

Infeksjoner i GI- tractus. Hva finner patologen?



Bakterier
Virus
Sopp
Protozoer (Encellet)
Helminter (parasitt-ormer)

GI- infeksjon

- Hyppig årsak i verden: morbiditet/mortalitet
- Hos pas. med nedsatt immun. / transpl.
- Reiseaktivitet

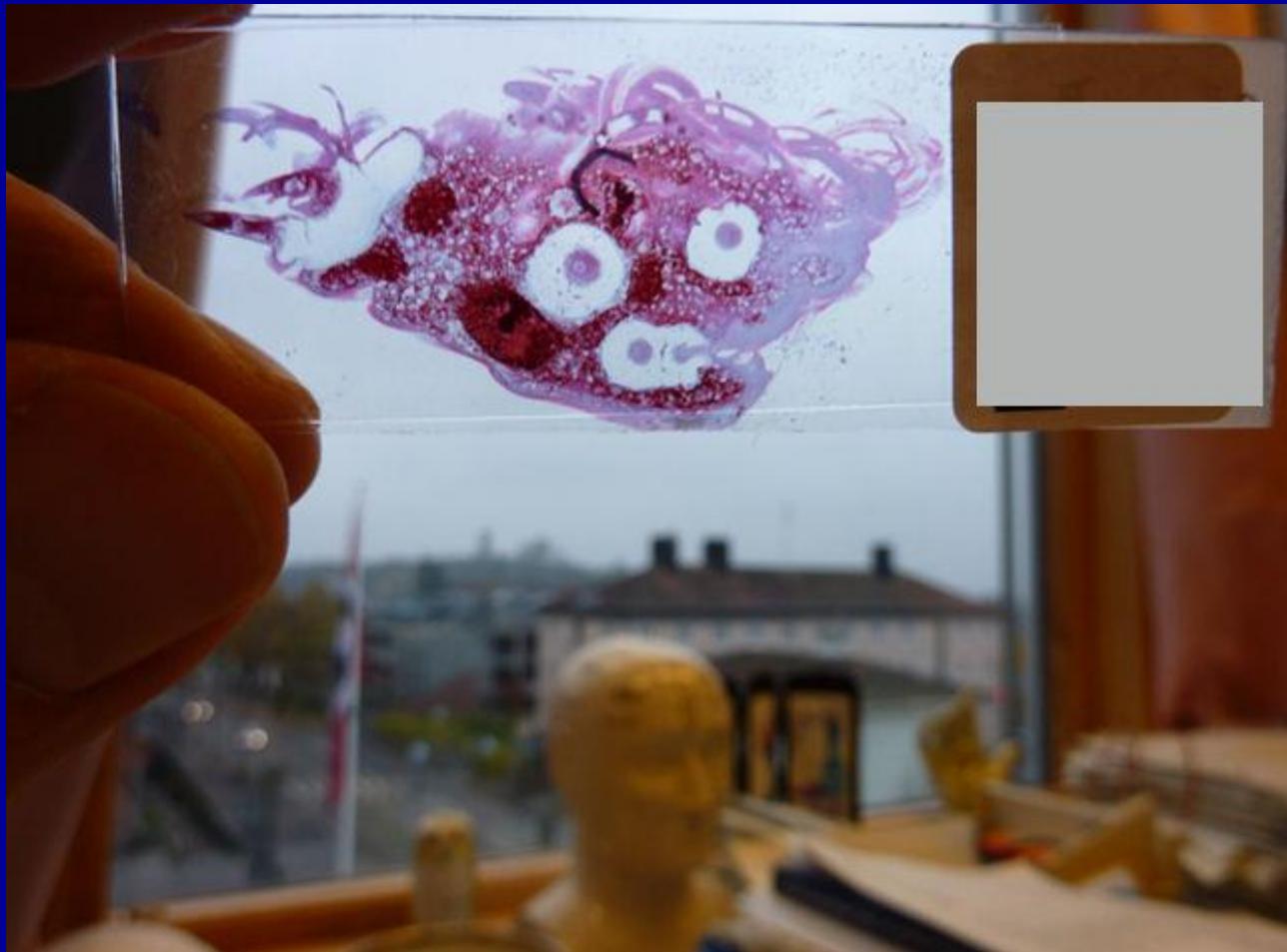
Patologer kan bl. a. skille:

Akutt, "selvbegrensende"

Kronisk (ulcerøs kolitt/ Mb. Crohn)

Finne organismen

Mikroskopi



Mikroskopi

- Rutine histologi/ cytologi/ spes.farver
Identifikasjon av patogenet
F. eks. Gardia, Amøbe, CMV, Sopp
Spesiell lesjon, for eks. ganulom
TBC, Yersinia
Immunhistokjemi, (In situ hybridisering,
PCR), EL
- Sykehistorie, viktig for oss:
Symptomer/ Skopifunn/ Reise/ Mat/ Immun.-

I Øsofagus/ Ventrikkel

- Sopp: Candida
 - Vanligste infeksjon/ ofte i ulcusområde
 - Invasiv candidiasis/ ved ulcer ventriculi
 - Hvitt belegg
- (PAS- farve: rød)



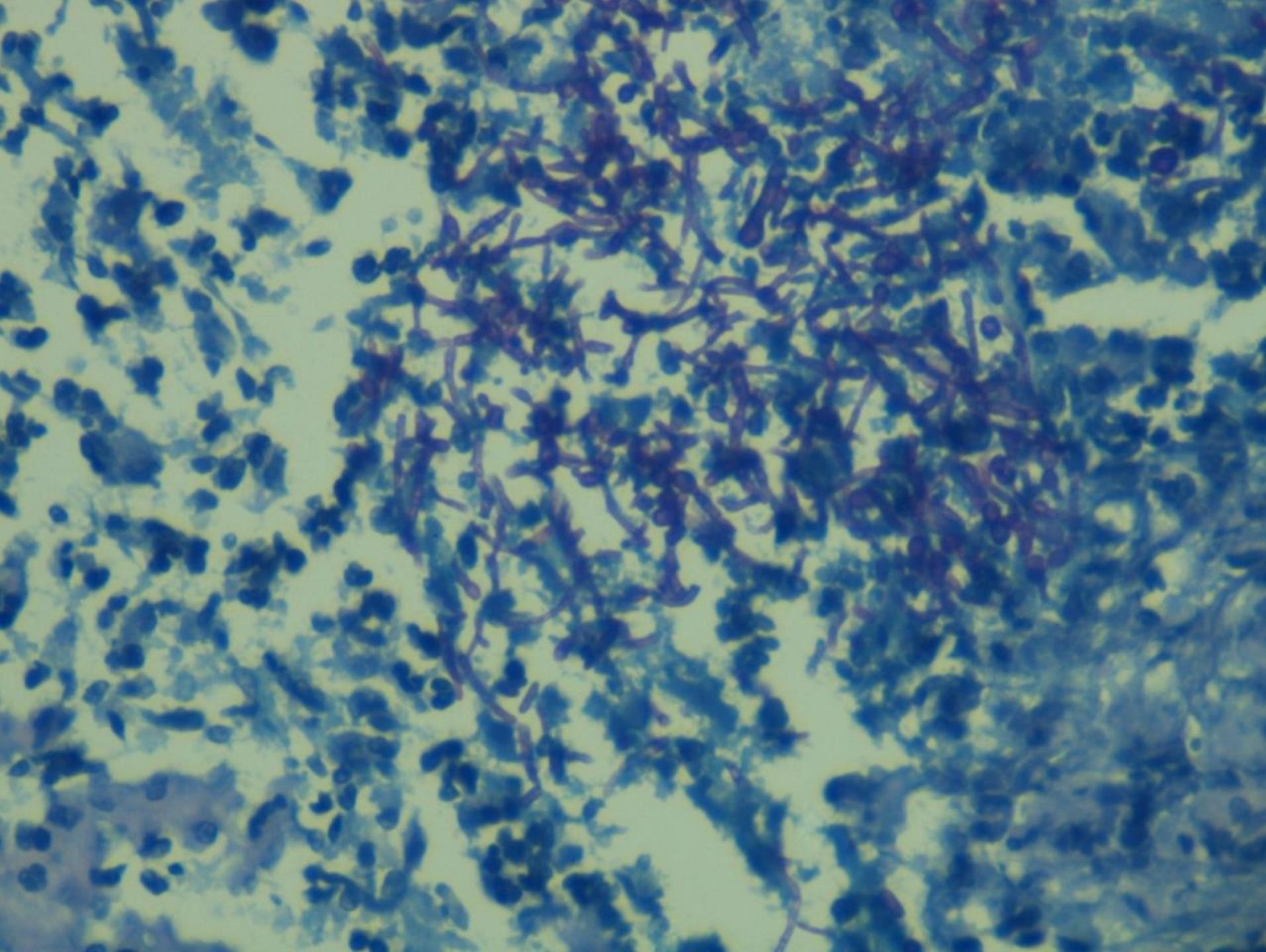
Sopp

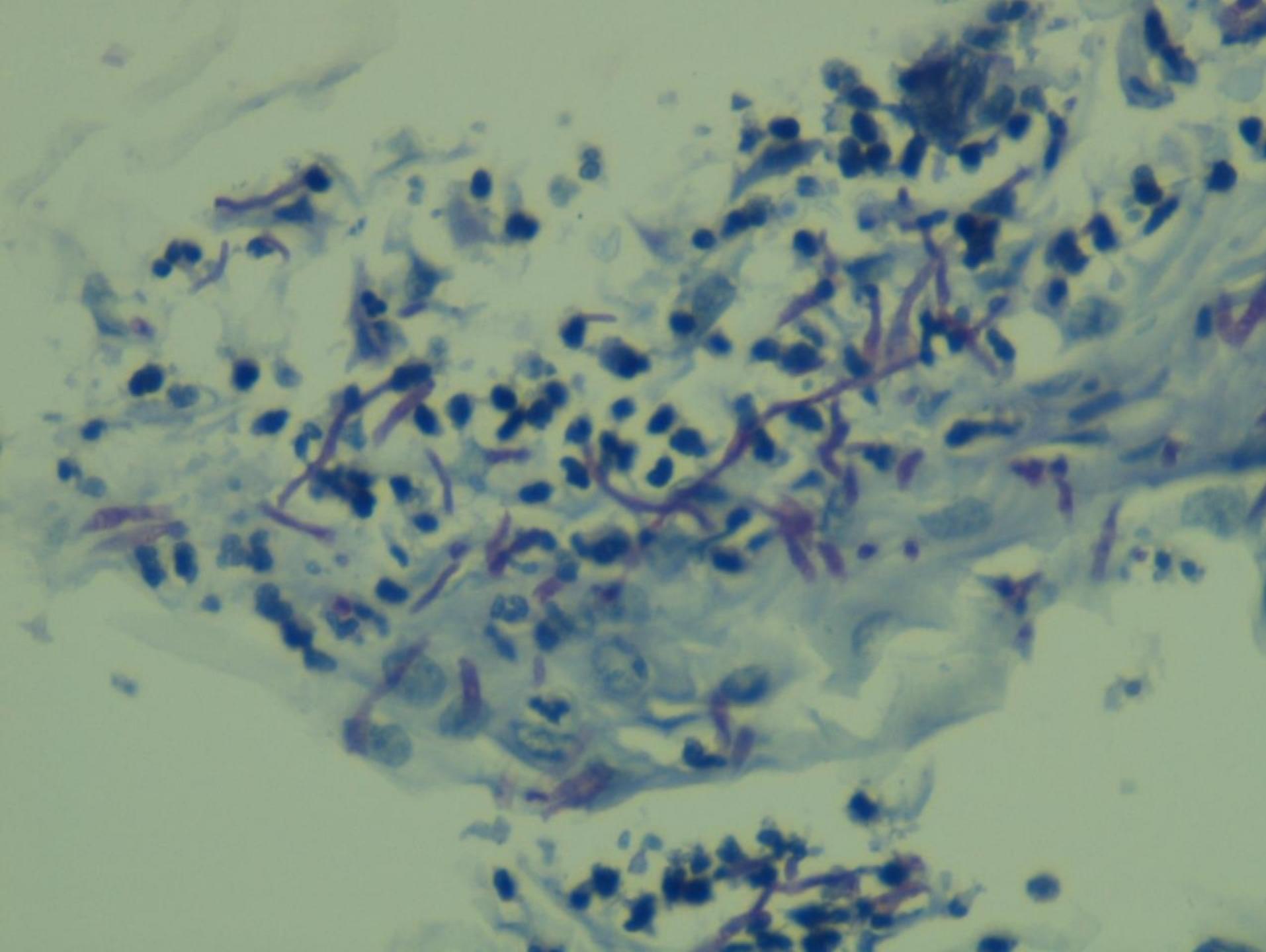


Candida



Aspergillus

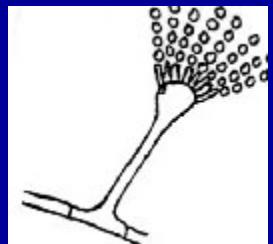




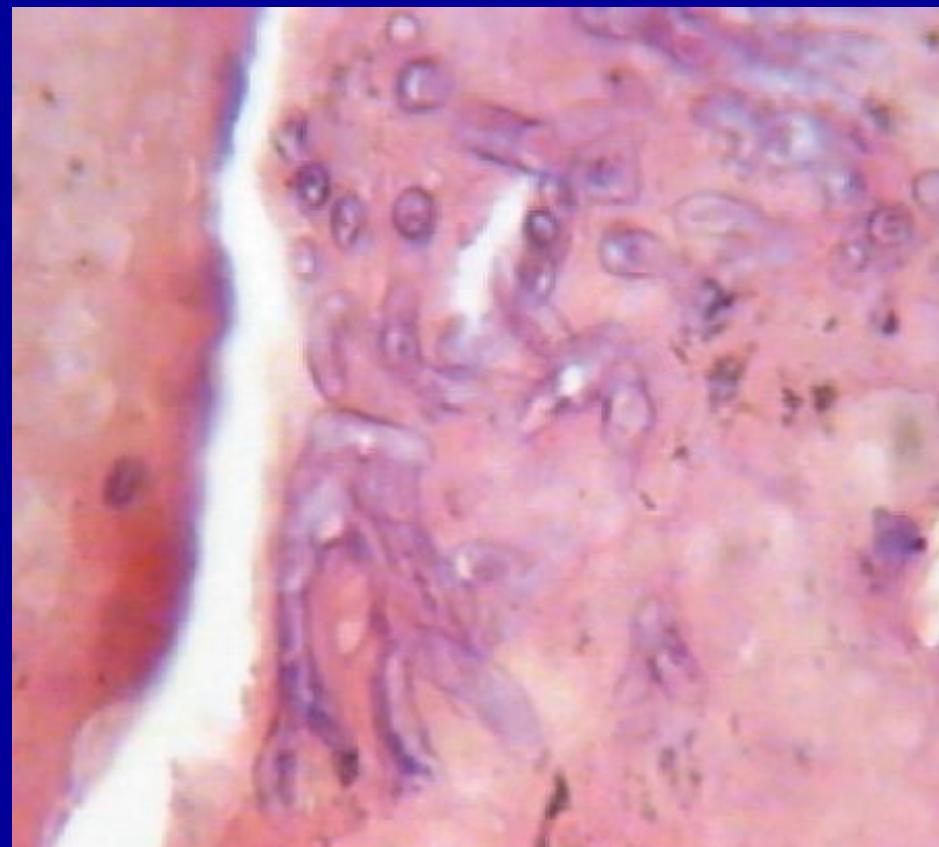
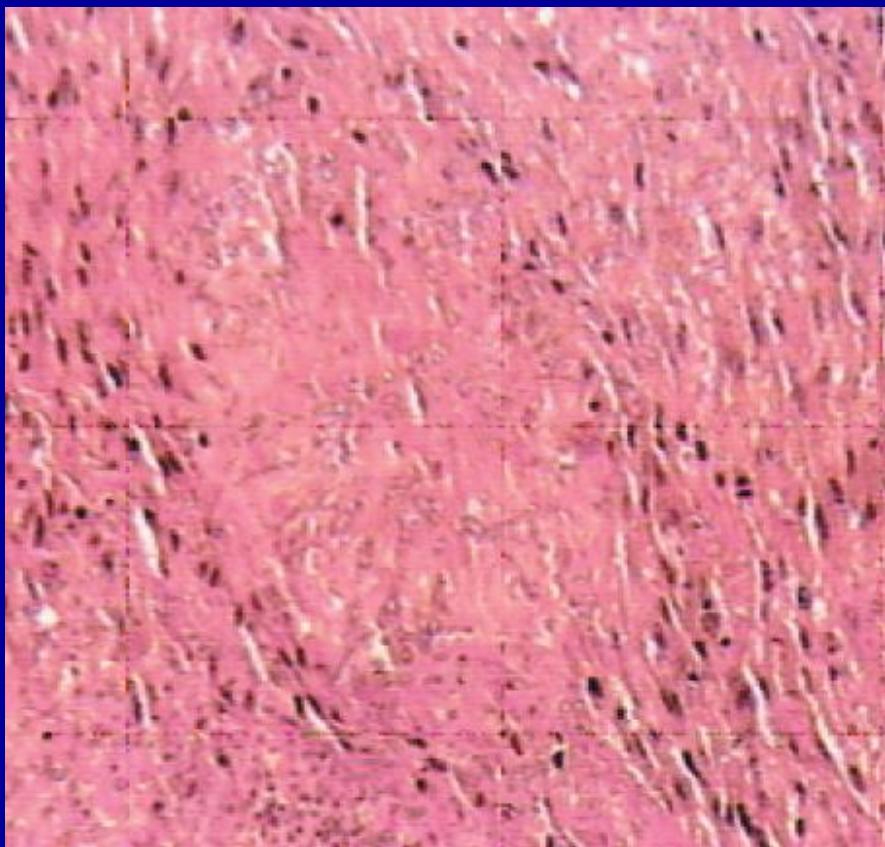
Asbergillose



Hos pas. med nedsatt
Immun.



Asbergillose



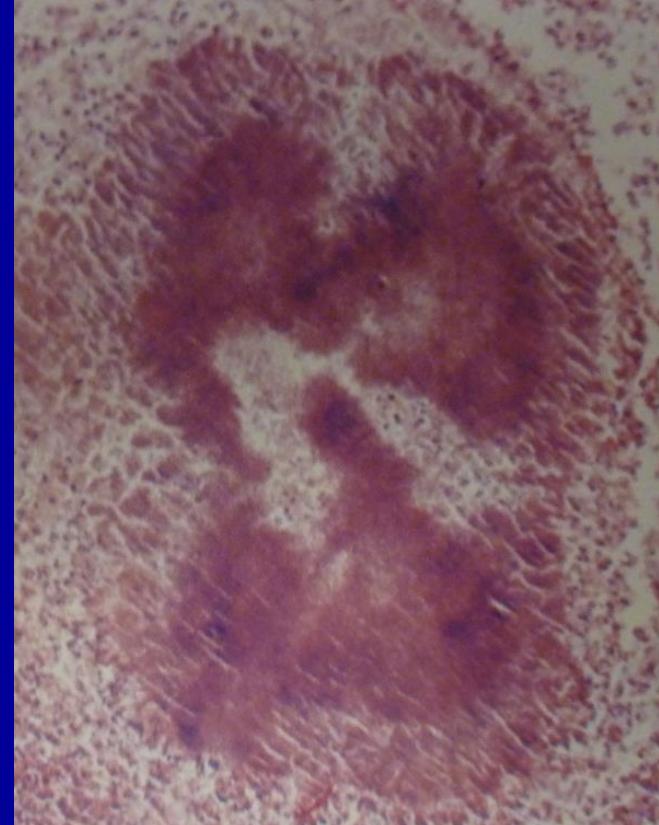
Actinomyces (Bakterie)

Likner på sopp
(Gram + anaerob bakterie)

Klinisk bilde:
Kan se ut som klinisk tumor!

"Sulfur"/ Sovelaktig

PAS + ("sopp"), Gram+ ("bakt.")



