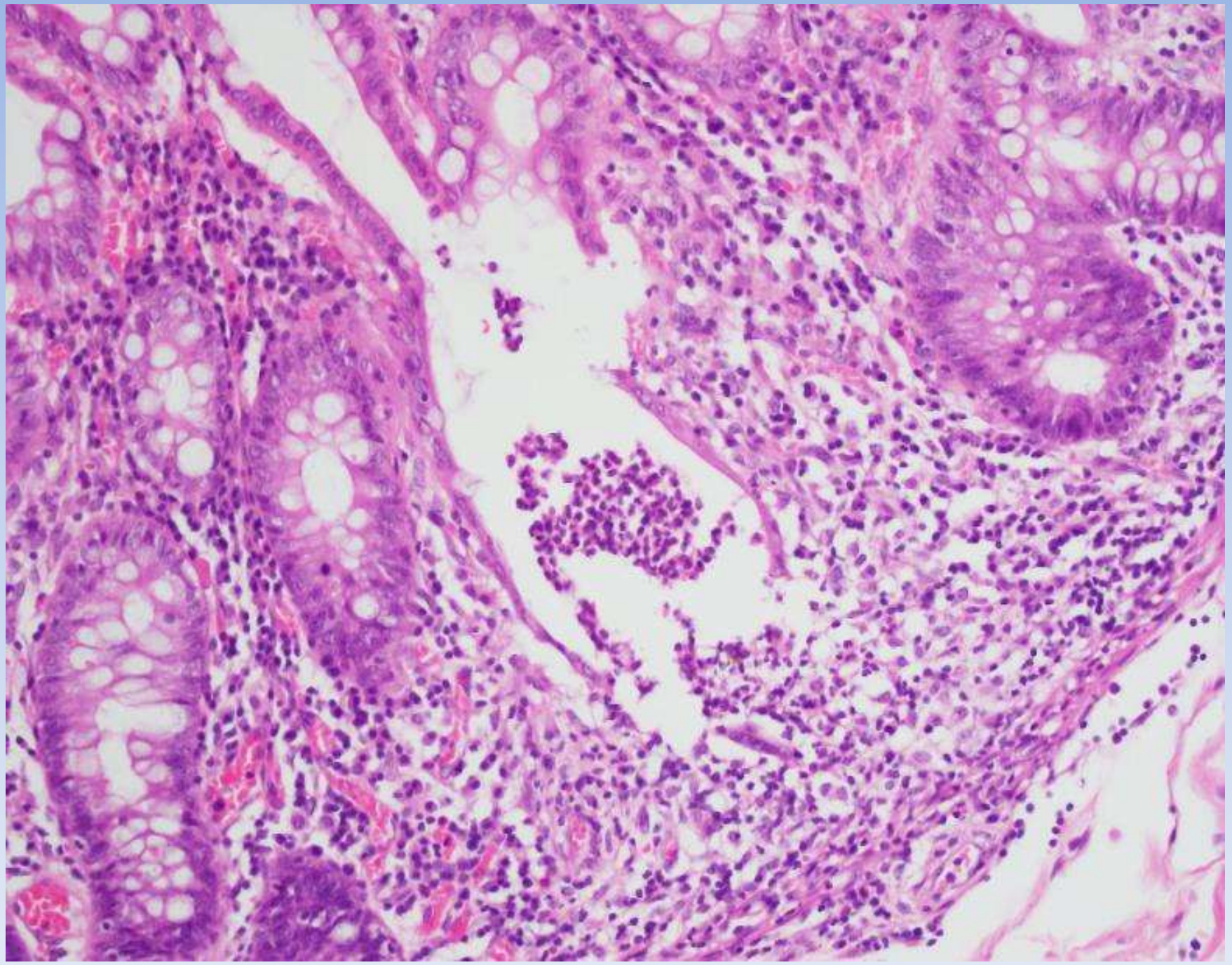

SP14014165











Immune Checkpoint Inhibitor-Induced Colitis: Diagnosis and Management

Caroline Prieux-Klotz[1] · Marie Dior[1,2] · Diane Damotte[3] · Johann Dreanic[1,2] · Bertrand Brieau[1,2] · Catherine Brezault[1,2] · Vered Abitbol[1] · Stanislas Chaussade[1,2] · Romain Coriat[1,2]

Targ Oncol (2017) 12:301–308

Table 1 Rate of gastrointestinal side effects in anti-PD-1, anti-PD-L1, and ant-CTLA4 clinical trials

Author and publication	Treatment	N	Gastrointestinal toxicities: all grade N(%)	Grade III–IV gastrointestinal toxicities N(%)
Hodi et al. [5]	Ipilimumab 3 mg/kg every 3 weeks	131	Diarrhea: 36 (25.7%) Colitis: 10 (7.6%)	Diarrhea: 6 (4.6%) Colitis: 10 (7.6%)
Hodi et al. [5]	Ipilimumab 3 mg/kg + glycoprotein 100 mg every 3 weeks	380	Diarrhea: 115 (30.3%) Colitis: 20 (5.3%)	Diarrhea: 14 (3.7%) Colitis: 12 (3.1%)
Robert et al. [27]	Pembrolizumab 2 mg/kg every 2 weeks	89	0	0
Robert et al. [27]	Pembrolizumab 10 mg/kg every 3 weeks	84	Diarrhea: 1 (1.2%)	Diarrhea 1 (1.2%)
Garon et al. [9]	Pembrolizumab 2 mg/kg or 10 mg/kg every 2 or 3 weeks	495	Diarrhea: 40 (8.1%)	Diarrhea: 3 (0.6%)
Robert et al. [6]	Nivolumab 3 mg/kg every 2 weeks	206	Diarrhea: 39 (16%) Colitis: 2 (1%)	Diarrhea: 2 (1%) Colitis: 1 (0.5%)
Weber et al. [7]	Nivolumab 3 mg/kg every 2 weeks	268	Diarrhea: 30 (11.2%) Colitis: 3 (1.1%)	Diarrhea: 1 (0.3%) Colitis: 2 (0.7%)
Rizvi et al. [10]	Nivolumab 3 mg/kg every 2 weeks	117	Diarrhea: 12 (10.5%)	Diarrhea: 12 (10.5%)
Rittmeyer et al. [28]	Atezolizumab 1200 mg every 3 weeks		Colitis: 2 (<1%)	Colitis: 0

REVIEW

Ipilimumab-induced toxicities and the gastroenterologist

Robert Cheng,*,[1] Adam Cooper,†,‡,[1] James Kench,[§] Geoff Watson,[§] William Bye,* Catriona McNeil†,‡,¶,[2] and Nicholas Shackel*,[2]

*A.W. Morrow Gastroenterology and Liver Centre, †Department of Tissue Pathology and Diagnostic Oncology, ‡Royal Prince Alfred Hospital, §Chris O'Brien Lifehouse, Camperdown and ¶Melanoma Institute of Australia, North Sydney, New South Wales, Australia

- Neutrophilic infiltrates with cryptitis, crypt abcesses, +/-granulomas
- Lymphocytic infiltrate
- Mixed
- Increased apoptosis/GVHD like
- Small Bowel involvement

J Gastroenterol Hepatol. 2015 Apr

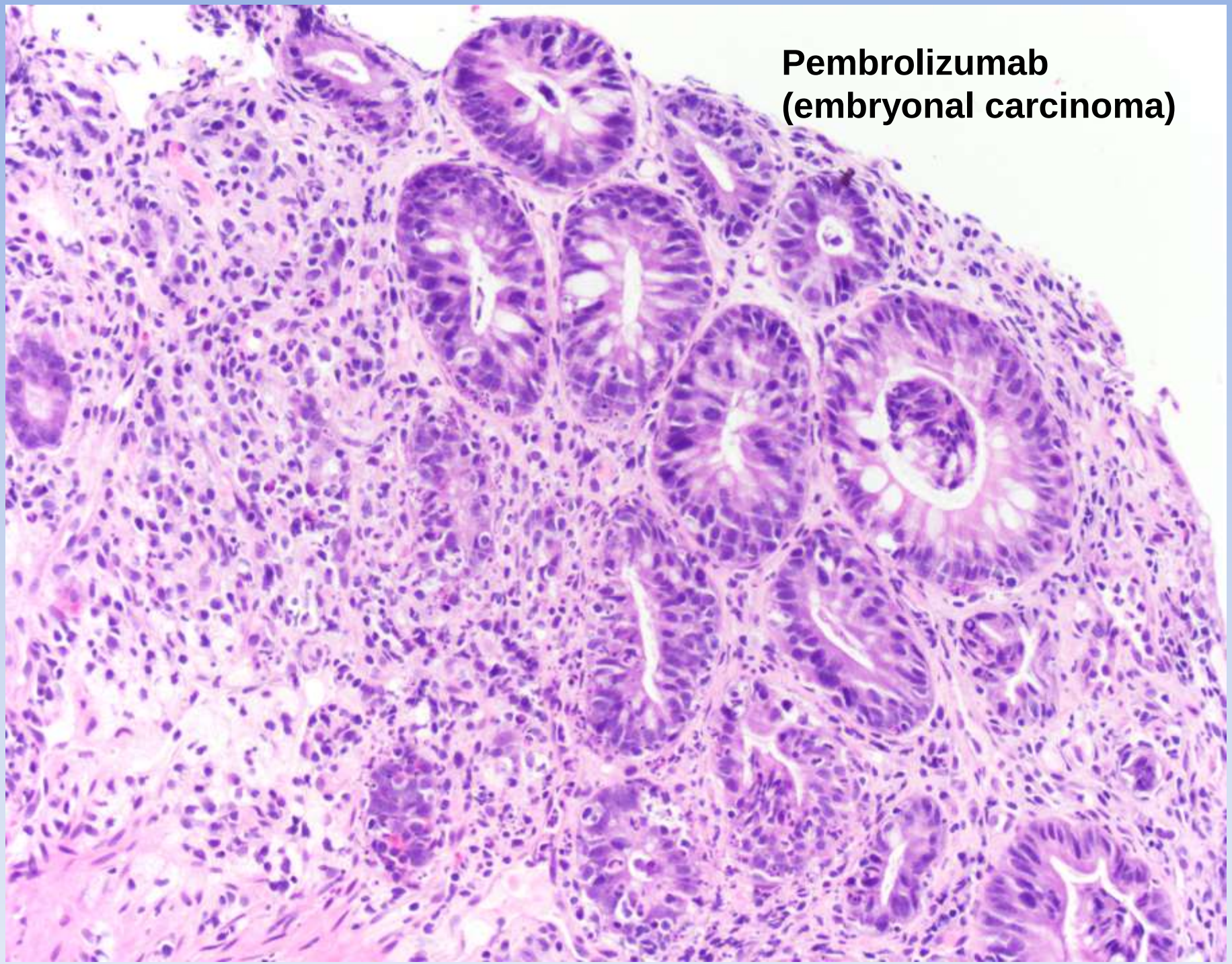
Case Rep Oncol 2016

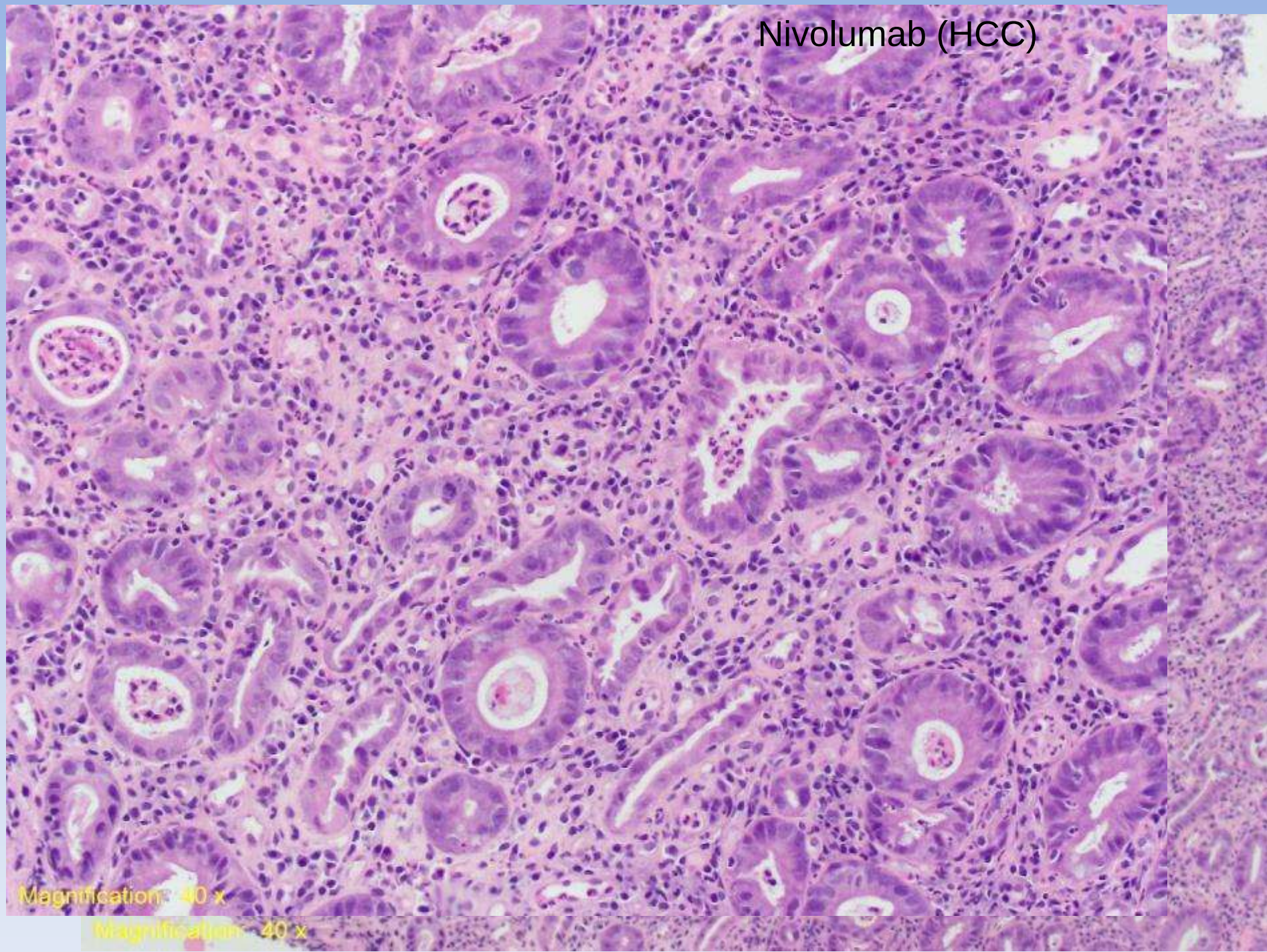
Pembrolizumab associated colitis

Table 1: Patients without Ipilimumab Exposure

No Ipilimumab Exposure	Nivolumab	Pembrolizumab	Total
Number of Patients	8	4	12
Median Age	61.5	64	62
Male, *n (%)*	5 (62)	0 (0)	5 (42)
Female, *n (%)*	3 (38)	4 (100)	7 (58)
Median doses of drug	13.5	4.5	
Median time to symptoms from drug intiation (months)	8.5	4	6.5
Imaging: n (%)			
Normal	4 (67)	1 (33)	5 (56)
Colitis	2 (33)	2 (67)	4 (44)
Endoscopy: n (%)			
Normal	6 (67)	1 (25)	7 (54)
Mild congestion, edema, inflammation	1 (11)	1 (25)	2 (15)
Moderate congestion, edema, inflammation	2 (22)	1 (25)	3 (23)
Severe congestion, edema, inflammation	0 (0)	1 (25)	1 (8)
Pathology: n (%)			
Normal	4 (44)	1 (25)	5 (38)
Lymphocytic Colitis	1 (11)	0 (0)	1 (8)
Collagenous Colitis	0 (0)	1 (25)	1 (8)
Active colitis	4 (44)	2 (50)	6 (46)
Other	0 (0)	0 (0)	0 (0)
Treatment: n (%)			
Steroids	7 (87.5)	4 (100)	11 (92)
Infliximab	1 (12.5)	2 (50)	3 (25)
Outcome: n (%)			
Symptom resolution	8 (100)	4 (100)	12 (100)
Drug discontinued	5 (62.5)	3 (75)	8 (67)
Treatment-related death	0 (0)	0 (0)	0 (0)

Kim et al, AGA 2017 (abstract)

