

Respiratory tract infections II

Case reports

Viral infections

Case report 1

- **ANAMNESIS:**

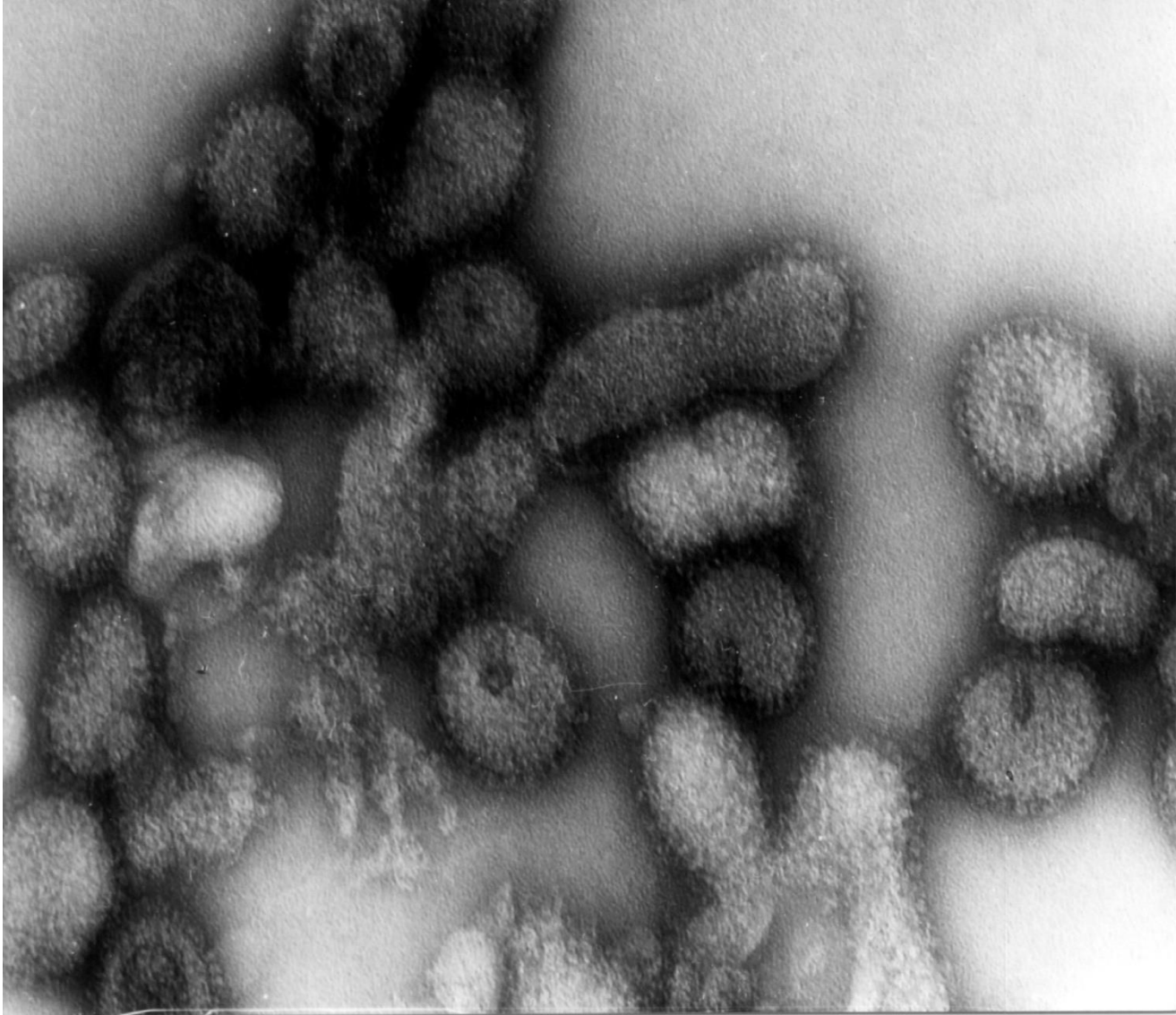
- In second half of January (this year January is not too cold) 65 years old woman comes to the general practitioner with running nose, dry irritating cough with pain over trachea, fever 39°C, malaise, headache, joint ache, arthralgia. These symptoms last for 2 days
- Objective: reddish throat, fever 39,5°C, markers of tracheitis
- Sampling: nasopharyngeal swab for viral antigen detection
tonsillar swab for cultivation
blood for bacterial inflammation proteins examinations
- Results:
- Sedimentation rate (cut off = 15 mm/1 hod); CRP (cut off = 20 g/ml)
- Cultivation: Tonsillar swab – viridans streptococci, neisseria spp.