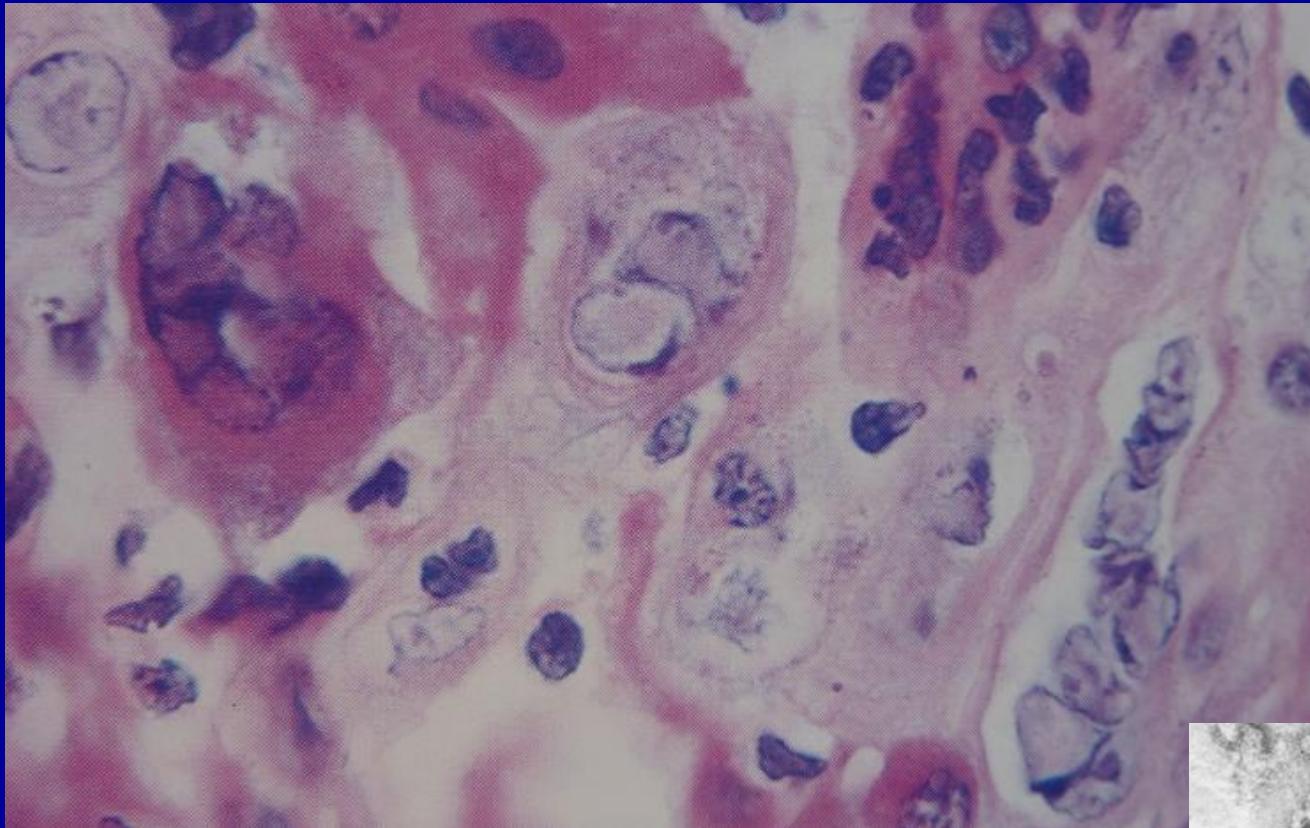
Herpes simplex

Hele GI-traktus/

vanligst øsofagus/ ano-rectum

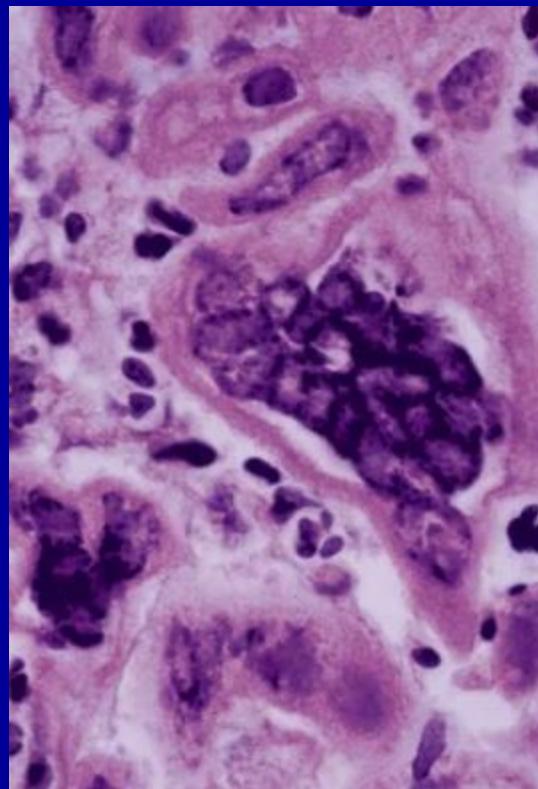
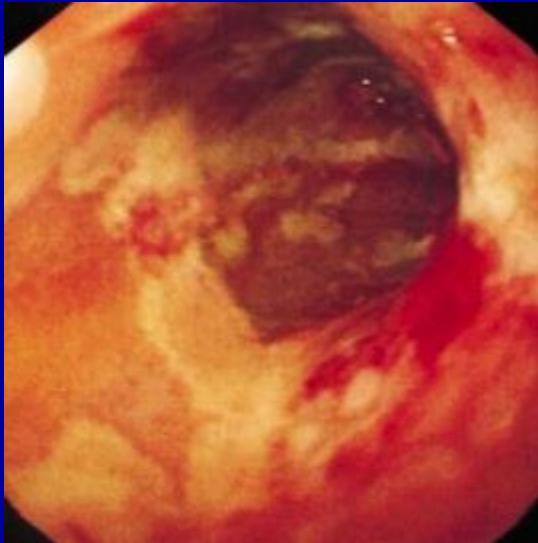
- Oftest hos immunsvekket pas.
Da, ofte generell/ livstruende
- Hos immunkompetente,
ofte selvbegensende
- Dysfagi, brystsmerter, oppkast, feber
I rutinesnitt, immunhistokjemi,
in situ hybridisering

Herpes- virus

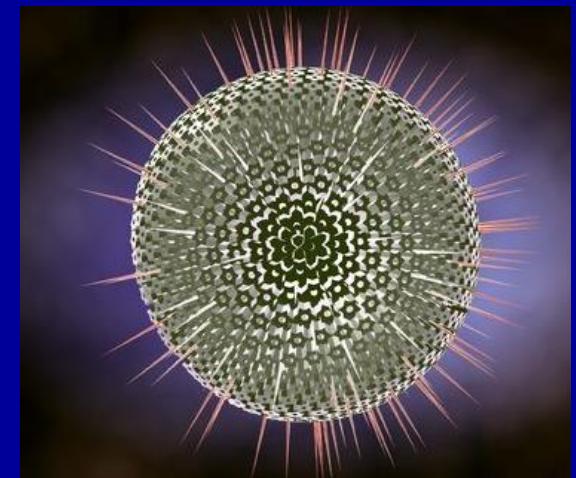


herpes virus virions

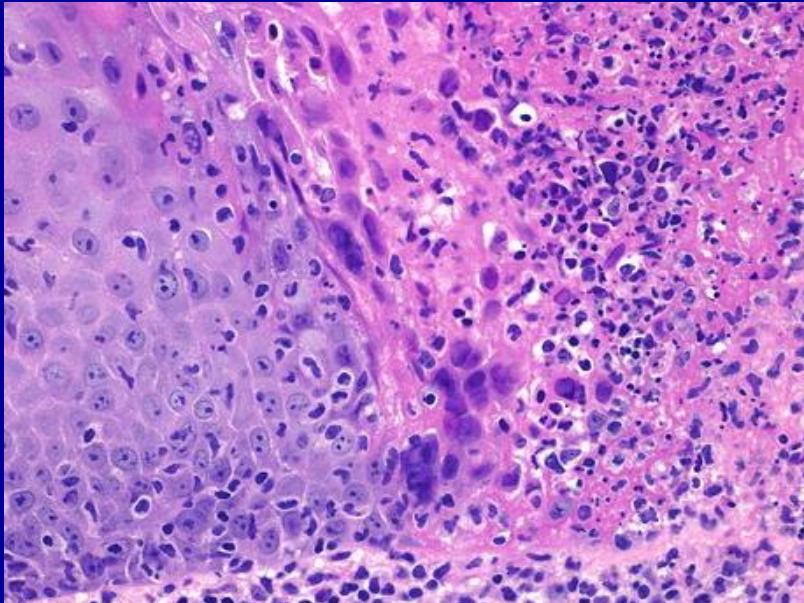
Herpes virus



Øsofagus

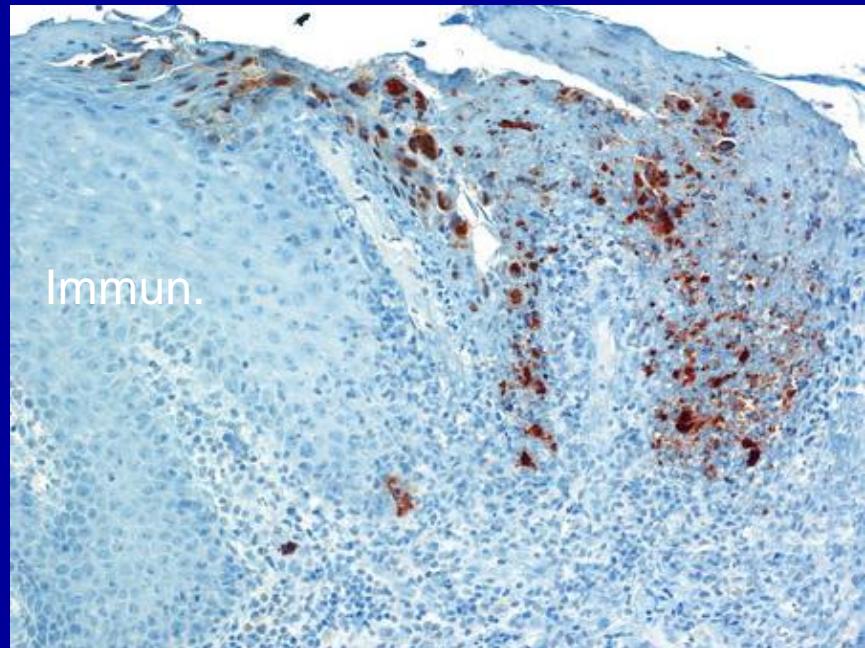


Herpesvirus



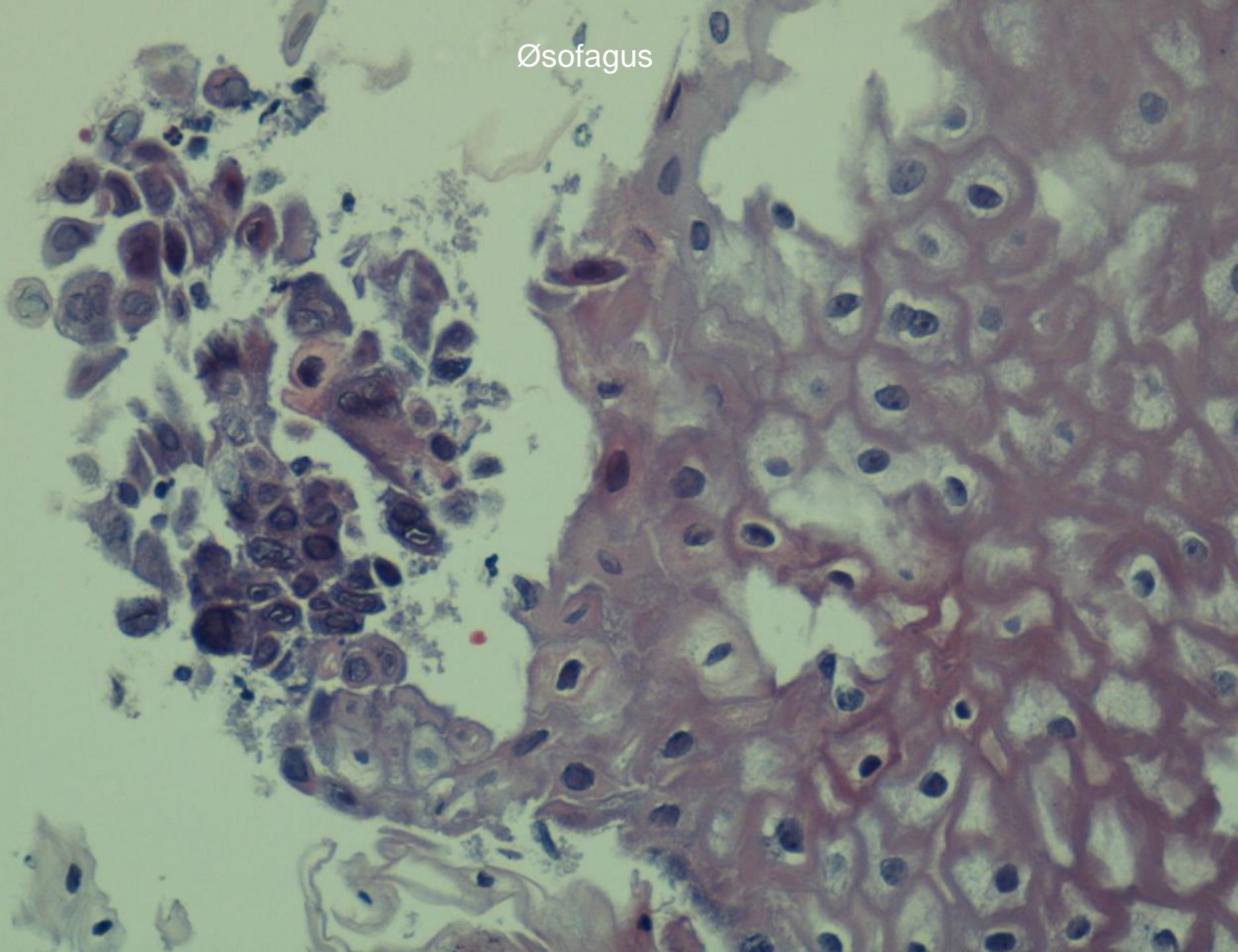
Øsophagus/ anal:
HPV

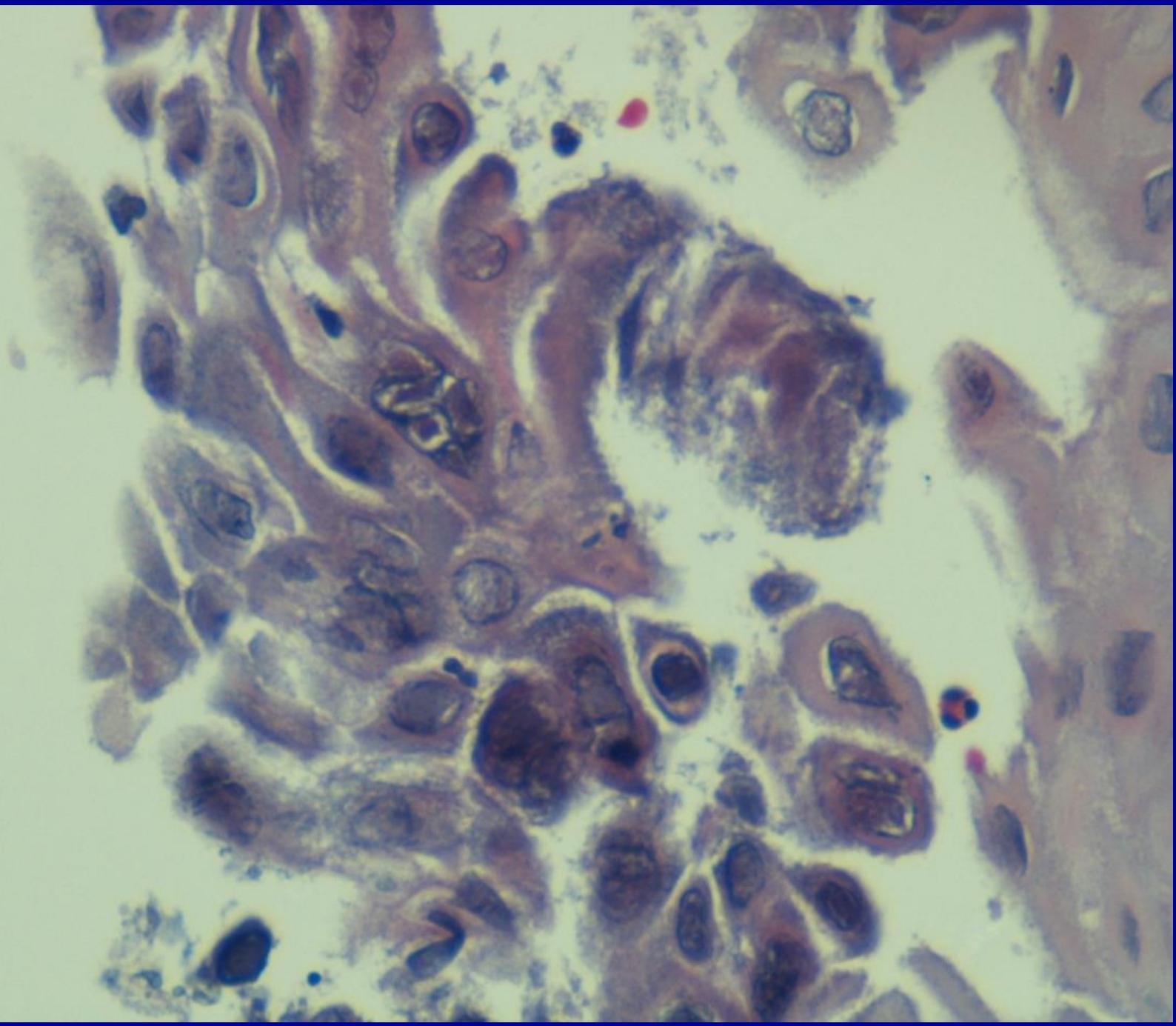
Herpesvirus og adenovirus:
ofte overfladisk
(CMV-: ofte i ulcusdybde)



Immun.

Øsofagus





Cytomegalovirus

- Immunsupremerte pasienter (HIV, Transplantasjon, Cytostatica/ Corticoider)
- Reaktivitet av latent infeksjon (<90% av befolkningen sero-pos).
- Hos immunkompetente personer:
"Selvbegrensende sykdom"
- Særlig colon/ rektum (munn- rektum)

Cytomegalovirus

- Diarre (blod- "vann") (smerte/ feber/ vekt)

BARN: Kan likne på **Ménétrier's** sykdom!

