Strongyloides stercoralis, a silent killer

A case-report

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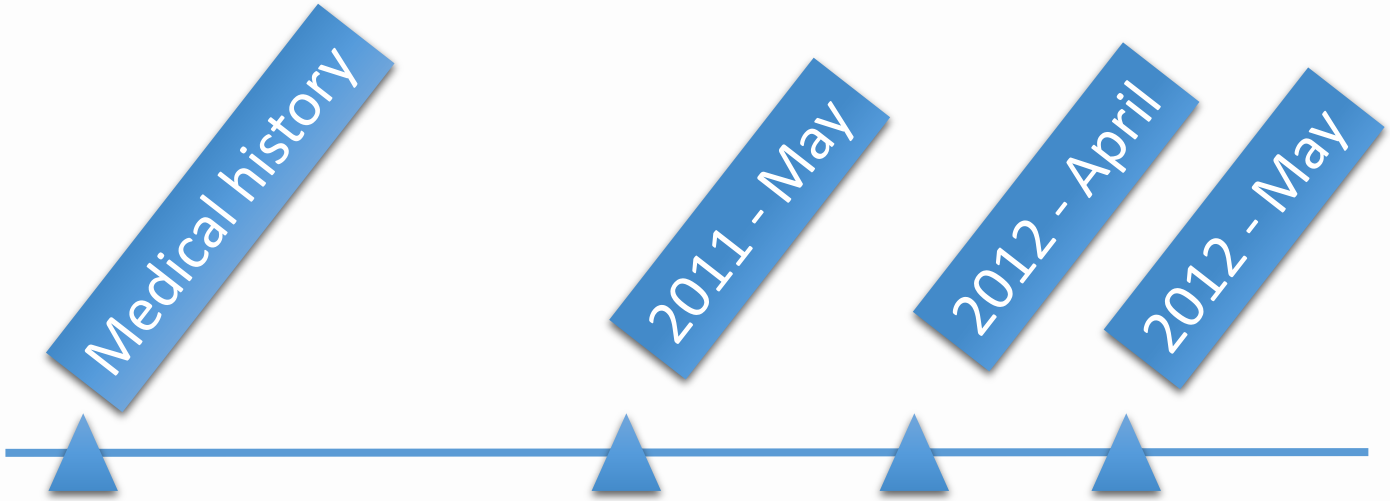
zuyderland

- Male patient, 57 years of age

  origin from Liberia

Medical review

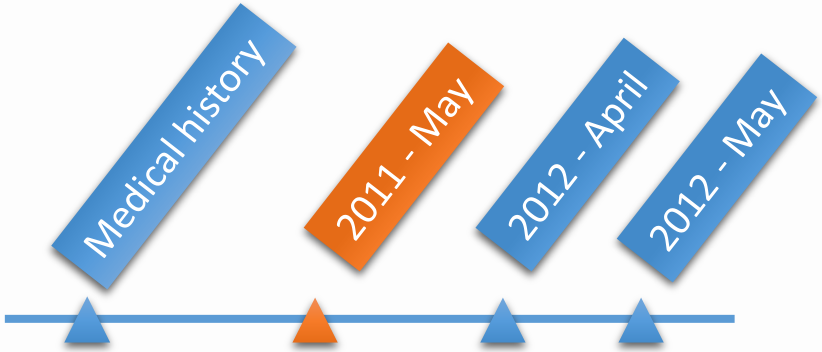
- Time-line



Medical review

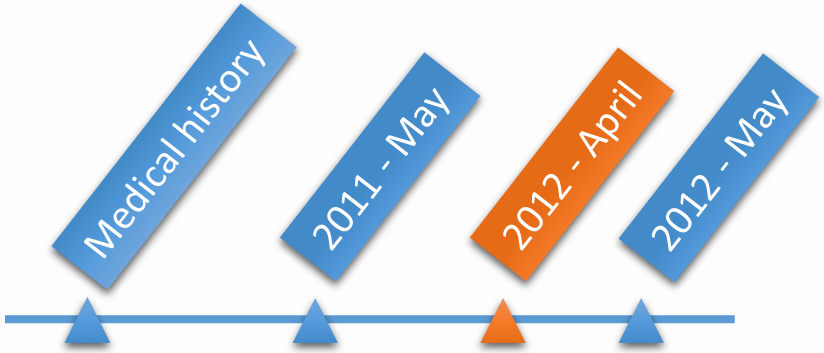
- Patient origin from Liberia
- Living for 9 years in the Netherlands

