



BAMRAS-VM, An Internet-Based Virtual Microscopy for Proficiency Testing

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2. Webis Co. Ltd.

Microbiological Diagnosis

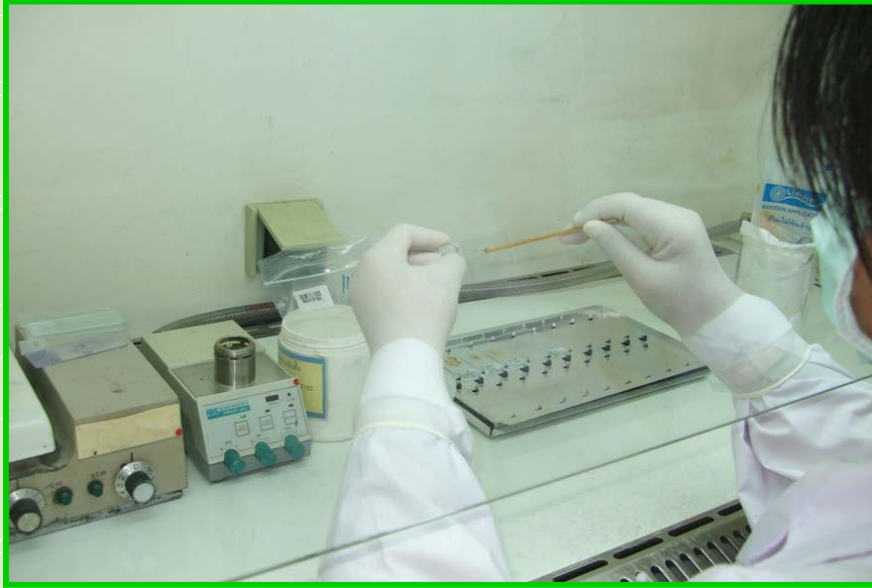
Culture & Identification

- now organism's name
- 3-5 days

Staining

- observe characteristic
- preliminary report
- may not exactly know organism's name
- < 1 hour