Makro.: Ulcus (Crohn-lik./

Pseudomembraner

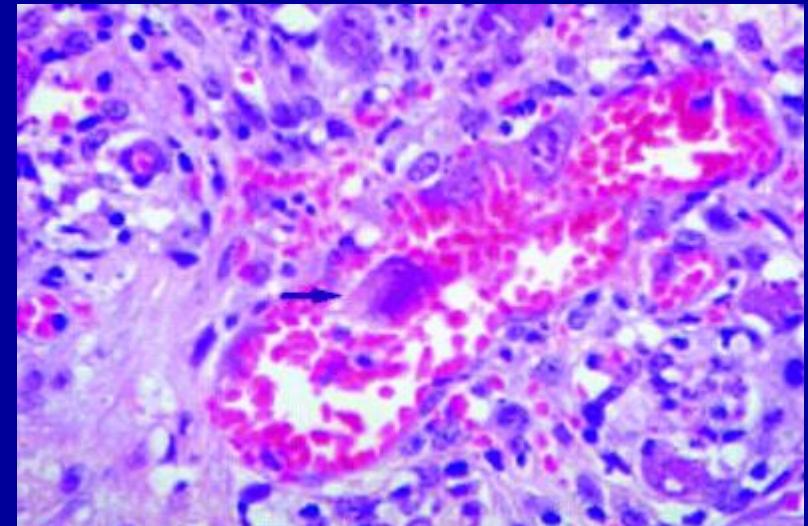
Mikro.: Inklusjoner:

Intracytoplasmatiske, intranukleære
I endotel/ stromaceller, (epitel)

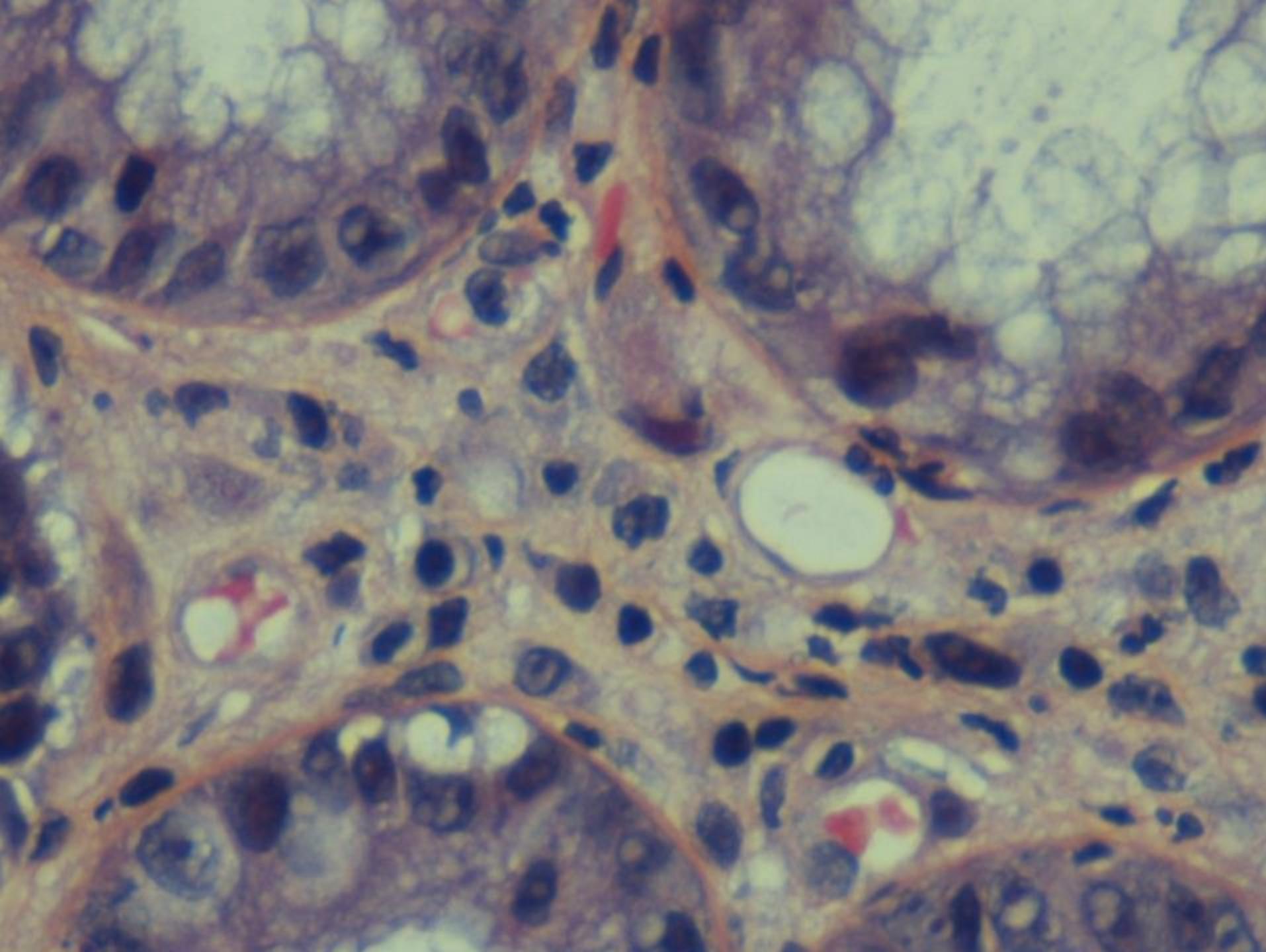
Immunhistokjemi

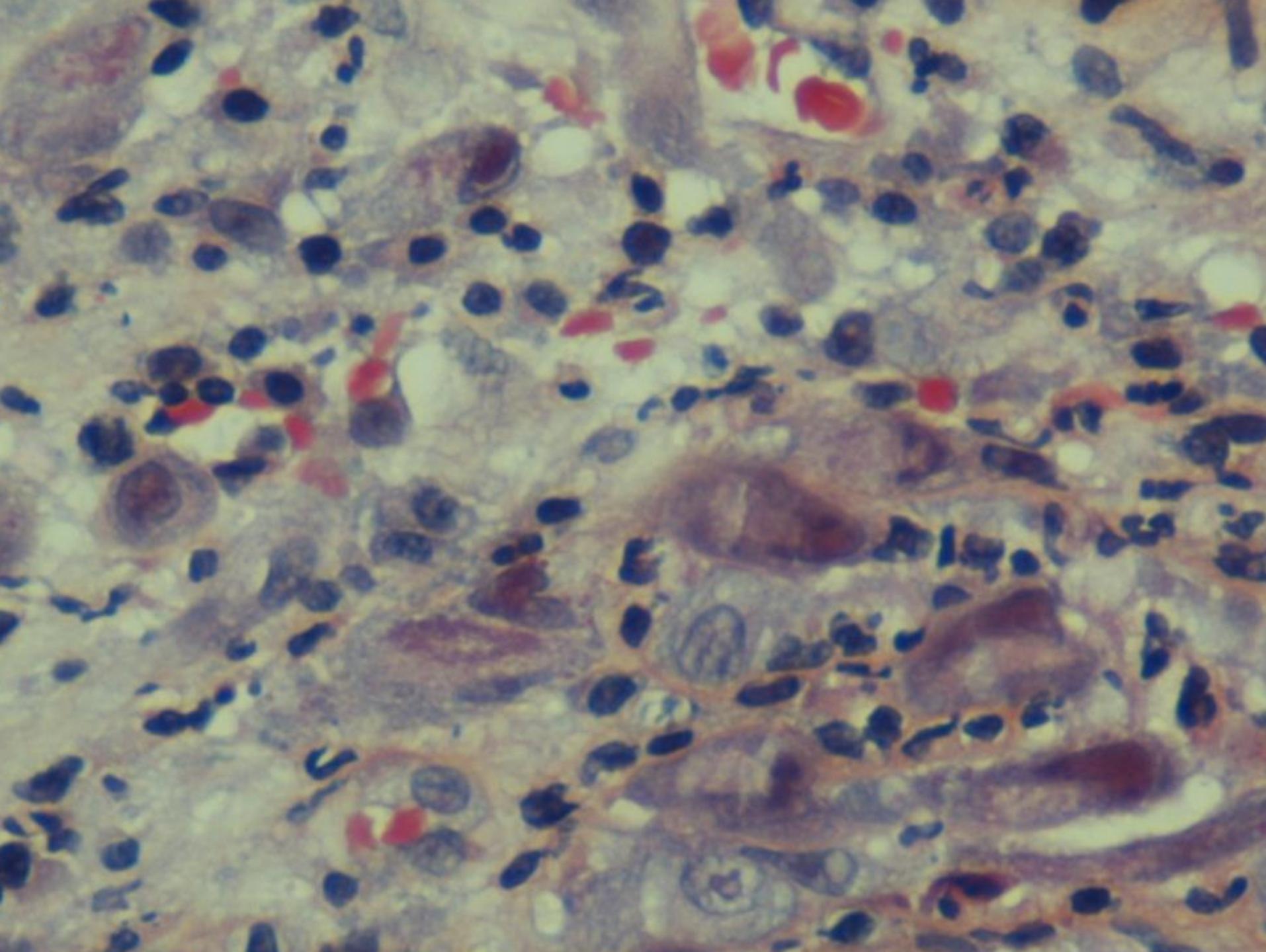
Cytolmegalovirus, Tarm

Typisk, blødning



"Ugle-øye"