- Medical history:
  - Chronic hepatitis B
  - Diabetes type II



- A year earlier (2011 – May):

  Diagnosis of non-Hodgekin lymphoma (NHL) treated with chemotherapy



- A month earlier (2012 – April):

Hospitalized due to [illegible]piratory complaints

- Symptoms: vomit[illegible]
- Fever remained [illegible]um antibiotics
- Infiltrate shown [illegible]
- LAB results

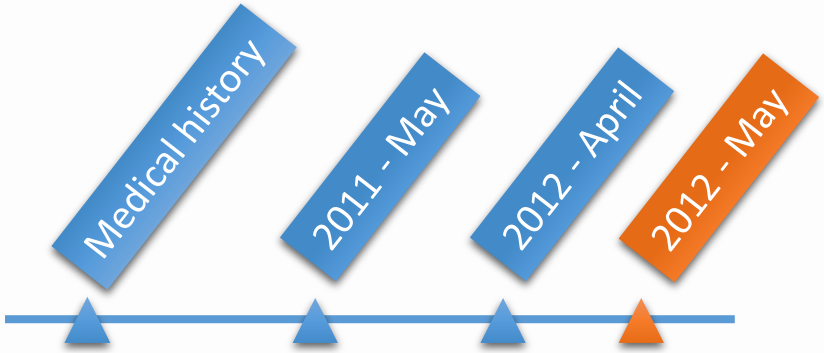
Hb: 7.4 mmol/L ↓
Hct: 0.35 L/L ↓
RBC: 4.09 x10E9/L ↓
WBC: 1.2 x10E9/L ↓
Neu: 0.8 ↓
Eos: 0.07
Monos: 0.1 ↓
Lymphs: 0.3 ↓
PLT: 124 x10E9/L ↓

CRP: 101 mg/L ↑

- Suspicion of PCP => TMP-SMX (Cotrim) therapy was started combined with prednisone

After the treatment the patient was discharged from the hospital in good clinical condition.

- Recent (2012 – May):



Hospitalized due to general weakness and abdominal complaints

- Symptoms: headache, diarrhea, vomiting, nausea, fever

After extensive diagnostic examinations however no cause was found.

After 14 days, because of the persistent vomiting, a gastroscopy was performed

- The following was found:

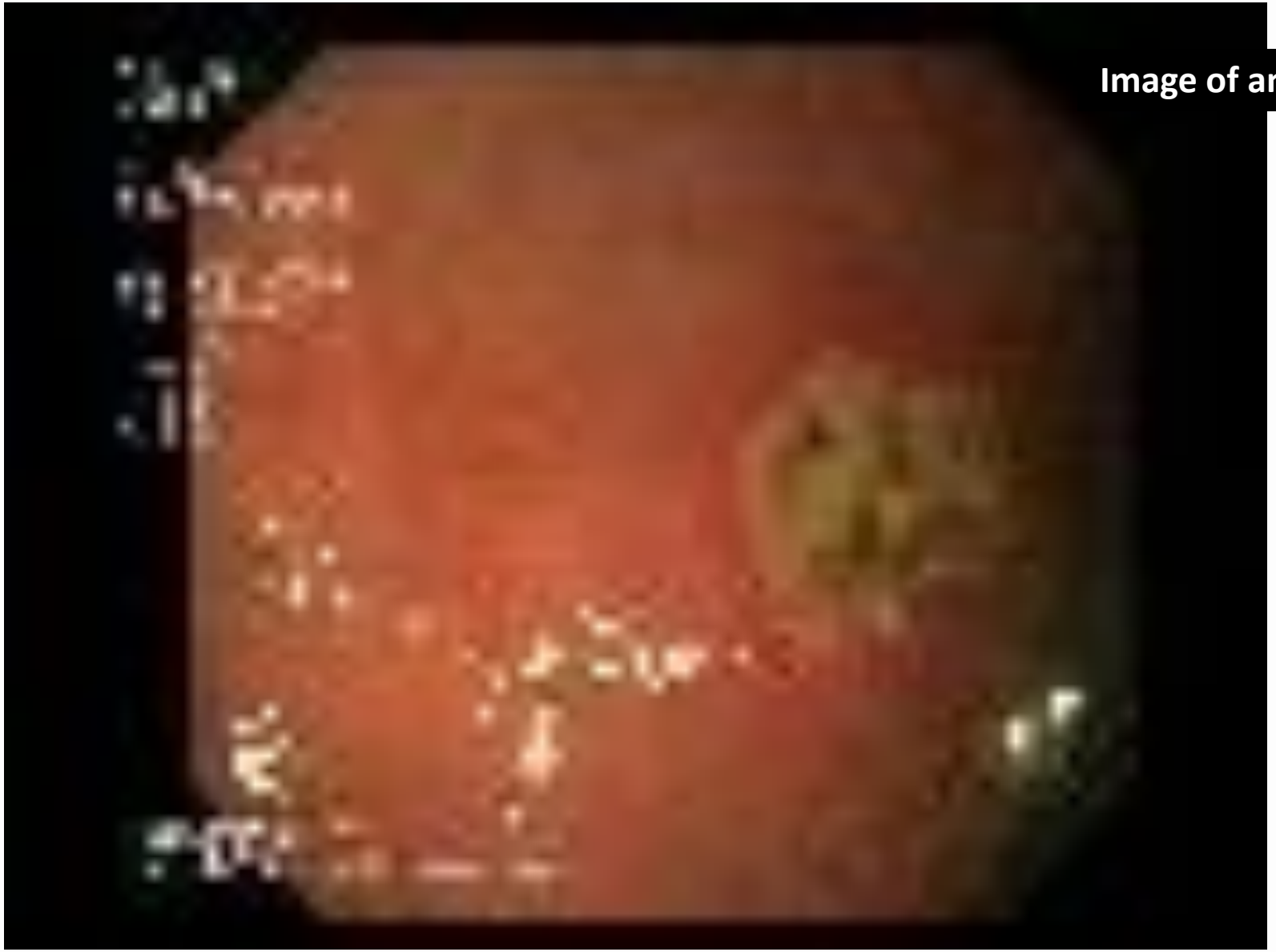