Laboratory Diagnosis by Staining



Smear specimen on slide



Staining

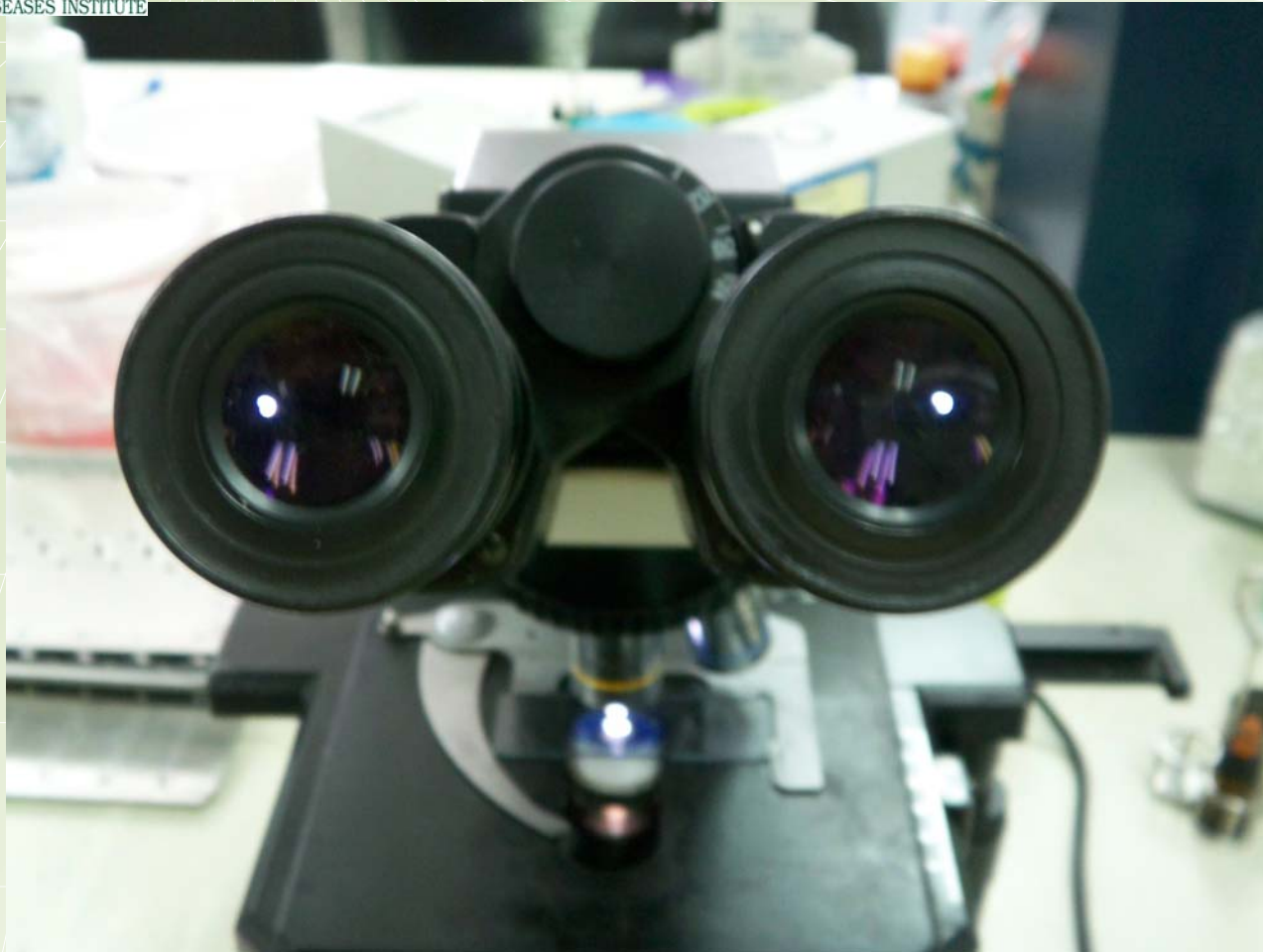


Microscopic exam and reporting

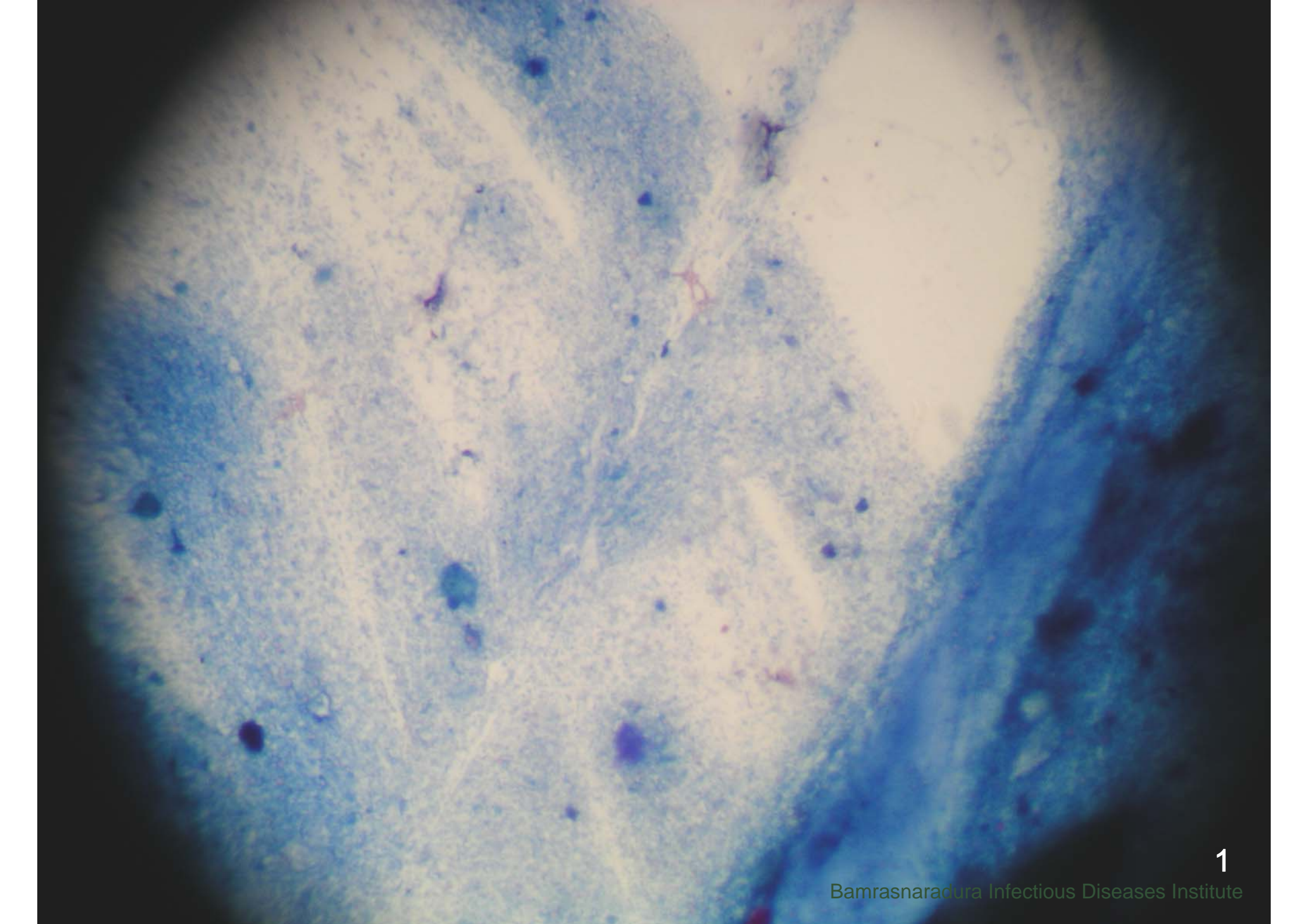


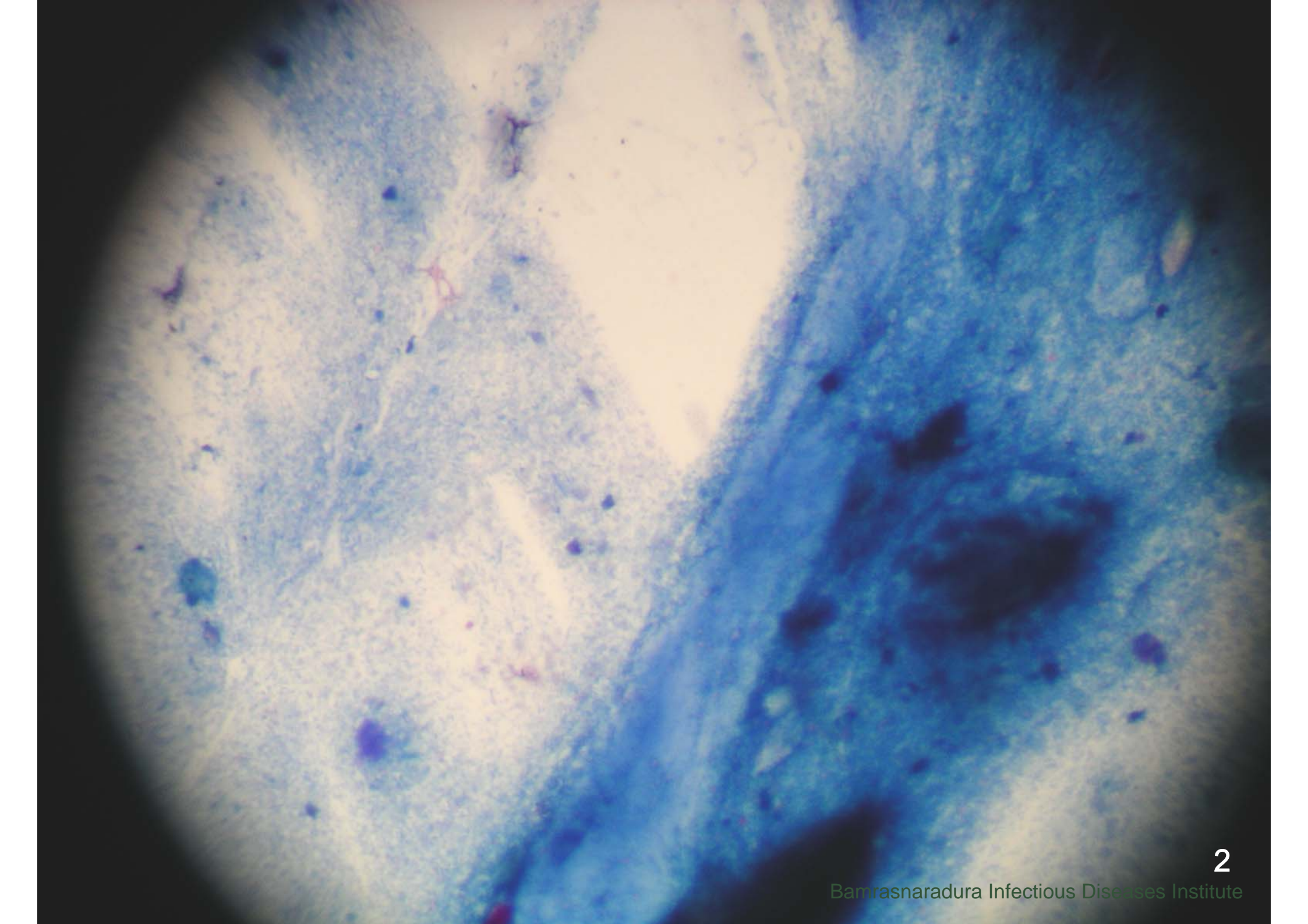
Put slide on stage

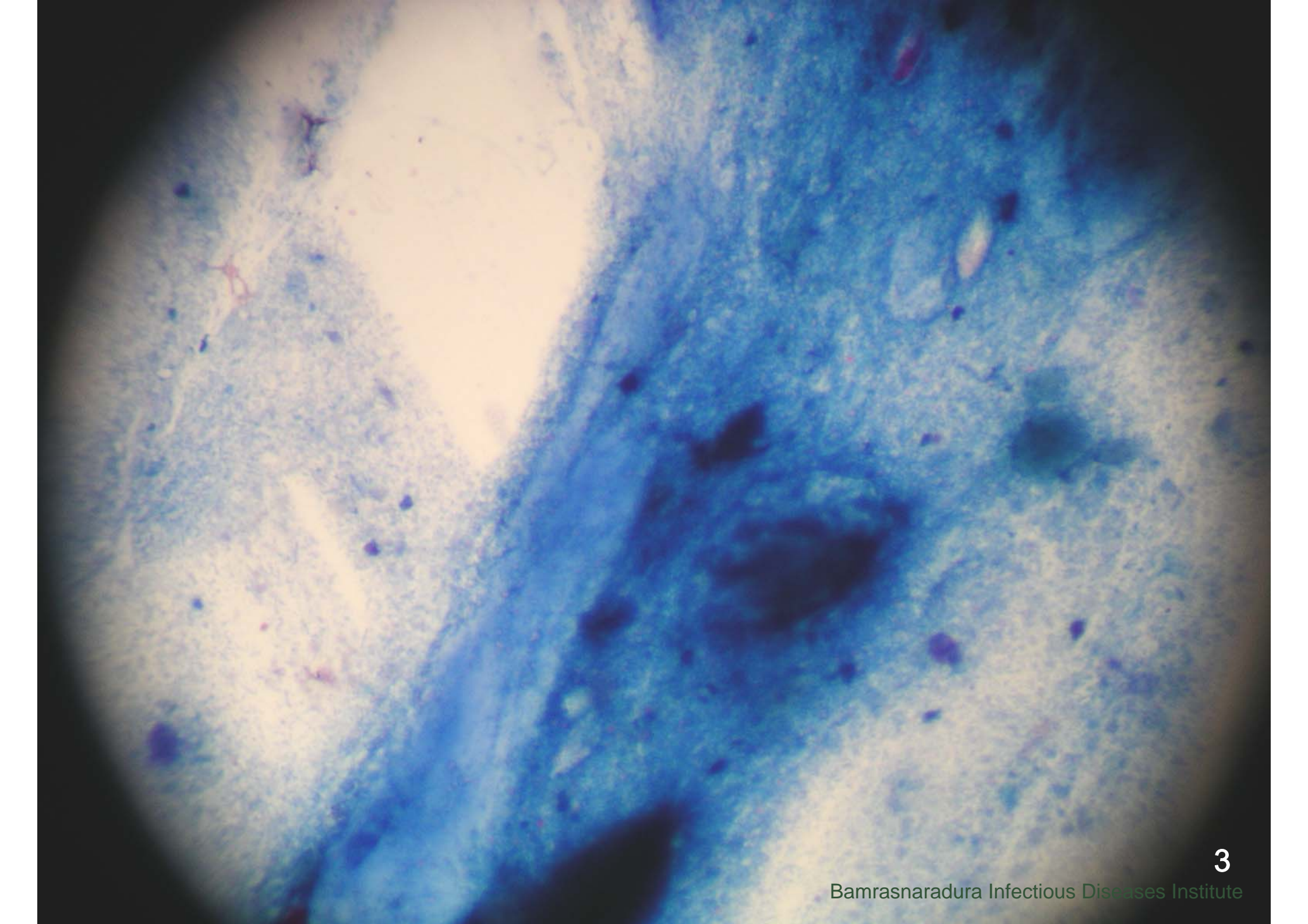
Laboratory Diagnosis by Staining

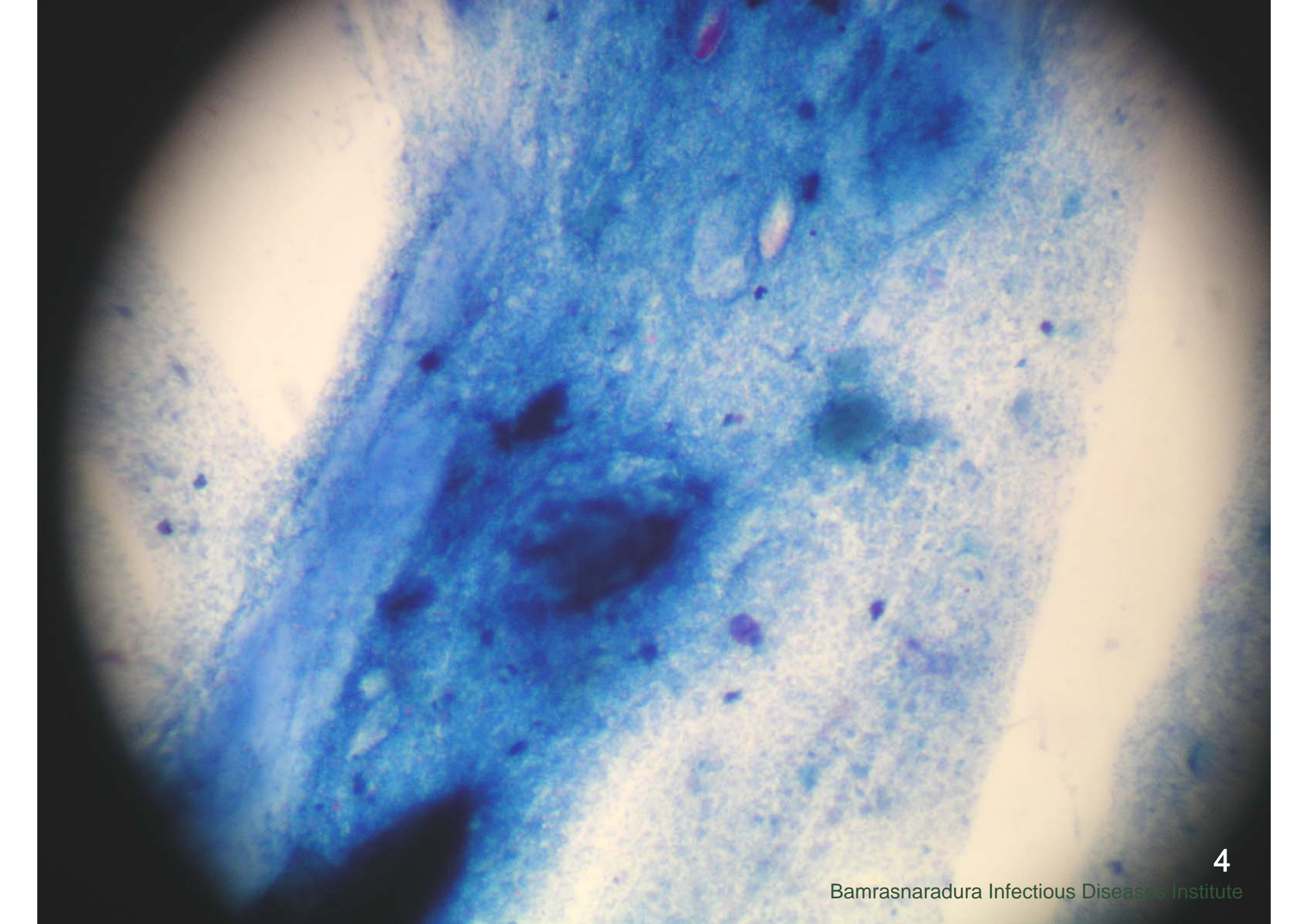