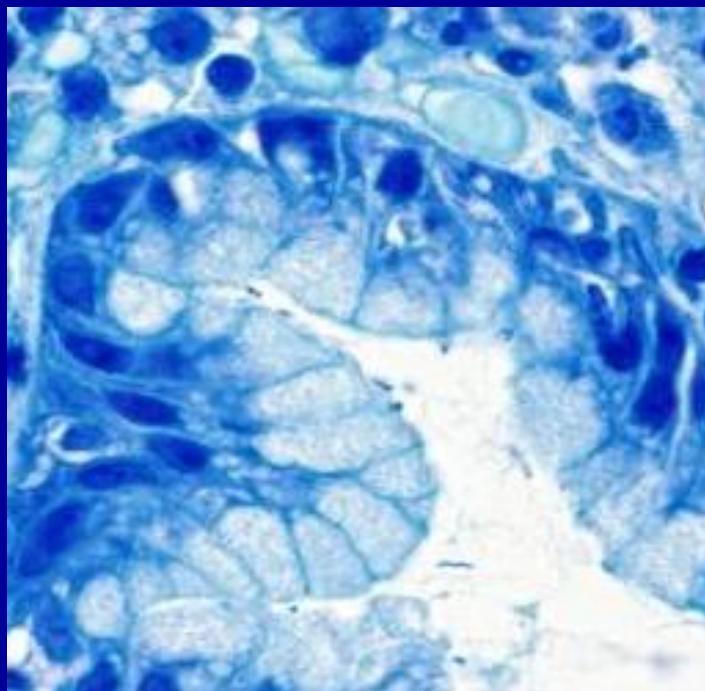
Ventrikkel

Helicobacter

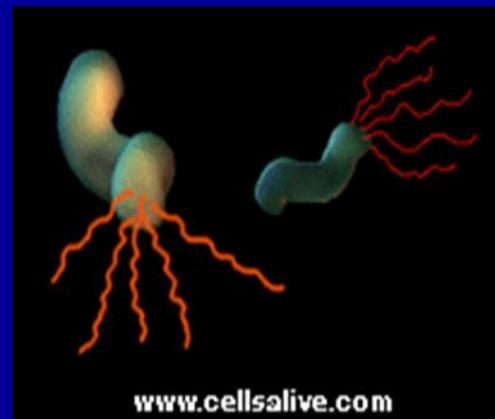
Bakteriell gastritt

TBC

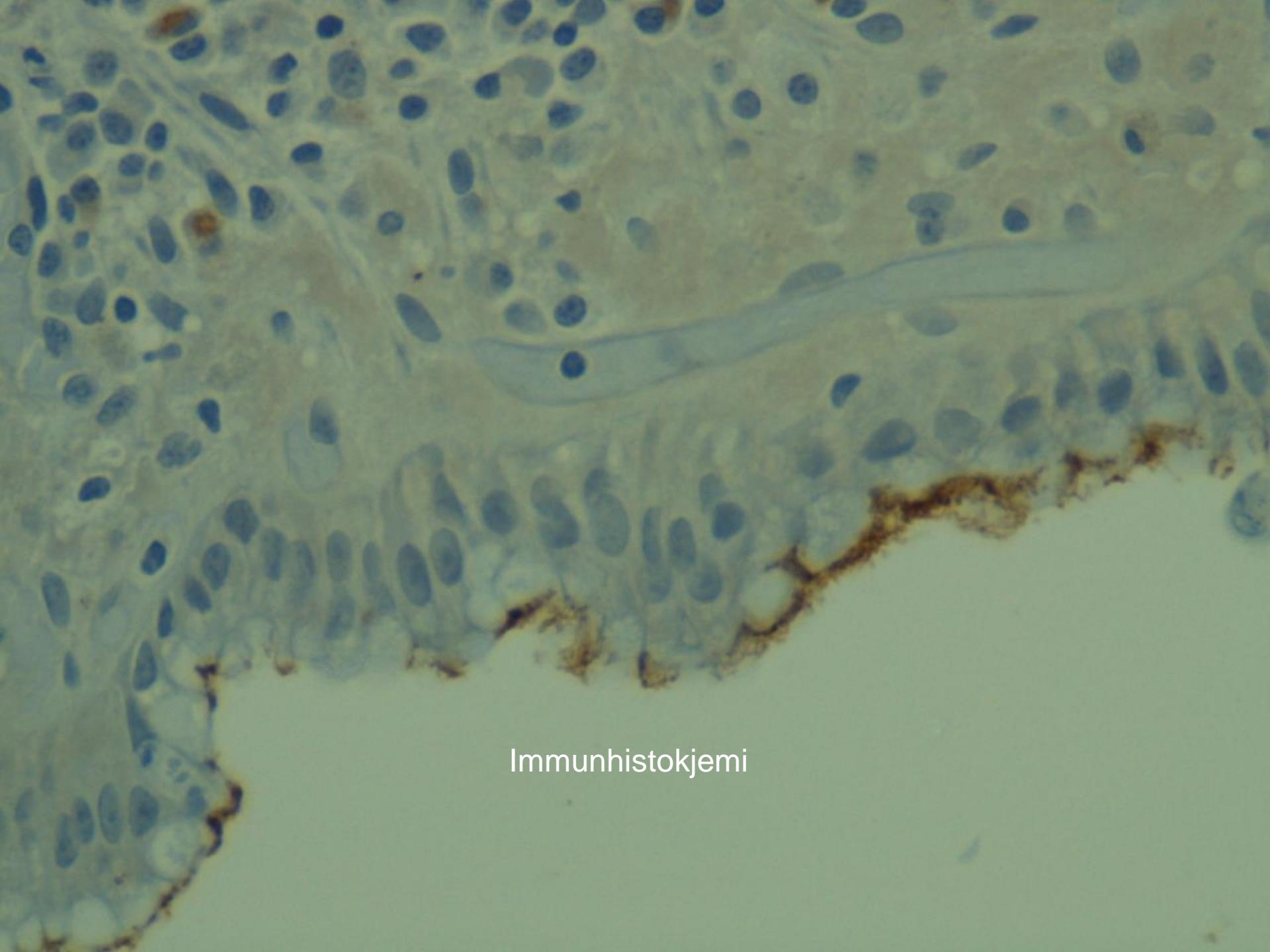
Helicobacter pylori



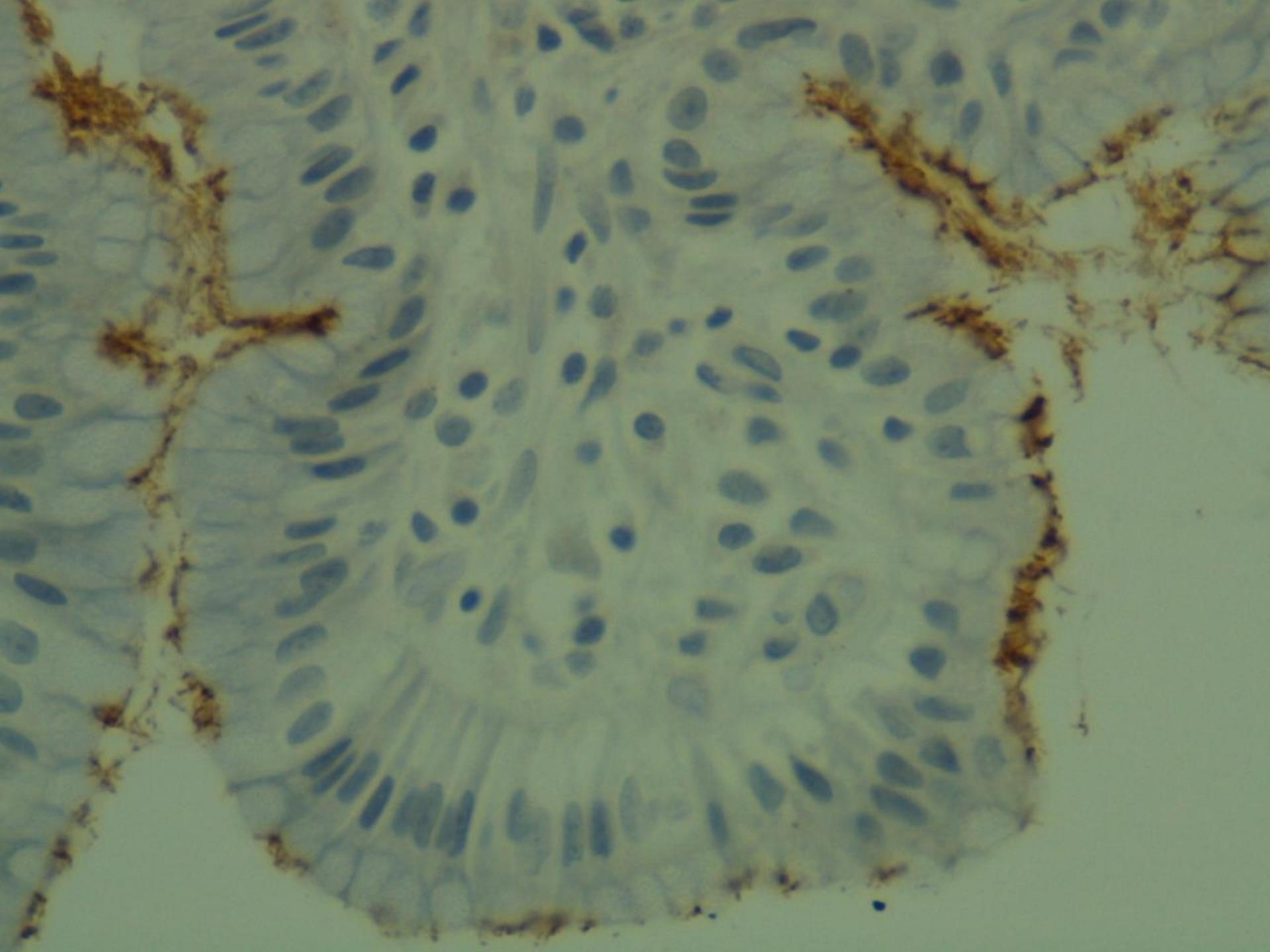
Giemsa farve



www.cellsalive.com

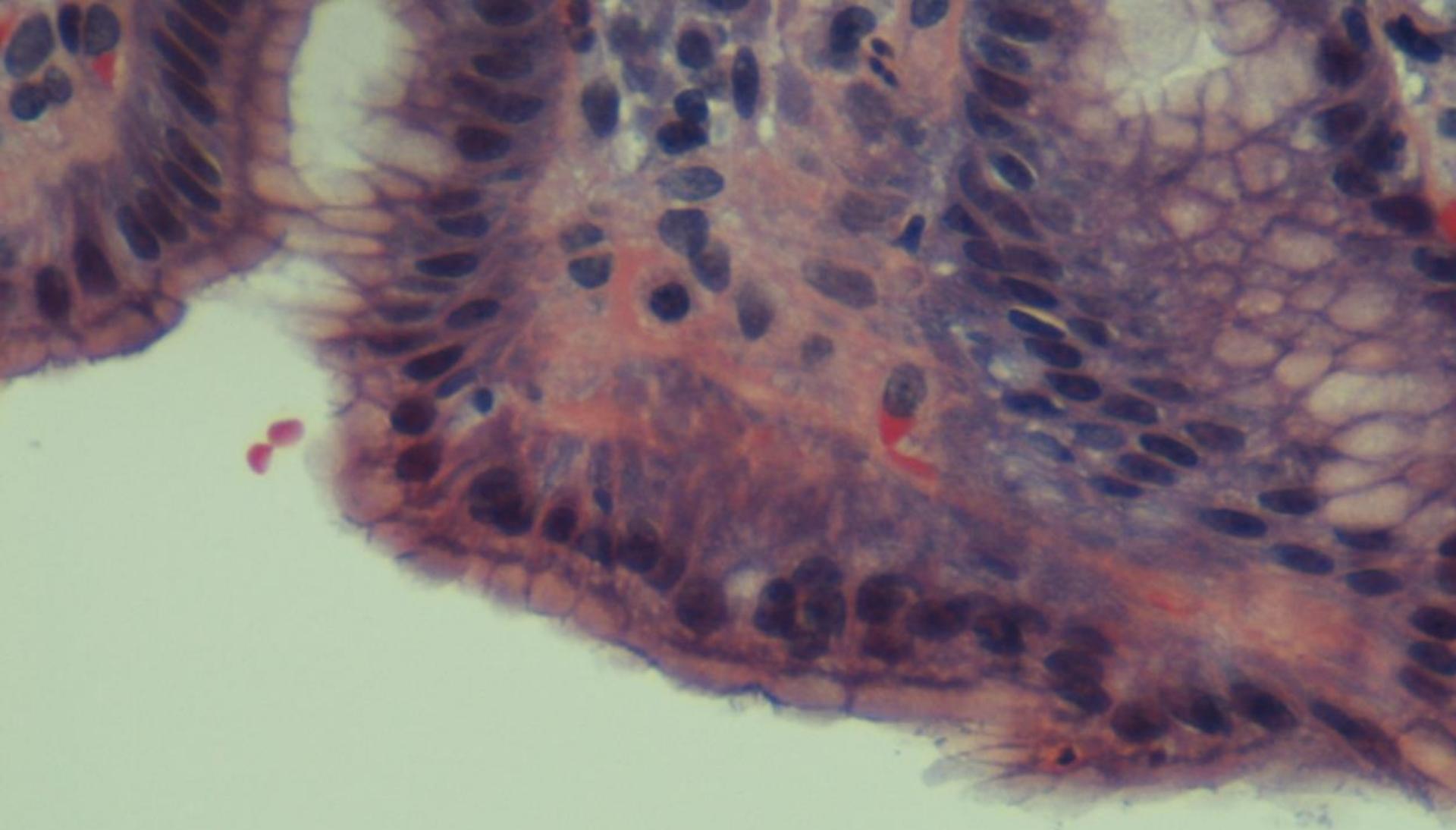


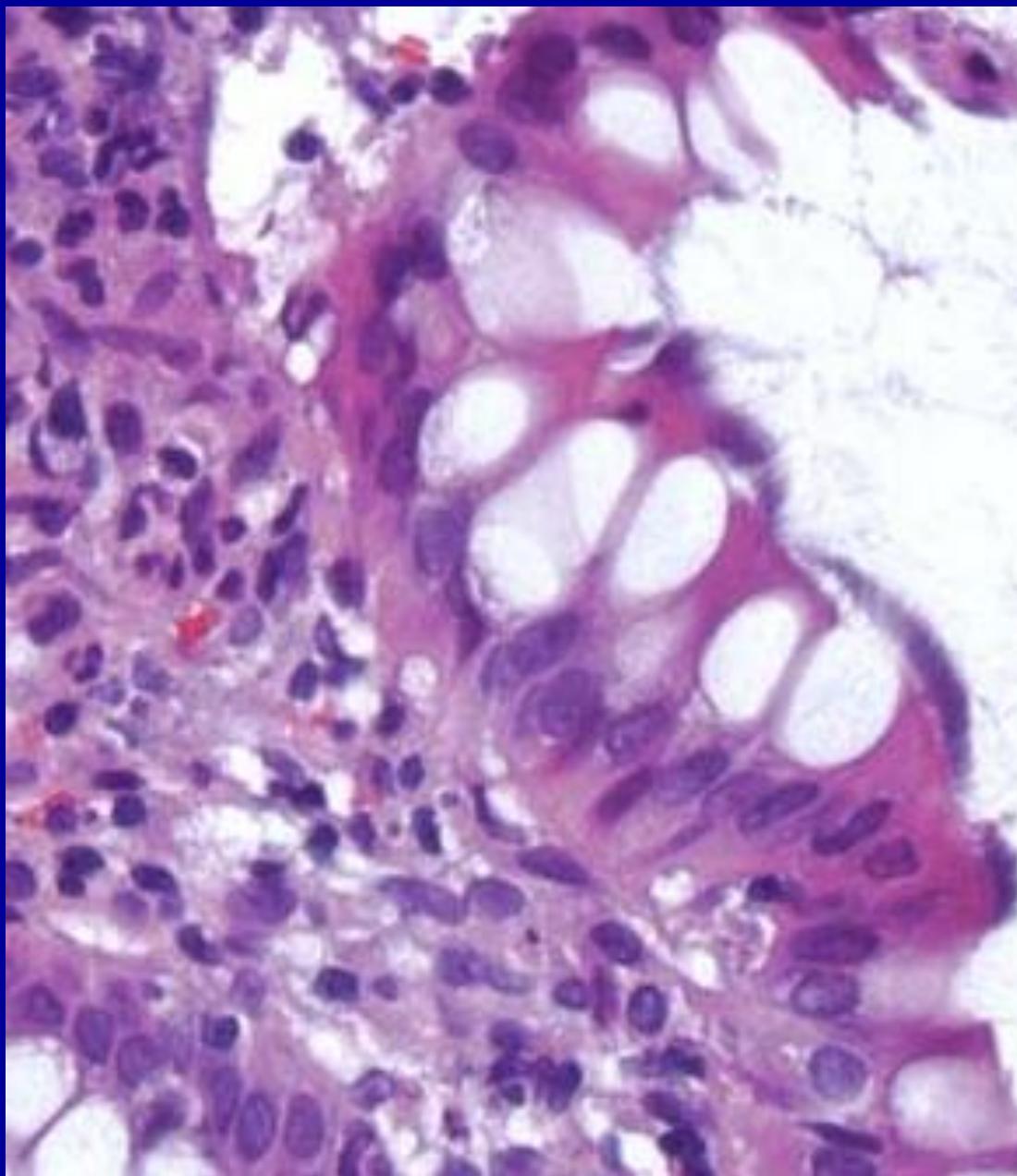
Immunhistokjemi



Intestinal spirochetose

- Hyppigst menn, homoseksuell praksis
- Overvekst av spirocheter
- Diarre +/-
- Smerter
- Blødning
- Skopi, funn-
- Diagnose: biopsi



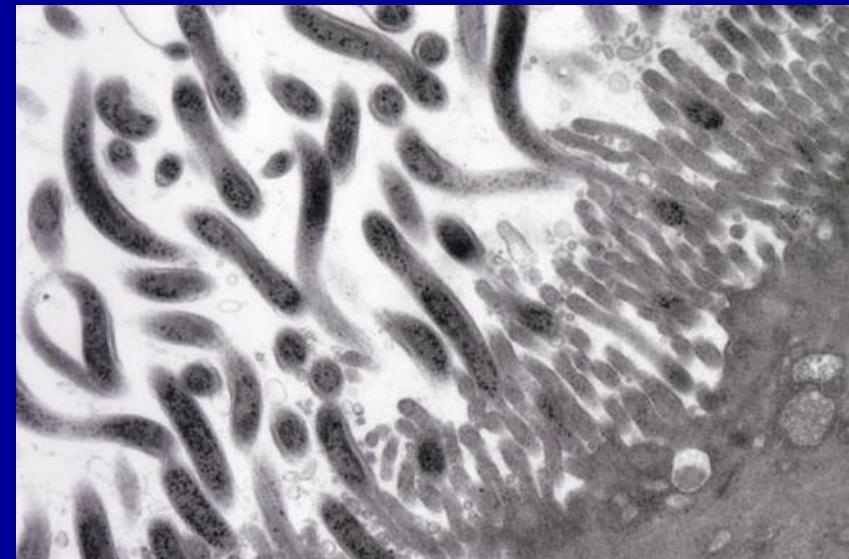
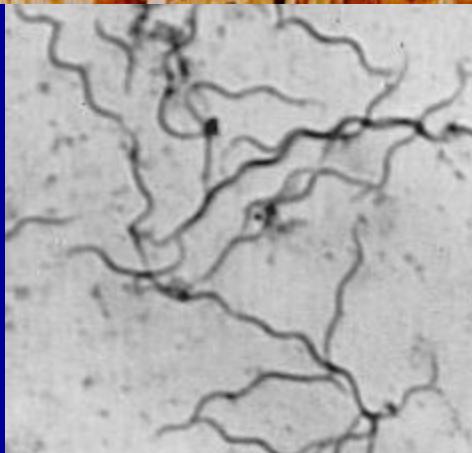


Intestinal spirocheteose



2-3 my børstesøm
PAS, Sølvfarve
Ingen betennelsesforandringer

Warthin- Starry)



Tarm

Bakterier

E. coli
Salmonella
Shigella
Campylobakter

Stafylococcer (toksiner)
Vibrio (cholerae)
Yersinia
Tbc
Whipple

Virus

Sopp

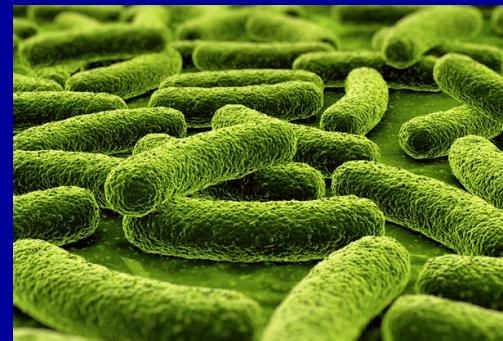
Candida
Histoplasmose

Parasitter

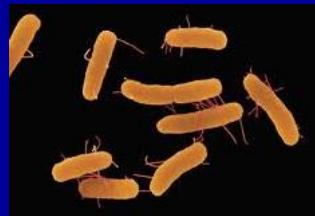
Protozoer (for eksempel giardia, microspora, cryptospora)
Trematoder (for eksempel schistosoma)
Helminter
Cestoder

Infektiøs kolitt

- Ofte minimale forandringer
- Bevart krypt- arkitektur
- Betennelsesceller, ofte granulocytter i øvre del av mucosa
- Kryptitt med destruerte krypter/kryptabsesser
- Flekkvis inflammasjon|



Campylobakter, ulcus

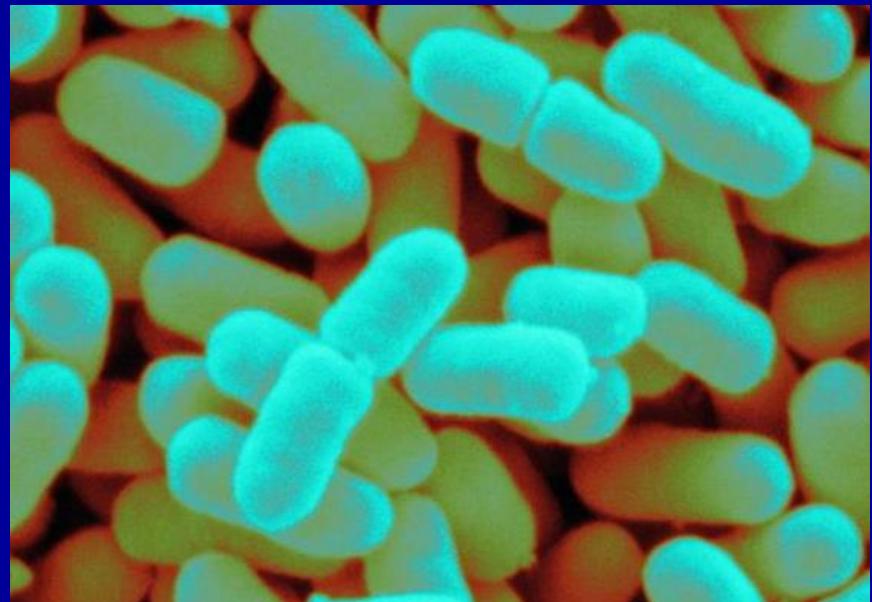
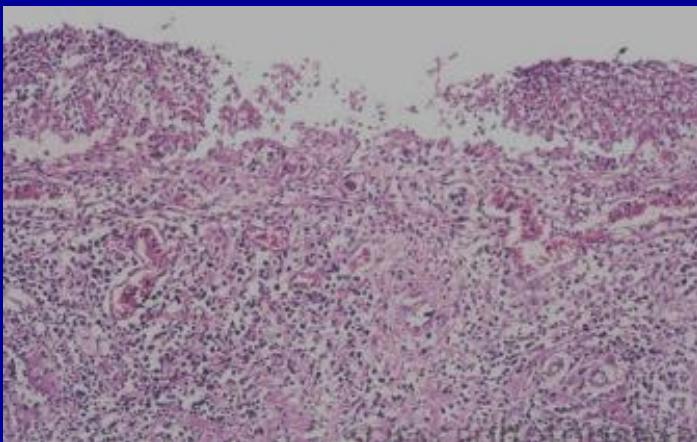


Salmonella



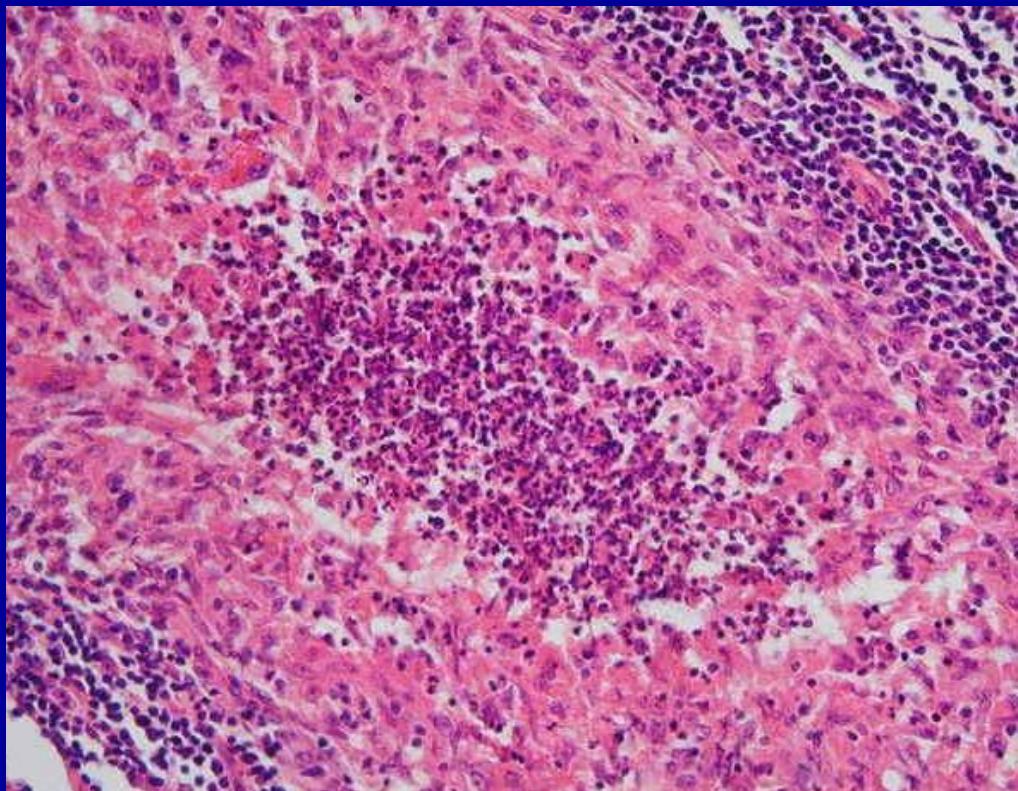
Vibrio cholerae

Shigellose/ Shigilla



Gram negativ (flere typer)
Mat/ vann
Toxin (shigatoxin) Diarre/ ofte blodig
Ofte barn
Pseudomembranos- nekrotiserende betennelse
Tarm kan dilatere- perforere

Yersinia enterocolitica



Granulom, appendix

Bakterie, kjøligere klima
Overlever lenge,
også kjøleskapstemp.
Matvarer, vann, svinekjøtt (fra
tarm)

DD.: Crohn



Clostridium difficile

- Hos 3-5%, normalt i GI- traktus
- Langtidsinstitusjonaliserte
- Antibiotikabruk (for eksempel Ampicillin)
- Kan isoleres fra all slags inventar/ utstyr i institusjonen
- Gram pos. anaerob toksinproduserende
- Diarre, lett- fulminant
- Pseudomembranøs kolitt

Clostridium

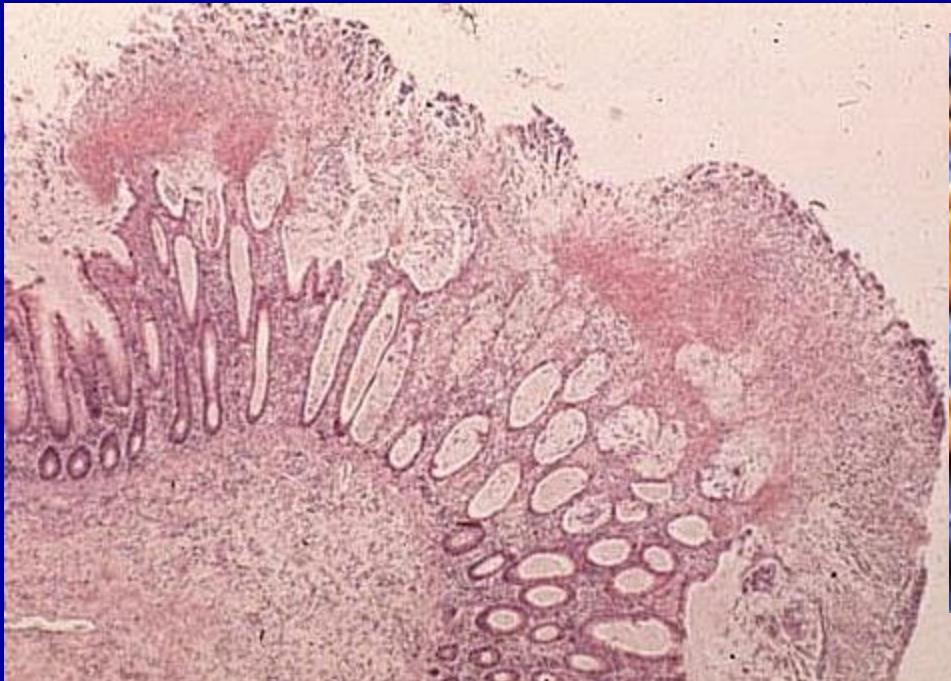
- Latenstid AB-bruk: dager- flere uker
- Makro: gråhvite belegg på slimhinnen
- Mikro: pseudomembraner ("vulkanaktig")
fibrin, slim, granulocytter, bakterier

DD: Ischemisk kolitt

Shigella

Colitis ulcerosa

Clostridium difficile infeksjon

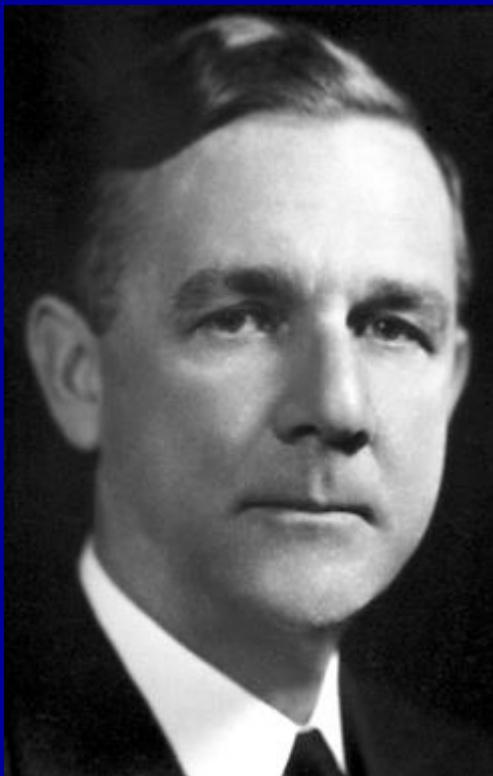


Pseudomembraner
"Vulkanaktig"