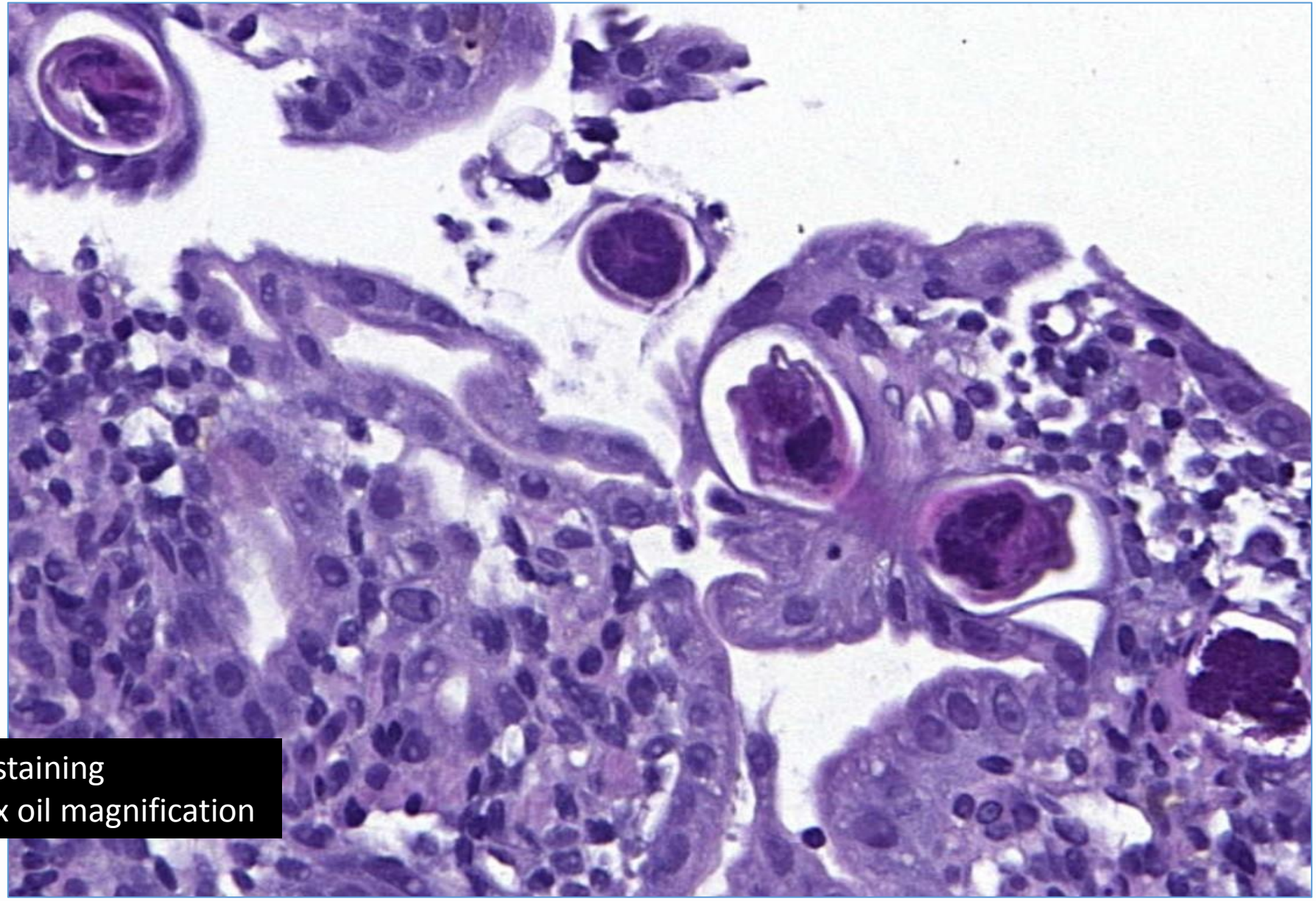