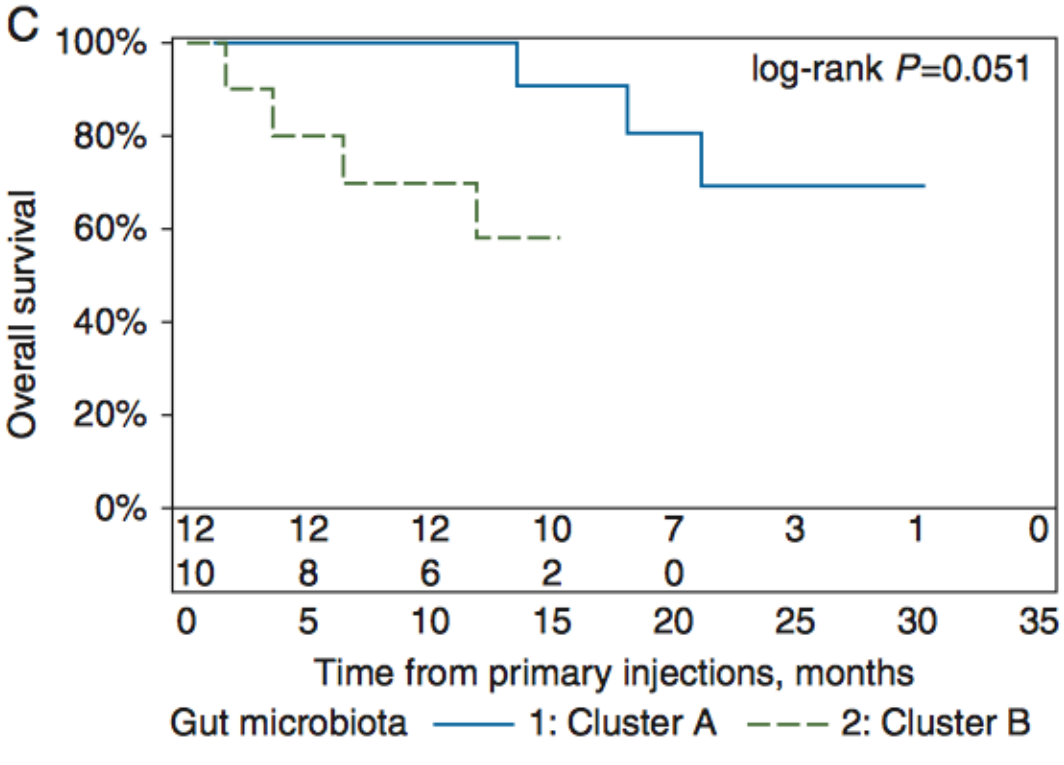

Pembrolizumab
(embryonal carcinoma)


Nivolumab (HCC)
Magnification: 40 x

Baseline gut microbiota predicts clinical response and colitis in metastatic melanoma patients treated with ipilimumab

N. Chaput[1,2†], P. Lepage[3†], C. Coutzac[1,4], E. Soularue[1,4,5], K. Le Roux[3], C. Monot[3], L. Boselli[1], E. Routier[6], L. Cassard[1], M. Collins[4,5], T. Vaysse[4,5], L. Marthey[4,5], A. Eggermont[6,7], V. Asvatourian[8,9], E. Lanoy[8,9], C. Mateus[4], C. Robert[4,6†] & F. Carbonnel[4,5*,†]

Annals of Oncology 28: 1368–1379, 2017



Bostwick *et al. Journal for ImmunoTherapy of Cancer* (2015) 3:19
DOI 10.1186/s40425-015-0064-2

Journal for ImmunoTherapy of Cancer

CASE REPORT Open Access

Rapid complete response of metastatic melanoma in a patient undergoing ipilimumab immunotherapy in the setting of active ulcerative colitis

A Doran Bostwick[1], April K Salama[2] and Brent A Hanks[2*]

Mimics of IBD

- Infections
- Drugs
- Autoimmune
- Other

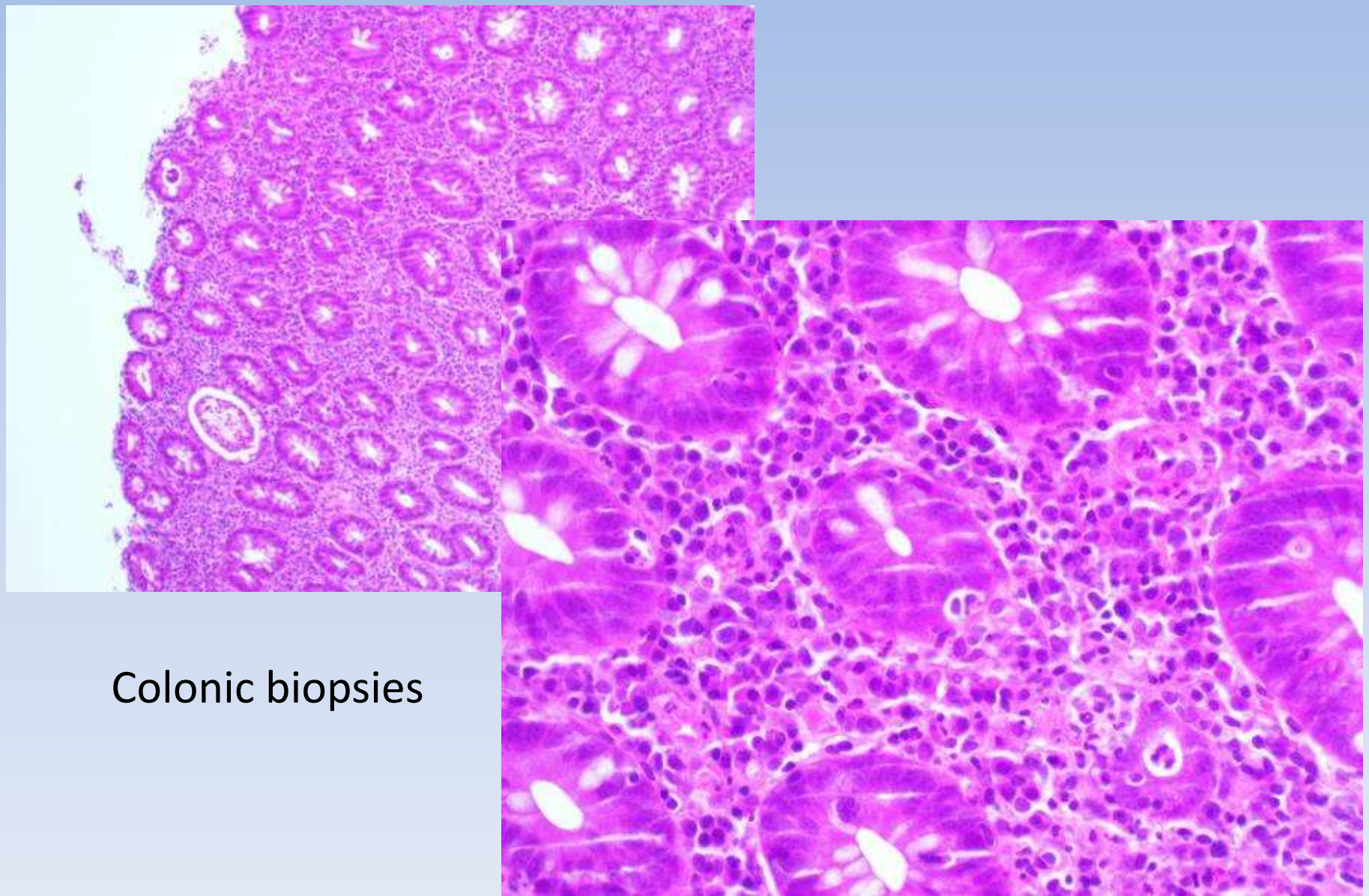
Top etiologic considerations of the chronic colitis pattern

- Diverticular disease
- Diversion colitis
- Therapeutics
  - NSAIDs
  - Resins
  - Ipilimumab
- Vascular injury
  - Ischaemia
  - Radiation
  - Vasculitis
- Autoimmune
  - Sarcoid
  - Common variable immunodeficiency
  - Chronic granulomatous disease
  - Vasculitis
- Infections
  - Stool pathogens
  - Cord colitis syndrome
  - Syphilitic and lymphogranuloma venereum colitis
  - Others

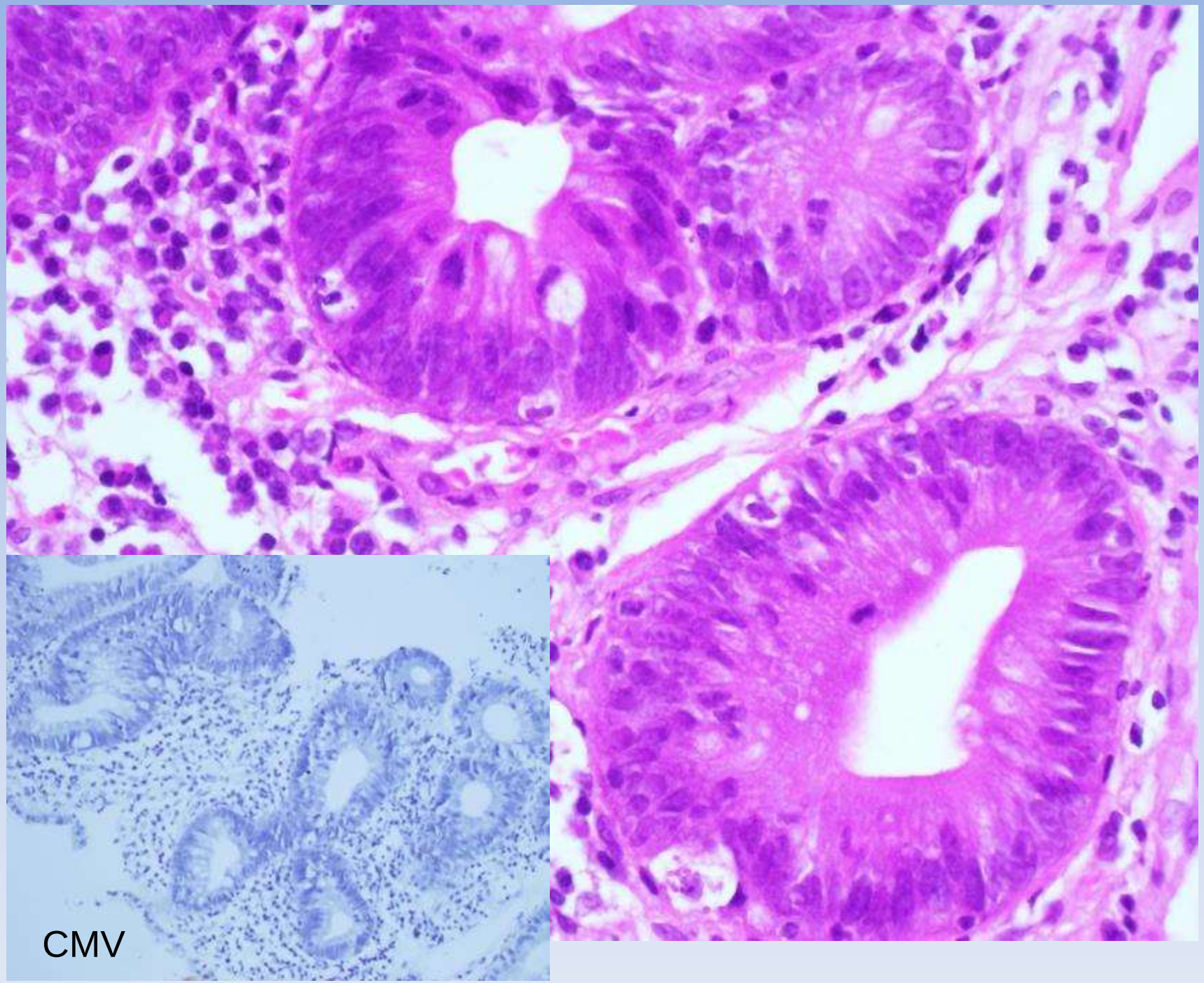
Case 5. What's missing?

CLINICAL DETAILS
Diarrhoea. Duodenum. Ascending colon. Descending colon. Rectum.

