Case report

Case: female, 17 years old

Medical history: migraine

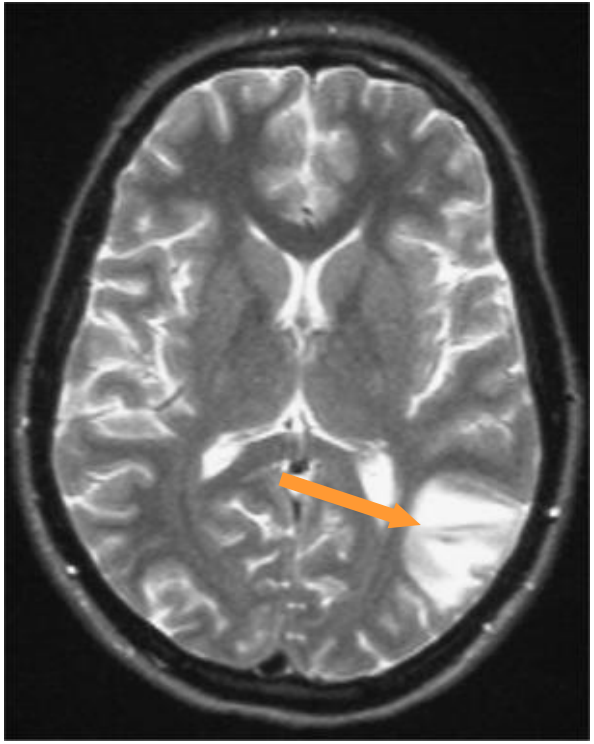
Intoxications: none

Medication: no

Medical problems:

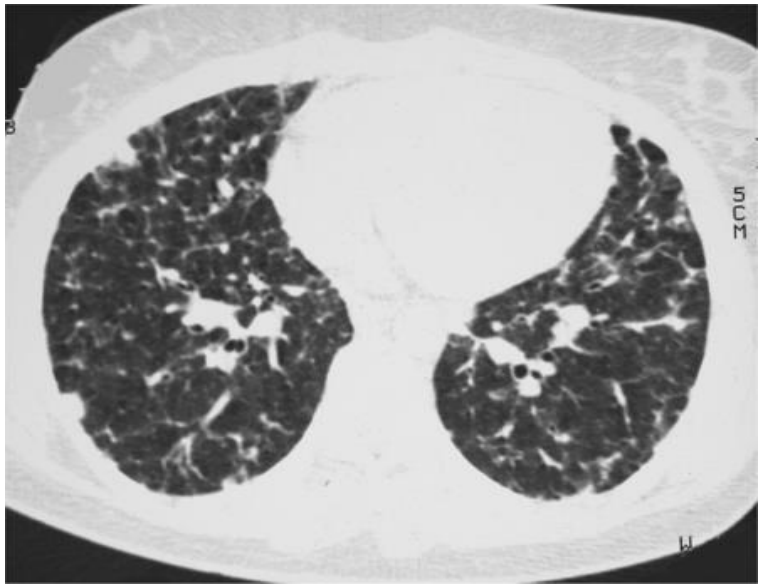
- epileptic attack
- post-ictal headache
- confusion and aphasia