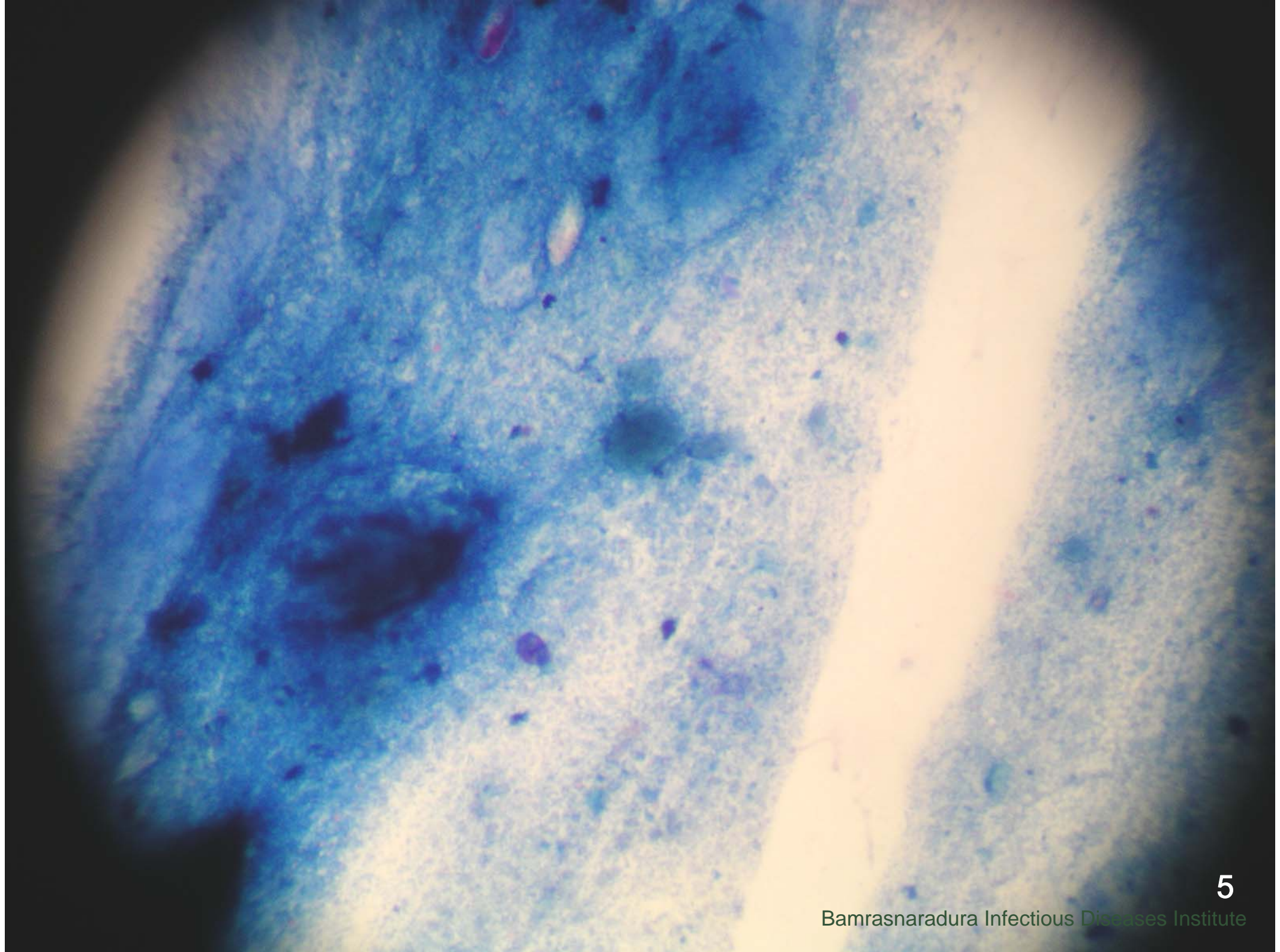
Examination

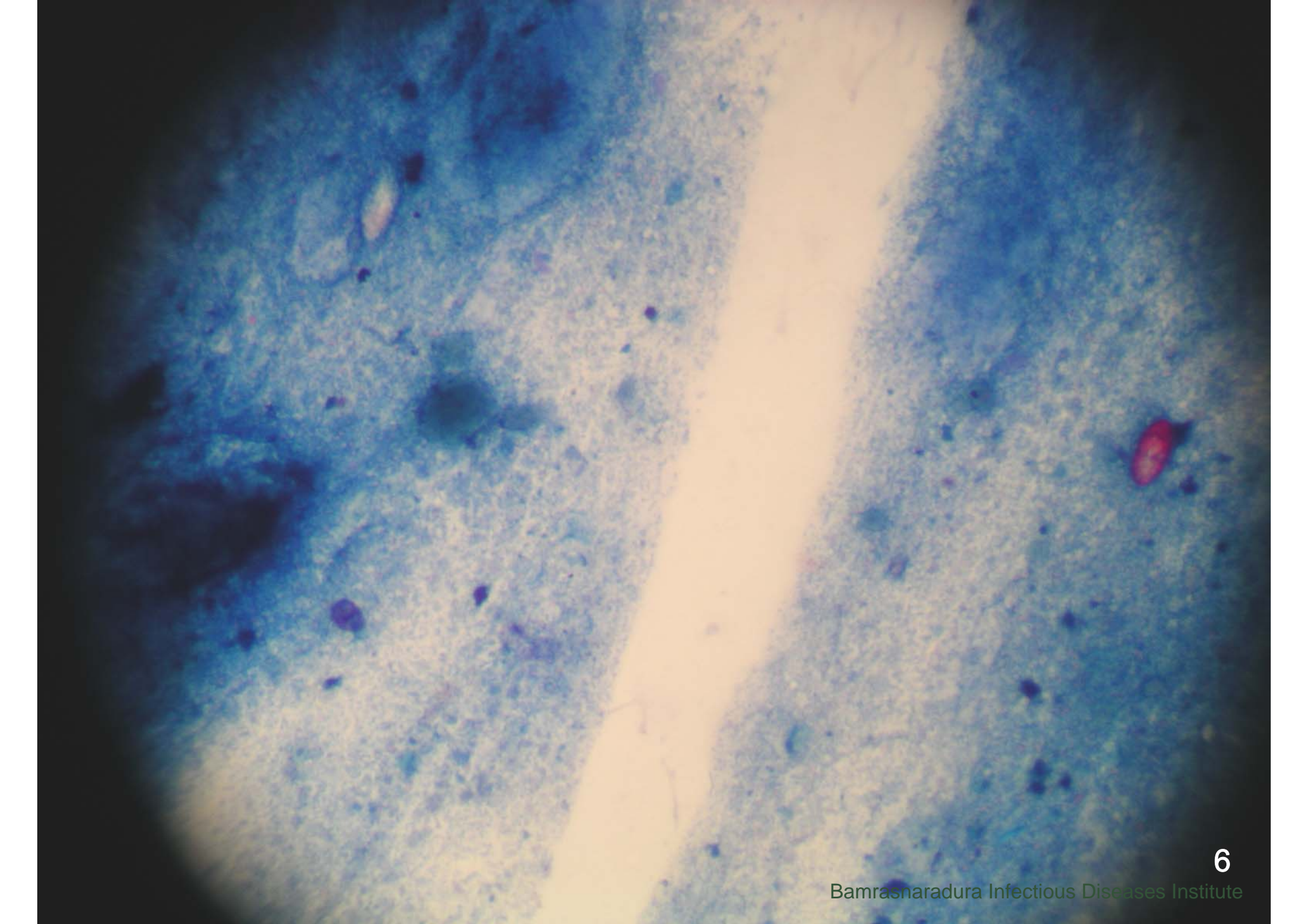


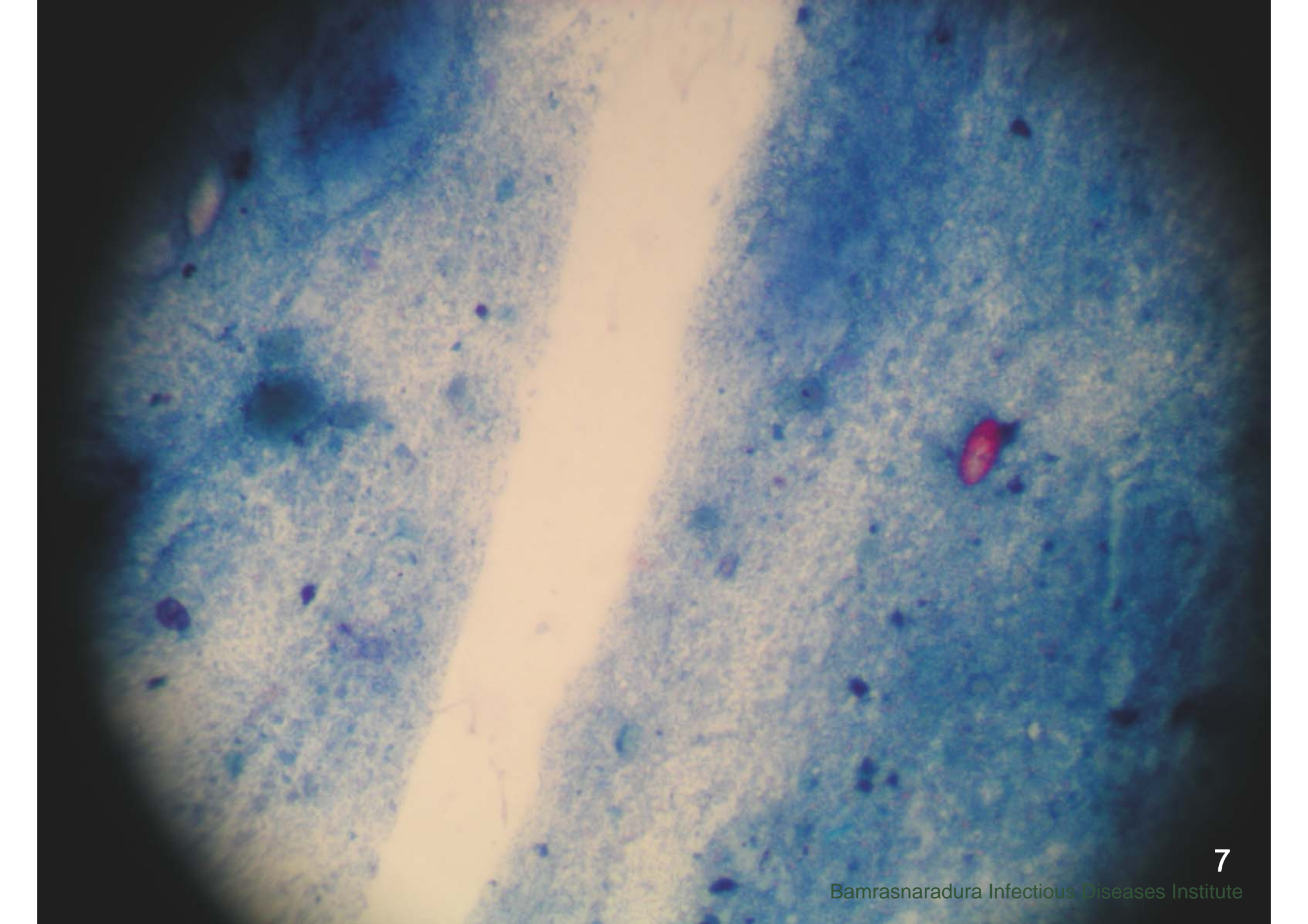


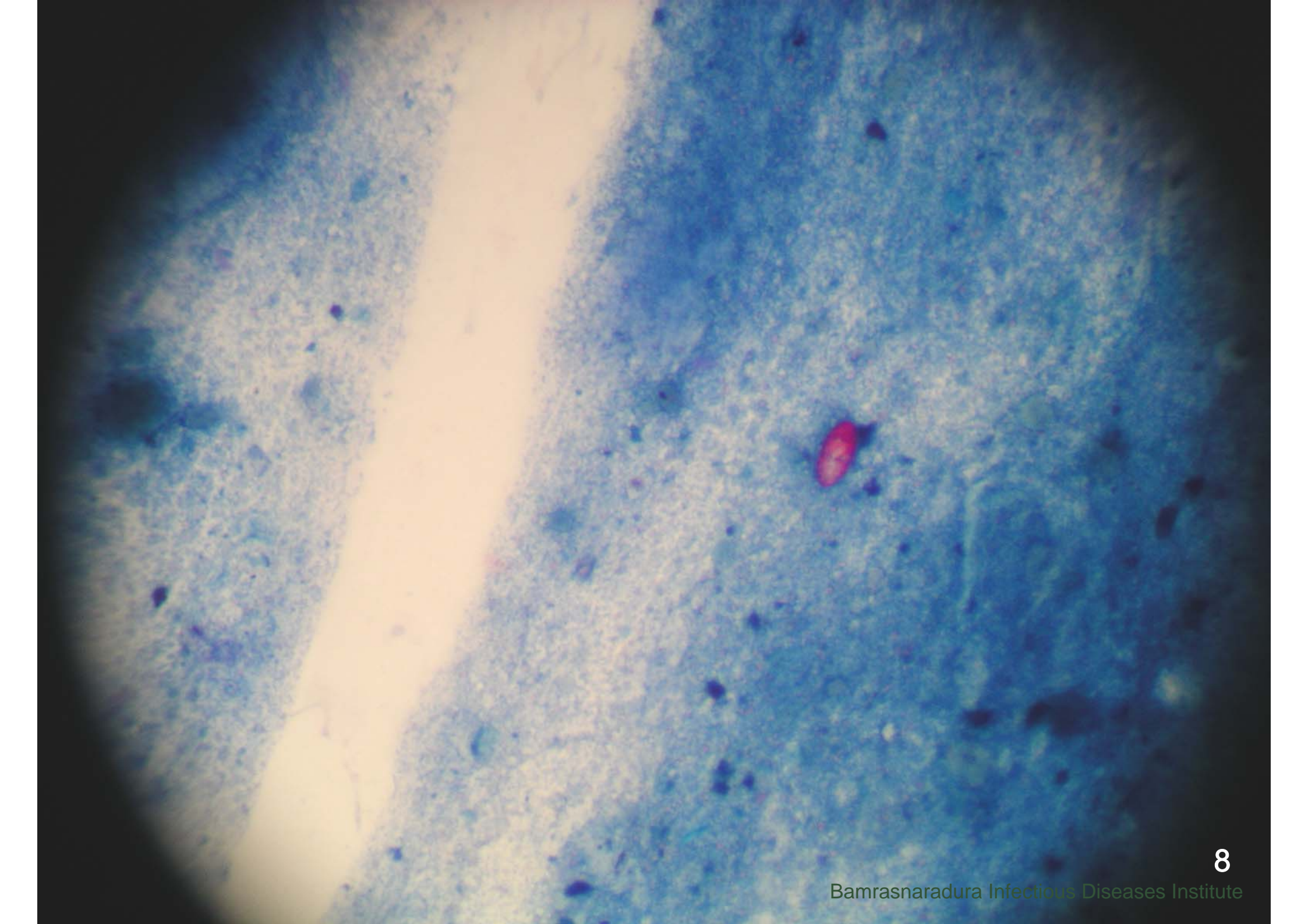




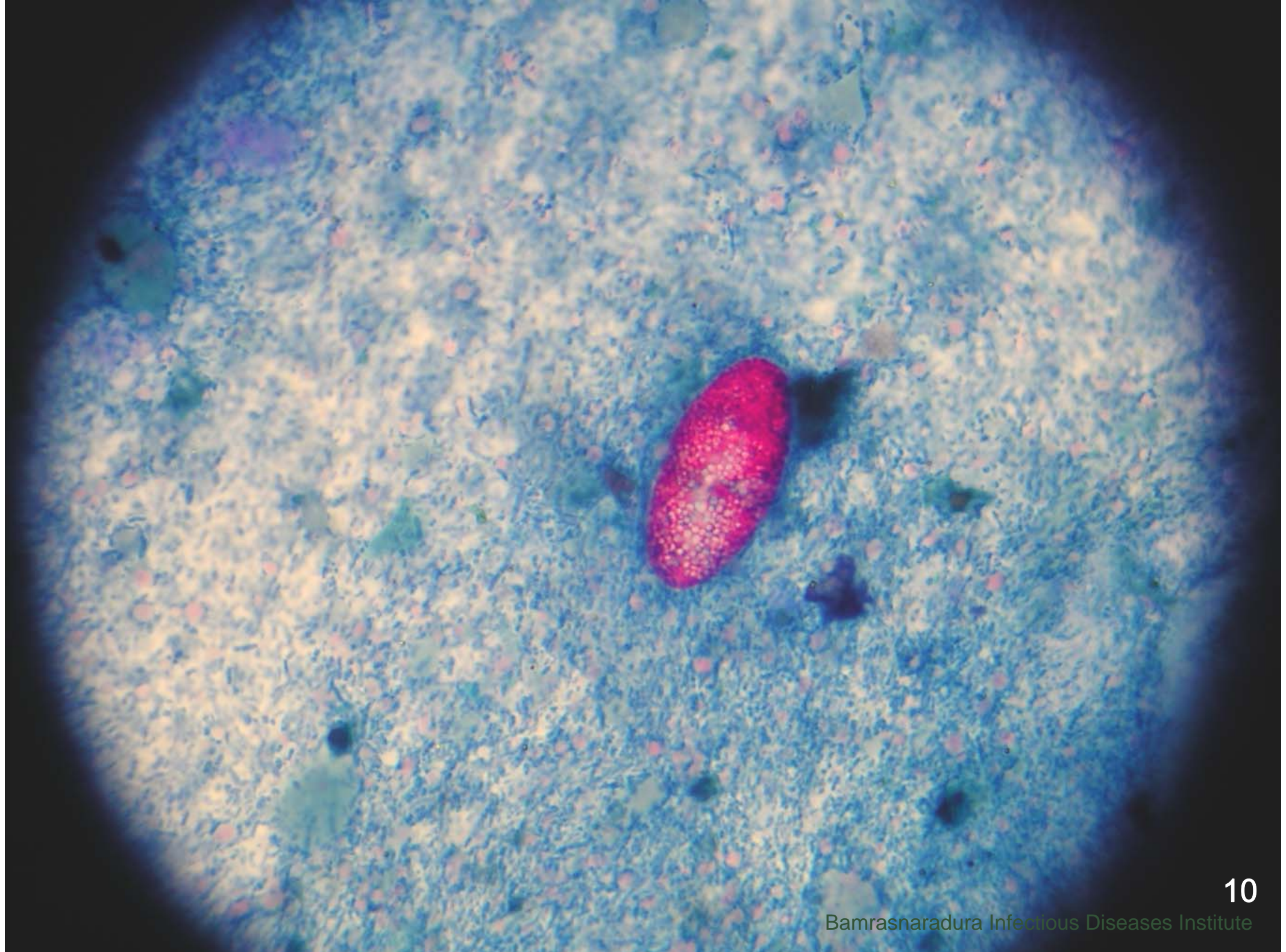














HIV / AIDS patients :

- ❖ Low immunity

Opportunistic pathogens :

- ❖ Can infect in unusual organ
- ❖ Multiple infection may occurred

Lab technician :