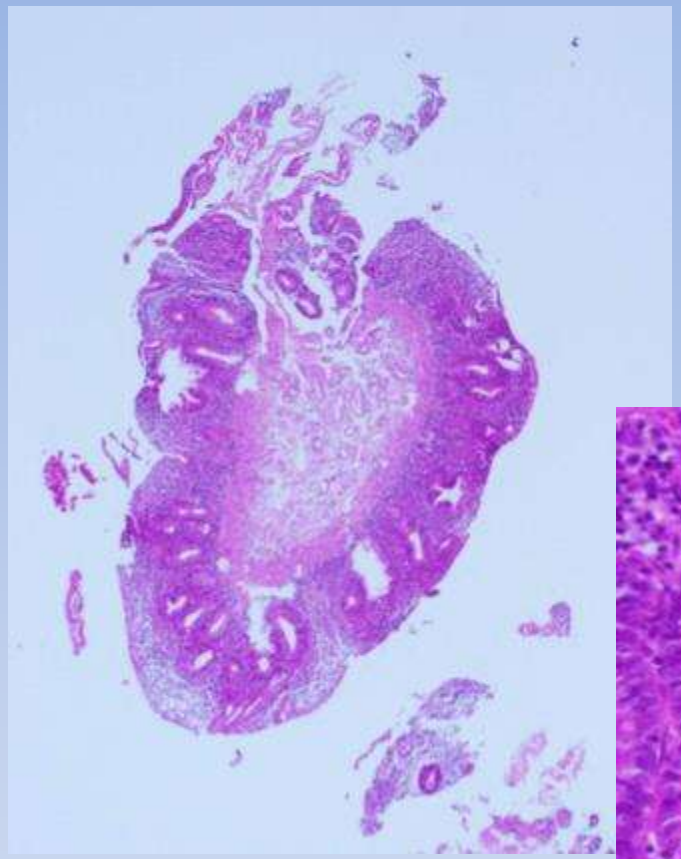
- 74F

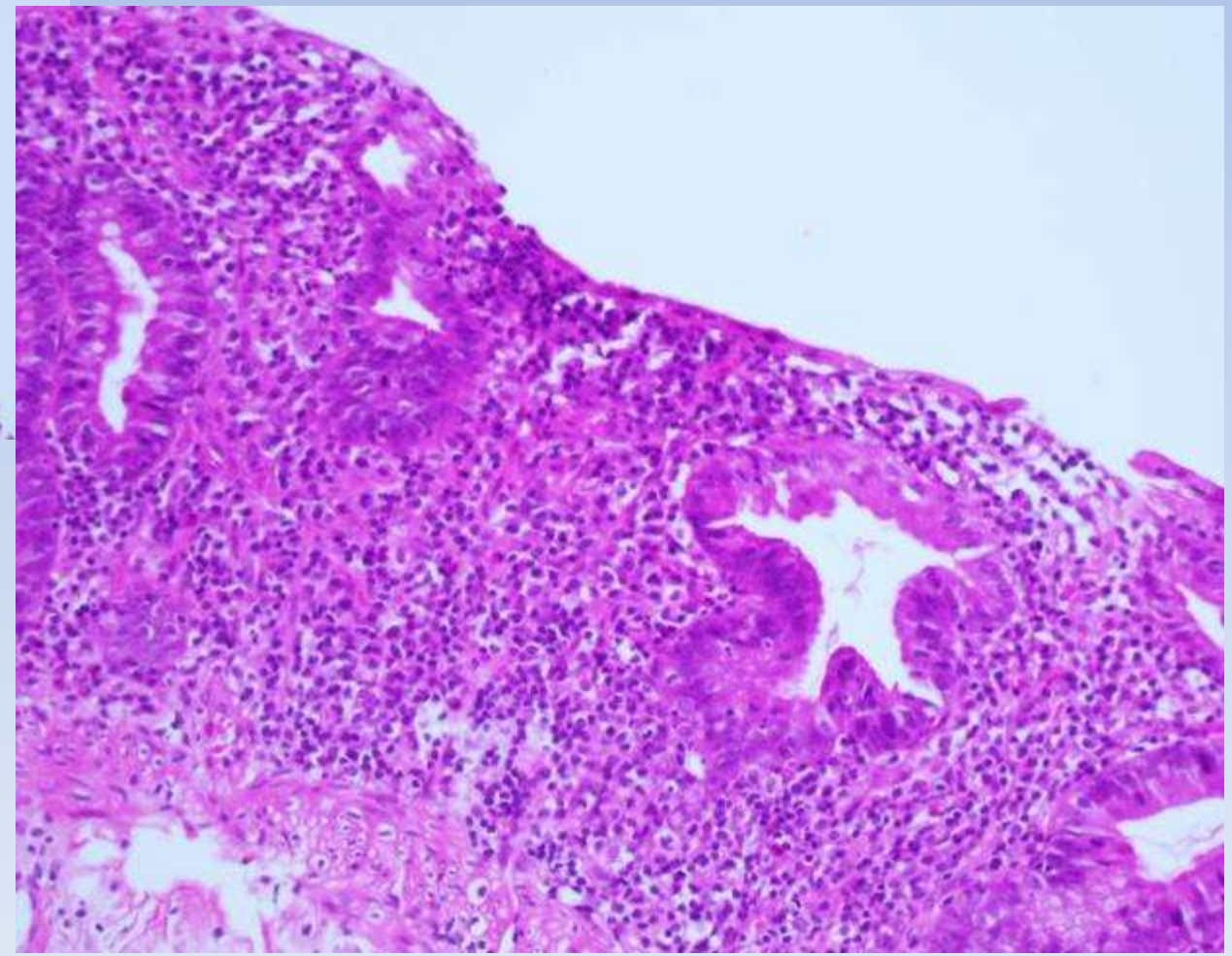


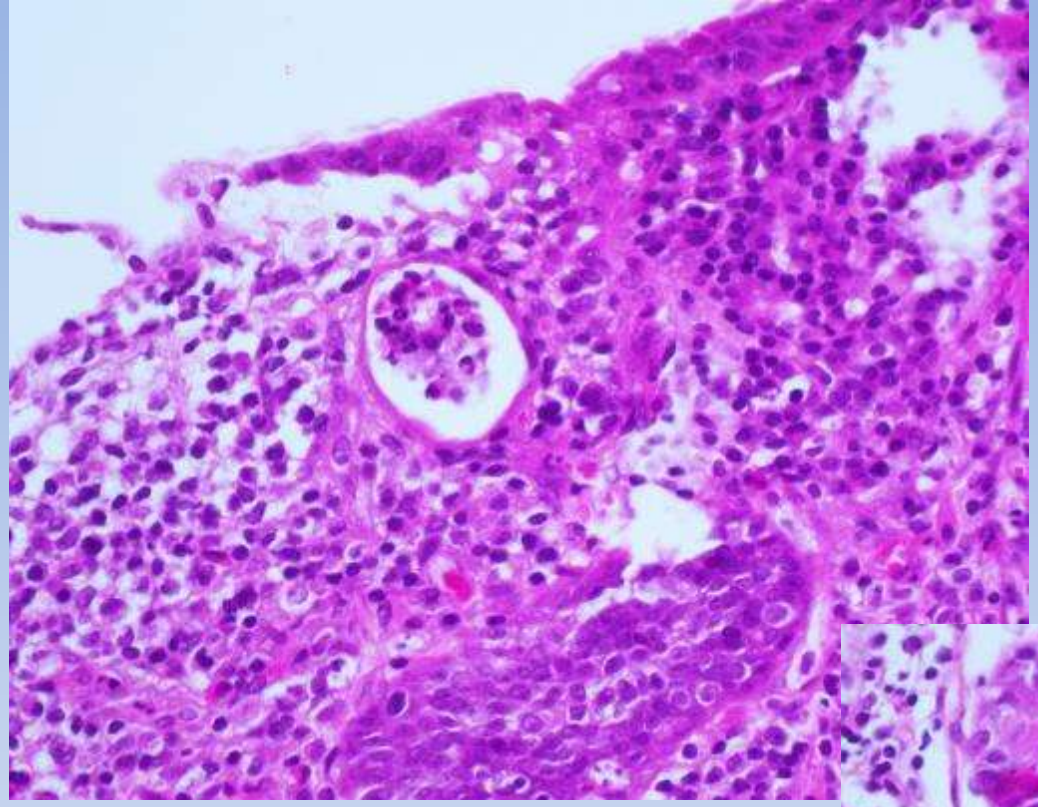
Colonic biopsies

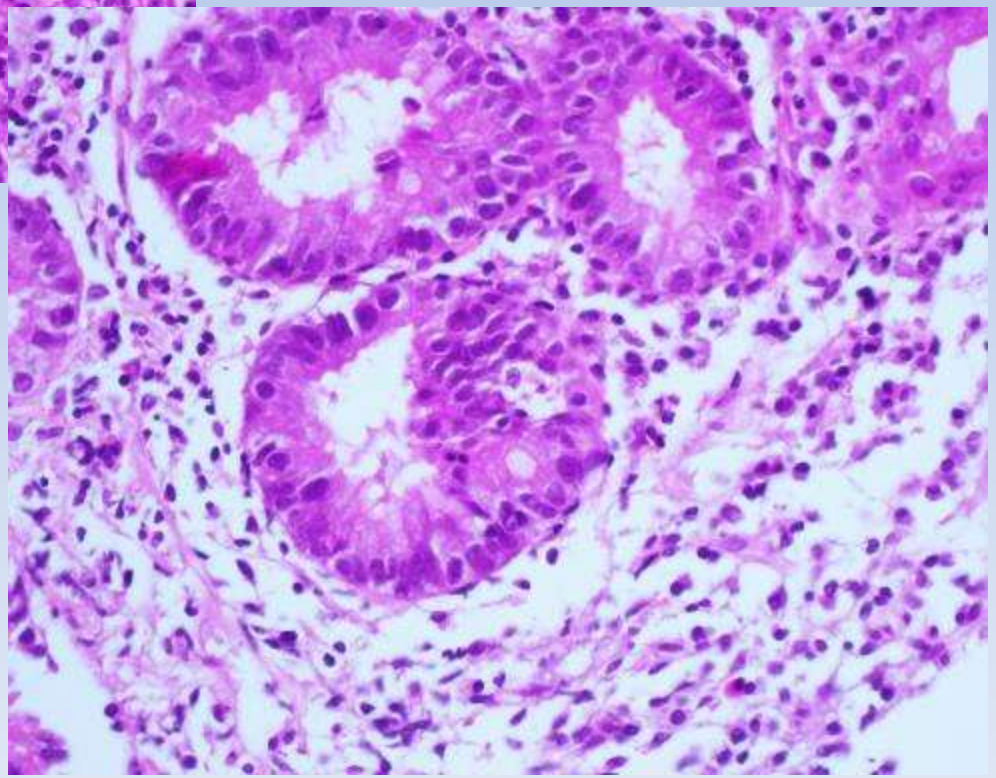

CMV

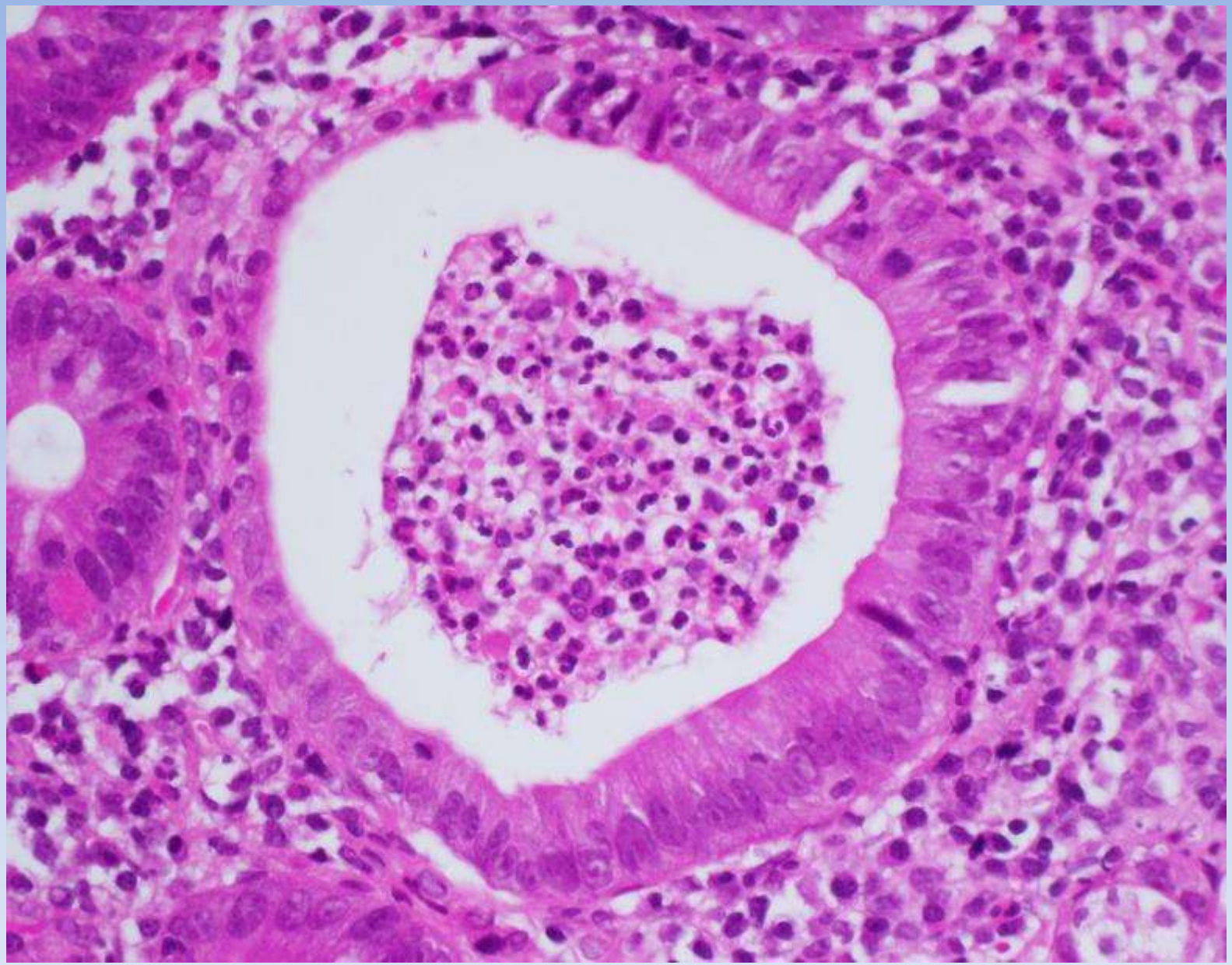
Duodenal biopsies

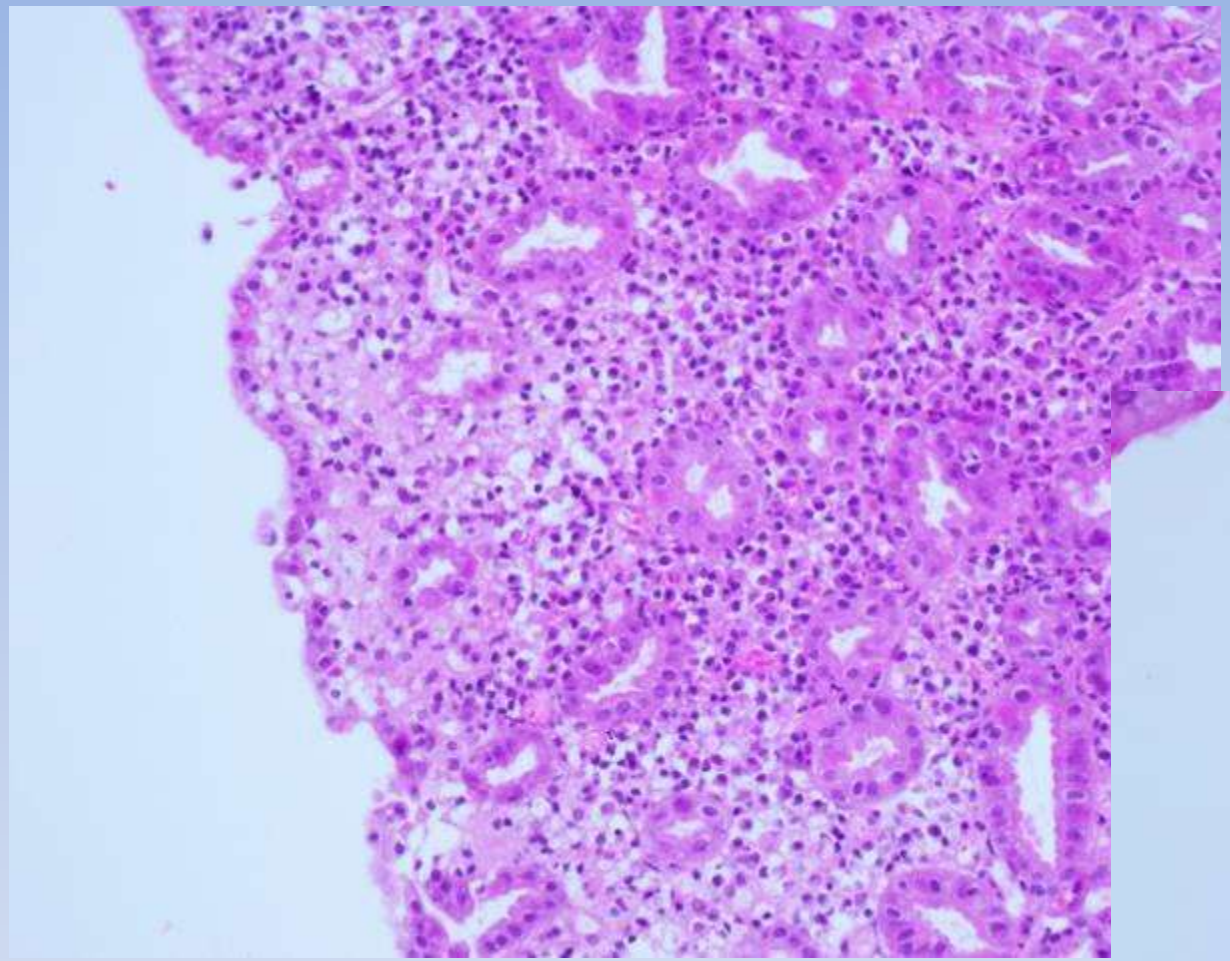


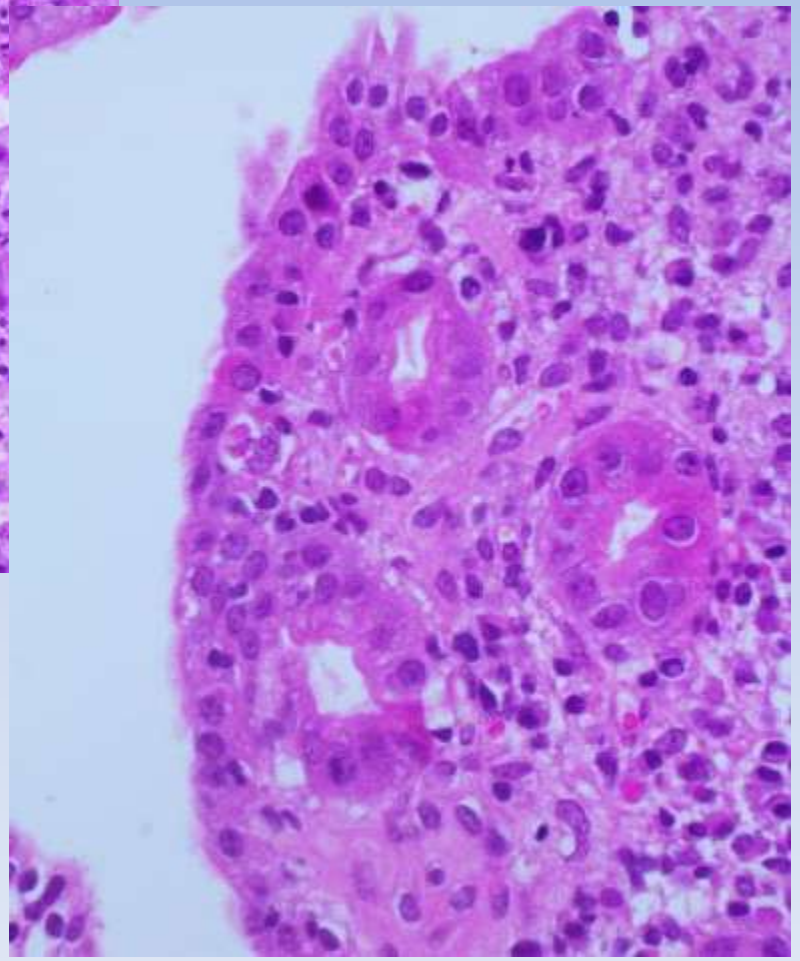












Gastric biopsy

Autoimmune enteropathy

- Rare (<1/100000 infants)
- First described in 1982 in children, now well recognised in adults
  - Syndromic
    - IPEX (Immune dysregulation, Polyendocrinopathy, Enteropathy and X linked) - loss of function mutations in FoxP3
    - APECED syndrome (Autoimmune Polyendocrinopathy Candidiasis Ectodermal Dystrophy Syndrome)
  - Non syndromic

