Can Automated Flow Cytometry Be Used Instead of Microscopy to Differentiate BAL Fluid Leukocytes?

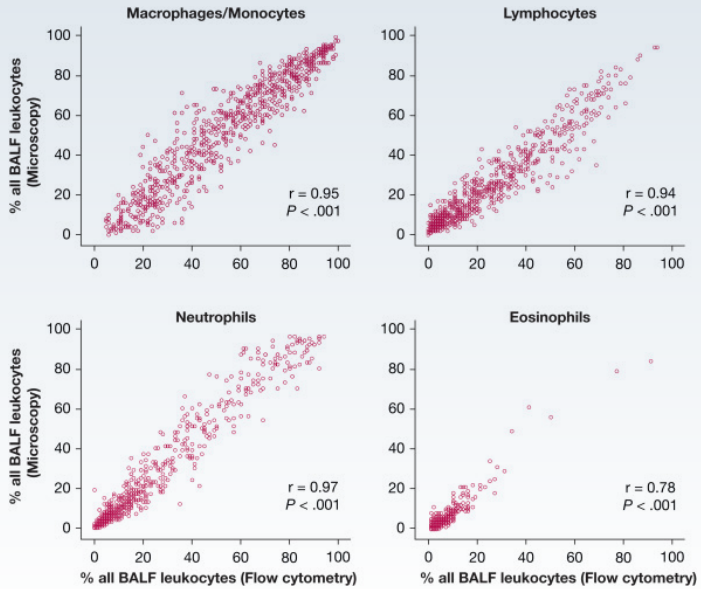
STUDY DESIGN

Prospective validation of a new automated flow cytometric method for BAL fluid (BALF) leukocyte differentiation using 4 antibodies (anti-CD_{45}, anti-CD66b, anti-HLA-DR, anti-CD_{52}) **vs traditional microscopy in a double-blind fashion**

N=745 patients

- Interstitial lung disease (455)
- Infectious (196)
- Other (94)

RESULTS



- **Strong correlation** between flow cytometry and microscopic results
- **Bland-Altman analyses showed mean differences** between the methods **were < 2% for all 4 cell types**
- **Flow cytometric results differed < 20% from microscopic results in > 95% of all samples**

Use of automated flow cytometry was shown to be is a validated method for BAL fluid leukocyte differentiation that may be used in settings in which expertise for microscopic BAL fluid analysis is unavailable and can be easily combined with lymphocyte surface marker analysis.

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