- ❖ Knowledge
- ❖ Skill

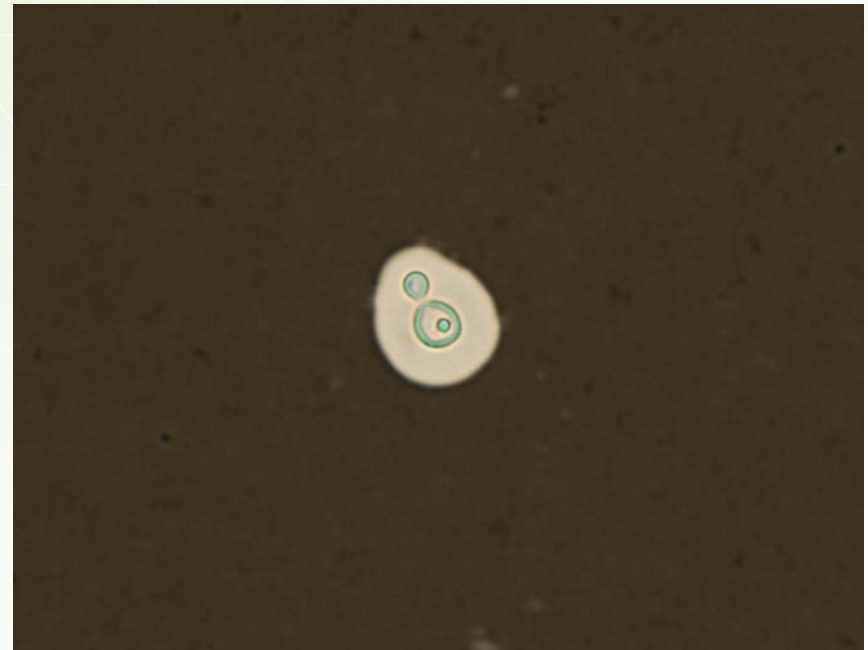
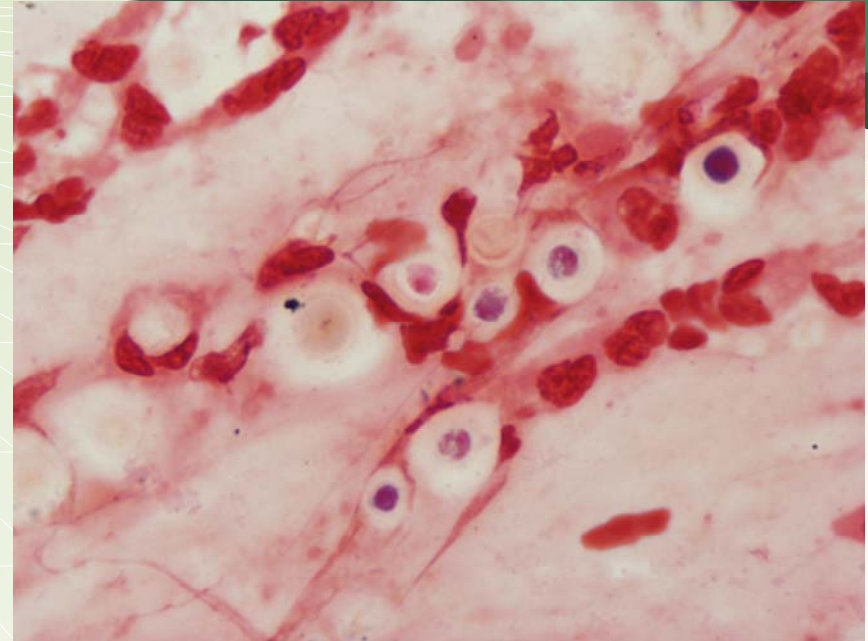


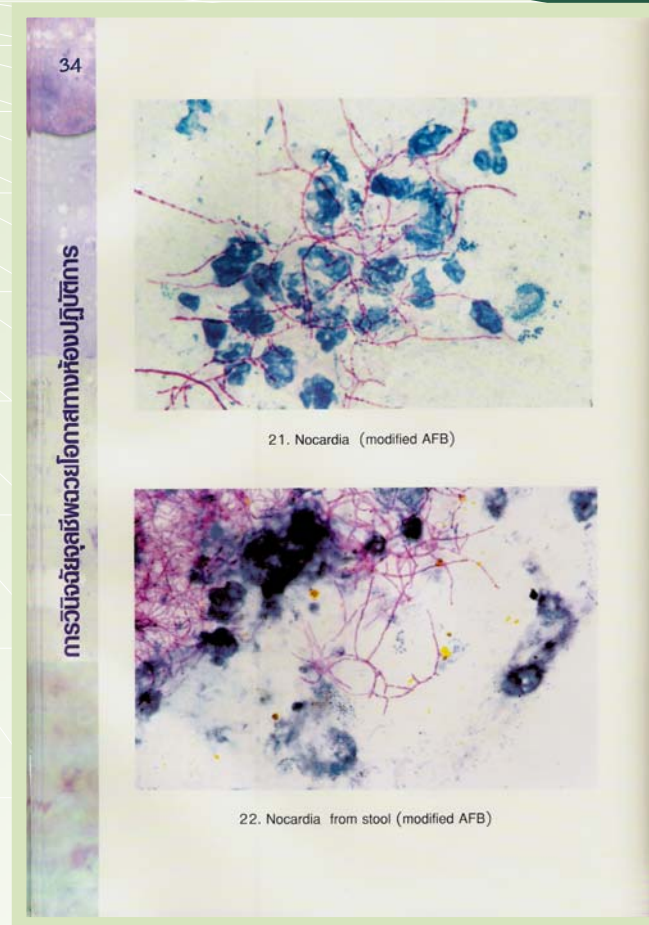
sputum Gram stain
was requested



Cryptococcus
was detected

Example of problems





**Bamrasnaradura Infectious Diseases Institute
provide training on microscopic diagnosis of OIs
after training – not practice - forget**