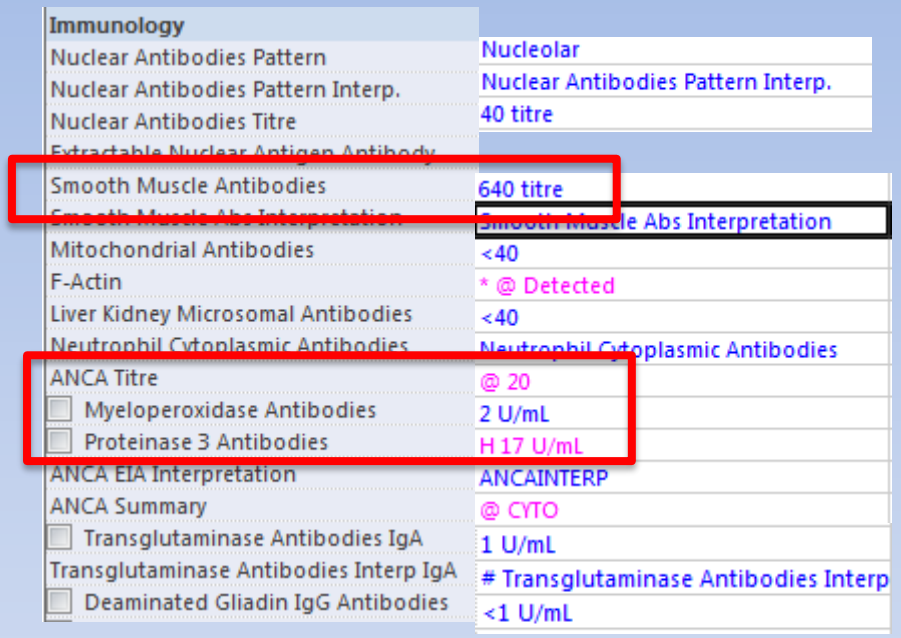
Unsworth et al. J Pediatr Gastroenterol Nutr 4:375-380; 1985
Odze & Goldblum. Surgical pathology of the GI tract, Liver, Biliary tract and pancreas. 3rd ed 2014.

Further history

- 74 F presented to Dubbo March 2014 with 3 month history of severe diarrhoea
- Transferred to RPA - responded to steroids, TPN and Sulphasalazine, returned to Dubbo
- Diarrhoea returned with fevers, complicated by documented CMV, underwent emergency colectomy and end ileostomy
- Steroids reduced again but high stoma output (2-3L) day – re- biopsied

Progress

- Diagnosis of autoimmune enteropathy
- Recommenced high dose steroids and azathioprine
- Plasma sent to Children's Hospital of Philadelphia for anti-enterocyte antibody testing (negative)



Immunology	
Nuclear Antibodies Pattern	Nucleolar
Nuclear Antibodies Pattern Interp.	Nuclear Antibodies Pattern Interp.
Nuclear Antibodies Titre	40 titre
Extractable Nuclear Antigen Antibody	
Smooth Muscle Antibodies	640 titre
Smooth Muscle Abs Interpretation	Smooth Muscle Abs Interpretation
Mitochondrial Antibodies	<40
F-Actin	* @ Detected
Liver Kidney Microsomal Antibodies	<40
Neutrophil Cytoplasmic Antibodies	Neutrophil Cytoplasmic Antibodies
ANCA Titre	@ 20
Myeloperoxidase Antibodies	2 U/mL
Proteinase 3 Antibodies	H 17 U/mL
ANCA EIA Interpretation	ANCAINTERP
ANCA Summary	@ CYTO
Transglutaminase Antibodies IgA	1 U/mL
Transglutaminase Antibodies Interp IgA	# Transglutaminase Antibodies Interp
Deaminated Gliadin IgG Antibodies	<1 U/mL

Gastrointestinal Biopsy Findings of Autoimmune Enteropathy

A Review of 25 Cases

Ricard Masia, MD, PhD, Stephen Peyton, MBBS,† Gregory Y. Lauwers, MD,* and Ian Brown, MBBS, FRCPA†‡*

Am J Surg Pathol • Volume 38, Number 10, October 2014

- Protracted diarrhoea
- Small intestinal villous atrophy
- Lack of response to dietary therapy
- Evidence of autoimmunity (circulating autoantibodies to gut epithelium/associated autoimmune diseases)

Unsworth et al. J Pediatr Gastroenterol Nutr 4:375-380; 1985
Masia et al, AJSP 2014

Autoimmune enteropathy: a case study

Talia L. Fuchs[1], Jeffrey L. Engelman[2], Mark Tschuchnigg[1]

[1] *Australian Clinical Labs, Bella Vista, Sydney Australia*
[2] Gastroenterologist, *St George Private Hospital, Sydney Australia*

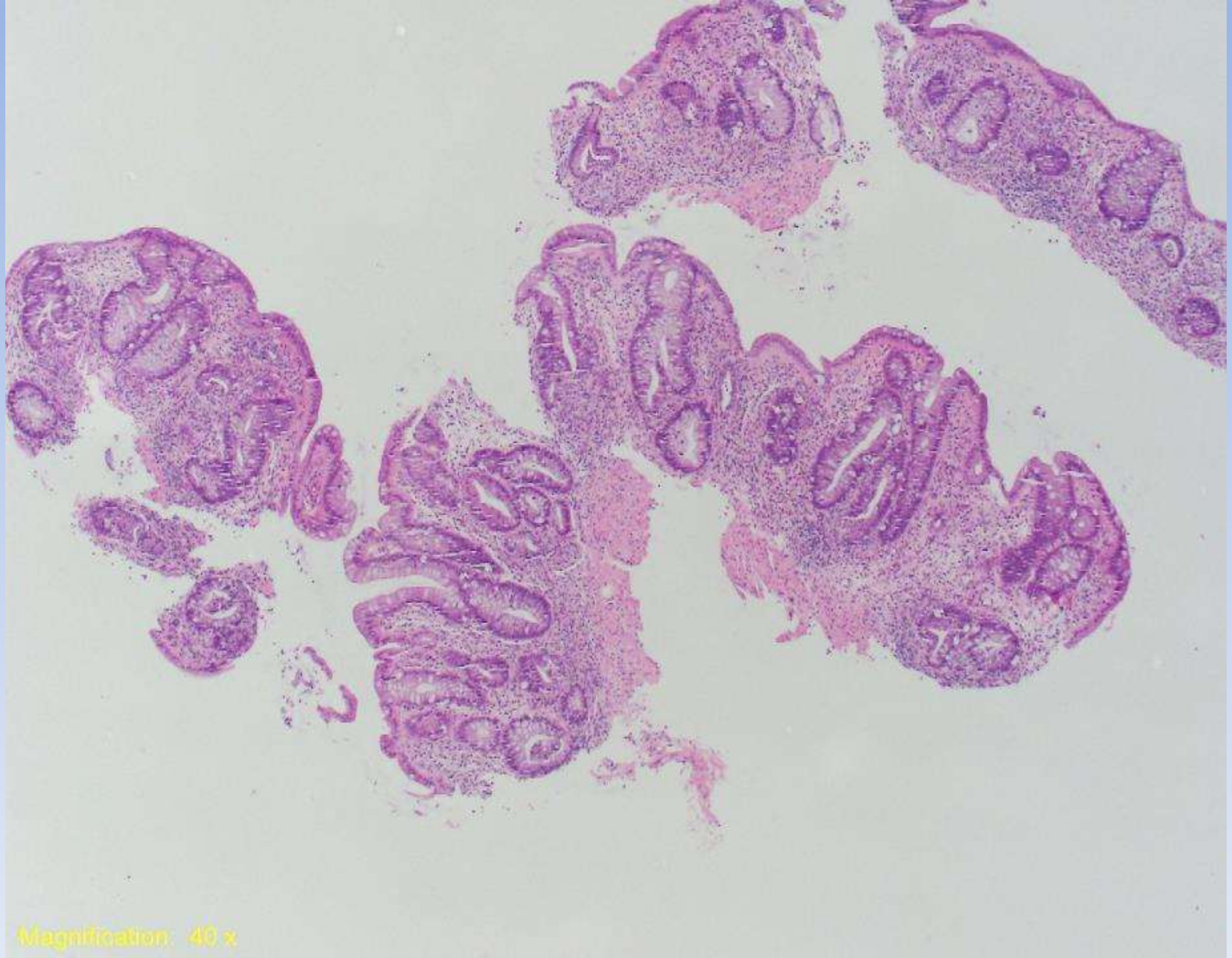
Figure 7: Anti-enterocyte IgG autoantibodies immunofluorescence 1:16 dilution (20x magnification). Image courtesy of A/Prof Lynette Moore, SA Pathology, Adelaide (2016).

Case 6. What's missing #2?