Left parietal occipital enhancing lesion



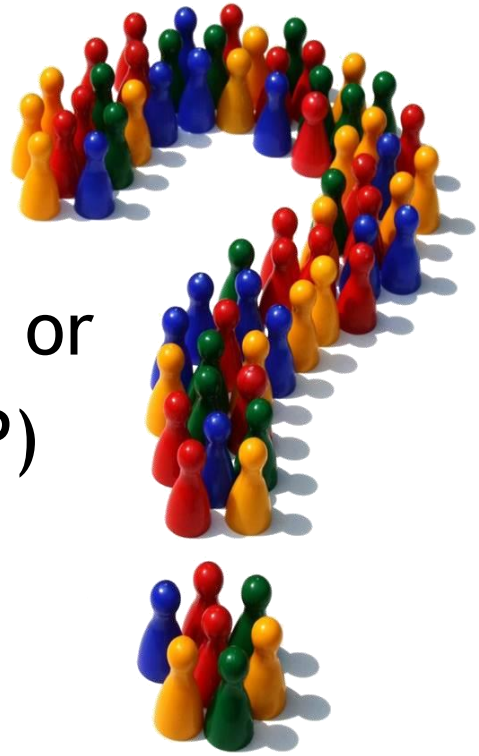
Radiologic features: female, 17 yrs

Chest radiograph



High resolution CT scan

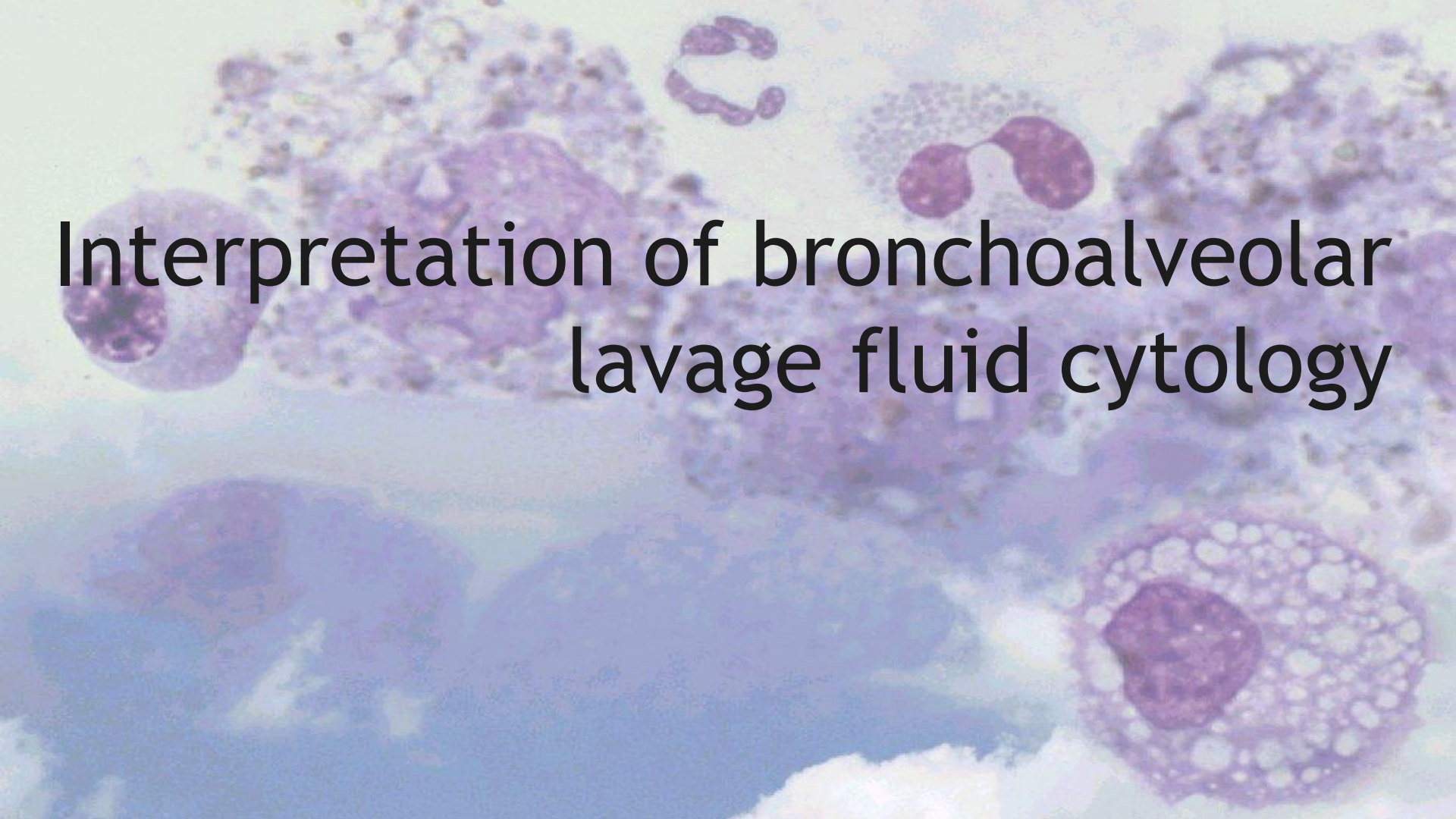
Differential diagnosis



1. Infection
2. Extrinsic Allergic Alveolitis (EAA) or Hypersensitivity Pneumonitis (HP)
3. Idiopathic pulmonary fibrosis
4. Sarcoidosis

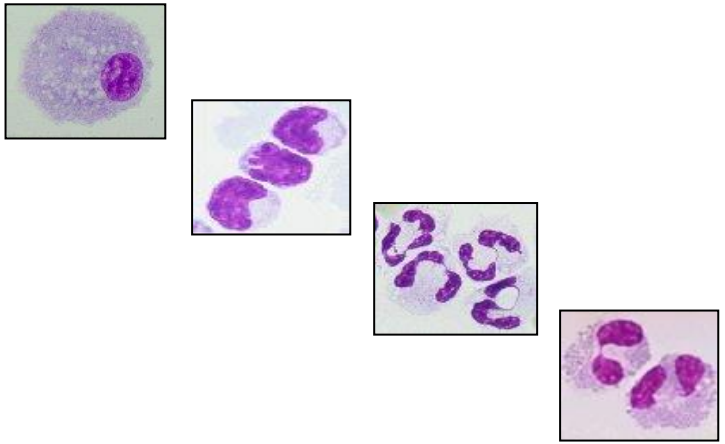
Which diagnosis is most likely?

