Role of bronchoalveolar lavage (BAL) in the diagnostic work-up of patients with interstitial lung disease (ILD)

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Sarcoidosis

Diagnostic value of BAL in ild
Radiographic features: female 45 yrs

Chest radiograph

High resolution CT scan
BALF features in sarcoidosis

- lymphocytosis
- CD4/CD8 ratio: ↑/=/?↓
- multinucleated macrophages
- iron staining negative
- neutrophils ↑ ⇒ prognosis ↓
Differential cell count in BALF: percentage of total cell count

* $p < 0.001$
Distribution CD4/CD8 ratio in BALF of sarcoidosis and Extrinsic Allergic Alveolitis (EAA) patients

Relation BAL fluid PMNs x10^4/ml with progression in sarcoidosis

BAL fluid differential cell count in sarcoidosis

% BAL fluid neutrophils (PMNs)

Ziegenhagen et al. Eur Respir J 2003

Radiographic stages of sarcoidosis

95th percentile
3%

no therapy (n = 61)
therapy (n = 13)
Relationship BALF PMNs with DLCO and FVC, % predicted in sarcoidosis

\[ r = -0.401 \quad p = 0.001 \]

\[ r = -0.259 \quad p = 0.037 \]

\[ r = -0.428 \quad p = 0.002 \]

\[ r = -0.541 \quad p < 0.0001 \]
TNF-α release BALF cells obtained from patients with chronic sarcoidosis (10.4±1.3 yrs)

- controls (n=35)
- stable disease, no pred. (n=12)
- progressive disease, no pred. (n=12)
- progressive disease, with pred. (n=11)

* p < 0.05 vs. controls

Ziegenhagen et al 2002.
BALF parameters in HLA DR17+ vs DR17- sarcoidosis patients

BALF cell profiles in sarcoidosis vs Wegener’s granulomatosis

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