Male	31 years

CLINICAL DETAILS

Antrum (AUS30750). Duodenum. Terminal ileum. Random.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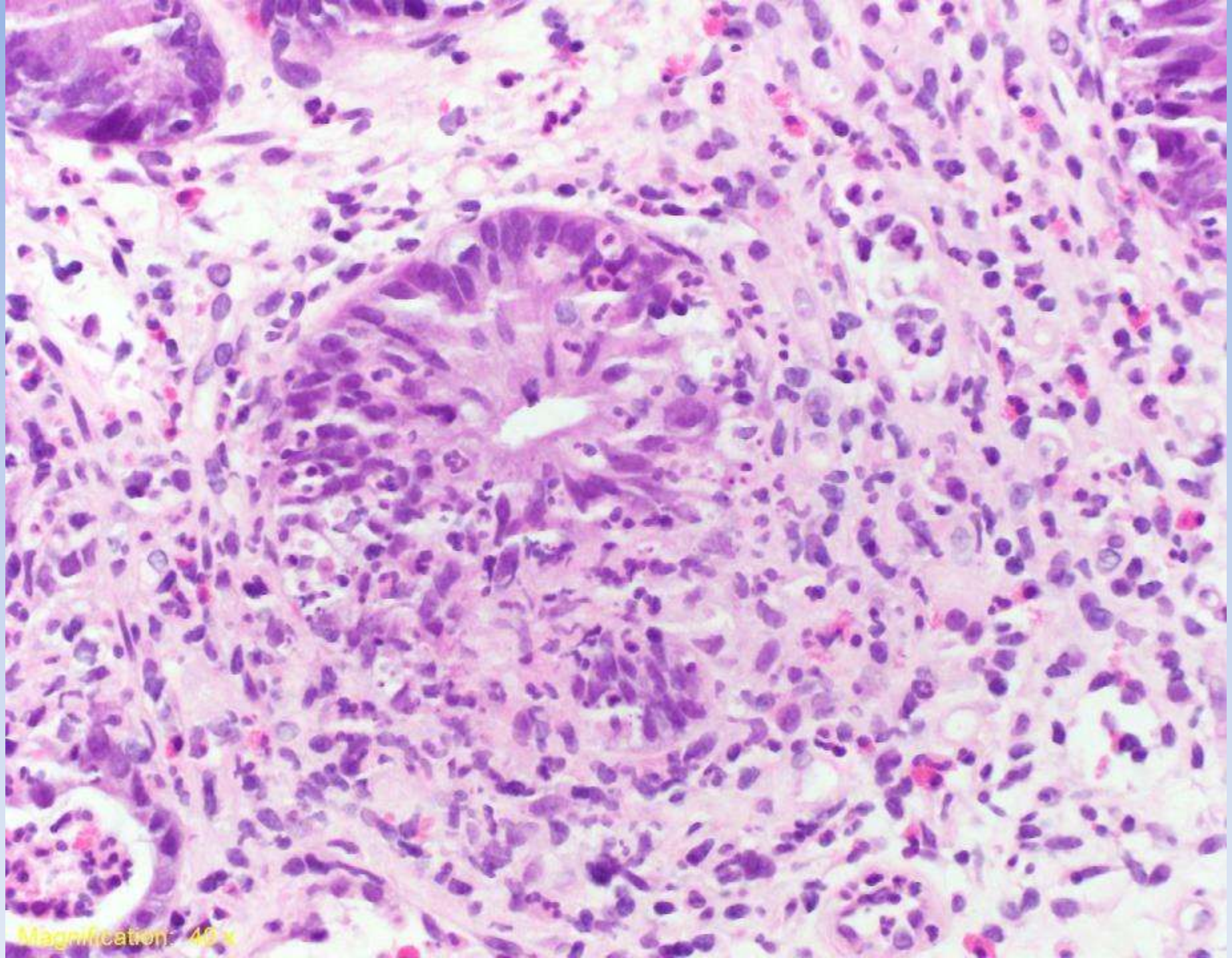
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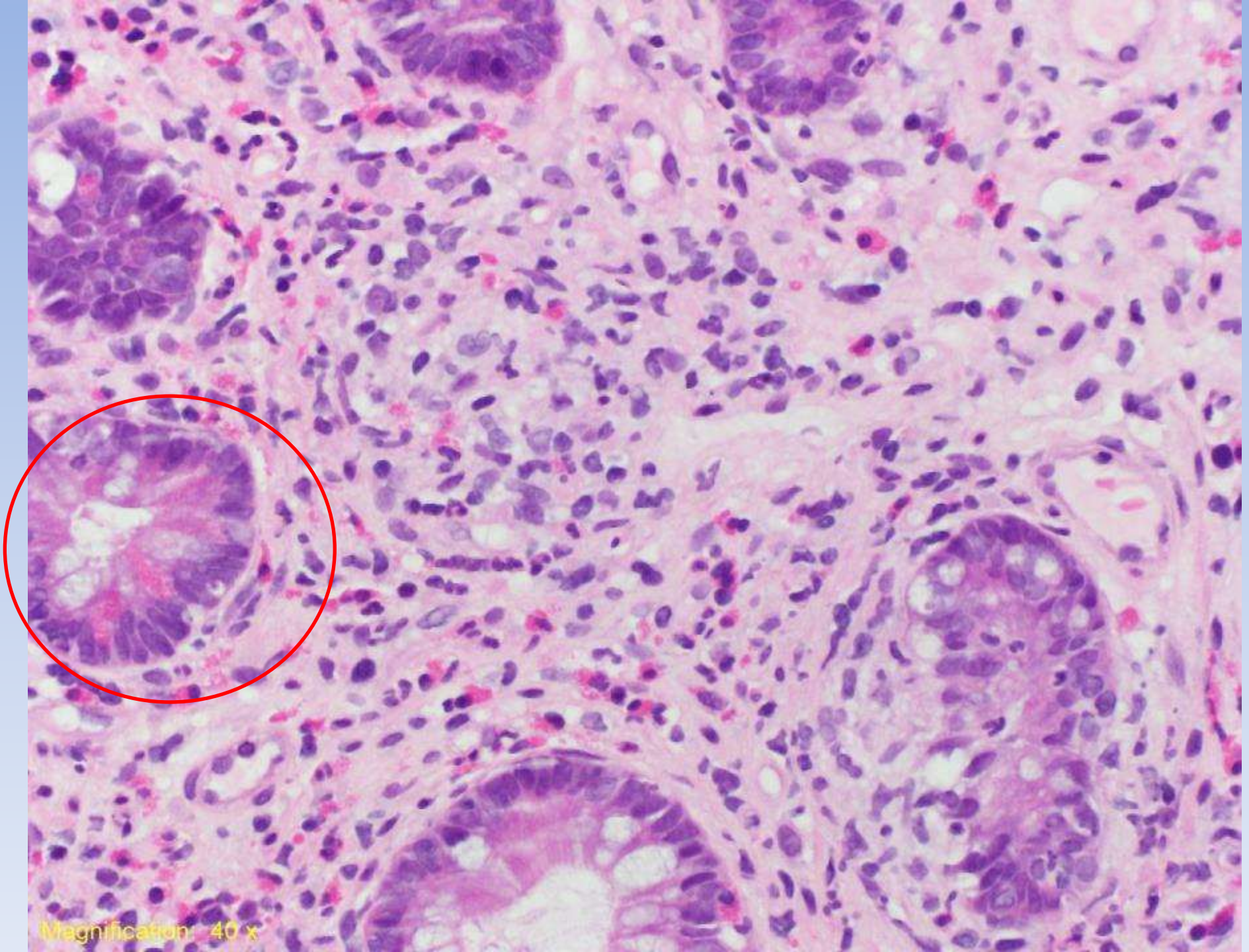
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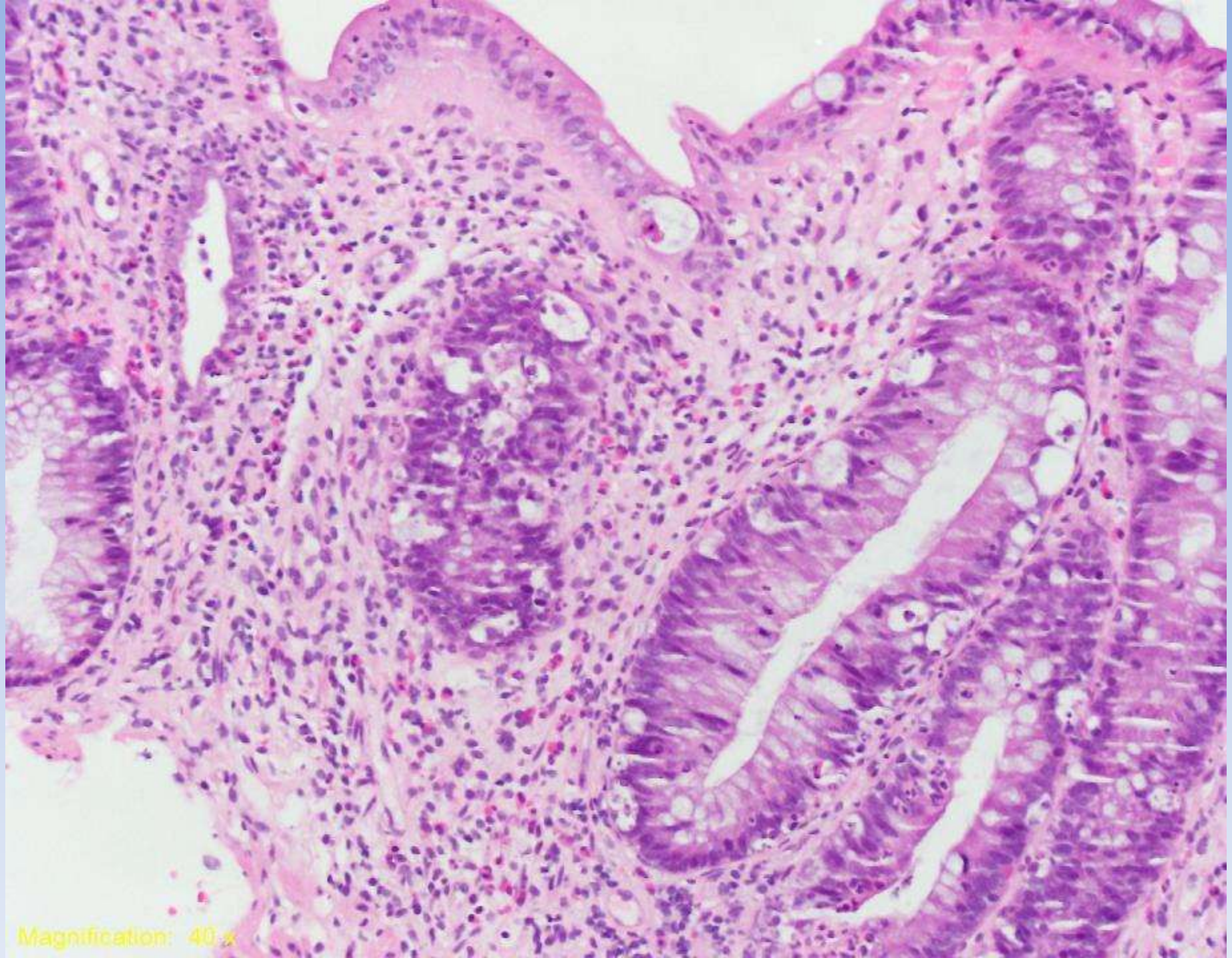
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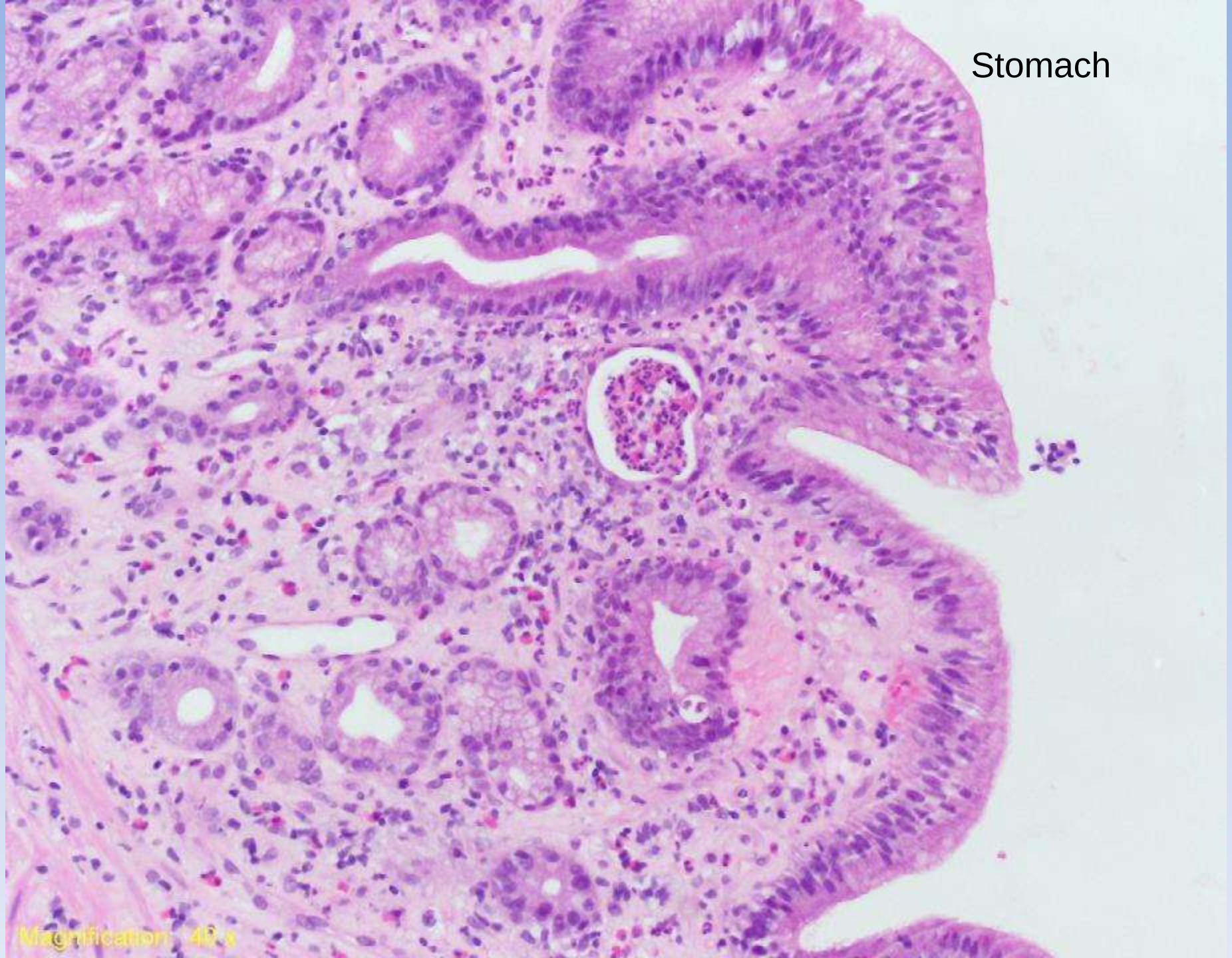
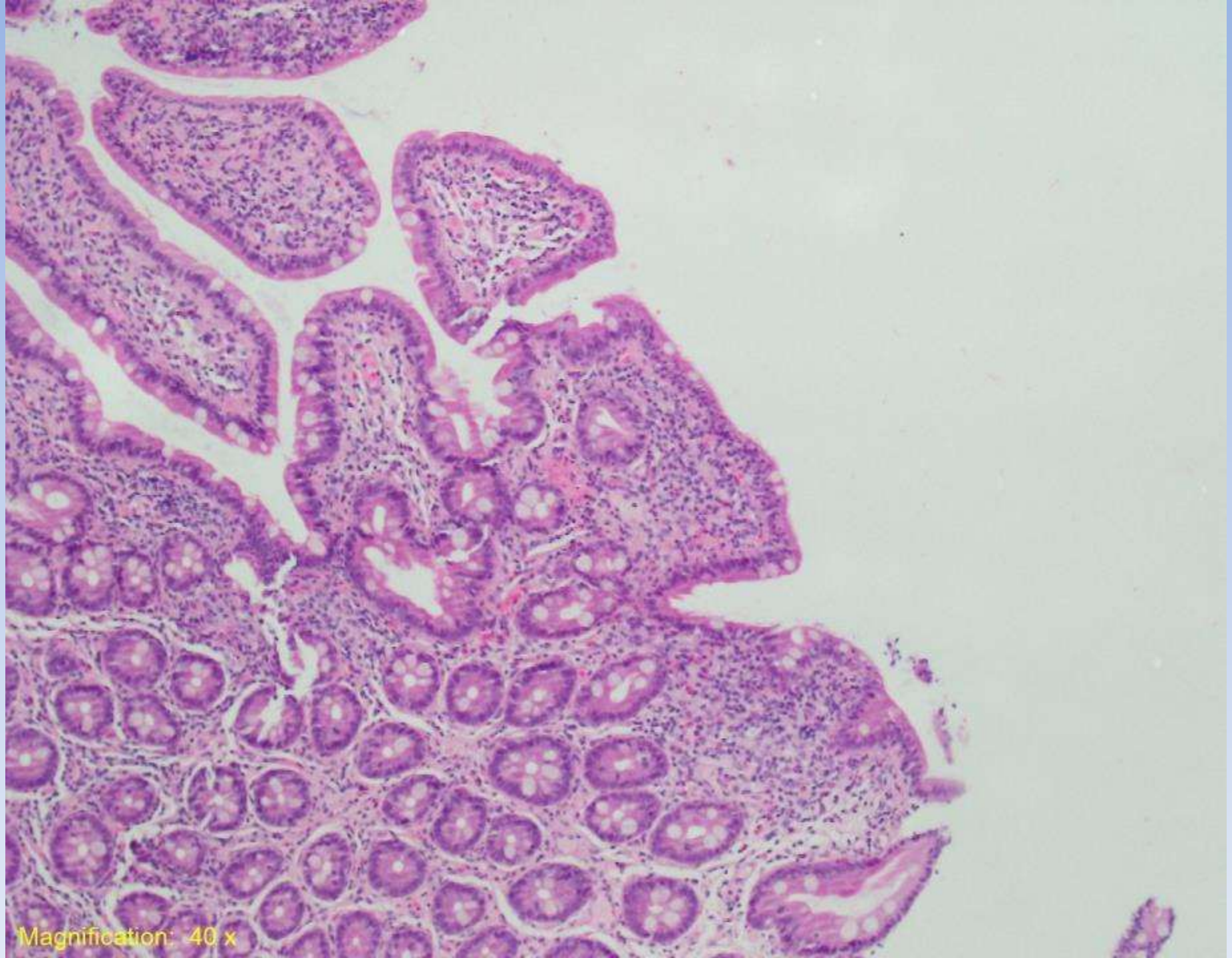
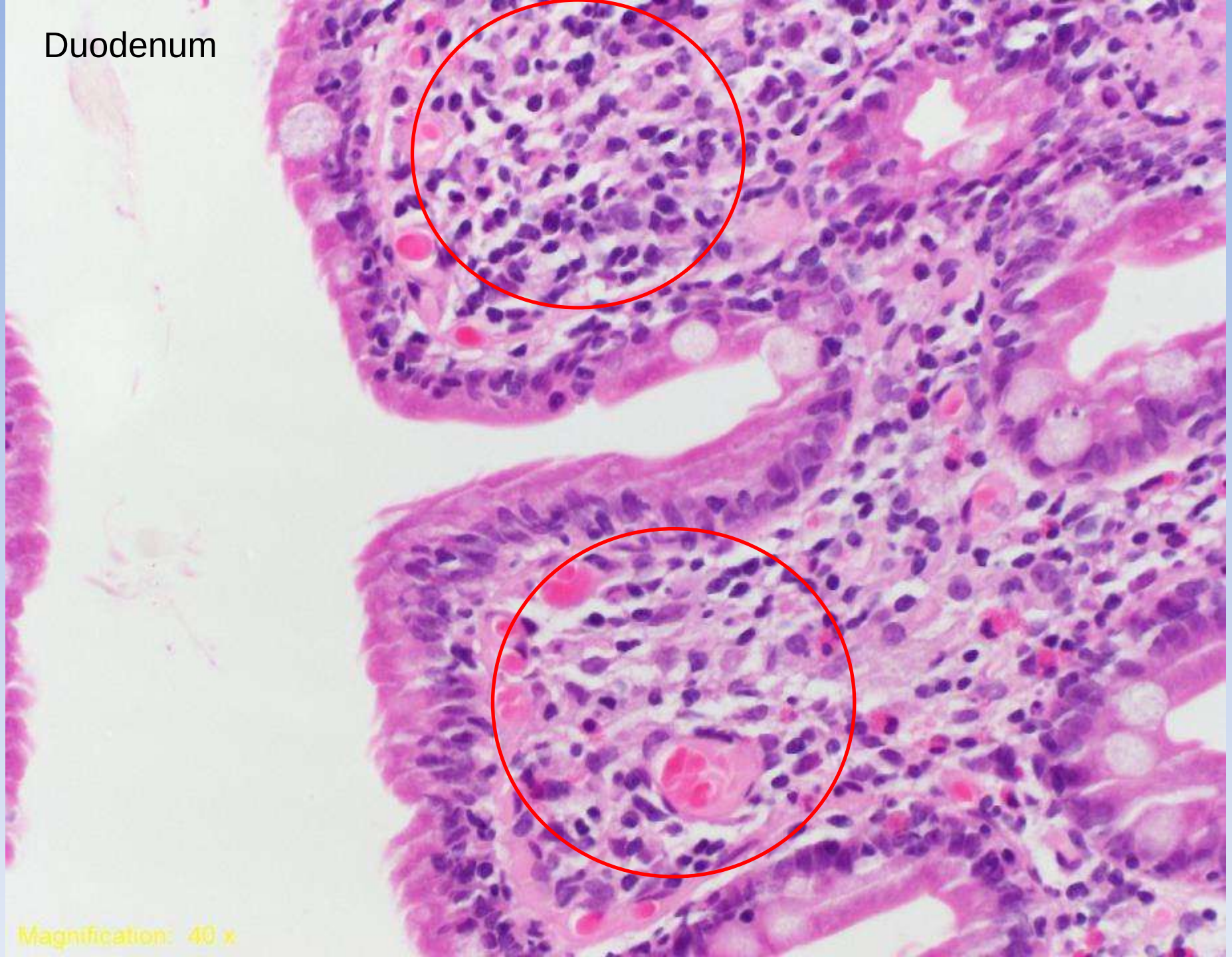
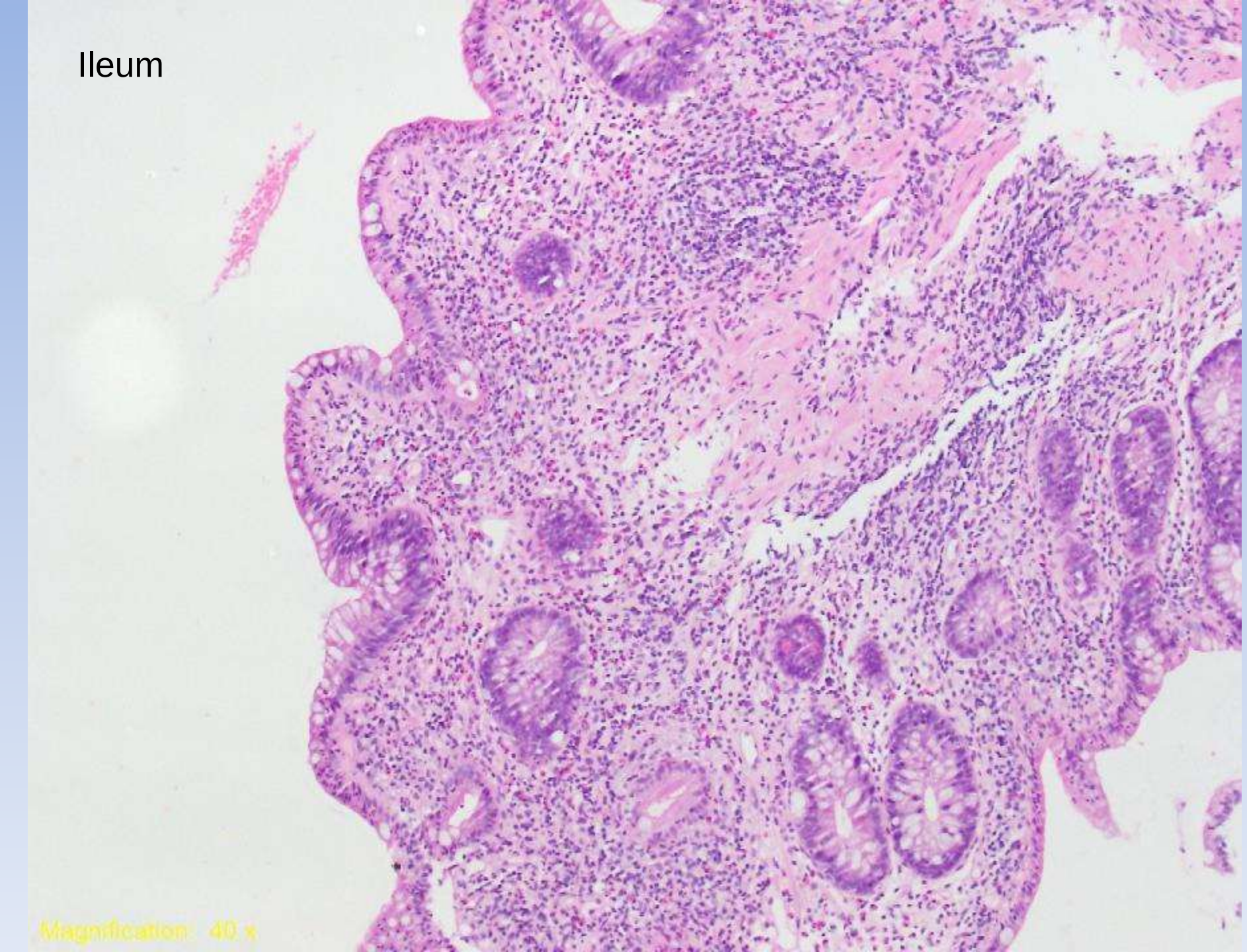