- ❖ conducted a Proficiency Testing program on direct microscopic exam of OIs
- ❖ unstained slides from specimens sent for staining and reporting



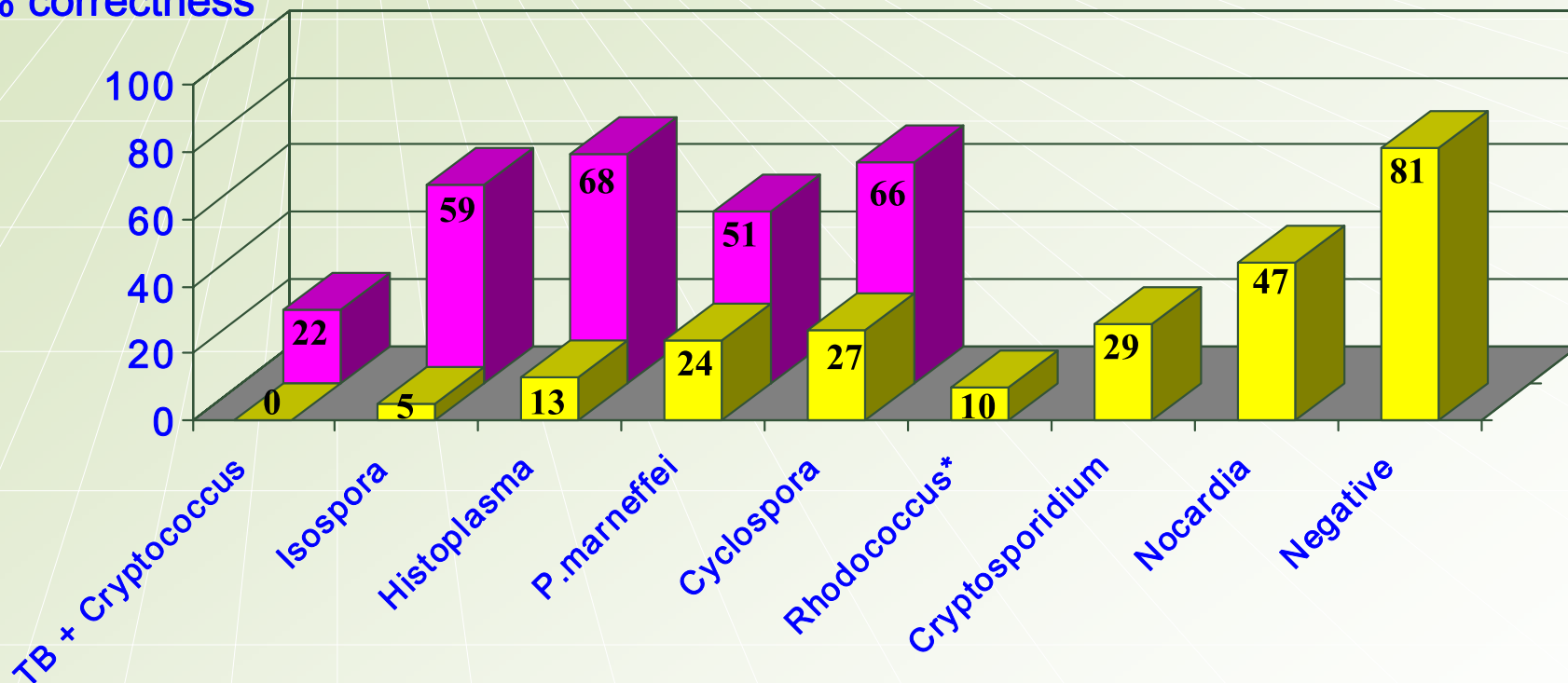


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Rationale

Percent correctness in microscopic exam of OIs

% correctness



Microscopy still very important



Neglected microscopy ?