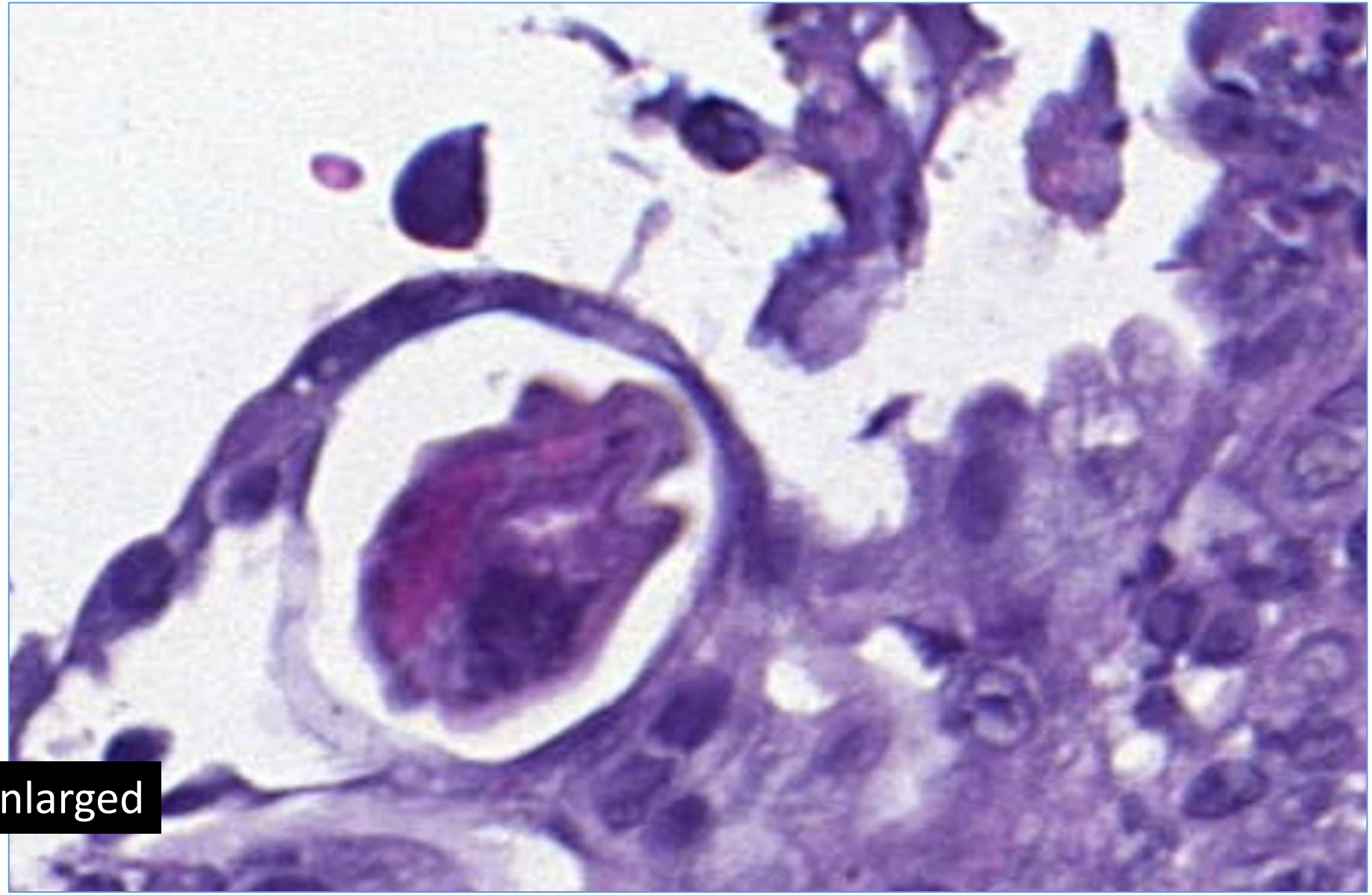
Image of an ulcerative lesion

- During the gastroscopy biopsies were taken.

  After preparation and staining at the pathology department the following was seen.