Stomach

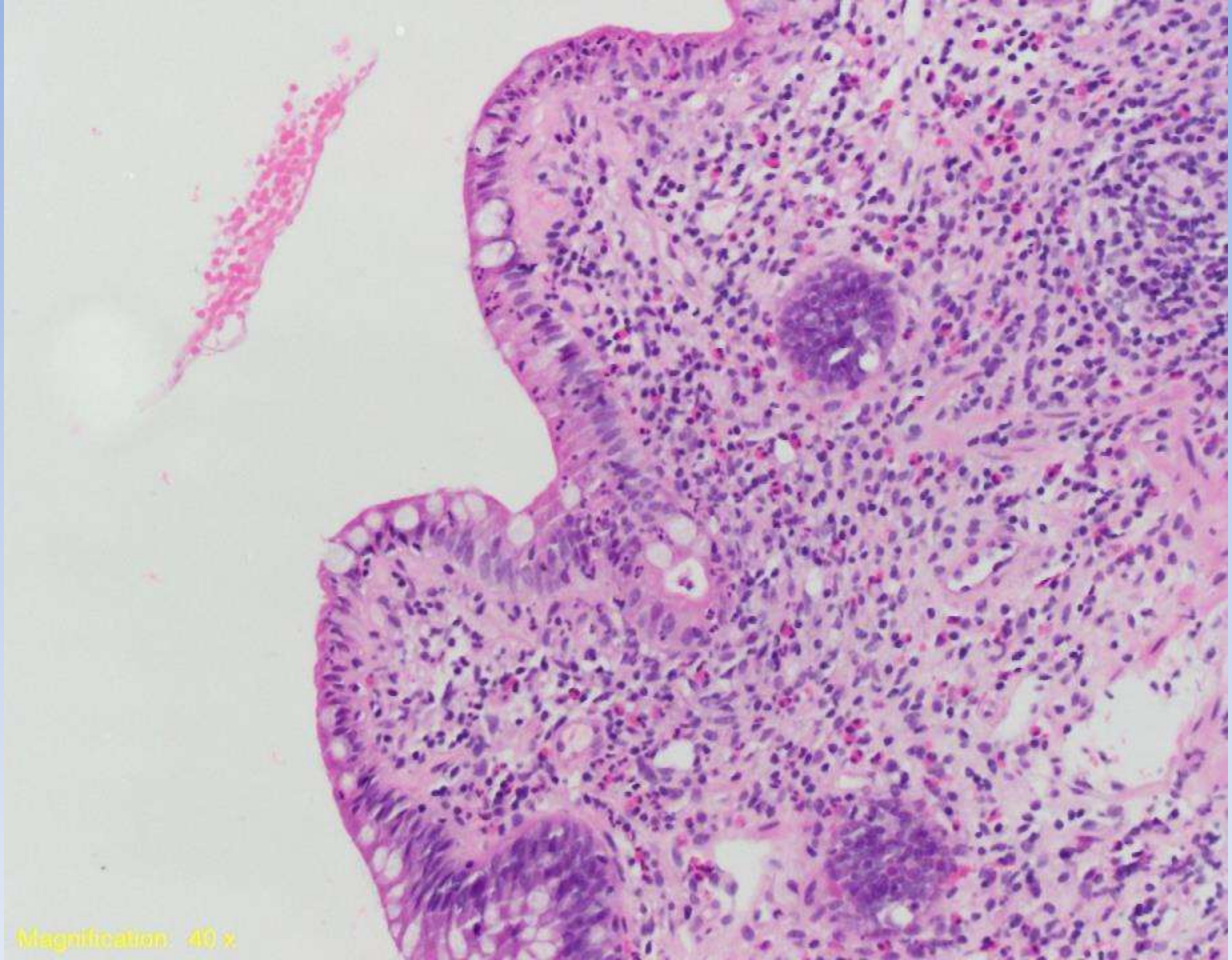

Magnification: 40 x

Duodenum



Ileum




Magnification: 40 x

Diagnosis

CVID

…….and recent c.jejuni infection

Am J Surg Pathol • Volume 31, Number 12, December 2007

Gastrointestinal Tract Pathology in Patients With Common Variable Immunodeficiency (CVID)

A Clinicopathologic Study and Review

Jason A. Daniels, MD, Howard M. Lederman, MD, PhD,† Anirban Maitra, MBBS,* and Elizabeth A. Montgomery, MD**

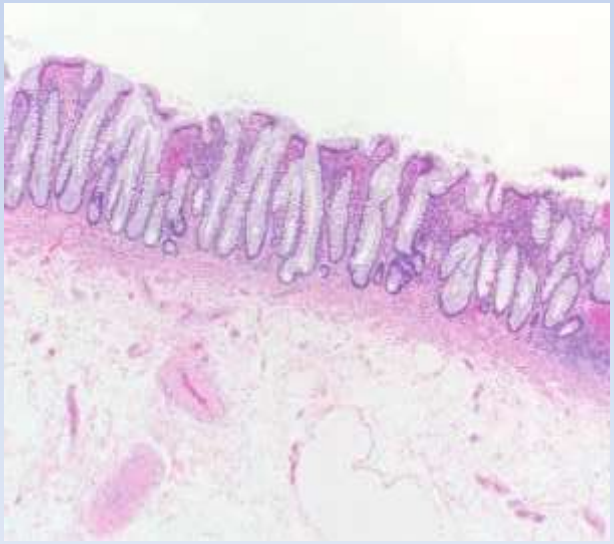
TABLE 2. Percentage of Patients Showing Histologic Abnormality

Histologic Findings	Esophagus	Stomach	Small Intestine	Colon	Appendix	Gallbladder
Decreased plasma cells	N/A	12/18 (67%)	13/19 (68%)	10/16 (63%)	1/1 (100%)	1/2 (50%)
Lymphoid aggregates	N/A	11/18 (61%)	9/19 (47%)	13/16 (81%)	0/1 (0%)	0/2 (0%)
Increased apoptosis	1/10 (10%)	6/18 (33%)	4/19 (21%)	8/16 (50%)	1/1 (100%)	0/2 (0%)
Intraepithelial lymphocytosis	5/10 (50%)	4/18 (22%)	12/19 (63%)	6/16 (38%)	0/1 (0%)	0/2 (0%)
Villous blunting*	N/A	N/A	10/12 (83%)	N/A	N/A	N/A
Collagenous pattern*	N/A	0/4 (0%)	0/12 (0%)‡	2/6 (33%)	N/A	N/A
Granulomas	0/10 (0%)	1/18 (6%)	2/19 (11%)	3/16 (19%)	0/1 (0%)	0/2 (0%)
Intraepithelial neutrophils	4/10 (40%)	8/18 (44%)	6/19 (32%)	14/16 (88%)	0/1 (0%)	1/2 (50%)
Crypt Distortion†	N/A	N/A	N/A	6/14 (43%)	0/1 (0%)	N/A
Infections†	4/4 (100%) Candida	2/8 (25%) CMV; 1/8 (13%) HP; 1/8 (13%) Crypto	1/19 (5%) CMV; 1/19 (5%) Crypto	1/14 (7%) CMV	0/0 (0%)§	0/1 (0%)
Cancer	0/10 (0%)	1/18 (6%) AdenoCA	0/19 (0%)	0/16 (0%)	0/1 (0%)	0/2 (0%)

*When accompanied by intraepithelial lymphocytosis.
†When accompanied by intraepithelial neutrophils.
‡A single case of small intestinal mucosa with a collagenous pattern occurred in a patient without an increase in intraepithelial lymphocytosis.
§A single case of *Cryptosporidium* was identified in an appendix without neutrophilic infiltrate.
Crypto indicates *Cryptosporidium*; HP, *H. pylori*.

Mimics of IBD

- Infections
- Drugs
- Autoimmune
- Other

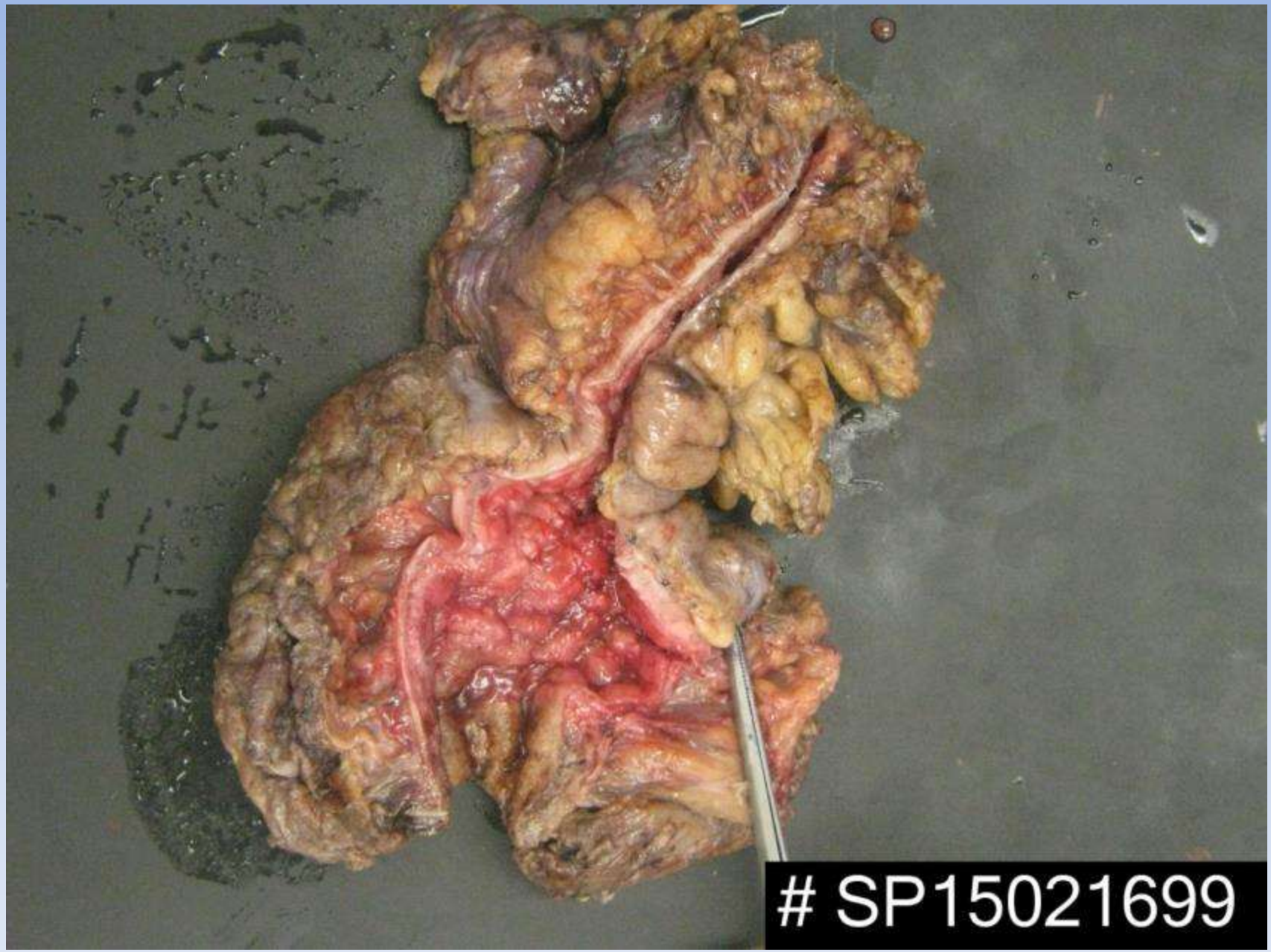


Top etiologic considerations of the chronic colitis pattern

- Diverticular disease
- Diversion colitis
- Therapeutics
  - NSAIDs
  - Resins
  - Ipilimumab
- Vascular injury
  - Ischaemia
  - Radiation
  - Vasculitis
- Autoimmune
  - Sarcoid
  - Common variable immunodeficiency
  - Chronic granulomatous disease
  - Vasculitis
- Infections
  - Stool pathogens
  - Cord colitis syndrome
  - Syphilitic and lymphogranuloma venereum colitis
  - Others

