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| *The Role of Eosinophil Counts in Bronchoalveolar Lavage in the Diagnosis and Management of Interstitial Lung Disease* |
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| *Introduction:* Bronchoalveolar lavage (BAL) plays a pivotal role in the diagnostic evaluation of interstitial lung disease (ILD). Nevertheless, the practicality of using cellular patterns from BAL to guide ILD management remains uncertain. Eosinophilia on lavage is a potential tool for aiding ILD diagnosis and predicting the response to immunosuppressive treatment. This study aimed to explore the impact of BAL eosinophilia on multidisciplinary team (MDT) diagnosis and therapeutic decisions.*Methods:* We conducted a retrospective cohort study, involving all ILD patients who underwent BAL over a two-year period at a single centre in England. Patients whose BAL samples did not meet quality standards were excluded. Data on clinical, serological, radiological, and treatment parameters were collected. BAL eosinophilia was defined as a count >2%. Baseline characteristics and MDT diagnosis were compared between groups (eosinophilia vs non-eosinophilia) using T-tests and Chi-squared tests where appropriate. Logistic regression analysis was used to assess the associated between lavage eosinophilia and initiation of immunosuppression (including oral glucocorticoids) while controlling for potential confounders (including demographics, lung function and CT pattern). *Results:* 96 participants were included (59 male, mean age 65±11[SD]), of whom 40 had BAL eosinophilia. Patients with eosinophilia were older, had a lower baseline DLCO andhigher prevalence of reticulation and traction bronchiectasis. The most common diagnosis after MDT was idiopathic pulmonary fibrosis (n=34) and there was no significant difference in MDT diagnosis between groups. Immunosuppression treatment was started in 47/96 patients following BAL. Logistic regression analysis demonstrated no association between BAL eosinophilia and immunosuppression initiation. *Conclusion:* There was no discernible impact of BAL eosinophilia on MDT diagnosis or use of immunosuppression in this ILD cohort. The value of BAL eosinophilia in guiding management decisions in ILD remains uncertain. Surprisingly, eosinophilia was associated with a higher prevalence radiological features of fibrosis. **Grant Support:** Nil**Word Count:** 292/300**Key Words**: Eosinophilia; Bronchoalveolar lavage; Interstitial Lung Disease; Immunosuppression; Diagnostics |