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Diagnostic purpose of bronchoalveolar lavage cell differential count

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Introduction

Bronchoalveolar lavage is a method for assessment of diffuse parenchymal lung diseases. Information about cell differential count gives important information about processes in lungs.

Aim

The purpose of the study was to compare normal bronchoalveolar lavage cell differential counts with diffuse parenchymal lung disease patients and patients' group with other diseases, who had undergone lavage for exclusion of diffuse parenchymal lung diseases.

Methodes

In this retrospective study, the data were collected from bronchoalveolar lavage from 2019 to 2020. 195 samples were analysed for agranulocyte, neutrophil, eosinophil, and alveolar macrophage percentual count. Patients were divided in two groups, in the first group – the patients with diffuse parenchymal lung diseases, and in the second (control) group – the patients who had undergone bronchoalveolar lavage due to other reasons or for exclusion of diffuse parenchymal lung disease. Both groups were compared with healthy non-smoking person cells count parameters from literature data and cells count criteria for concrete patient diagnosis.

Results I

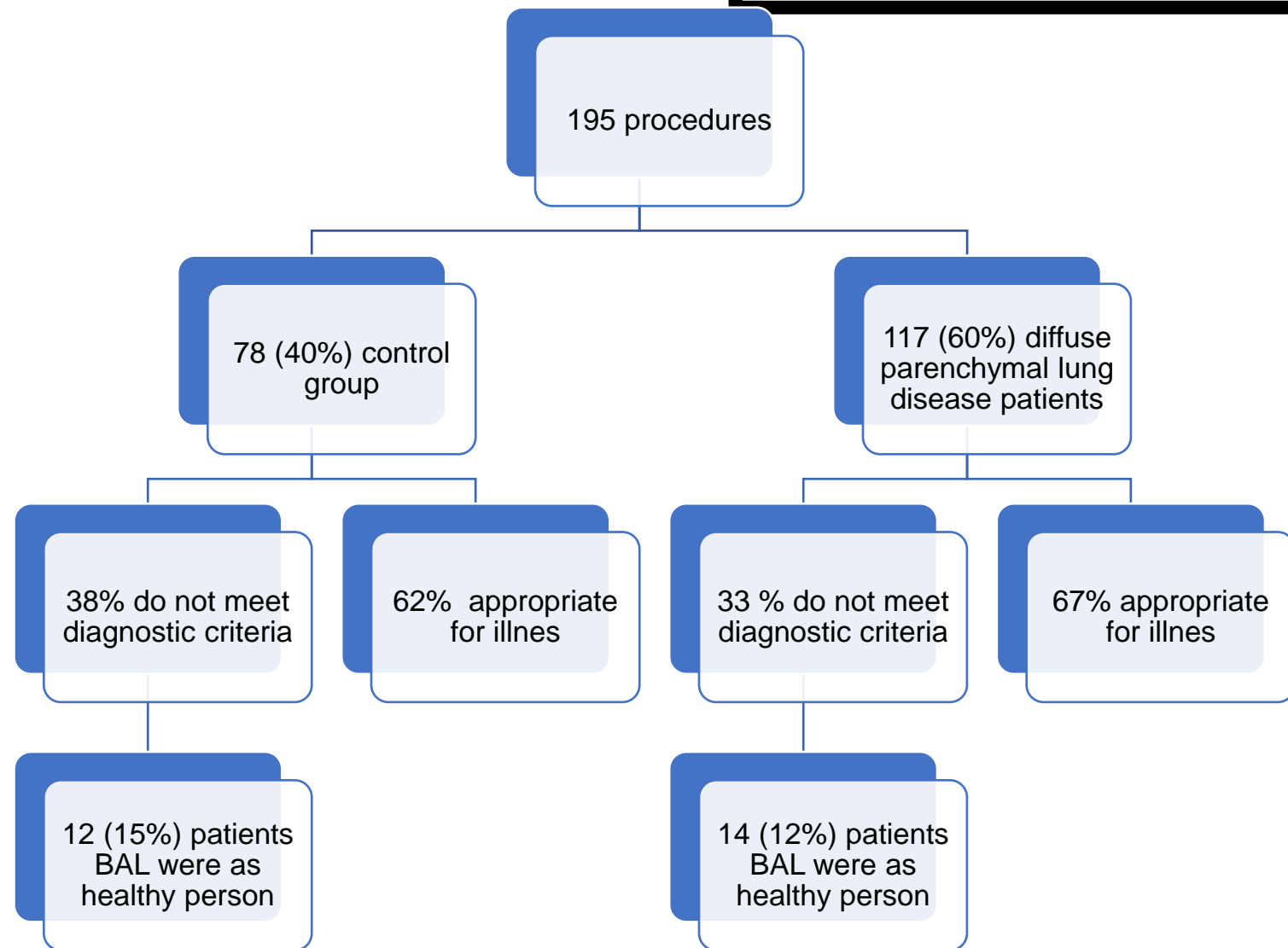
Patient group with diffuse parenchymal lung diseases

- From all the materials: 78 (40%) were from the control group and 117 (60%) from the patients with diffuse parenchymal lung disease.