■ before training
■ after training

Advantage of sending slide

- ❖ participant can examine from real specimen

Limitation

- ❖ preparation very difficult
- ❖ less specimens
- ❖ may not sustain for long

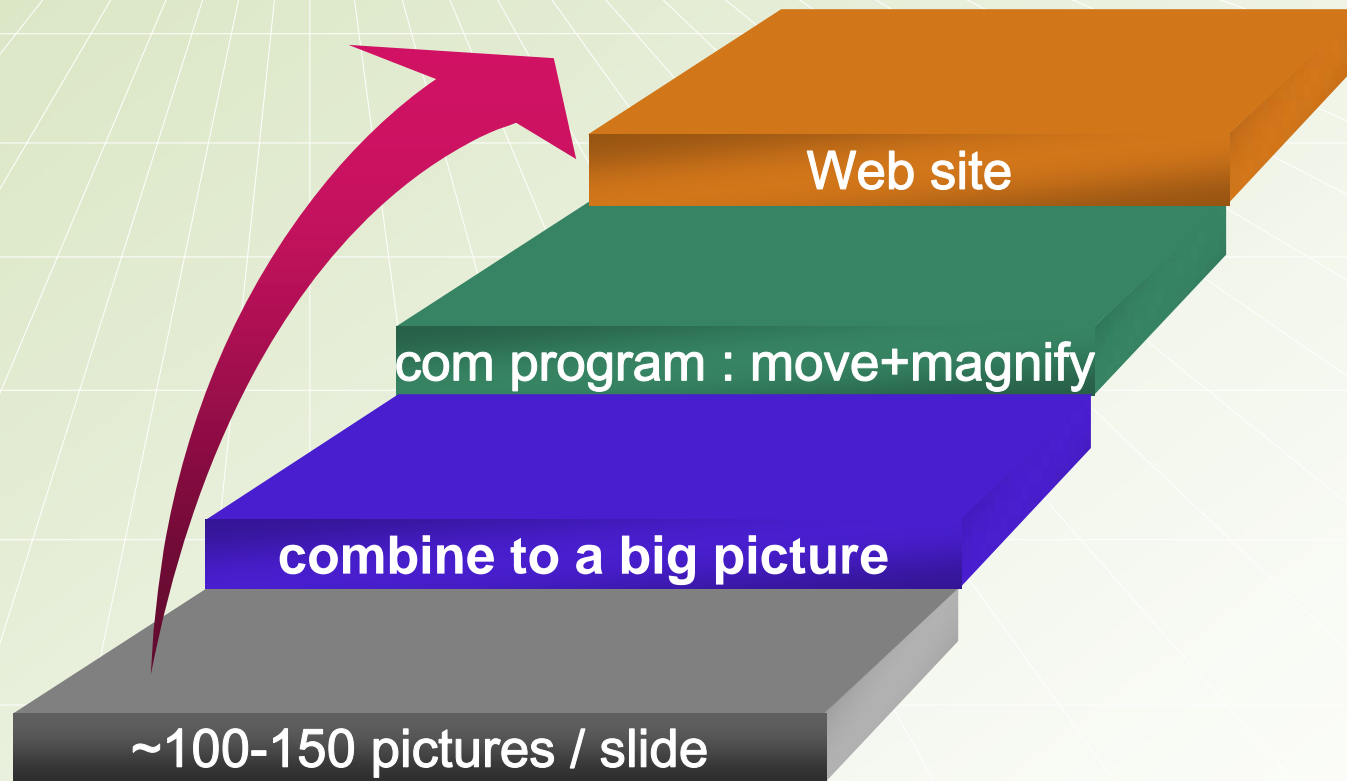


Google Earth

❖ resemble microscopic examination



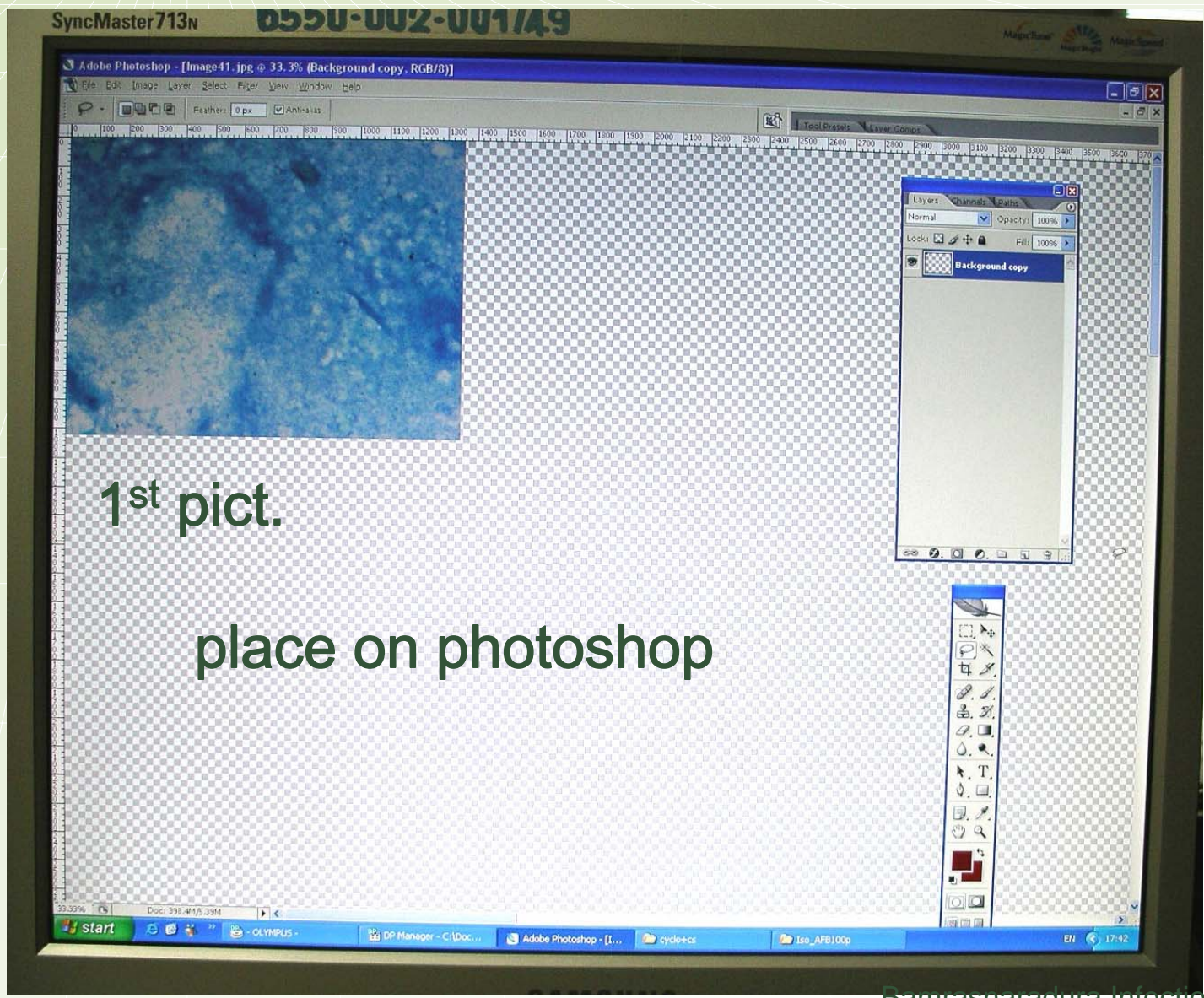
Virtual microscopy





3

Virtual microscopy

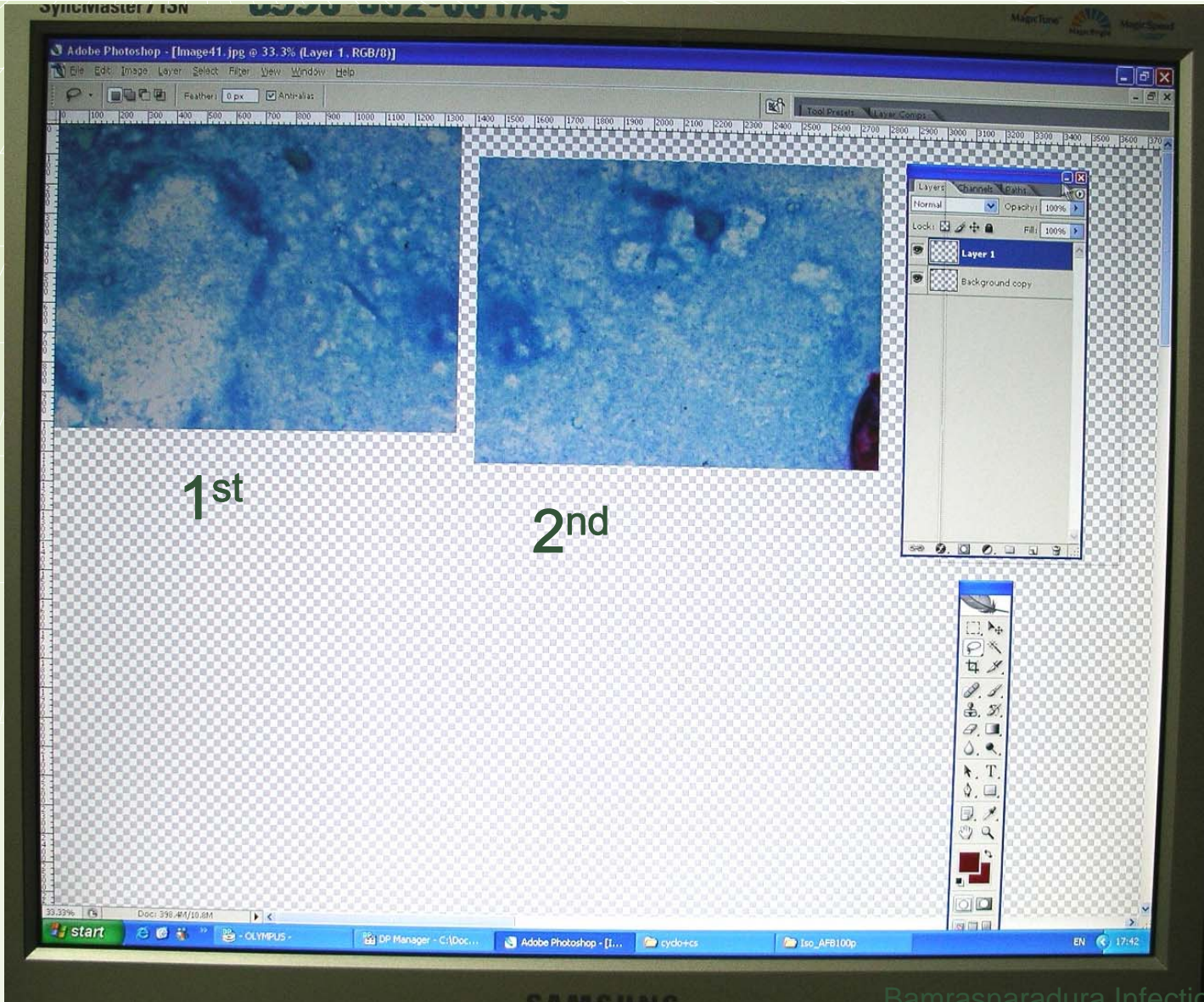


1st pict.