Whipple sykdom

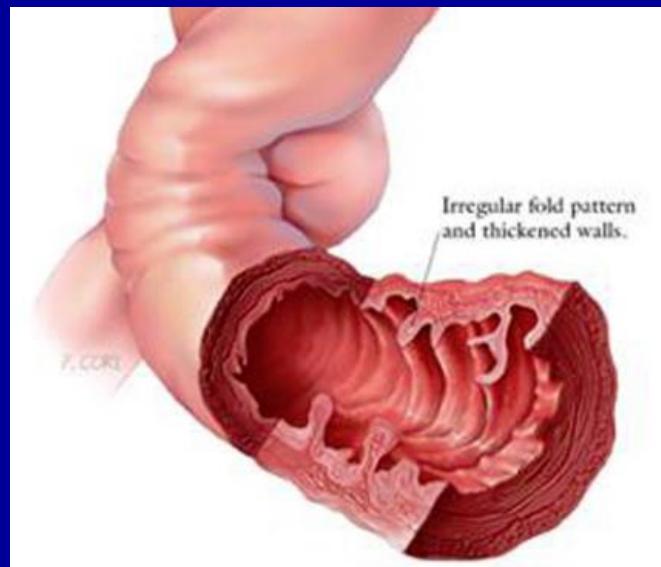
- Meget sjeldent
- Menn, 8x
- Mulig defekt i monocyter/
makrofagfunksjonen for denne bakterien
- Arthralgier, diarre, vekttap
- Særlig tynntarm, andre regioner
- PAS- positive bakteriedeler,
lipogranulomer
- Tok ca. 85 år før man fant bakterien
(*T. Whippelii*)



George Hoyt Whipple

Class of 1896

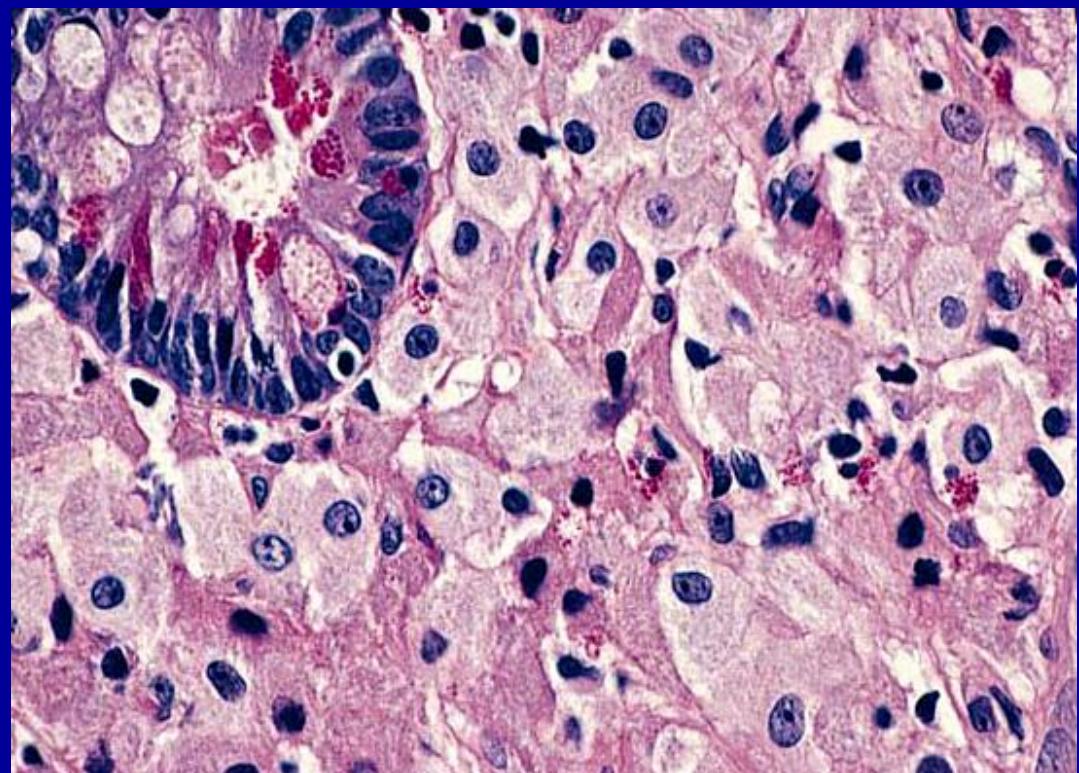
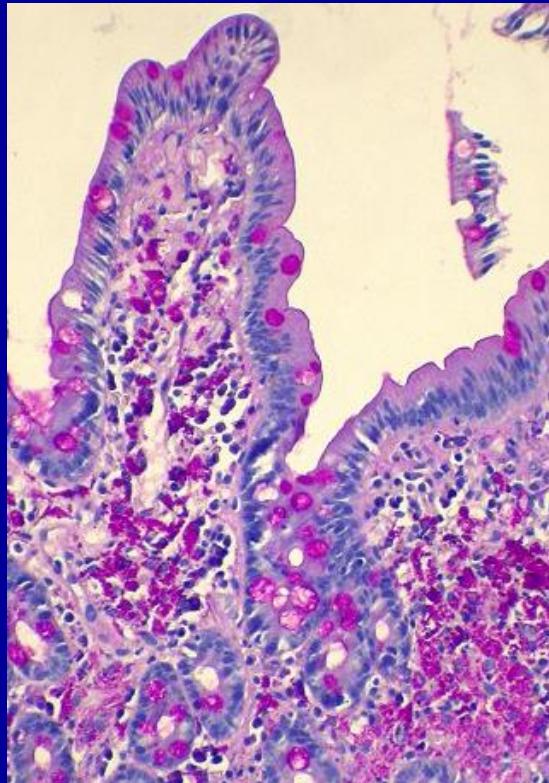
- Pathologist & medical researcher
- Discoverer of lipodystrophy intestinalis [1907], "Whipple's Disease"
- Recipient, Nobel Prize in Medicine [1934] for research leading to a cure for pernicious anemia



Whipples sykdom

Tropheryma infeksjon

- *Tropheryma whipplii*

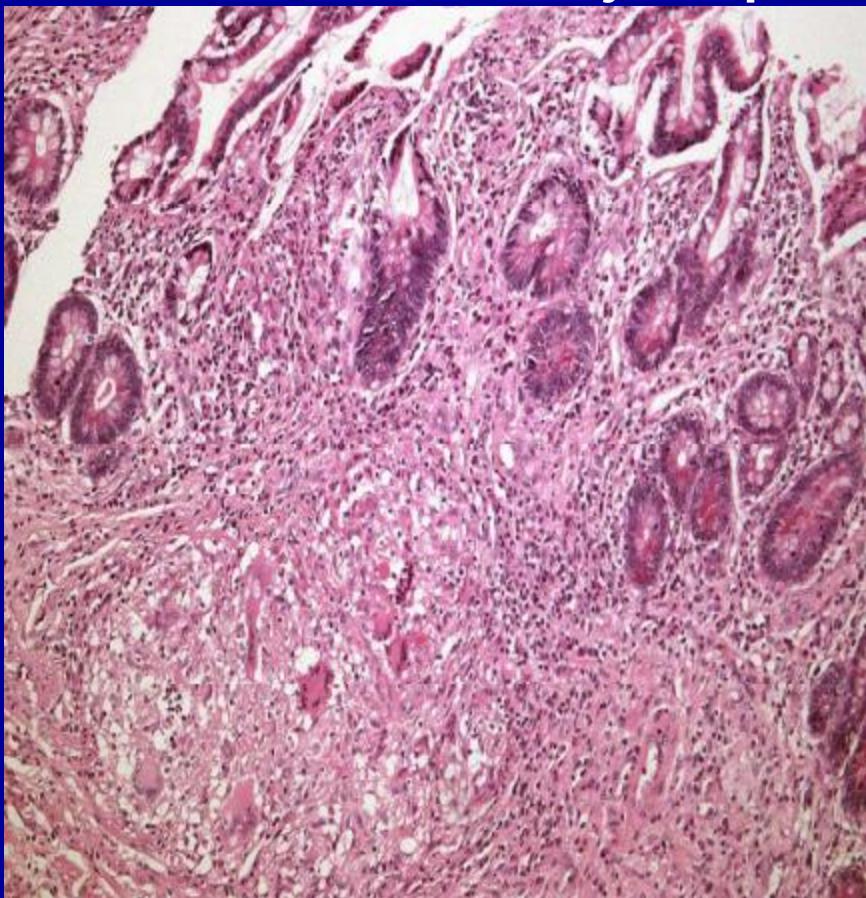


Granulomatøs betennelse

- Crohn
- Yersiniainfeksjon
- TBC
- Sopp
- Schistosomiasis
- Fremmedlegemereaksjon
- Amøbiasis

Intestinal tuberkulose

- Granulomer / Kjempeceller

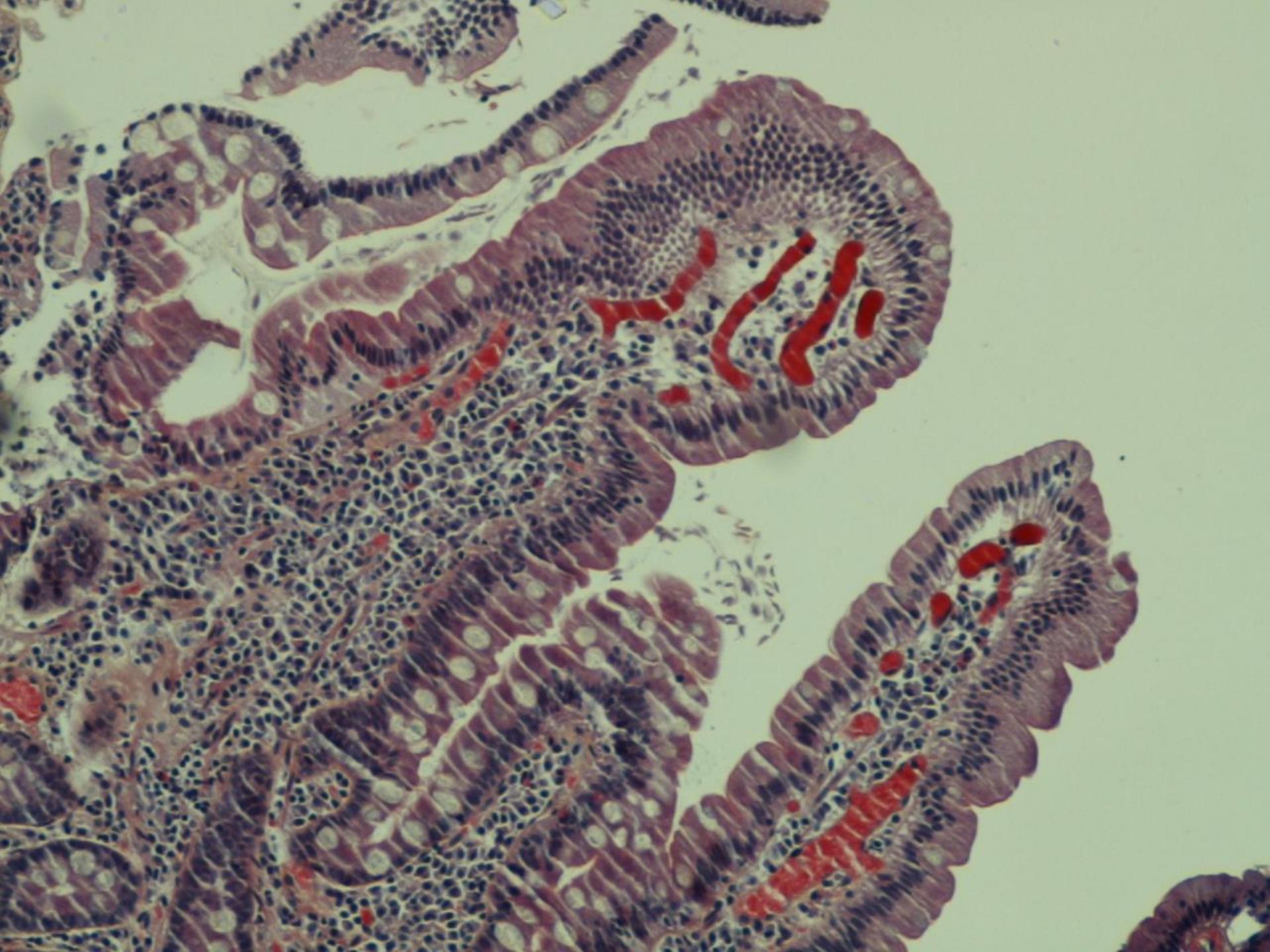


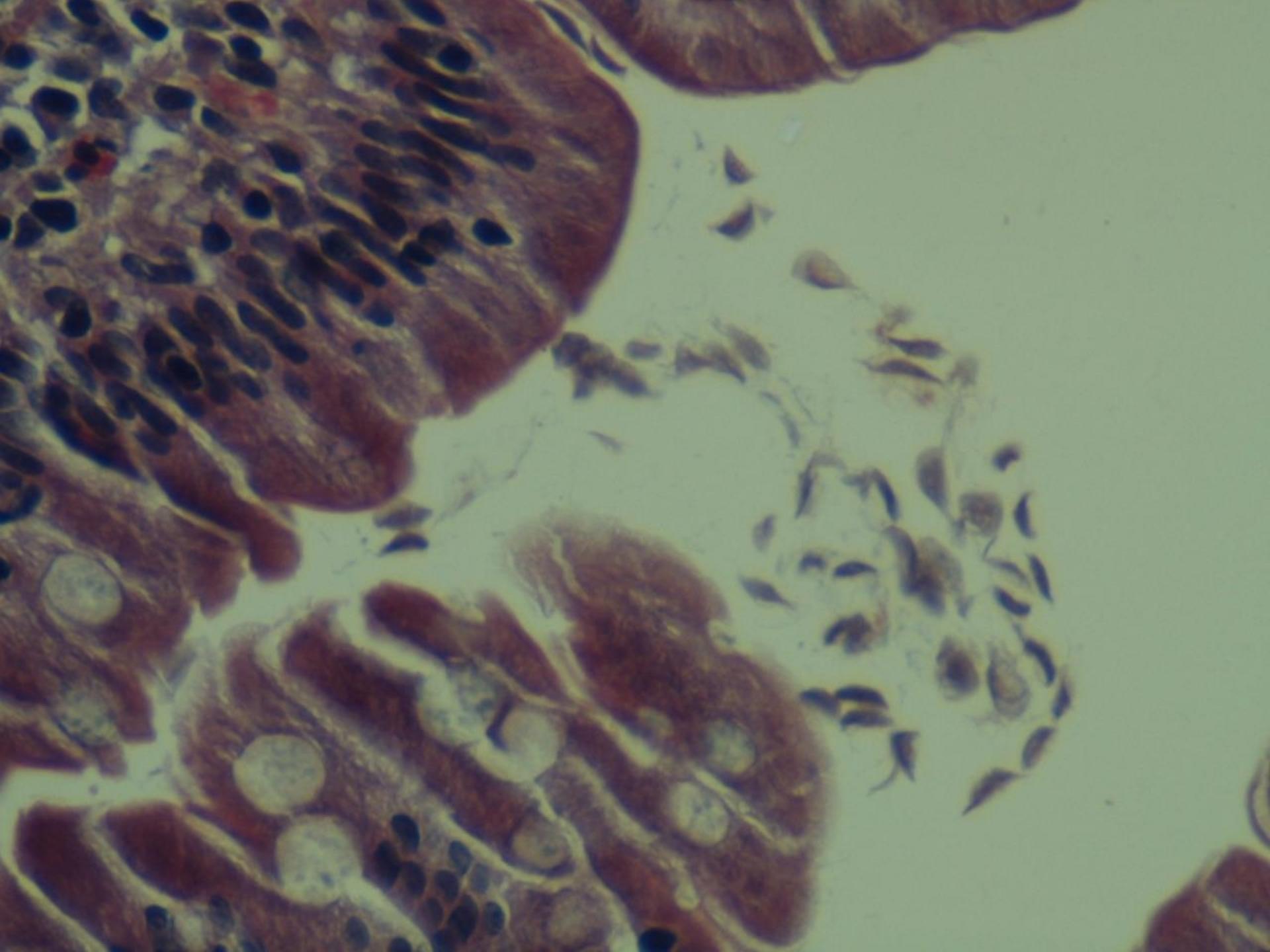
Ziehl- Neelson farve

Syrefaste staver

Kasus

- Mann 40 år
- Diarre 14 dager
- Koloskopi uten påfallende funn
- Biopsi: terminale ileum



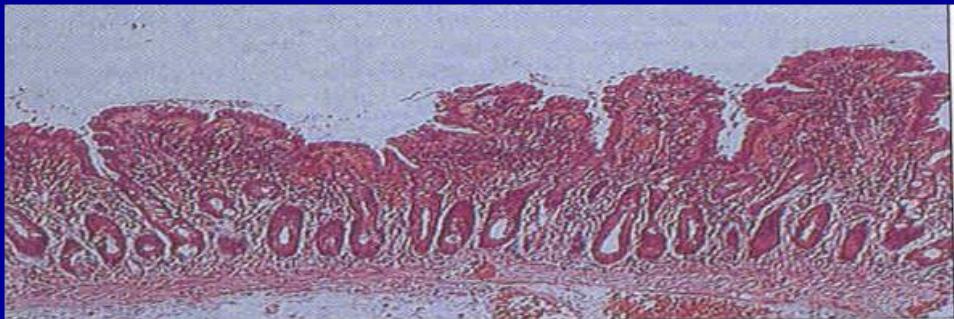


Giardiasis

Giardia lamblia

- Hele verden
 - Oftest vannbåren, person- person kontakt
 - Enkelttilfeller/ epidemier
-
- I mikr.snitt trophozoitt- formen
 - Cysteform: overlever i kalt vann- mnd./
også ved vanlig klortilsetting
 - Asymptomatisk/ diarre/ vekttap

Giardia Lamblia intestinalis

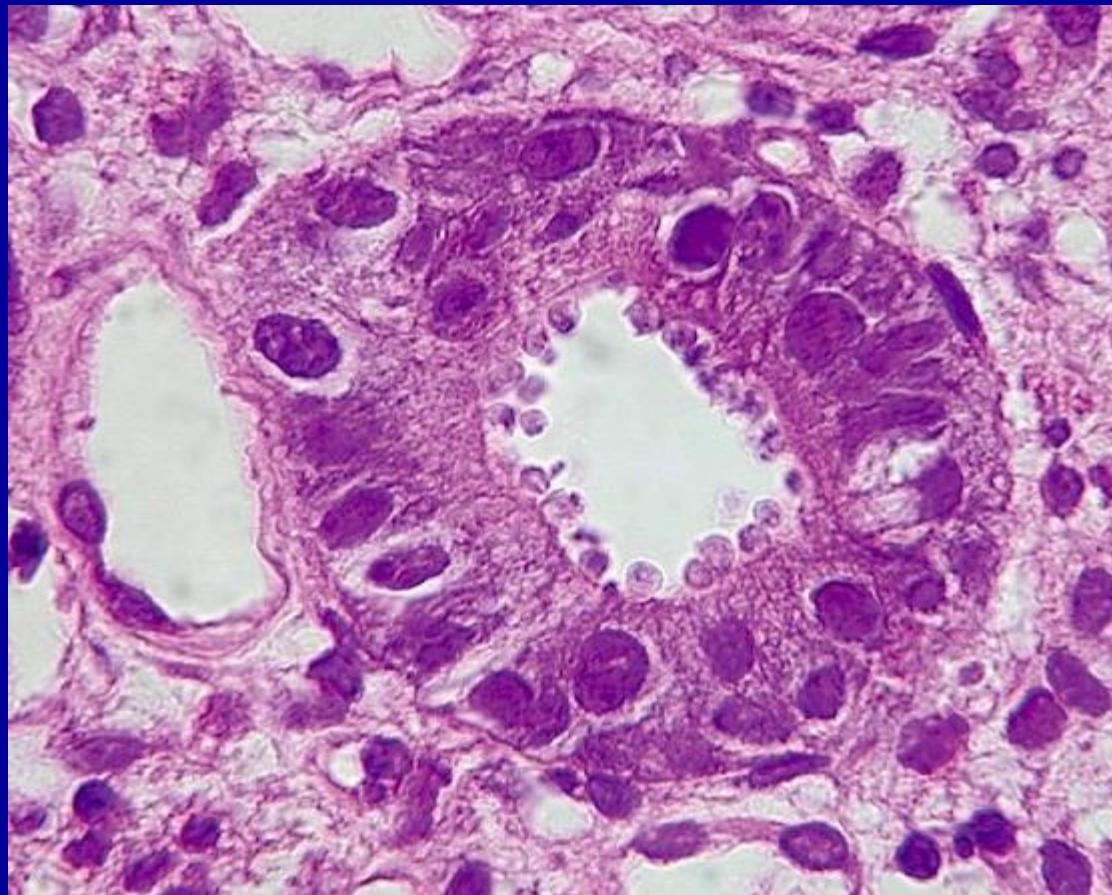


Cyste

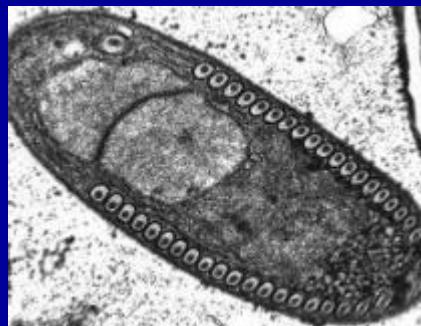
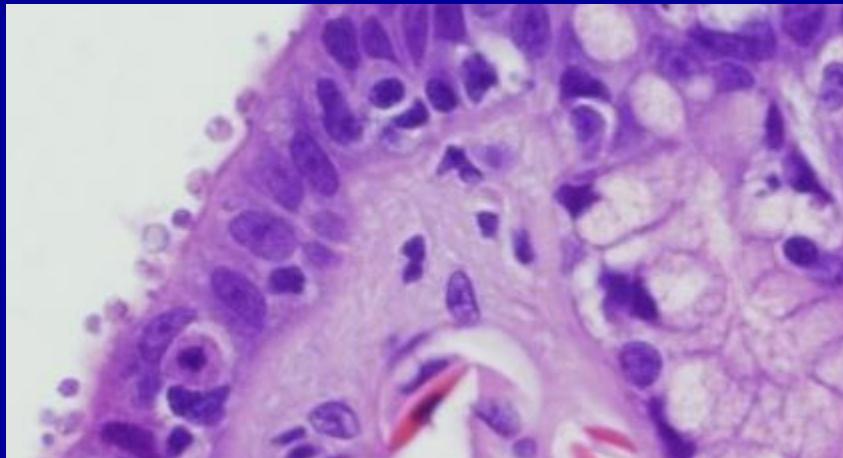
Coccidia- infeksjon

