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# The Role of Bronchoalveolar Lavage in the Diagnosis of Invasive Pulmonary Aspergillosis FREE

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## Abstract

Cultures and histochemical stains for fungi were performed on concentrated, cytocentrifuged bronchoalveolar lavage (BAL) samples from 82 immunocompromised patients undergoing bronchoscopic evaluation of new pulmonary infiltrates. *Aspergillus* hyphae were identified in 9 of 17 BAL samples from patients with invasive pulmonary aspergillosis and from 3 of the remaining 65 study patients without this diagnosis. Thus, the presence of *Aspergillus* hyphae in BAL samples had a 53% sensitivity, 97% specificity, and 75% positive predictive value for the diagnosis of invasive pulmonary aspergillosis. BAL fungal cultures were positive in only 4 of 17 cases (23% sensitivity). A combination of fungal stains and cultures yielded a diagnostic sensitivity of 58% and a specificity of 92%. Results of routine fiberoptic bronchoscopy procedures in the 17 patients with aspergillosis who had BAL and in a retrospectively identified group of 10 patients with invasive aspergillosis who had only routine bronchoscopy were tabulated. Routine bronchoscopy procedures yielded a diagnosis in 5 of 27 cases (22% overall yield), with washings diagnostic in 4 of 27 cases (15%), and transbronchial biopsies positive histologically in 2 of 11 cases (18%). BAL is a valuable first procedure for diagnosing invasive pulmonary aspergillosis in the compromised host.

**Keywords:** [Pulmonary aspergillosis](#), [Bronchoalveolar lavage](#), [Bronchoscopy](#), [Diagnosis](#), [Transbronchial biopsy](#)

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hyphae

immunocompromised host

diagnosis

fungus

transbronchial biopsy

lung infiltration

aspergillosis, invasive

aspergillosis, invasive pulmonary

fiberoptic bronchoscopy

diagnostic sensitivity

mycology culture

host (organism)

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