place on photoshop



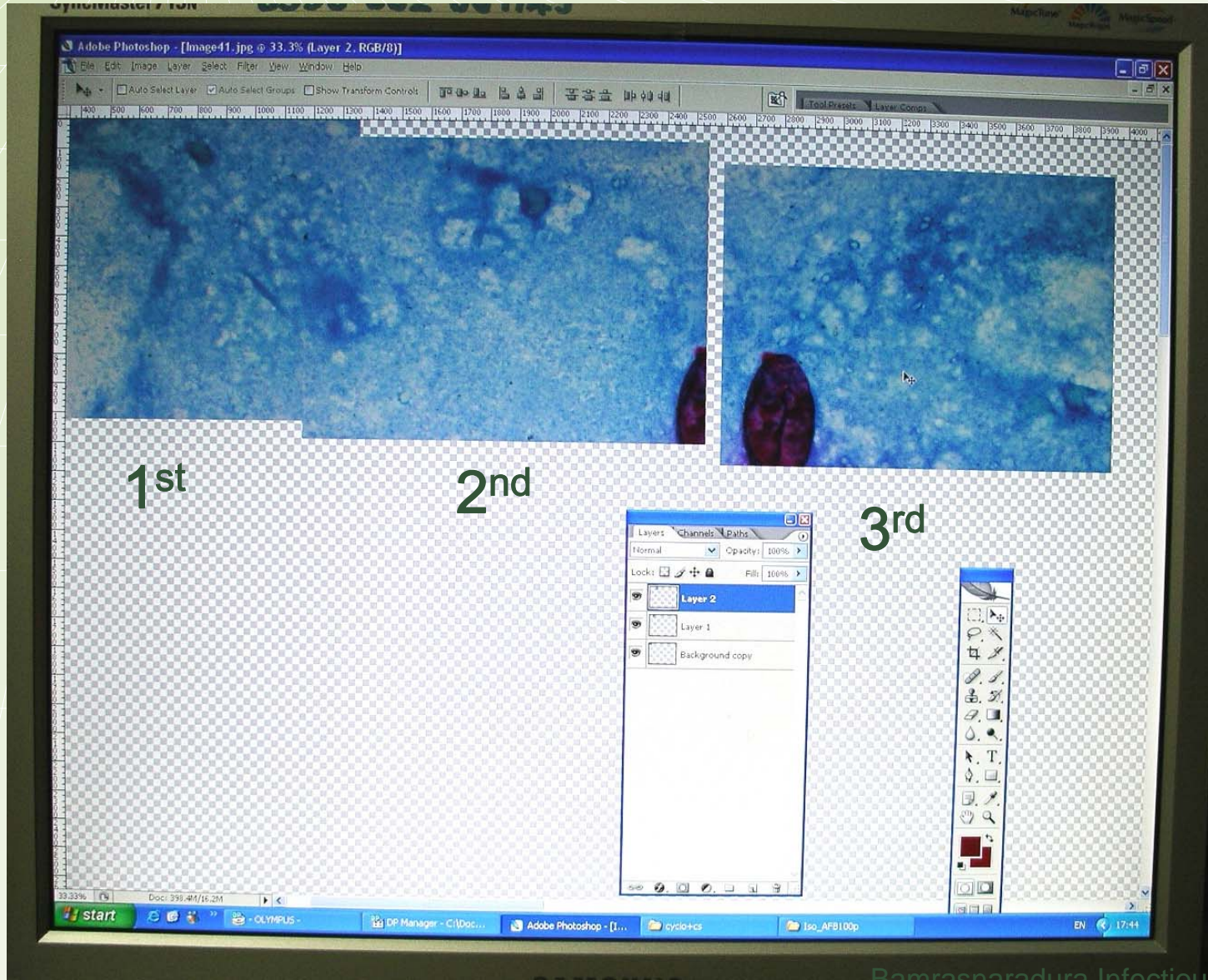
Virtual microscopy

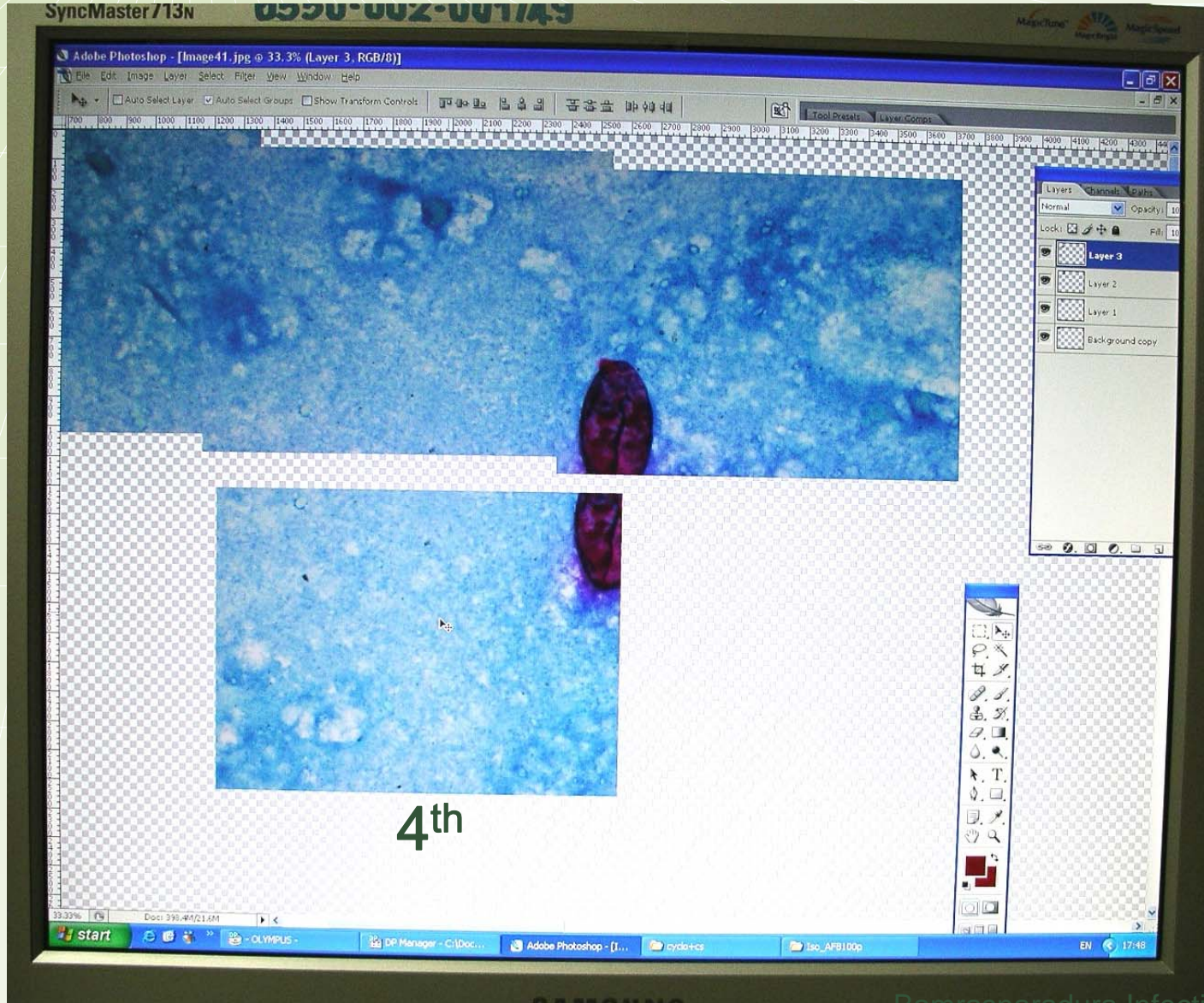




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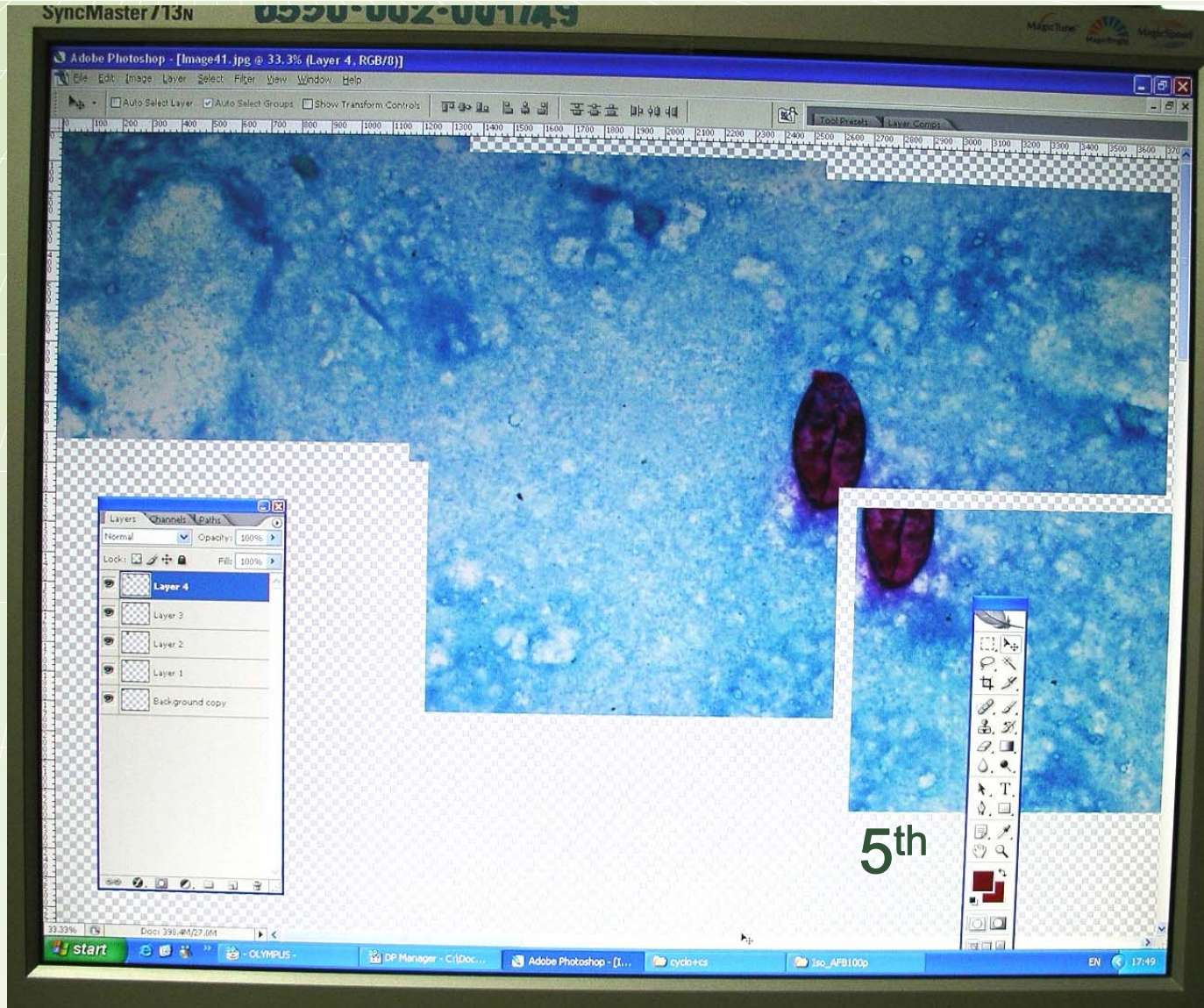
Virtual microscopy