- Særlig hos HIV-smittete
- Feko- oral smitte
- Cryptosporidiose
- Microsporidiose

Cryptosporidium



Cryptosporidium

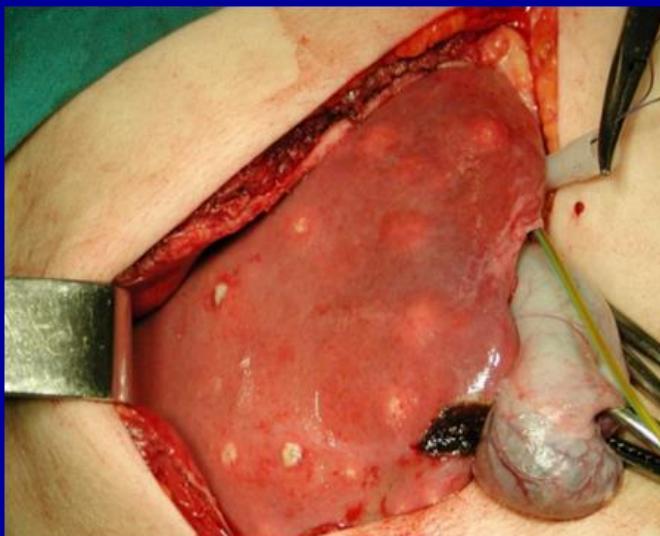


Mikrosporidiose

Amøbe



Amøbe ulcerasjon



Amøbe lever absess

Amøbe-kolitt

- Hele verden, mest subtropisk/ tropisk strøk
- Symptomgivende:

Alltid *Entamoeba histolytica*

Feco-oral smitte: vann, mat, dårlig hygiene

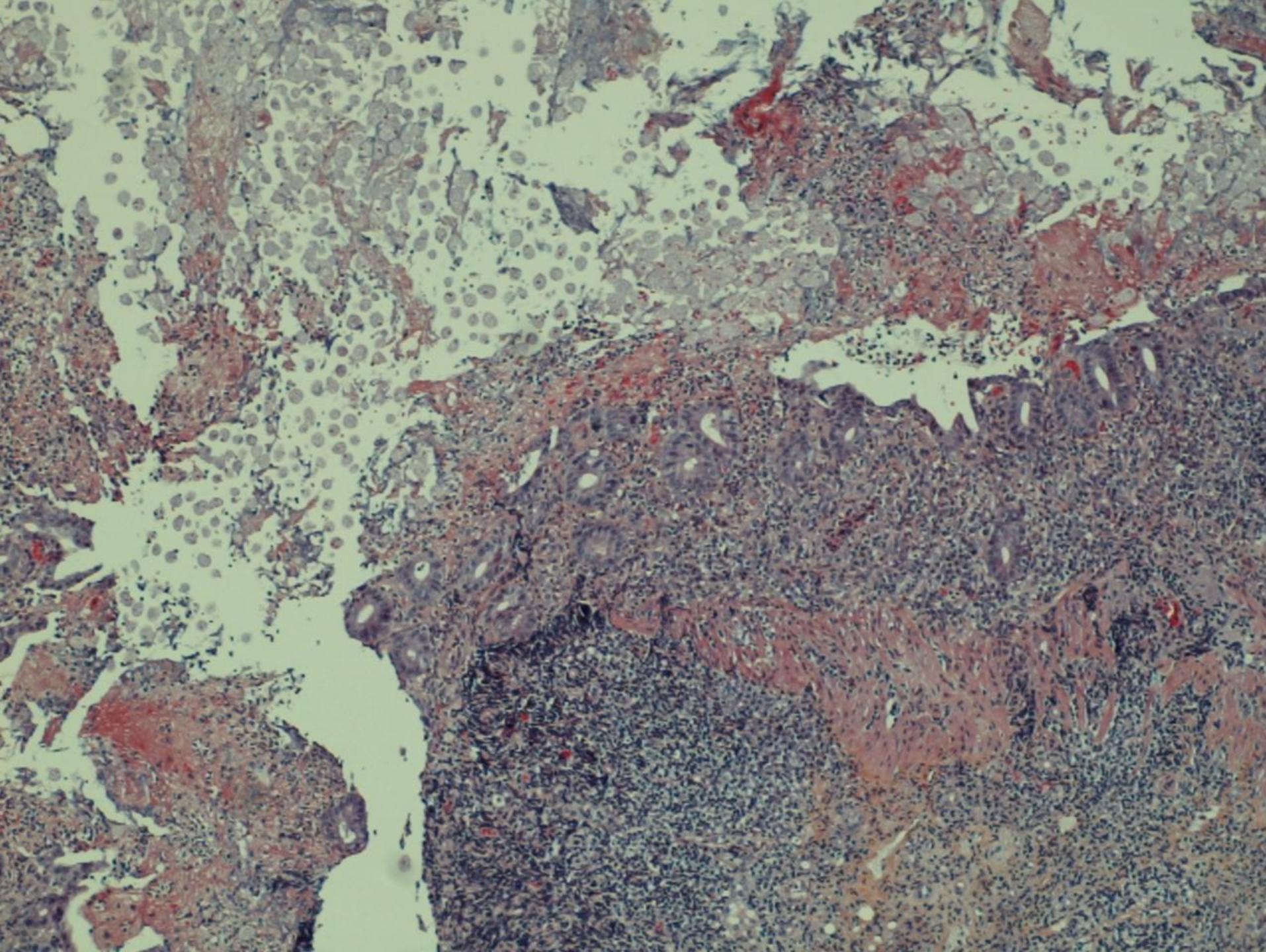
2 former: Trophozoitt; i biopsi, 12-60 my
(med fagocytterte erytrocytter)

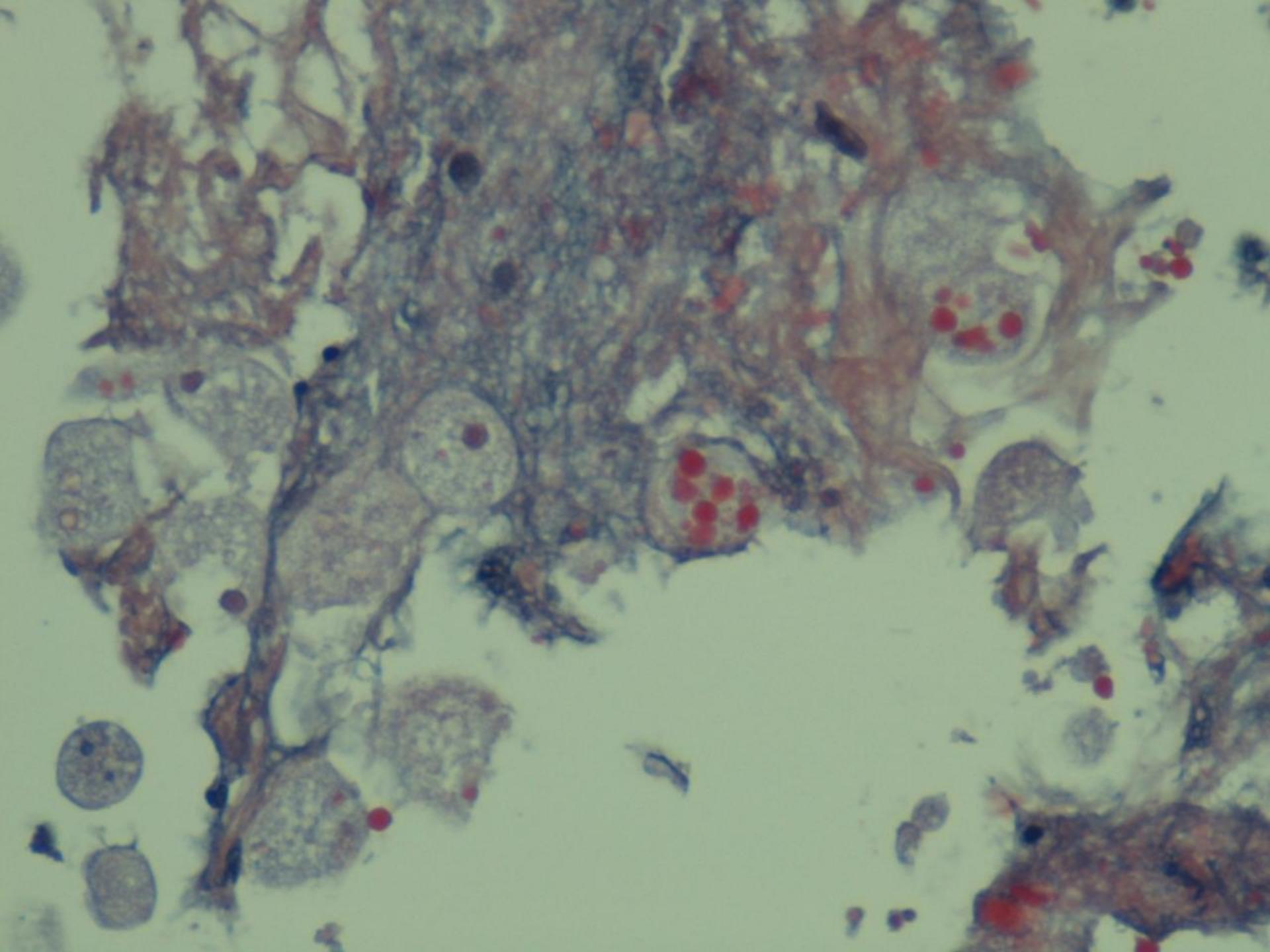
Cysteform

Amøbe

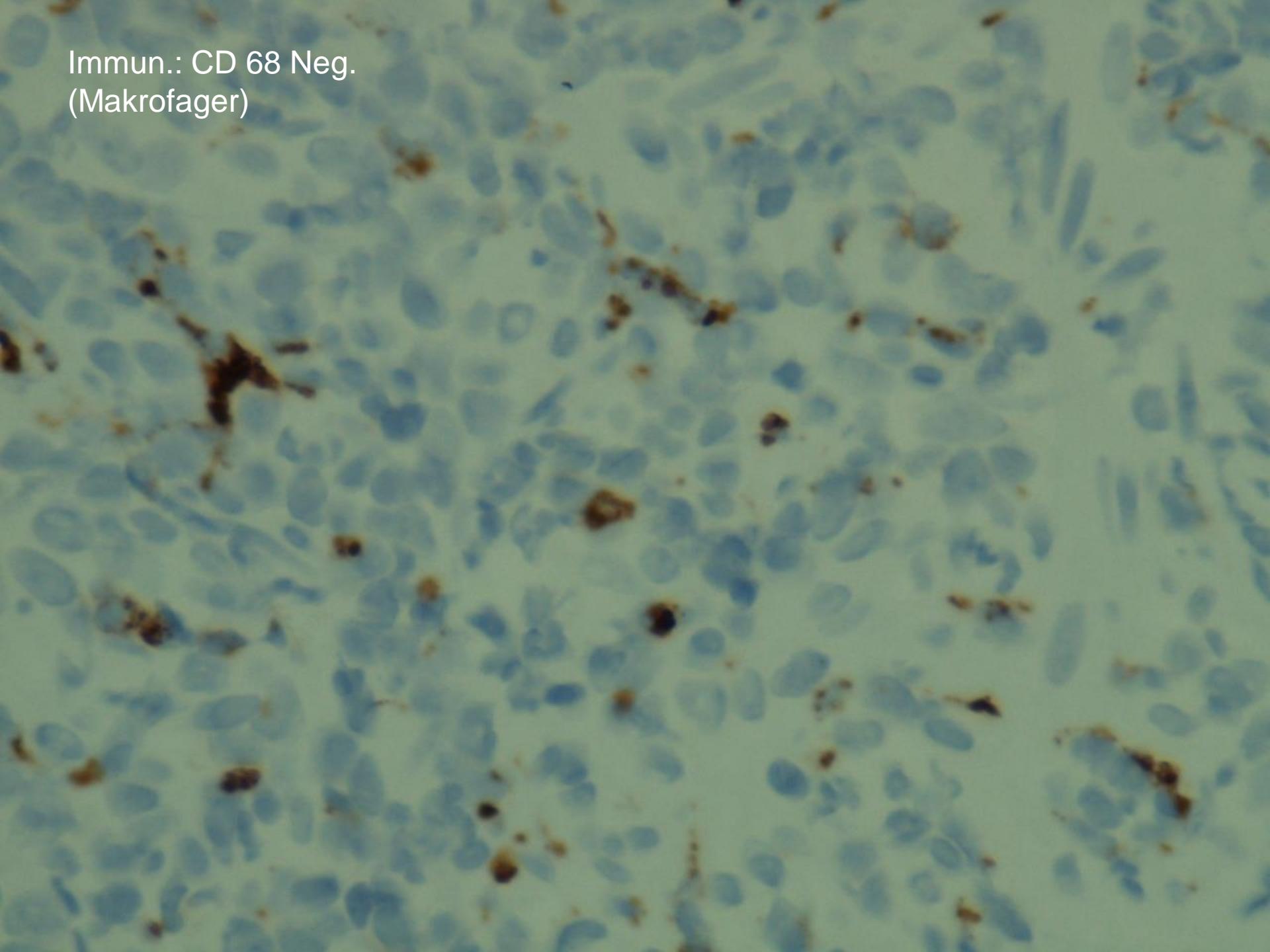
- Cysteform motstår magesyre/ klorering
- Ligger i ileo- cøkalregionen og omdannes der til invasiv trophozoitt
- Lett diarre til ulcererende fulminant kolitt
- Leveramøbeabsess
- PAS farve +

DD.: Ulcerøs colitt, Crohn





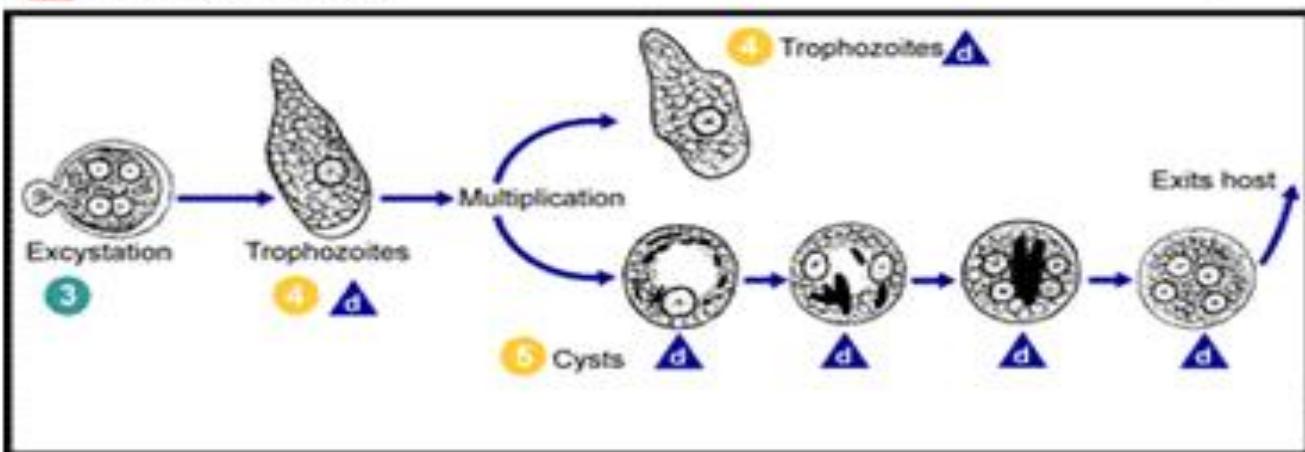
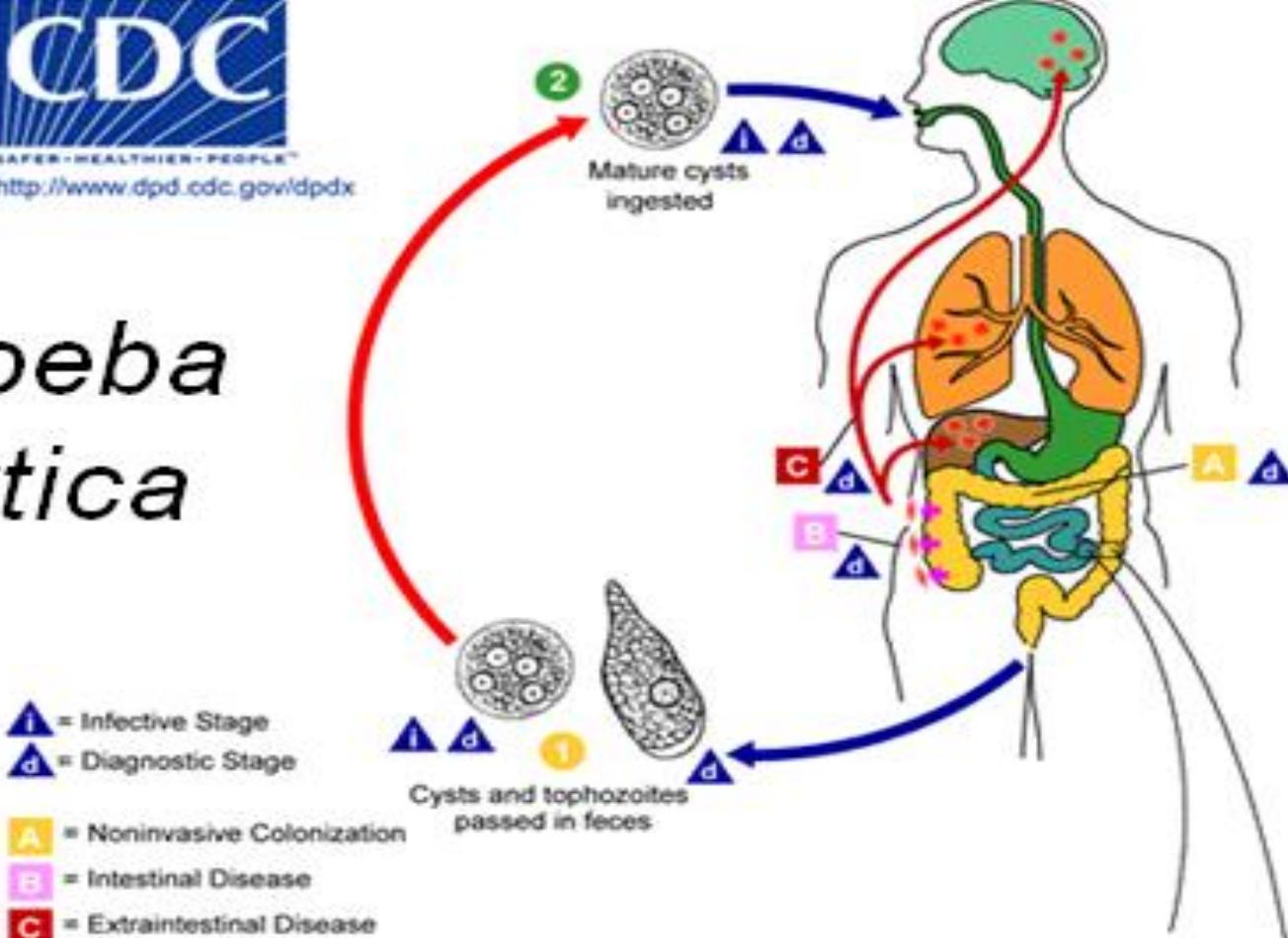
Immun.: CD 68 Neg.
(Makrofager)





