



CASE REPORTS – GRAM-NEGATIVES AND ANAEROBES

Case report 1

A parent presents to the FNM emergency room with a six-year-old boy complaining of a several-week paroxysmal cough. His parents reported that the cough started a few days after visiting his grandparents, where they spent the weekend. The cough worsened and became so intense that it sometimes led to vomiting. The boy's general condition is good, and he has no other symptoms. There were signs of mild upper airway obstruction on physical examination, but otherwise, the results were normal.

What is your initial working diagnosis? _____

What material would you take for microbiological examination to confirm your diagnosis?



Now take part in the microbiological examination of this case.

- Quicker than conventional methods would be to use: _____
- **In the meantime, he interprets the findings of classical methods:**
 - _____
 - _____
- What is the final result? _____
- What other microbes in this genus are possible causative agents of the disease? How do they differ? _____



How do your considerations change after a microbiological diagnosis?

What's the final diagnosis? _____

What is the likely pathogenesis? _____

What is the information about visiting grandma and grandpa useful for? _____

What are the complications of this infection? _____



What will be the initial ATB treatment? _____

What is the next best step in treating and preventing infection in others in the area?



What is your take-home message from this situation (originator / course / management)?



Microbiology I.
Practical exercises



Case report 2

A 47-year-old man visited his GP for a fever and cough that had been going on for several days. His blood tests showed elevated CRP, leukocytes and immature neutrophils. His physician decided to prescribe him amoxicillin based on these results and symptoms. *Why amoxicillin?* _____

What is your initial working diagnosis? _____

What material would you take for microbiological examination to confirm your diagnosis?

- _____
- _____
- _____
- _____

and by what method do you expect it to be processed (in parentheses from what material)?

- _____
- _____
- _____
- _____



Now take a look at the culture and microscopic findings for that case.

- Try to interpret them: _____
- What other methods would you use for identification?

Ask the lecturer. What was that?



Tell the lecturer your conclusions* and ask for the results.

The final diagnosis is _____ caused by _____

What are the risk factors (including population groups) for this infection?

How can they be prevented?



Your final ATB treatment (justify): _____



What is your lesson from this situation (originator / course / management)?



Case report 3

A 68-year-old man comes to the Emergency. He has COPD. At his last visit to the doctor, he complained of cough, excessive mucus production, shortness of breath and chest pain. The physician noted that he had an elevated body temperature, and on auscultation of his lungs, there was a noticeable diminished left basal breathing with hoarseness.

What is your initial working diagnosis? _____

What material would you take for microbiological examination to confirm your diagnosis?

- _____
- _____

and by what method do you expect it to be processed (in parentheses from what material)?

- _____
- _____



Now take a look at the culture and microscopic findings for that case.

- Try to interpret them: _____
- What other methods would you use for identification?

Ask the lecturer

What was that?



Tell the lecturer your conclusions and ask for the results.

The final diagnosis is _____ caused by _____

What are the risk factors (including population groups) for this infection?

How can they be prevented?



Your final ATB treatment (justify): _____



What is your take-home message from this situation (originator / course / management)?



Case report 4

A 17-year-old student presents to the Emergency room with high fever, headache and vomiting symptoms. In addition, examination reveals that he has enlarged and tender cervical nodes, a skin rash, and an elevated white blood cell count. He was immediately hospitalized and underwent a cerebrospinal fluid analysis, which showed an elevated white blood cell count and elevated protein content, suggesting _____.

What is your working diagnosis? _____

What material would you take for microbiological examination to confirm your diagnosis?

What material would you take for microbiological examination to confirm your diagnosis?

- _____
- _____

and by what method do you expect it to be processed (in parentheses from what material)?

- _____
- _____



Now take a look at the culture and microscopic findings for that case.

- Try to interpret them: _____
- What other methods would you use for identification?

Ask the lecturer. What was the method and what is its advantage?



Tell the lecturer your conclusions and ask for the results.

The final diagnosis is _____ caused by _____

What are the risk factors (including population groups) for this infection?

How can they be prevented? _____



Your final ATB treatment (justify): _____



What is your take-home message from this situation (originator / course / management)?



Case report 5

A 27-year-old man presented to the Dermatovenereology Clinic complaining of itching and burning during urination and penile discharge. The patient reports that he had unprotected sexual intercourse with a new partner a week ago. He also describes a feeling of pain in the abdominal area and mild fever. Based on these symptoms, physical and laboratory examinations were performed. Physical examination showed mild tenderness on palpation of the urethra and enlargement of the lymph nodes in the groin area. He goes to bed and survives until one he got lost

What is your working diagnosis? _____

What material would you take for microbiological examination to confirm your diagnosis?