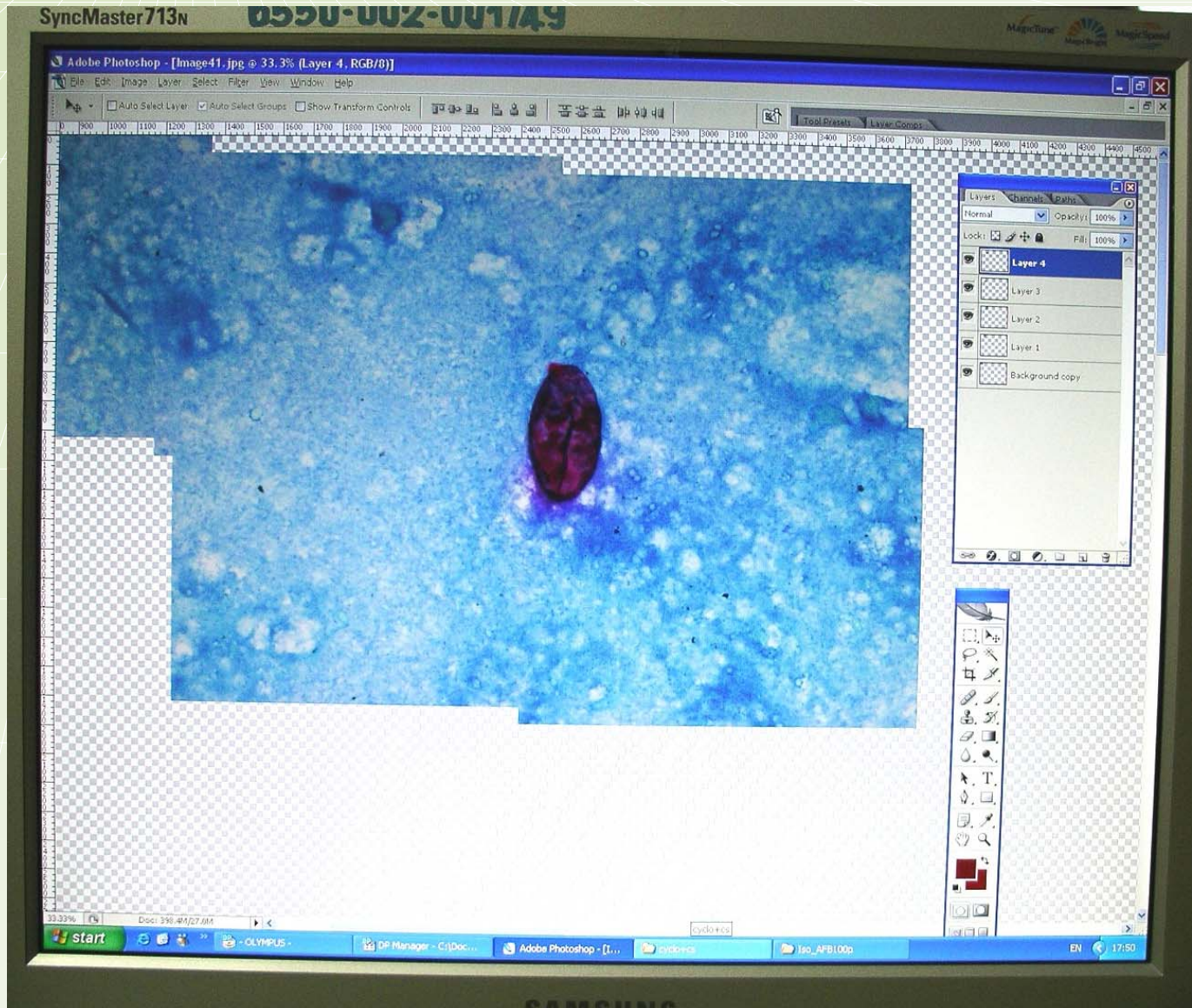


Virtual microscopy





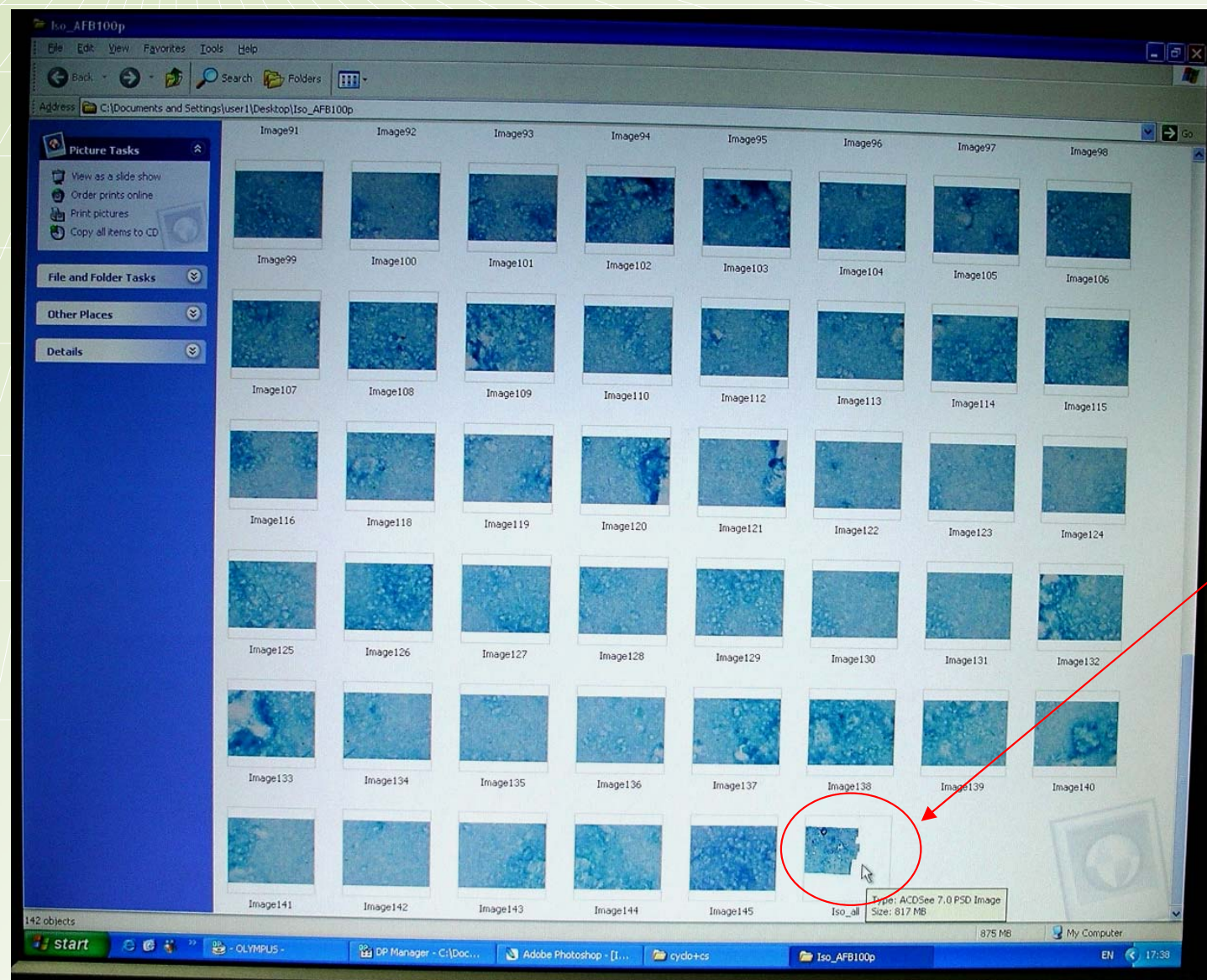
Virtual microscopy





3

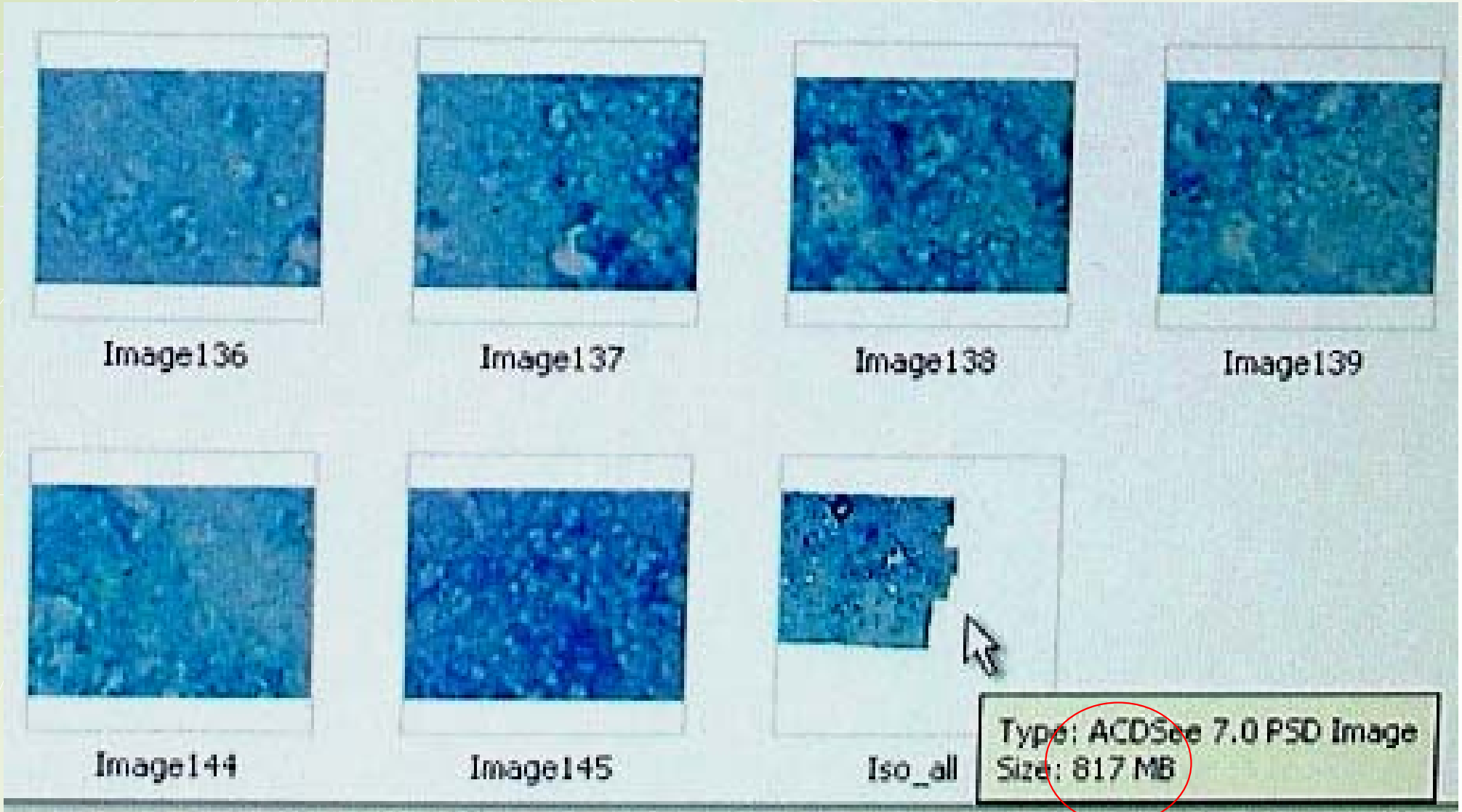
Virtual microscopy



combined picture

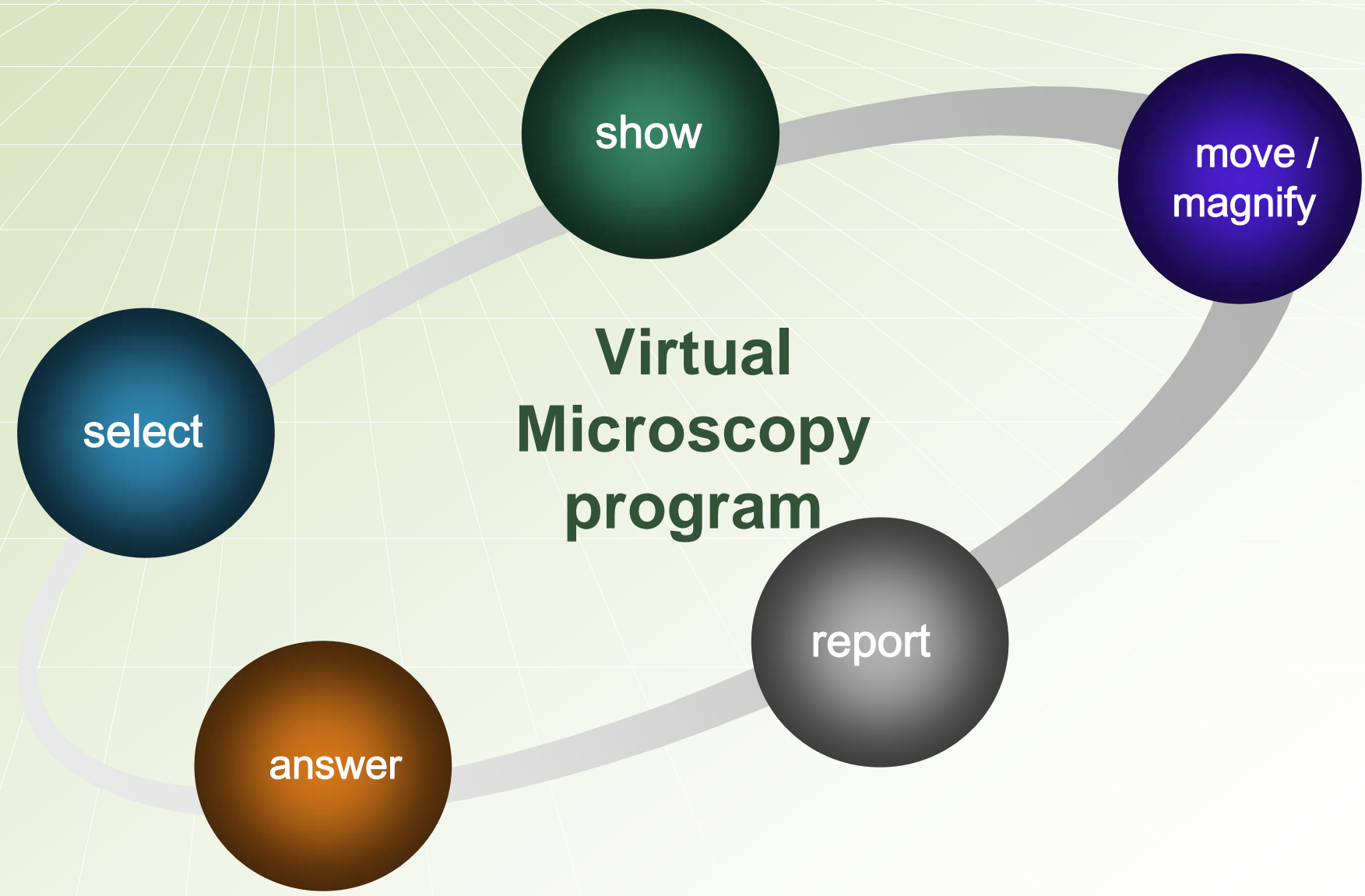


Virtual microscopy





Virtual microscopy





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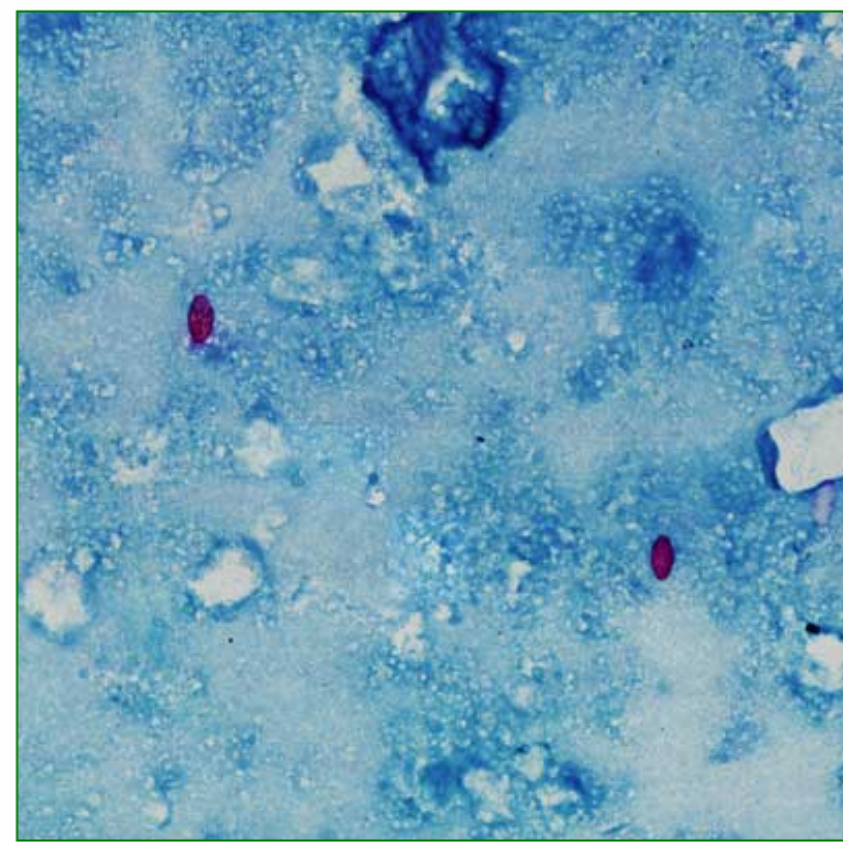
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Stool - AFB

Specimen Detail

Type: Stool

Stain: AFB

Movement

Zoom

Question

What is this specimen infected?

Select your answer

Please select answer.

Log Viewer

Please select user's e-mail to view their log.

Name	E-Mail	Login	View	Answer	Correct	% Correct
Boonchuay Eampokalap	boon.eam@gmail.com	4	4	1	1	100%
anurat eiamphoklarp	rhymerealm@gmail.com	2	1	2	1	50%

example of report

Dashboard - Google Analytics - Microsoft Internet Explorer

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Dashboard

Jan 1, 2008 - Sep 30, 2008

Visits All Visits Graph by:

Site Usage

232 Visits	25.00% Bounce Rate
1,625 Pageviews	00:05:35 Avg. Time on Site
7.00 Pages/Visit	50.00% % New Visits

Done Internet

Tracking the number of visit

Bamrasnaradura Infectious Diseases Institute



phase 1

- ~10 pictures
- basic program

phase 2

- ~30 pictures
- data analysis
- knowledge based etc.

Future

- Other :
hematology,
microscopy
- CMTE
(cont. edu.)

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