Case report 1

- Questions:

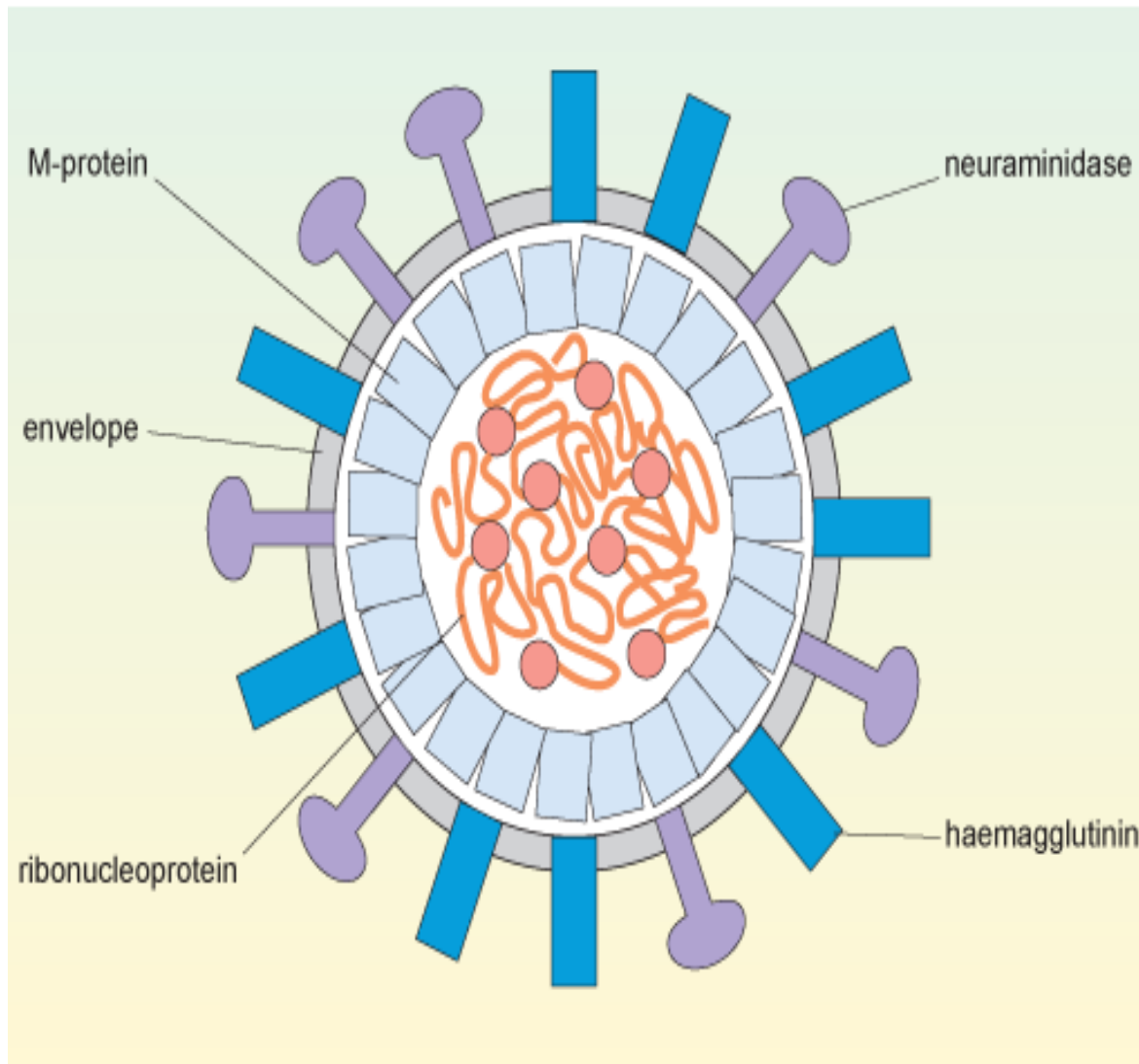
1. Which infection is suspected? Why the significant pathogen was not detected by cultivation?
2. Which examinations of which specimens can solve the etiology?
3. Which complications are seen in older patients?
4. Which therapy will be indicated? What is the mechanism of action of this medicament?
5. Is there any specific prevention of this disease?
6. What is the epidemiologic patterns of this infections?

