

00203 Utility of Bronchoalveolar Lavage in the Management of Immunocompromised Patients With Lung Infiltrates

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Aims: Flexible bronchoscopy with bronchoalveolar lavage (BAL) is commonly used for diagnosing lung infiltrates in immunocompromised patients. Diagnostic yield reported range from 34 to 69% and complication rate from 1 to 30%. Selection criteria for BAL to maximize yield and minimize complications has not been established. Primary aim was to determine diagnostic yield of flexible bronchoscopy with BAL at the Singapore General Hospital. Secondary aims were to determine incidence of complications of the procedure and identify factors associated with higher diagnostic yield and lower rate of complications with the eventual aim of optimizing patient selection

Methodology: Retrospective cross-sectional study of immunocompromised patients with pulmonary infiltrates who underwent bronchoscopy with BAL at Singapore General Hospital from January 2012 to December 2016. Clinical, radiological and endoscopic data from 217 patients was used to determine diagnostic yield, complication rate and identify factors associated with diagnostic yield and complications. Positive diagnostic yield was defined as confirmed microbiological or cytological diagnosis compatible with the clinical picture.

Result: Diagnostic yield was 60.8%, 88.6% of positive BALs confirmed final diagnosis and 63.3% impacted management. Complication rate was 14.7%, 93.8% experienced hypoxemia and 6.2% endobronchial bleeding. HIV infection (adjusted OR 5.304, 95% CI 1.611 – 17.458, $p = 0.006$), severe neutropenia (adjusted OR 4.253, 95% CI 1.288 – 14.045, $p = 0.018$) and cavitation on CT chest (adjusted OR 3.824, 95% CI 0.877 – 16.680, $p = 0.074$) were associated with positive yield. Leukemia (adjusted OR 0.317, 95% CI 0.102 – 0.982, $p = 0.047$) and having 2 or more bronchial segments lavaged (adjusted OR 0.347, 95% CI 0.125 – 0.965, $p = 0.043$) were associated with lower yield. No factors were significantly associated with incidence of complications.

Conclusion: Flexible bronchoscopy with BAL may be useful for diagnosing pulmonary infiltrates in immunocompromised patients, particularly HIV-positive patients and those presenting with severe neutropenia.