- _____ - _____

and by what method do you expect it to be processed (in parentheses from what material)?

- _____ - _____



Now take a look at the culture and microscopic findings for that case.

- Try to interpret them: _____
- What other methods would you use for identification? _____

What was the method and what is its advantage? _____



Tell the lecturer your conclusions* and ask for the results.

The final diagnosis is _____ caused by _____

What are the risk factors (including population groups) for this infection?

How can they be prevented? _____



Your final ATB treatment (justify): _____



What is your take-home message from this situation (originator / course / management)?



Case report 7

A 45-year-old man presents to the emergency room for about 2 weeks of abdominal pain and blood in his stool. He reports occasional alcohol consumption, smoking 10-15 cigarettes per day (since age 15). The clinician has a clear suspicion and orders the patient for a gastroscopy.

What is your working diagnosis including the pathogen? _____

What material would you take for non-invasive microbiological examination?

- _____
- _____

What materials would you take for an invasive microbiological testing?

- _____

and by what method do you expect it to be processed (in parentheses from what material)?

- _____
- _____
- _____
- _____
- _____



Now take a look at the culture and microscopic findings for that case.

- Try to interpret them: _____
- Does it confirm your diagnosis? _____



What are the risk factors for this infection? _____

- How can they be prevented? _____

Your final ATB treatment (justify + including non-antibacterial drugs):





What is your take-home message from this situation?



Case report 8

A 25-year-old male patient presents to the emergency room complaining of abdominal pain and diarrhoea. The patient reports attending a grill party last weekend. He reports feeling unwell since the day after the party and has been experiencing loose stools and abdominal cramps.

What is your working diagnosis including the pathogen? _____

What samples would you take to confirm your diagnosis? _____

What microbiological examination is most useful to set the diagnosis?



Now take a look at the culture findings for that case.

- Try to interpret them: _____
- Does it confirm your diagnosis? _____



What are the risk factors for this infection? _____

- What is the main way of transmission? _____
- How can they be prevented? _____
- What are the complications? _____



Your final ATB treatment for A) the being course and B) the complications:

- _____
- _____



What is your take-home message from this situation?



Case report 9

A 35-year-old woman with a diagnosis of Crohn's disease presents to the hospital with complaints of abdominal pain, diarrhoea, and nausea for the past four days. She reports that the diarrhoea is watery and has been occurring 4-5 times a day. She has also been experiencing low-grade fever and chills.

What is your working diagnosis? _____

What material would you take for microbiological examination to confirm your diagnosis?

- _____ - _____

and by what method do you expect it to be processed (in parentheses from what material)?

- _____ - _____



Now take a look at the culture and microscopic findings for that case.

- Try to interpret them: _____
 - o Microscopy: _____
 - o Cultures: _____
 - o ? Other tests: _____
- What is your final resolution regarding the identification? _____



Your final ATB treatment: _____

- Why this one? _____



What is your take-home message from this situation?



Case report 10

A 55-year-old man with a history of HIV infection and poorly controlled diabetes mellitus comes to emergency. He presents to the emergency department with complaints of fever, chills, and fatigue for the past week. He also reports a painful swelling in his mouth, which has been worsening over the past few days. Upon examination, his temperature is 102.5°F (39.2°C), and he has an ulcerated lesion on the right side of his mouth, with purulent drainage. His blood work shows leukocytosis with a left shift, indicating an acute bacterial infection. Based on his symptoms and history, his physicians suspect a possible oral infection and start him on empiric antibiotics, including clindamycin and ciprofloxacin. They also order a CT scan of the chest and abdomen to evaluate for any possible complications. The TOE scan shows evidence of vegetation on mitral valve.

What is your working diagnosis? _____

What material would you take for microbiological examination to confirm your diagnosis?

- _____ - _____

and by what method do you expect it to be processed (in parentheses from what material)?

- _____ - _____



Now take a look at the culture and microscopic findings for that case.

- Try to interpret them: _____

○ Microscopy: _____

○ Cultures: _____

○ ? Other tests: _____

- What is your final resolution regarding the identification? _____



Your final ATB treatment: _____

- Why this one? _____



What is your take-home message from this situation?