Influenza virus - ELMI



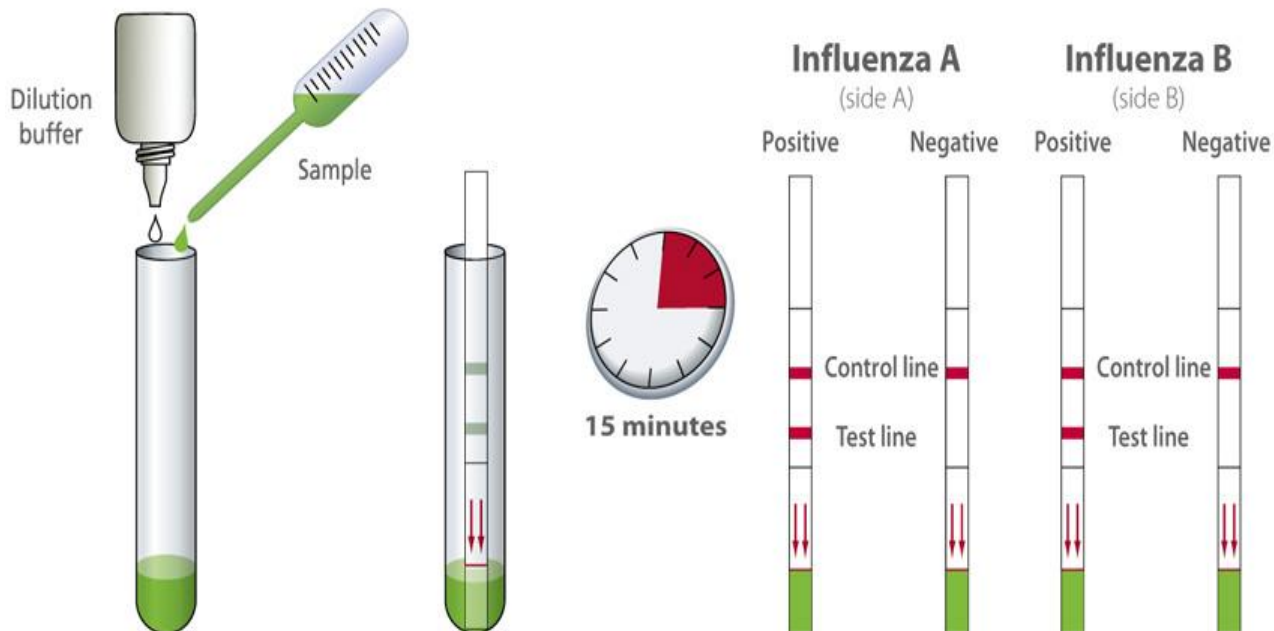
Structure of influenza virus

(source
wikipedia)



Immunochromatography – direct antigen detection from nasal (nasopharyngeal) swab

Influ A&B Respi-Strip



Case report 2

- ANAMNESIS:

- 3months old infant is admitted to pediatric clinic with fever 38,5°C, running nose, cough and dyspnoea and absence of appetite, the symptoms last for 4 days and are worsening
- Objective:
- Infant filled with mucous and fever
- Auscultation: symptoms of infection of lower respiratory track even pneumonia
- Blood for CRP (result: 5 g/ml)
- Swabs from nasopharynx for cultivation and for direct antigen detection of respiratory viruses

Cultivation – negative, only few colonies of coagulase-negative staphylococcus

Case report 2

- Questions:
- 1. What is the suspected etiology of lower respiratory tract infection in an infant with dyspnoea?
- 2. Why the cultivation was negative? What is the diagnostic possibility?
- 3. What is the pathogenesis of this infection?
- 4. What is the therapy of this infection?
- 5. Does any specific prevention by vaccination exist?