Cyste

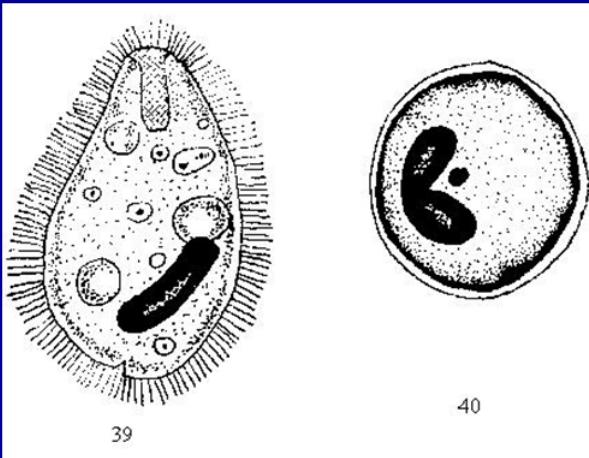
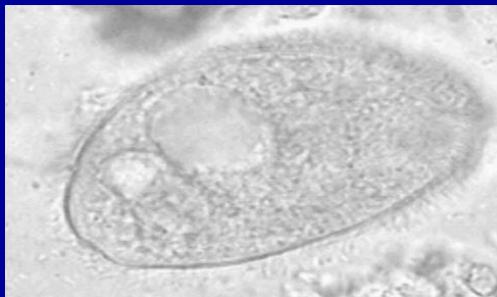
Entamoeba histolytica



Balantidium coli

Reservoar er gris

Eneste protozo med cilier som gir sykdom hos mennesker



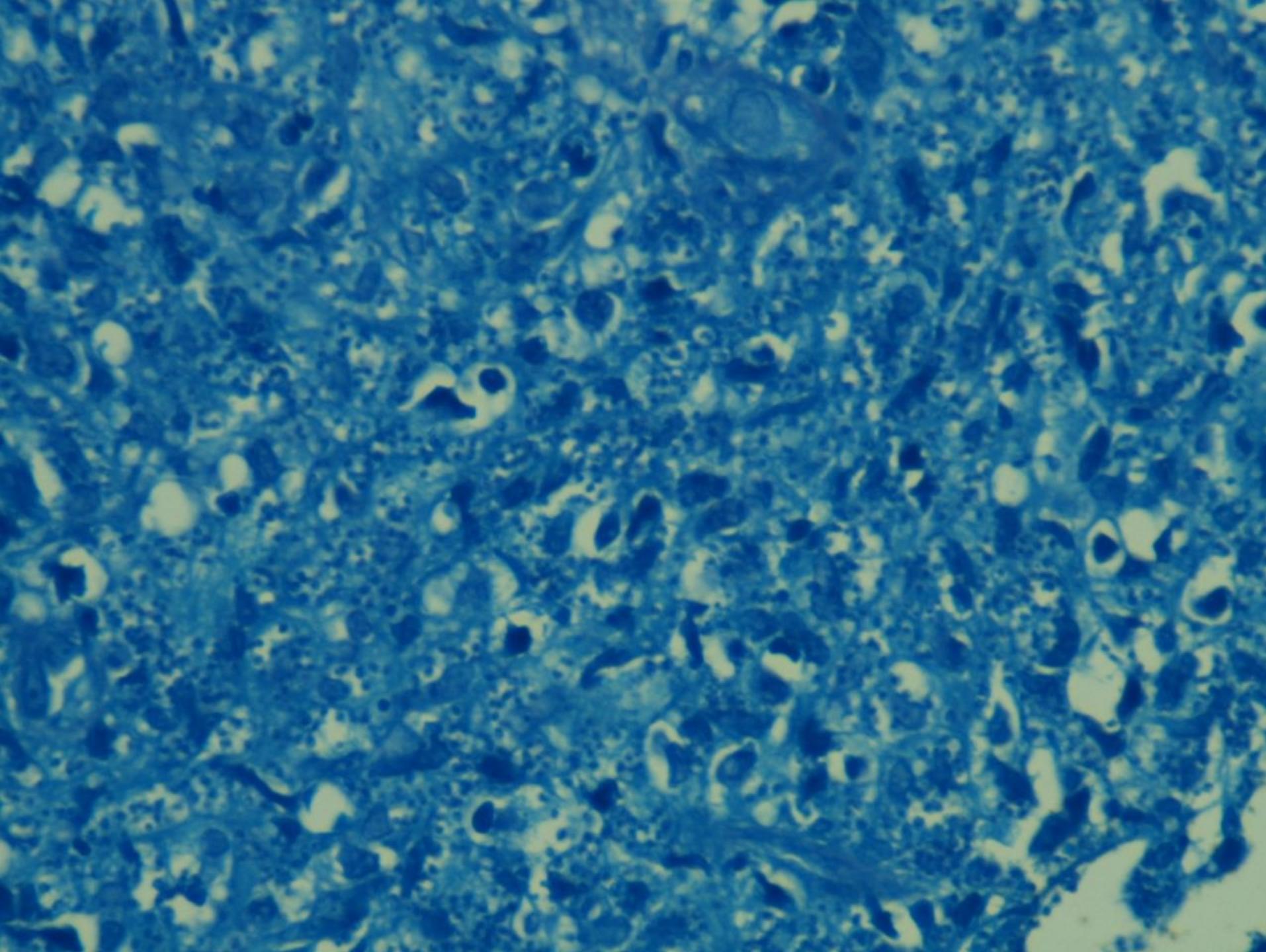
Leishmaniasis

- 3 former for Leishmaniasis:
- Cutan
- Mucocutaneus
- Visceral

Kala Azar



Duodenum



Leishmania donovani

Sandflue overfører



Kinetoplast

Mastigote = flagella
Promastigote: har enkel flagella
Amastigote: har ikke flagella

Kinetoplast: rund masse av sirkulær DNA



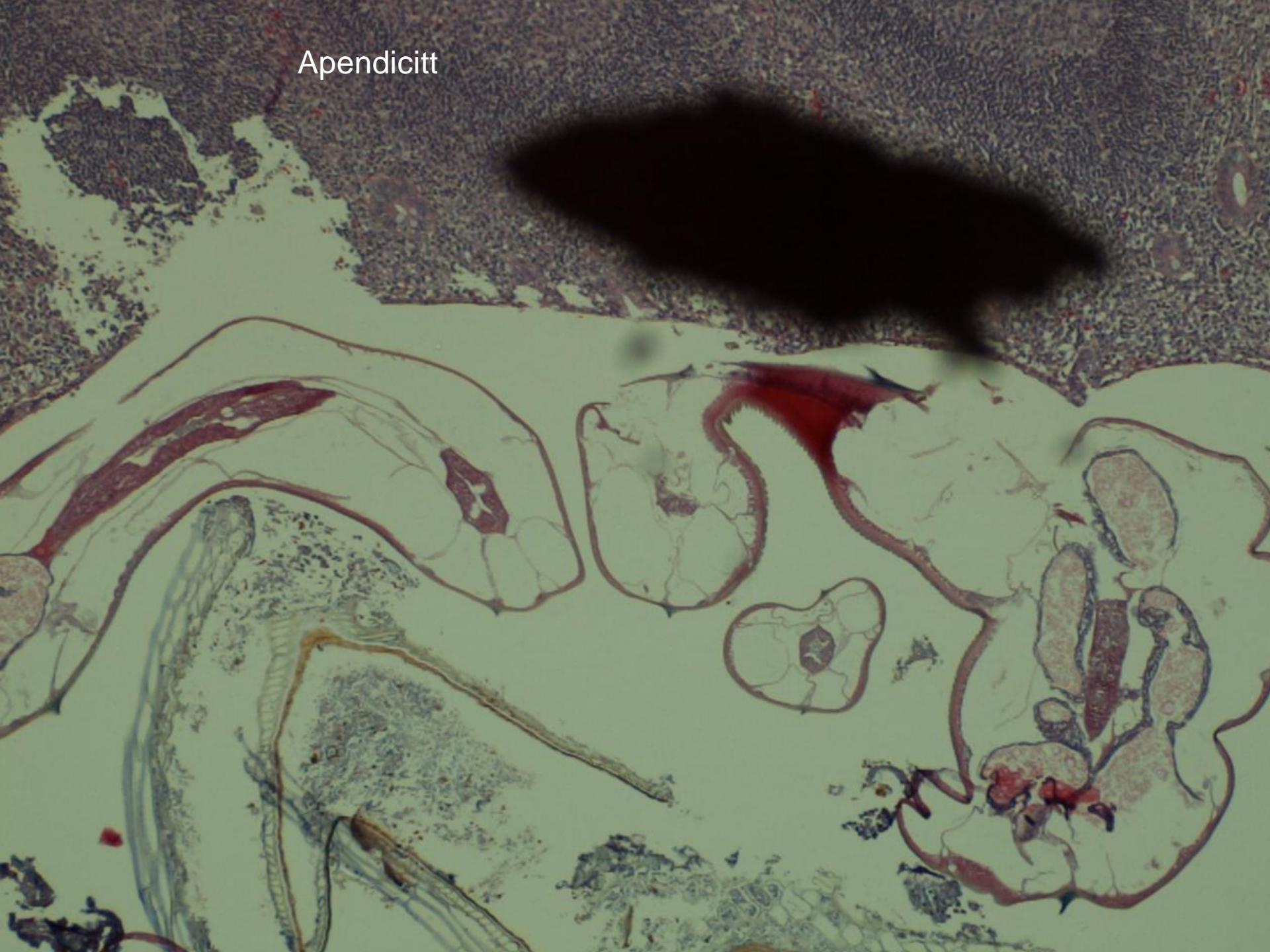
Ormer

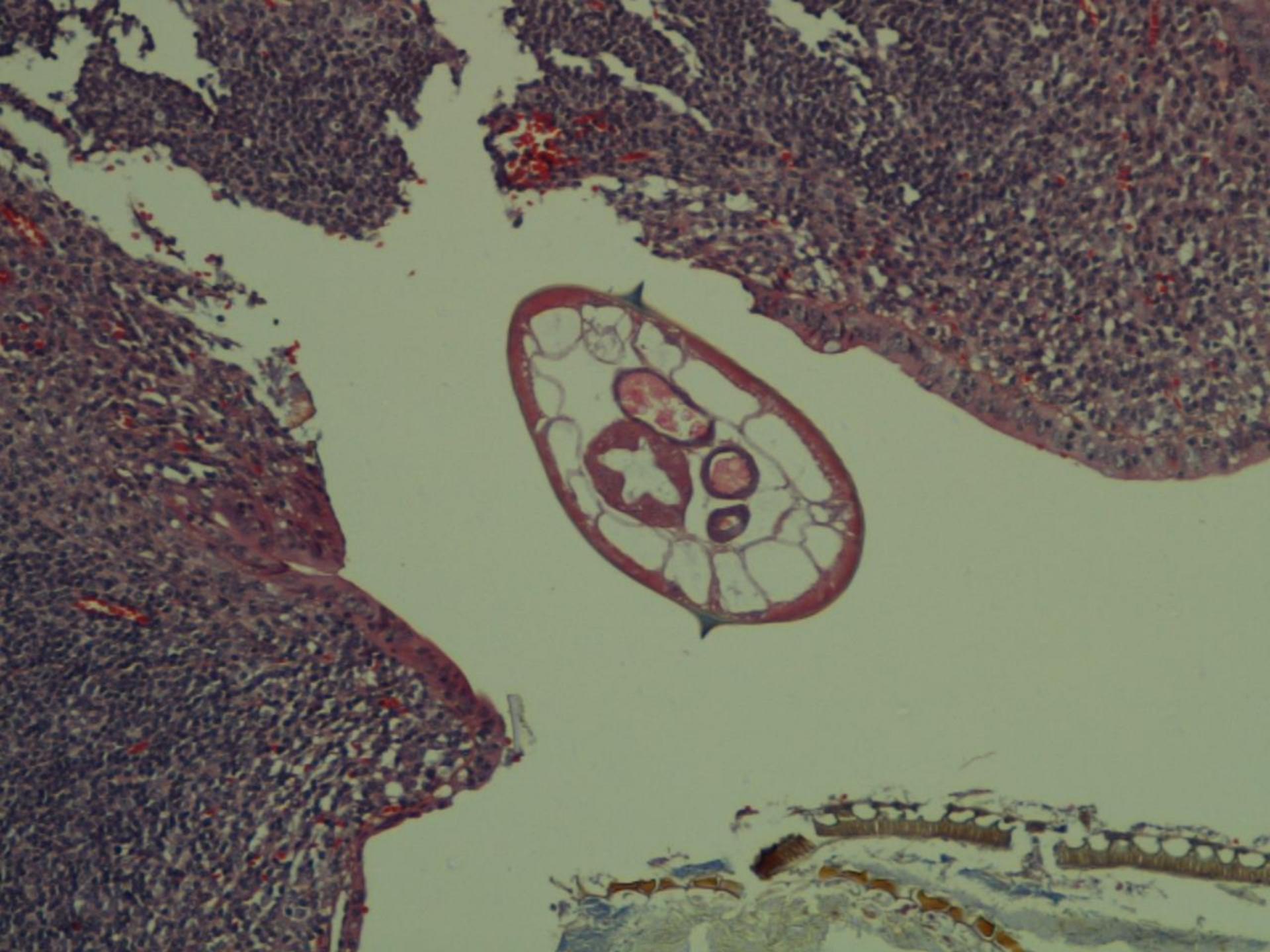


Parasitt ormer (Helminter)

- 1. Nematoder (Rundorm), (mulig 1 mill. typer, 16 000 parasittyper) (digestivsystem åpen i begge ender)
F. eks. Ascariasis, enterobiasis (barnemark), richinose
- 2. Trematoder (Sugeskåler/ heftorganer) (For eks. Schistosomiasis/ Bilharziasis)
- 3. Cestoder >1000 typer, tagger,
Kan bli 30 m. lange, scolex (hode)
- Mikro.:
Mulig ved bl. a.
Lokalisert eosinofili, fibrose, granulomer