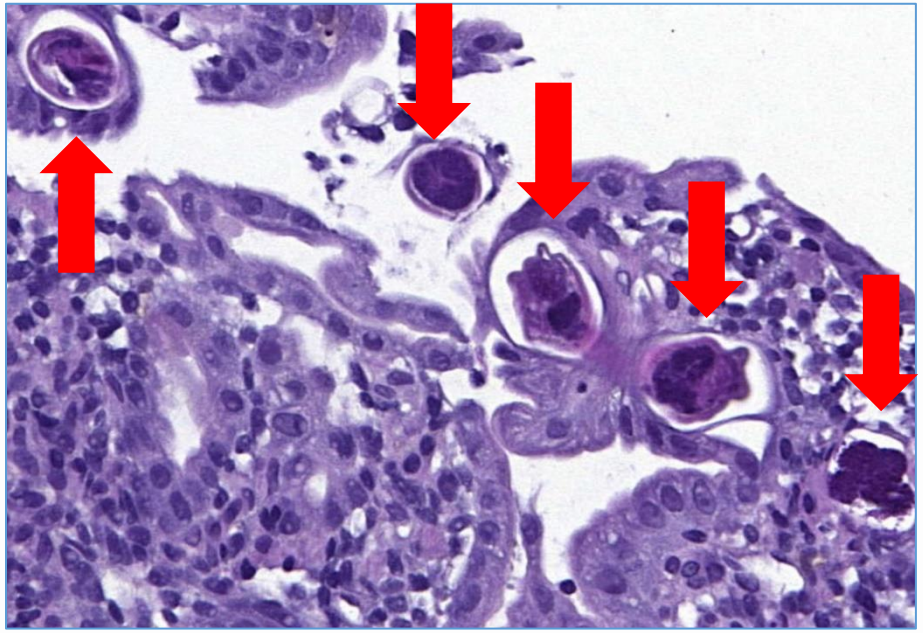


H&E staining
1000x oil magnification


Enlarged

- Biopsies showed:
  - Worm/larvae-like structures

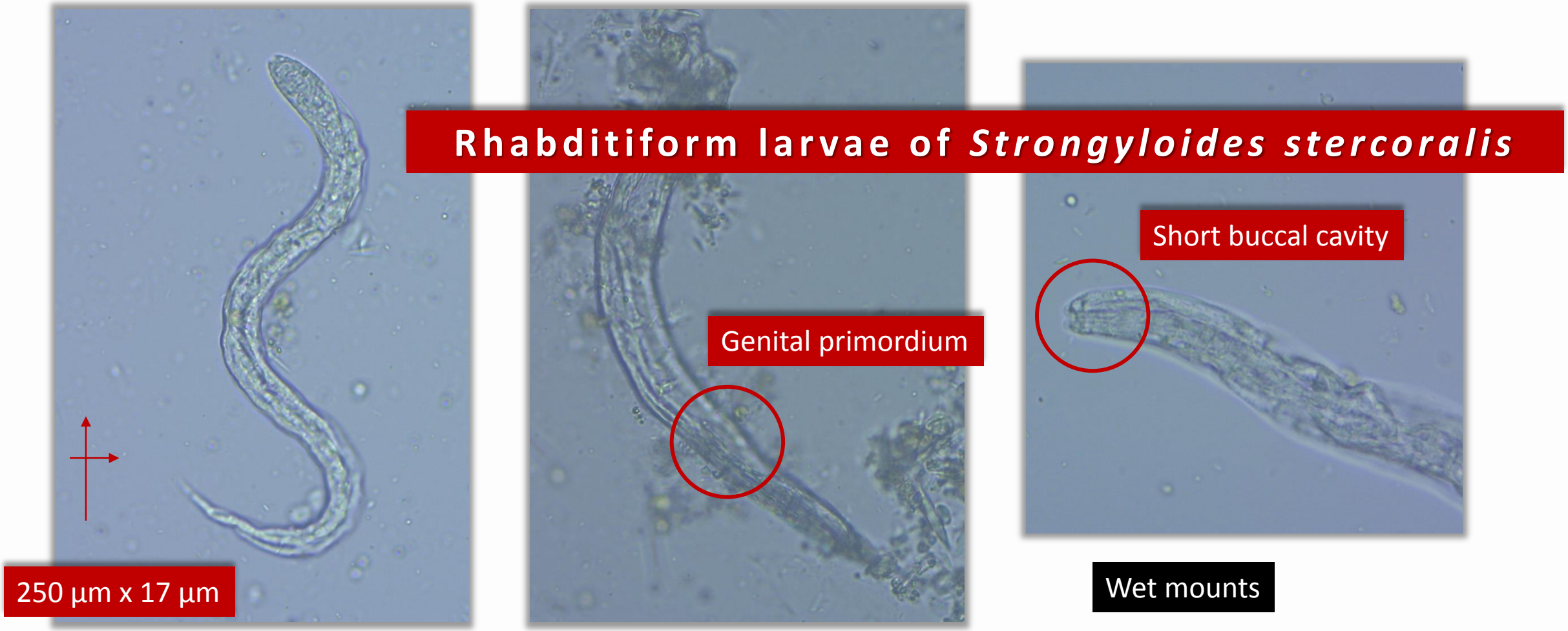
Because of these findings the Department of Medical Microbiology was consulted.



- Before the parasitological diagnosis was made the patient deteriorated and was admitted to ICU.
    - Mechanical ventilation
    - Broad spectrum antibiotics

- Collecting stool was difficult because the patient was suffering from ileus

Stool samples were collected and examined for parasites.



- Ivermectin therapy was started

One day after the diagnosis was confirmed:

Patient died of septicemia combined with massive bleeding from the stomach ulcers.

Conclusion: **Disseminated Strongyloidiasis**

Discussion:

- How could this have been prevented?
  - No awareness for strongyloidiasis due to the lack of eosinophilia and the patient was living in the Netherlands for 9 years, no recent visits to endemic countries
  - Role of serology before start immunosuppressive therapy (screening)

Discussion:

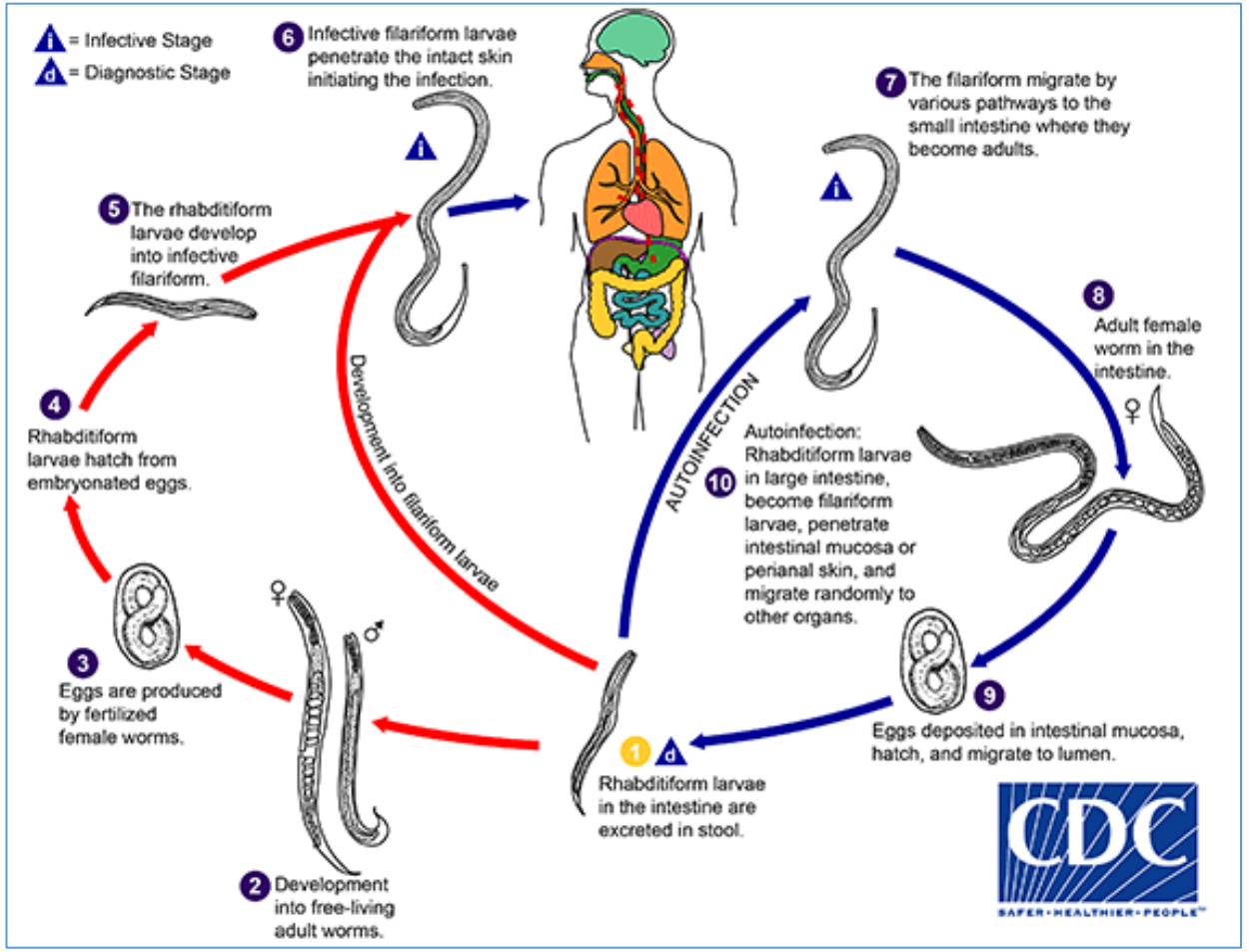
- Collection of BAL was not done

- Are there guidelines on screening for Strongyloides concerning patients who will have immunosuppressive therapy?

Facts on Strongyloidiasis

Life cycle

- Infection is acquired through direct contact with contaminated soil.



Facts on Strongyloidiasis

- Transmission occurs mainly in tropical and subtropical regions
- 30-100 million people are infected worldwide; precise data on prevalence are unknown in endemic countries
- Strongyloidiasis is frequently underdiagnosed because many cases are asymptomatic; moreover, diagnostic methods lack sensitivity

Facts on Strongyloidiasis

- Without appropriate therapy, the infection does not resolve and may persist for life
- Infection may be severe and even life-threatening in cases of immunodeficiency
- No public health strategies for controlling the disease are active at the global level

Take home messages!

- Health-care providers should be made aware of this parasite, and particularly about the risk of disseminated infections
- Standardization of screening for Strongyloidiasis before starting immunosuppressive therapy using serology and/or PCR concerning high-risk patients
- More detailed epidemiological data on the global distribution of strongyloidiasis are needed

Special thanks to:

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- Dr. Buys

Intensive Care Unit (ICU)

- Dr. Zandijk
- Dr. v.d. Horst

Thank you for your attention!