Case report 3

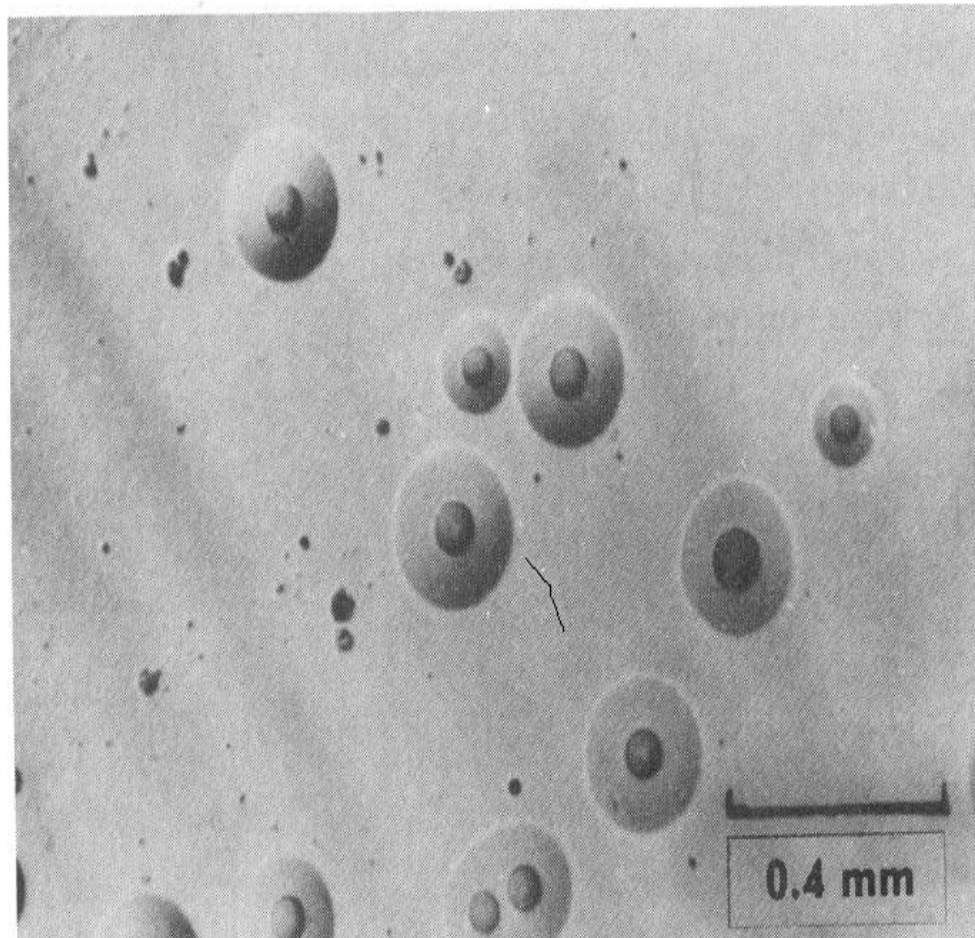
- ANAMNESIS:
- 15years old student comes to the pediatrician for one week lasting fever of 38°C, headache, cough with no effect of antitussive drugs administered
- Objective:
- Reddish pharynx, auscultation: lungs without pathologic findings
- Blood for CRP: 150 mg/l
- Roentgenogram: „spotted“ atypical bronchopneumonia with infiltrates
- Collection of blood for serologic examination

Case report 3

• Questions

1. Which pathogen is the most presumable causative agent of this atypical bronchopneumonia with the characteristic none or mild physical finding and very typical considerable roentgenogram?
2. Which other agents cause community acquired atypical pneumonia?
3. What are the possibilities of microbiologic diagnosis?
4. Is cultivation of these causative agents on cell-free culture media performed?
5. What therapy is indicated in this patient?
6. Is specific vaccination against this agent performed?

Cultivation of *M.pneumoniae* – PPLO agar



Pathogenesis of *M.pneumoniae* infection

(educational material of CDC)