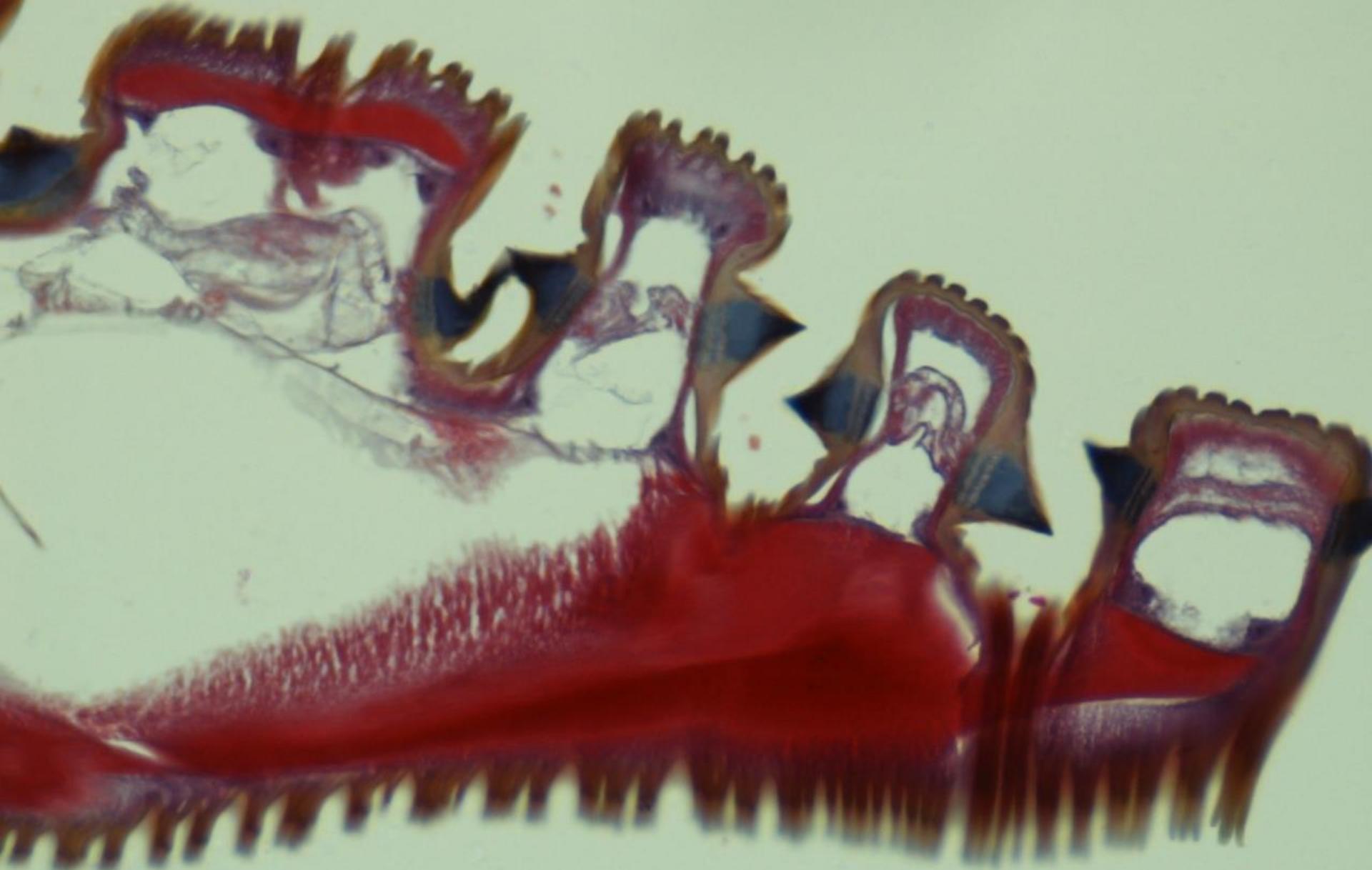
Apéndicite





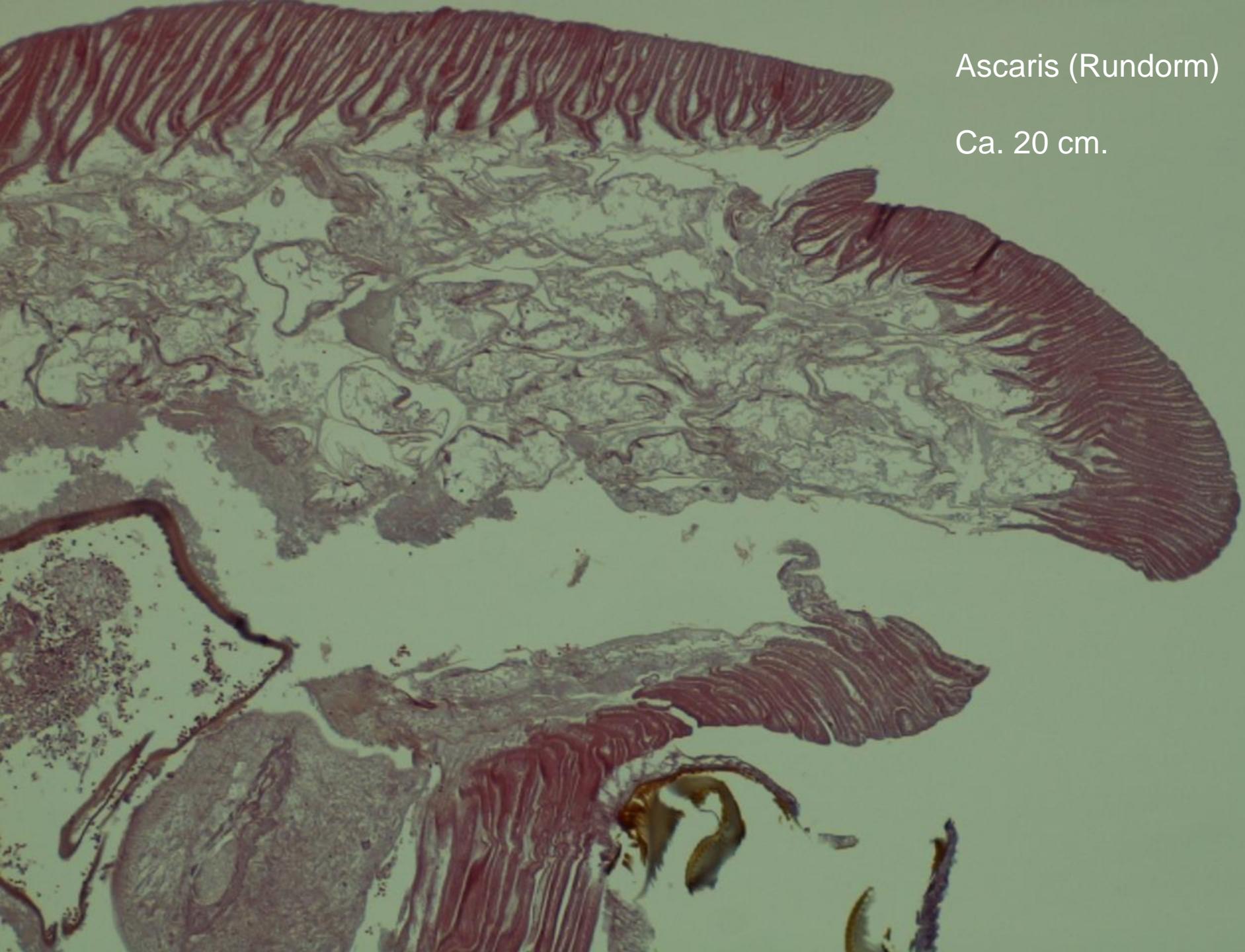
EGG

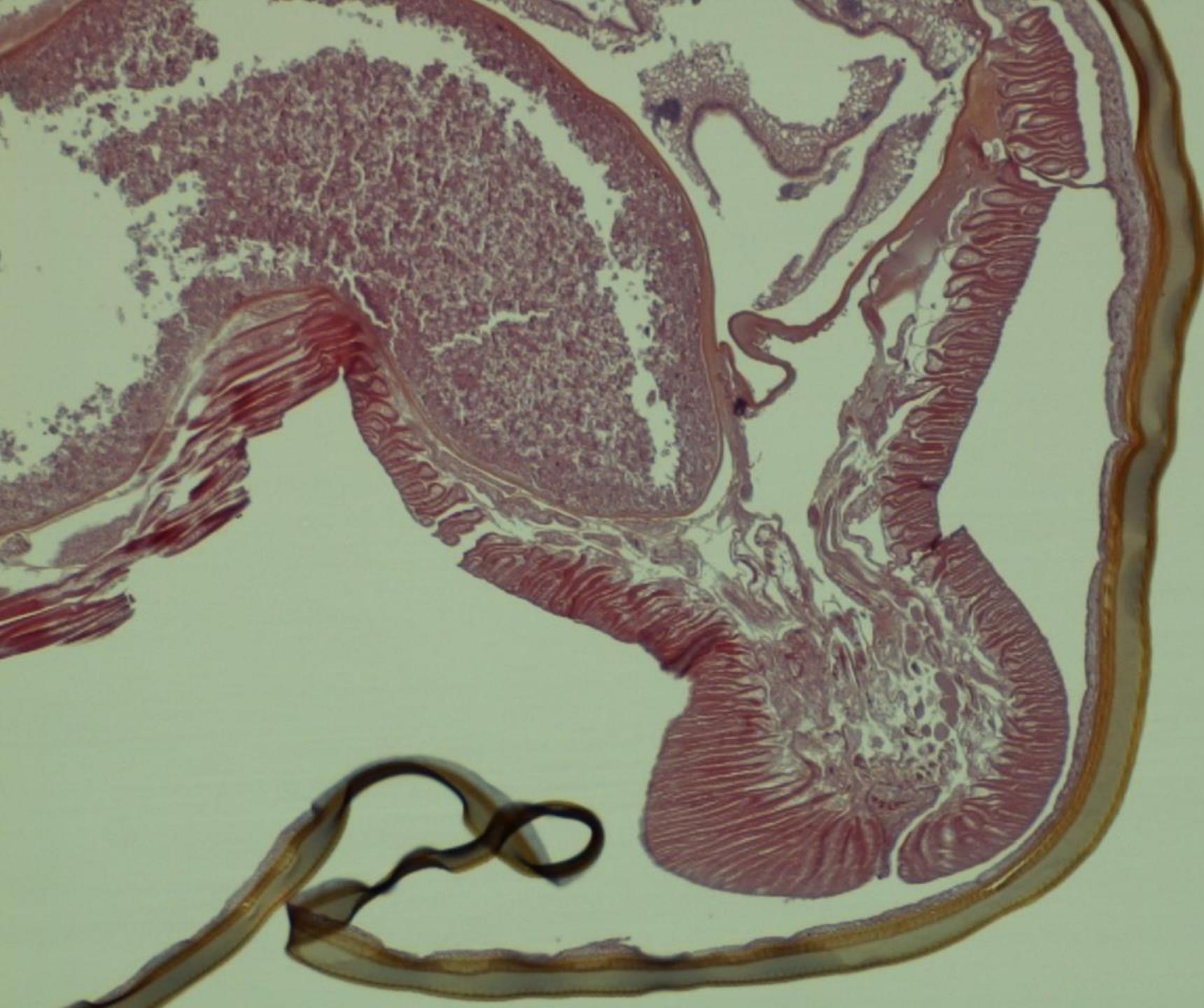
CUTICULA



Ascaris (Rundorm)

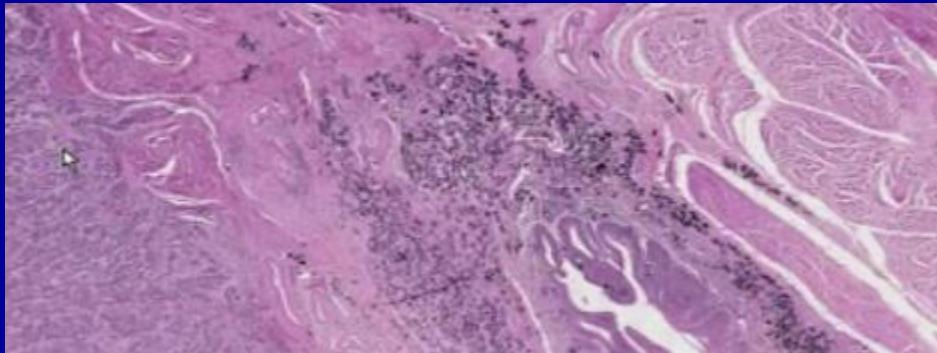
Ca. 20 cm.



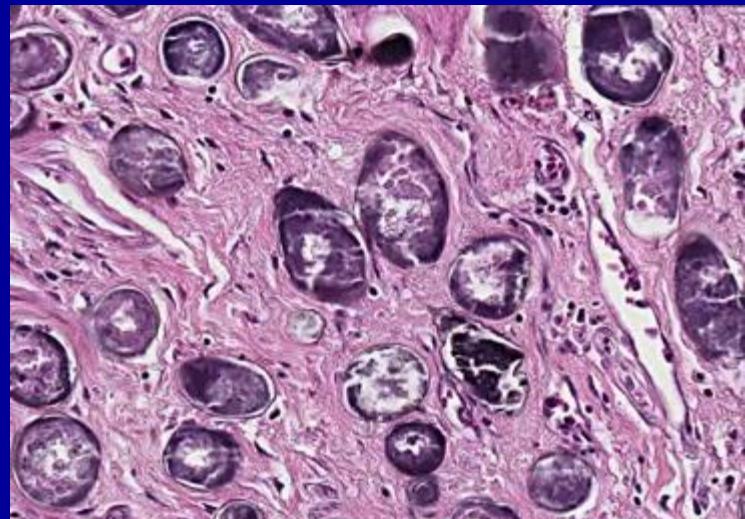
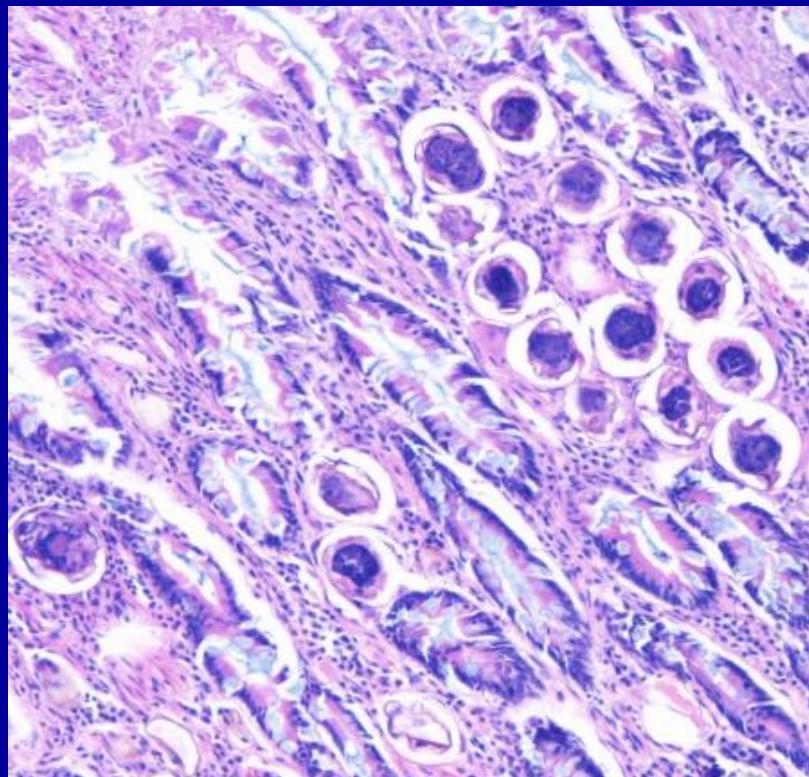
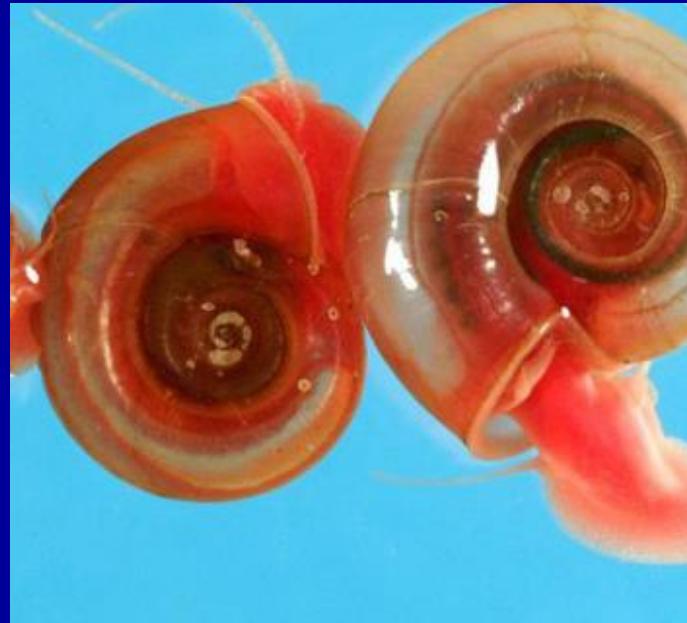


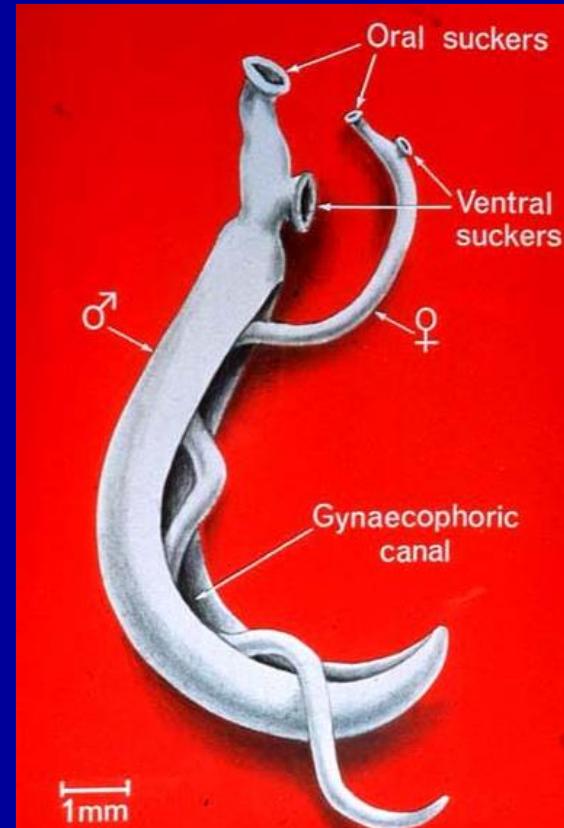
Schistosomiasis

- Trematode av genus *Schistosoma*
- Særlig 3 typer gir humane infeksjoner
- Ofte Afrika
- Lett til alvorlig klinikk
- Smarter/ diarre
- Urinblære: kan gi plateepitelkarsinom
- Skopi: betennelse, ulcerasjon, "polypper"
- Mikro: betennelse/ granulomer/ egg



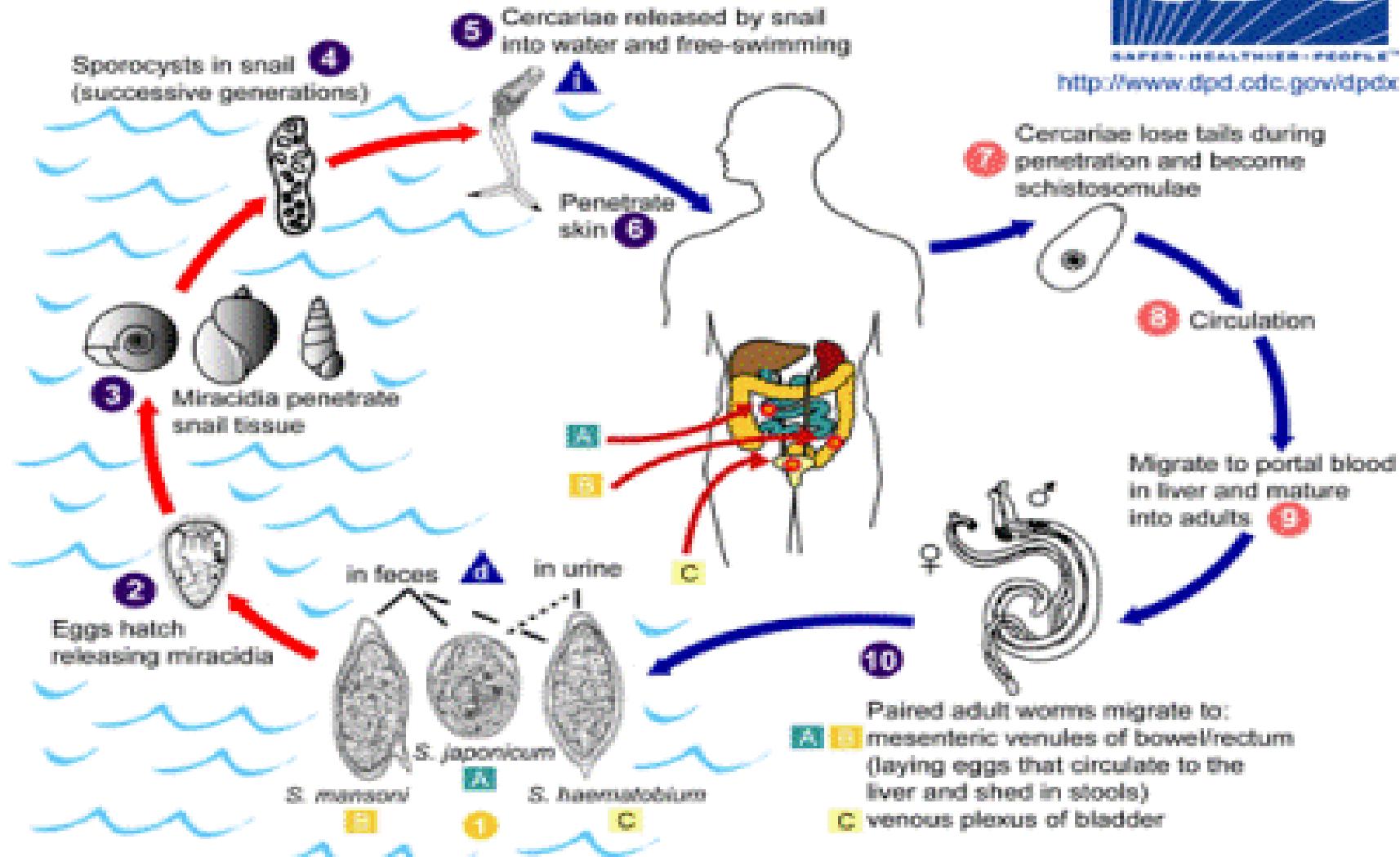
Schistosomiasis, colon



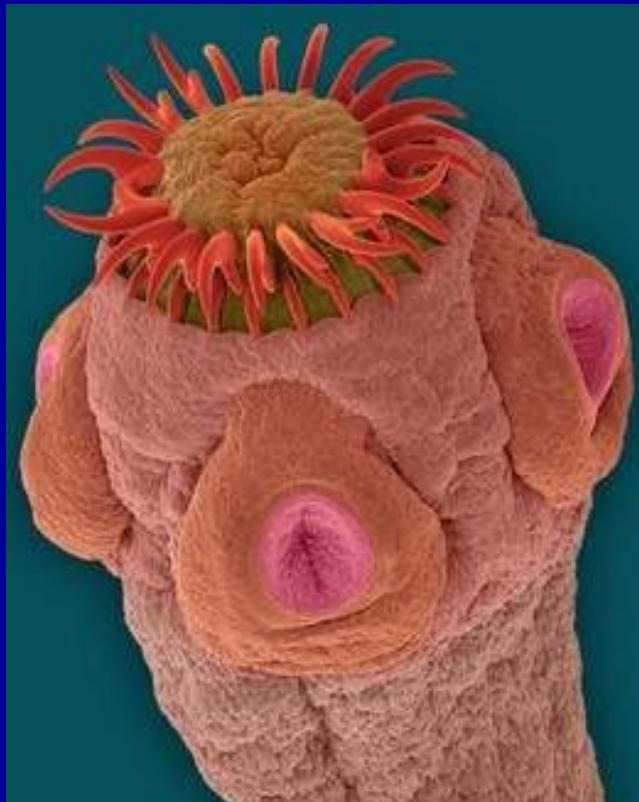


Unike egg !
"Hake"

 = Infective Stage
 = Diagnostic Stage



Cestoder F. eks. Tapeworms



Viktig: Det mikroskopiske blikk !