- In the group with diffuse parenchymal lung disease patients, - 14 (12%) had normal bronchoalveolar lavage, 33% had no diagnostic value, but whereas in 67% the lavage test met criteria for diffuse parenchymal lung disease.

Healthy person BAL:

- agranulocytes $\leq 15\%$,
- neutrophil $\leq 3\%$,
- eosinophil $\leq 1\%$,
- alveolar macrophage $\geq 85\%$



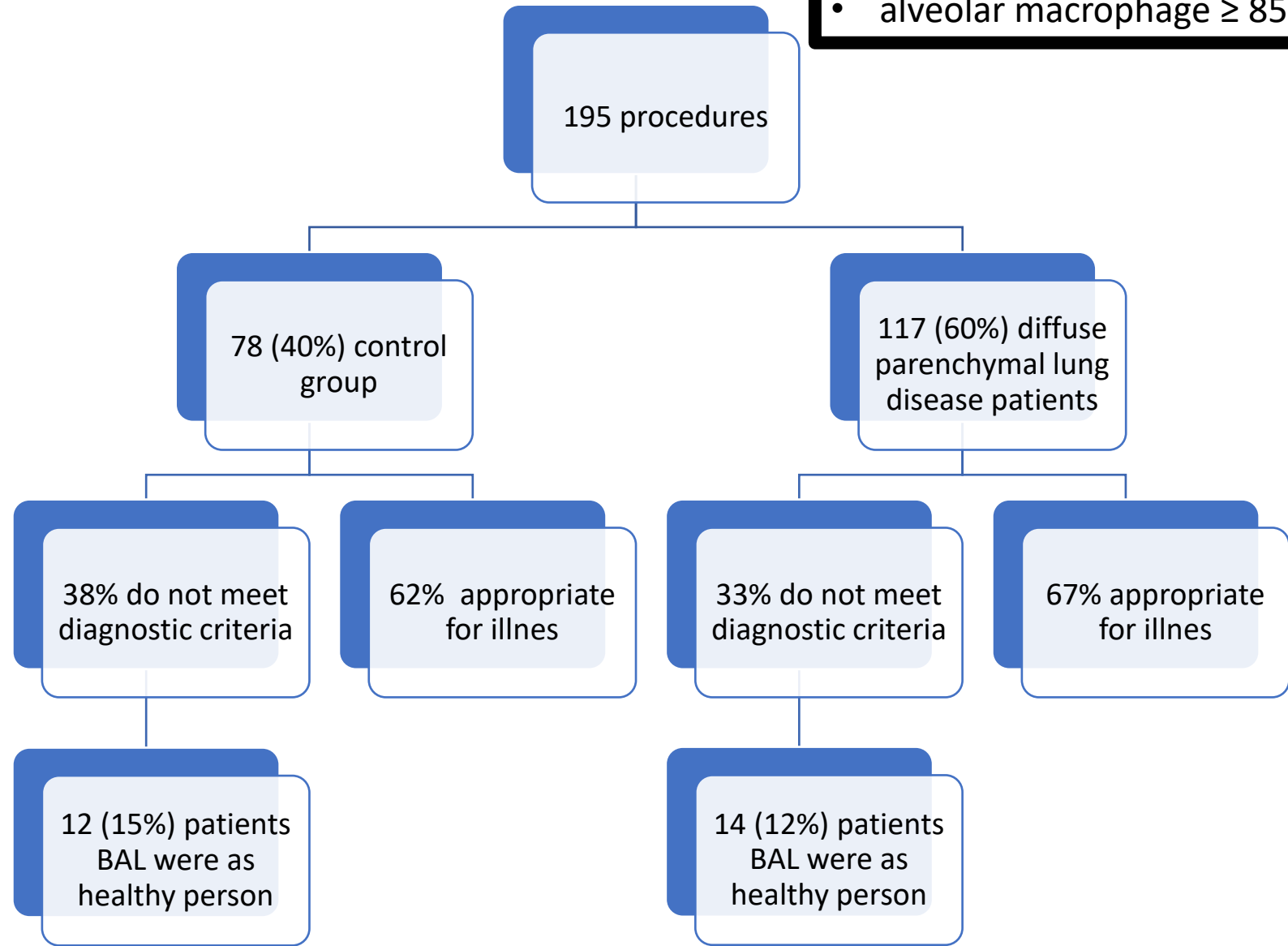
Results II

Patient group with other diseases, BAL made for diferencialdiagnostic

Healthy person BAL:

- agranulocytes $\leq 15\%$,
- neutrophil $\leq 3\%$,
- eosinophil $\leq 1\%$,
- alveolar macrophage $\geq 85\%$)

- From the control group only 12 (15%) samples had cell parameters as that corresponded to a healthy person, in 38 % cases lavage sample did not meet the cells differential count criteria for patient diagnosis, in 62 % the results were appropriate for illness.



Conclusion

Bronchoalveolar lavage is a method with a high diagnostic value. Only in 13% cases, the material had normal cell differential count ranges, in other cases the samples were changed, but also an unchanged test sometimes had a diagnostic significance. In 65 %, the test had diagnostic value to confirm diagnosis.



Thank You for attention! Questions?