Interpretation of bronchoalveolar lavage fluid cytology

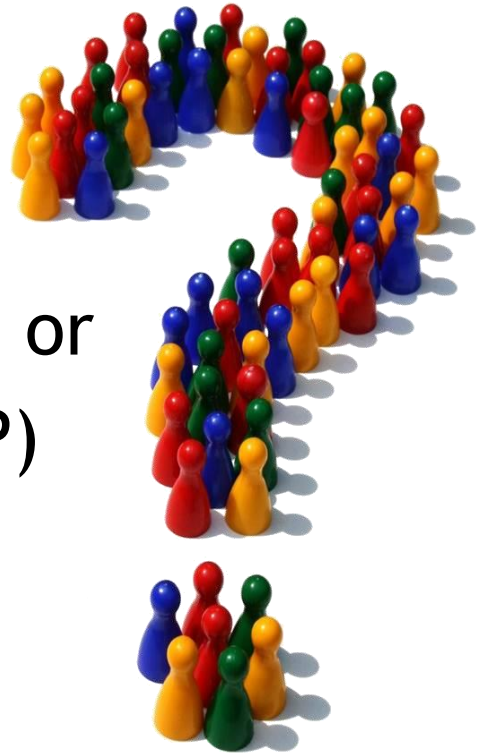


BALF analysis results: female, 17 yrs

Total cell count	14.0×10^4/ml
Recovered volume	120 ml
Alveolar macrophages	56.2 %
Lymphocytes	41.8 %
Neutrophils	2.1 %
Eosinophils	0 %
Culture	negative



Differential diagnosis



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Predicting program

Recently, a validated computer program based on polychotomous logistic regression analysis using bronchoalveolar lavage fluid (BALF) results to distinguish between the three most common interstitial lung diseases (ILD): sarcoidosis, idiopathic pulmonary fibrosis (IPF) and extrinsic allergic alveolitis (EAA) or drug-induced pneumonitis was developed (*Chapter: Software to evaluate BALF analysis*).

One of the limitations of this program was that it was not useful in discriminating between infectious disorders and non-infectious disorders. Therefore, BALF samples obtained from patients with a confirmed bacterial pulmonary infection were added to the study population mentioned above *(Chapter: Computer program using BALF variables: a new release)*.

This updated windows 2000 version of the validated computer program provides a very reliable prediction of the correct diagnosis for an arbitrary patient with suspected pneumonia or with ILD given information obtained from BALF analysis results, and is thought to improve the diagnostic power of BALF analysis in conjunction with other important diagnostic procedures.

On the next page this computer program is presented. In case you have BALF analysis data available of a patient suspected of sarcoidosis, EAA or IPF you can use this program. You will be asked to enter the necessary data (see next page). Accordingly, the updated computer program will provide a reliable prediction of the diagnosis of a bacterial pneumonia. In case of no bacterial pulmonary infection, a prediction of the most likely ILD mentioned above will be established.

The outcome is:

Name patient:	Epilepsia
Age (15-80):	17
Sex:	○ Male ◉ Female
Smoking?	○ Yes ◉ No
Date of birth (DD-MM-YYYY):	12-12-1984
Patient number:	

Fluid in (30-300ml)	200
Fluid out (0-300ml)	120
Cell count x 10^4/ml (0.1-9999.9)	14
Eosinophils (0 - 99.9%)	0
Neutrophils (0 - 99.9%)	2.1
Lymphocytes (0 - 99.9%)	41.8
Macrophages (0 - 99.9%)	56.2

Probability of bacterial infection = 0.0 %
In case of a bacterial infection (probability: > 50%) just ignore the following prediction!

In case of no bacterial infection, the outcomes are:
1 = Sarcoidosis = 99.6 %

2 = Extrinsic Allergic Alveolitis (EAA), Hypersensitivity Pneumonitis (HP) or Drug-Induced Pneumonitis (DP) = 0.4 %

3 = Idiopathic Pulmonary Fibrosis (IPF) = 0.0 %

Predicted diagnosis thus becomes Sarcoidosis, in case of no bacterial infection.

The BAL fluid analysis results have to be interpreted with care, and, clinical data are mandatory to make up the final decision about the most probable diagnosis. The intention of this prediction is to support other important clinical diagnostic procedures.

enter

savetext

quit

Differential diagnosis

1. Sarcoidosis
2. Extrinsic Allergic Alveolitis (EAA) or Hypersensitivity Pneumonitis (HP)
3. Idiopathic pulmonary fibrosis
4. Infection

PhD theses dealing with BAL