Case 7: Diversion colitis

- 33 year old man. History of ulcerative colitis.
- Completion proctectomy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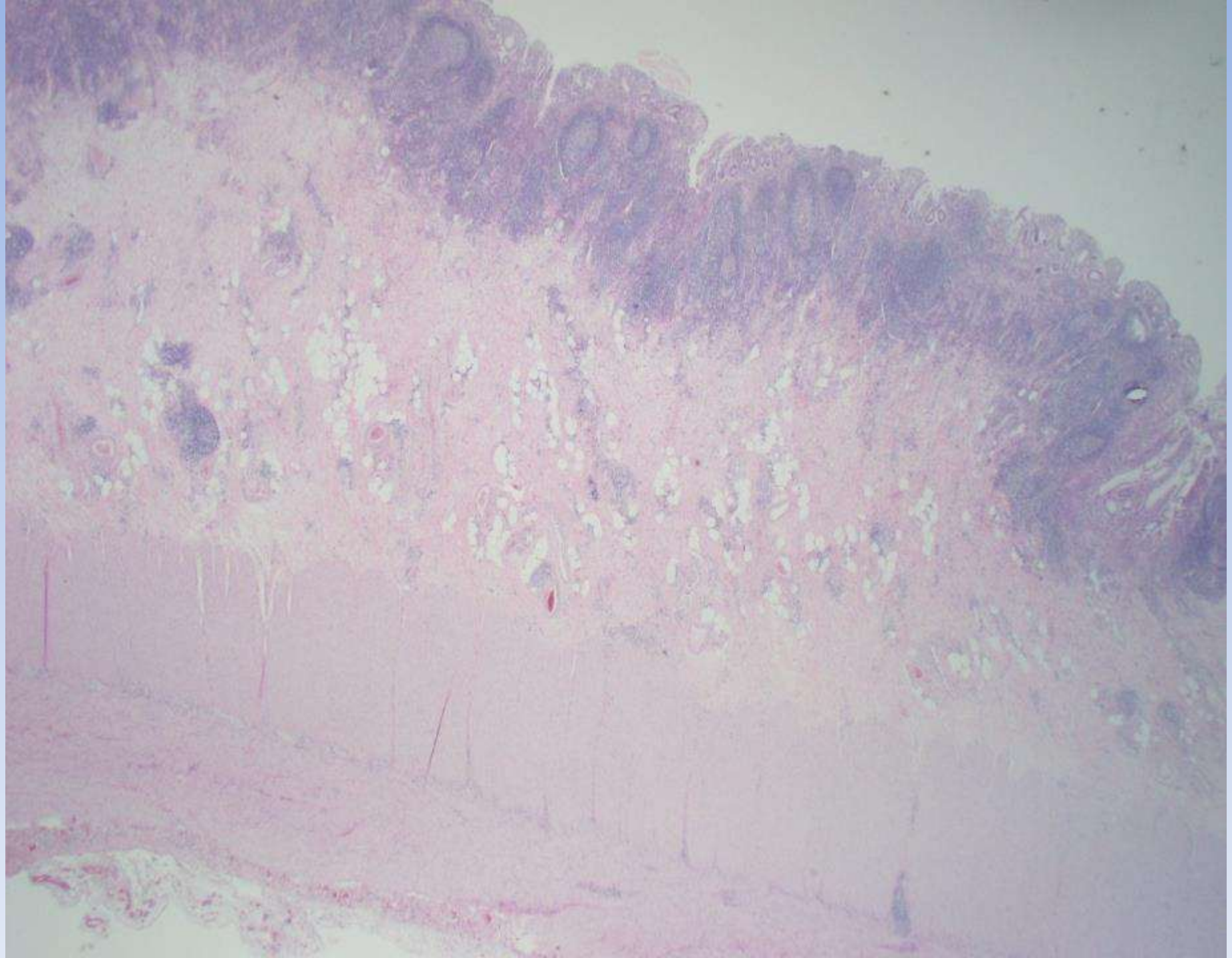
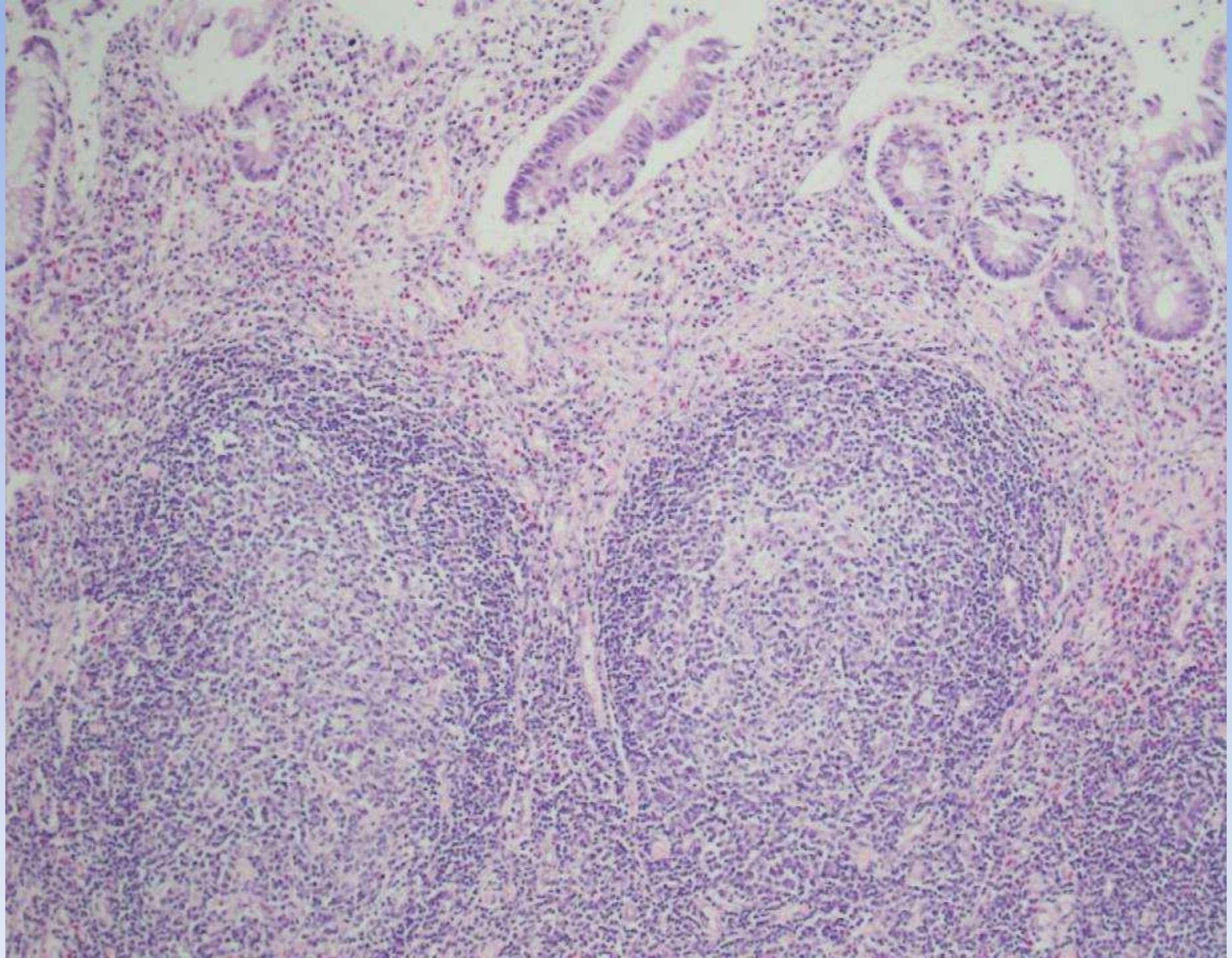
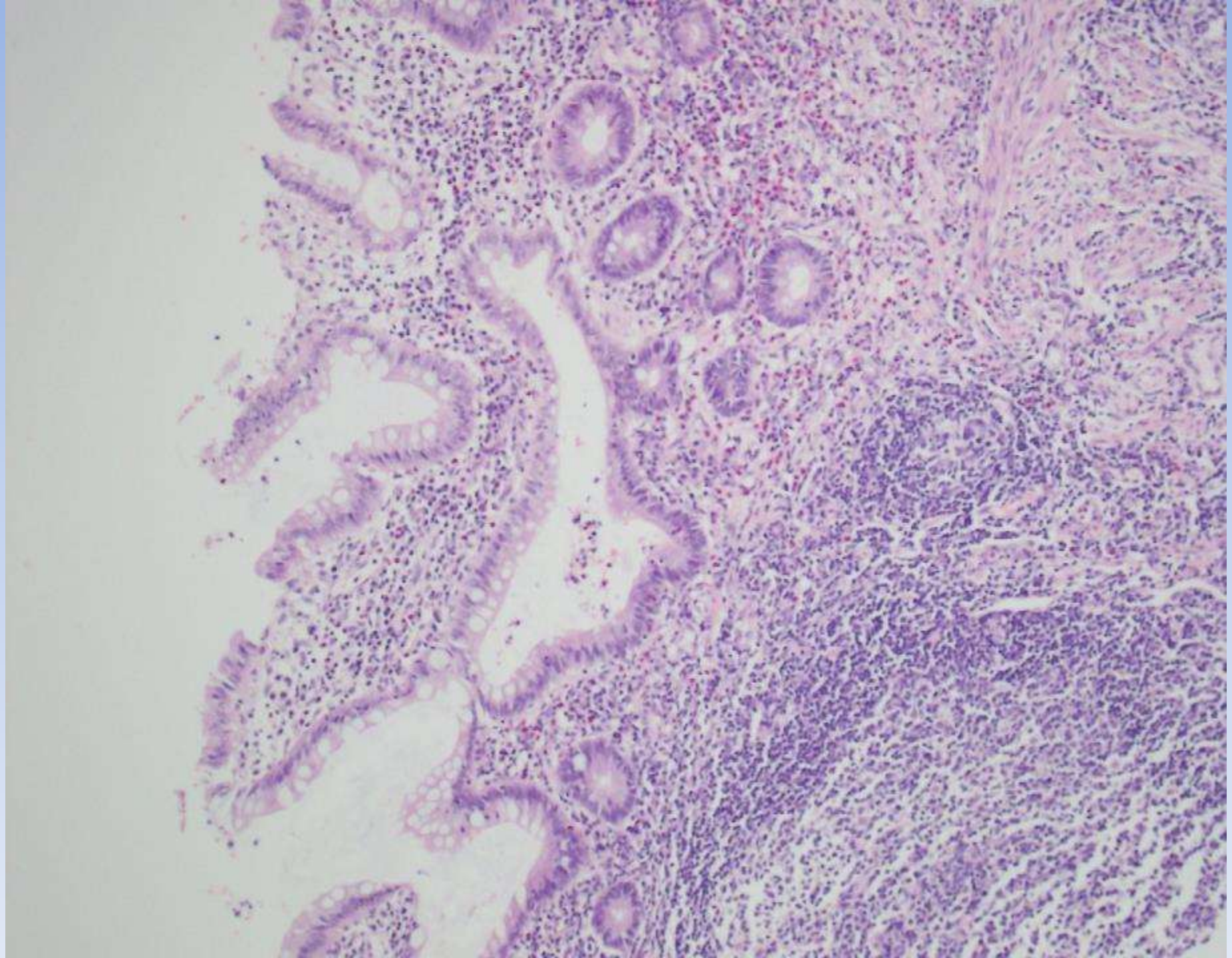
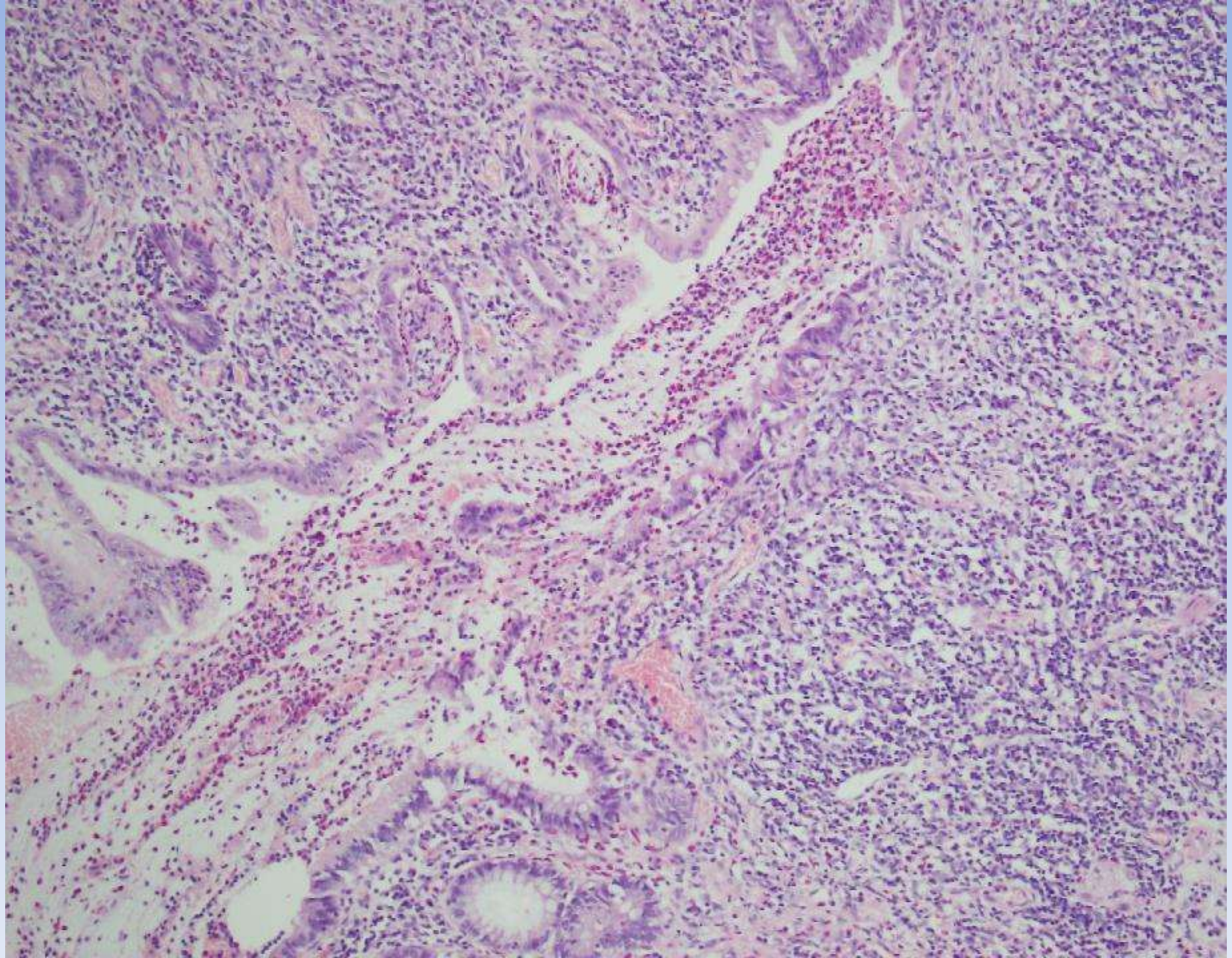








Diversion colitis vs UC

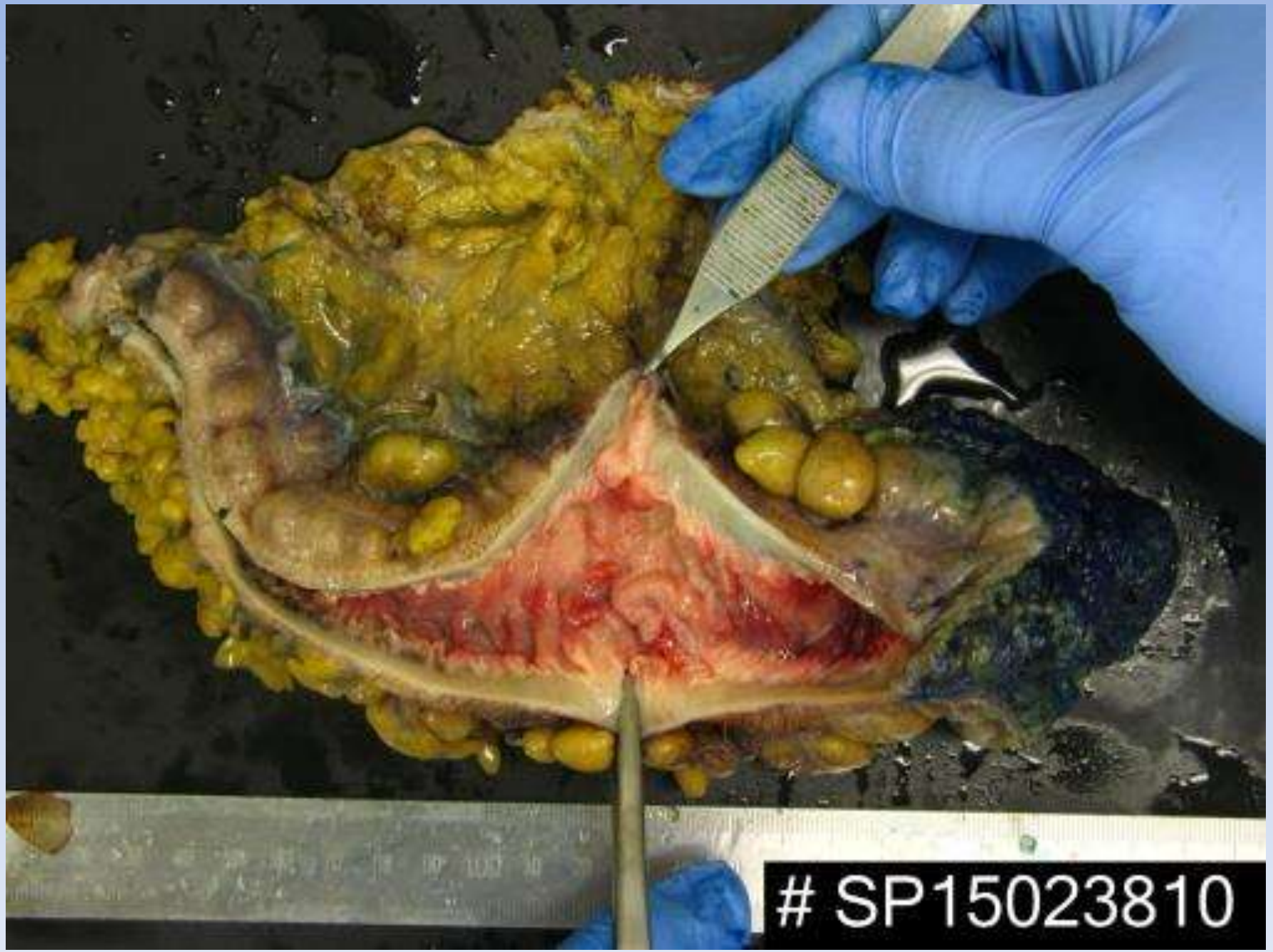
Feature	IBD of Pouch	Diversion Colitis
IBD mucosal changes	+	+
Crypt atrophy	+/–	++
Lymphoid hyperplasia	+/–	++
Diffuse disease	+/–*	++
Previous IBD rectum	+	–
Symptoms decreased on exclusion	+	–
Symptoms decrease on hookup	–	+
Ulcers	++	+/–
Focal mild patchy cryptitis	+	++

–, Absent; +, present.

Odze 2014

Case 8

- 68F
- Stage 3 breast cancer
- Recent colitis diarrhoea
- Colonoscopy + Bx -? diverticular associated colitis.
- Just affects sigmoid colon.
- Diverticular colitis?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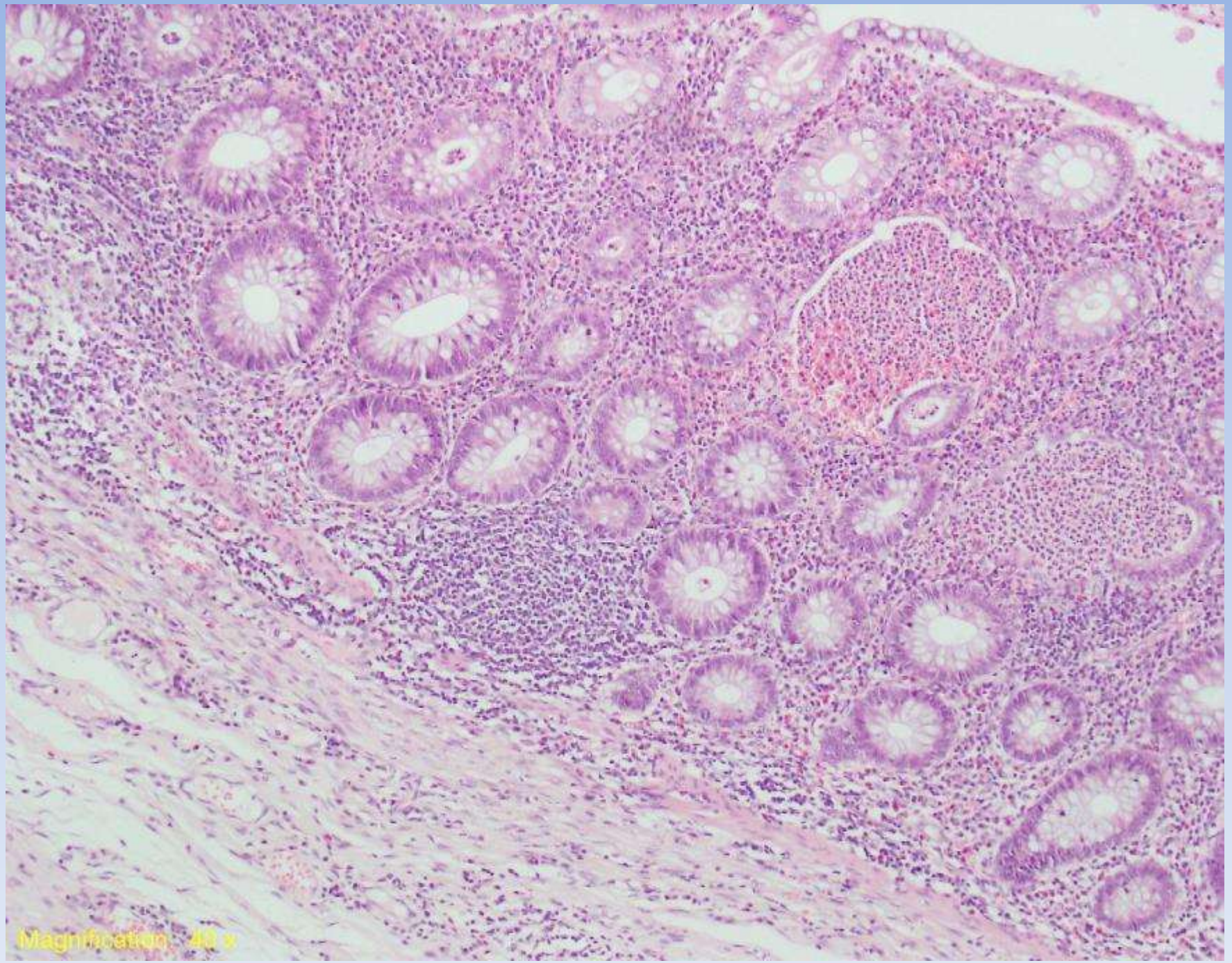
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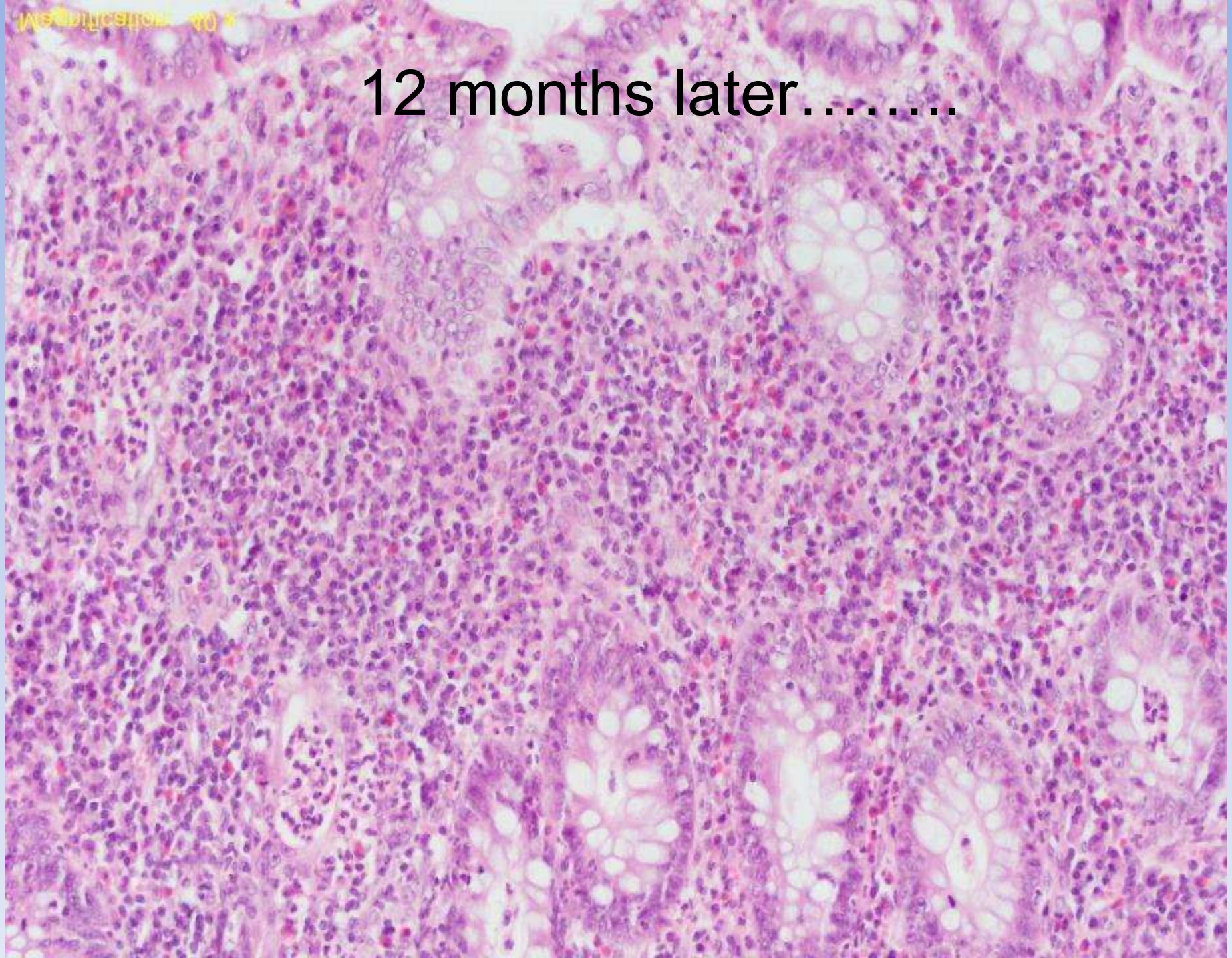

12 months later……..

Segmental colitis associated with diverticulosis: is it the coexistence of colonic diverticulosis and inflammatory bowel disease?

Annals of Gastroenterology (2017) **30,** 257-261

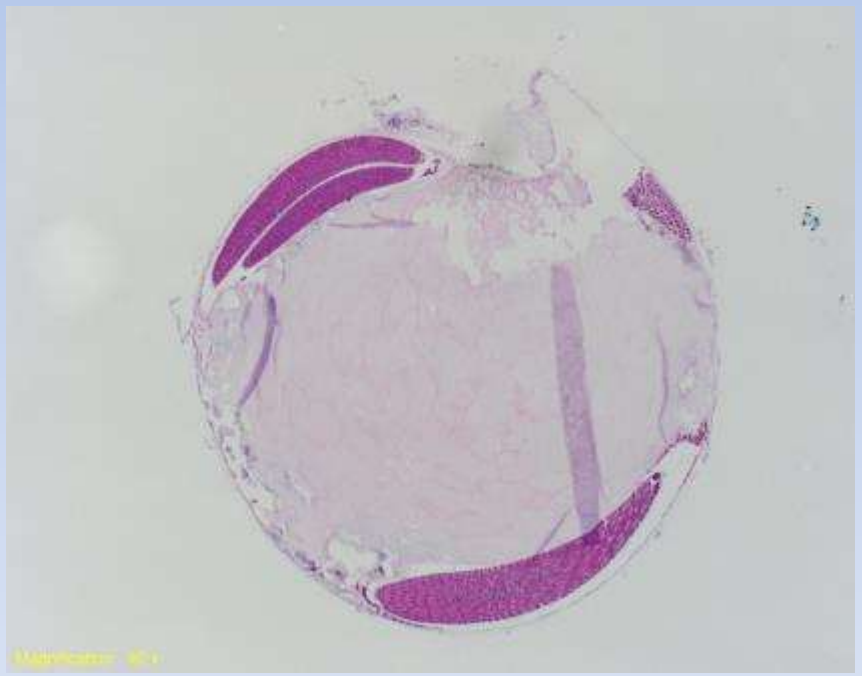
John Schembri[a], John Bonello[a], Dimitrios K. Christodoulou[b], Konstantinos H. Katsanos[b], Pierre Ellul[a]

- "SCAD"
- M>F, typically elderly
- UC and Crohn's like changes described
- Usually managed conservatively
- Reported to precede UC and Crohns

Case 9

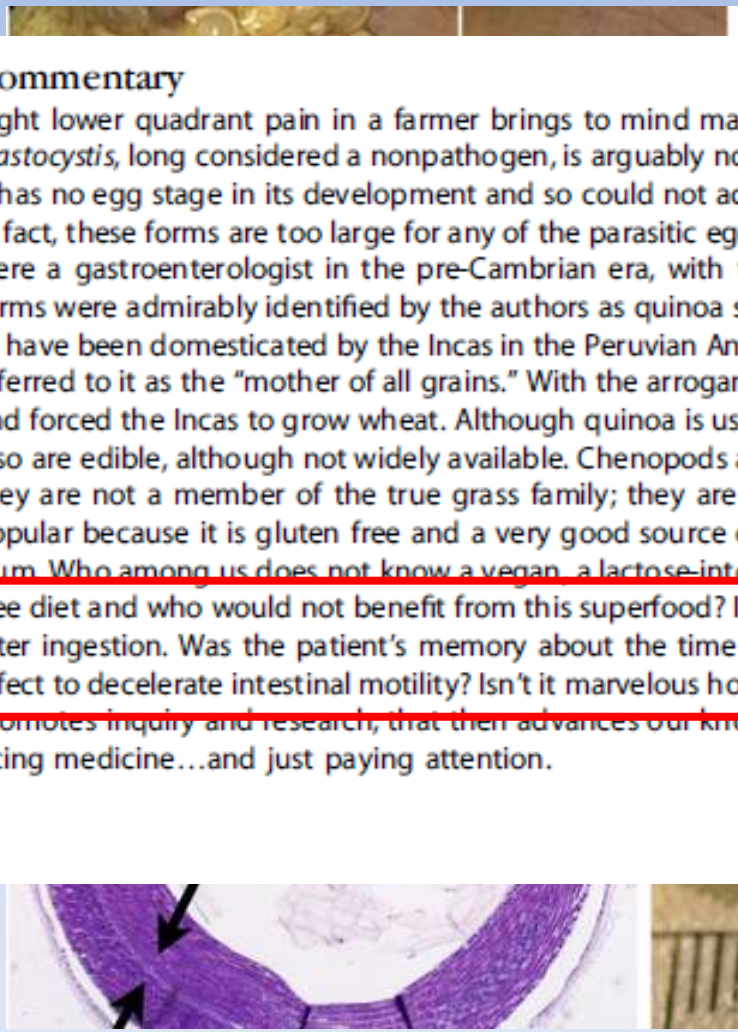
CLINICAL DETAILS

Unusual cystic foreign bodies through (R) colon. ?Parasite.



Control

Pseudoparasitic appearance of undigested quinoa



Commentary

Right lower quadrant pain in a farmer brings to mind many occupational diseases, among which certainly are parasites. *Blastocystis*, long considered a nonpathogen, is arguably now being appreciated as capable of causing GI distress, although it has no egg stage in its development and so could not account for the egglike forms seen at colonoscopy in this patient. In fact, these forms are too large for any of the parasitic eggs we see in daily practice throughout the world; perhaps if one were a gastroenterologist in the pre-Cambrian era, with the larger species seen then, well…who knows. These egglike forms were admirably identified by the authors as quinoa seeds. Quinoa, a species of goosefoot (*Chenopodium*), is thought to have been domesticated by the Incas in the Peruvian Andes 3000 to 4000 years ago; they held the crop to be sacred and referred to it as the "mother of all grains." With the arrogance of conquerors, the conquistadors forbade quinoa cultivation and forced the Incas to grow wheat. Although quinoa is usually prized for its seeds, the green leaves of the quinoa growth also are edible, although not widely available. Chenopods are considered a pseudocereal rather than a true cereal because they are not a member of the true grass family; they are closely related to beetroot and spinach. Today, quinoa is very popular because it is gluten free and a very good source of protein and essential amino acids, magnesium, iron, and calcium. Who among us does not know a vegan, a lactose-intolerant person, or someone who is experimenting with a gluten-free diet and who would not benefit from this superfood? I am curious why the quinoa seeds were still present a week or 2 after ingestion. Was the patient's memory about the time of its ingestion flawed? Does quinoa have an as-yet-undefined effect to decelerate intestinal motility? Isn't it marvelous how observation of the unusual leads to speculation, which in turn promotes inquiry and research, that then advances our knowledge? One can learn so much about so many things by practicing medicine…and just paying attention.

Lawrence J. Brandt, MD
Associate Editor for Focal Points

Acknowledgments

- AGPS committee
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- C.Corte