

**TRANCHOBRONCHIAL MUCORMYCOSIS**

RUOXI HE, RUICHAO NIU, CHENGPING HU

*Department of Respiratory Medicine, Xiangya Hospital of Central South University, China*

Tranchobronchial mucormycosis is a rare but distinct form of invasive pulmonary mucormycosis that may involve the tracheobronchial tree. We reviewed 12 cases of tranchobronchial mucormycosis diagnosed in our hospital during an 18-year period, as well as 48 cases previously reported in the English literature from 1980 to May 2014. The demographic, clinical, imaging, bronchoscopic, and outcome characteristics of every eligible patient were excerpted, and predictors of inhospital mortality were identified by logistic regression. 95% patients had underlying disease or immunosuppression. Diabetes mellitus (66.7%), diabetes ketoacidosis (21.7%), corticosteroid therapy (20%), kidney insufficiency (18.3%) were the most common predisposing factors reported. Fever (59.3%), cough (59.3%), dyspnea (40.7%) and hemoptysis (30.5%) were the most frequent symptoms; 5.1% cases were asymptomatic at the time of diagnosis. 51.4% patients underwent resection, mostly moist resection (40%); 28.6% had negative physical findings. 44.7% cases had normal blood tests, only 13.2% had neutropenia which mostly among diabetic patients ( $p=0.006$ ). Merely 23.2% large bronchi were involved in imaging studies, single mass was the most form observed (33.9%). Most histopathologic diagnosis had been made by tranchobronchial biopsy (76.7%). Angioinvasion was found in 35% patients. *Rhizopus* was the predominant species (66.7%). Primary bronchus was the most frequent location involved (38.2%); the bronchial stenosis form and necrotic material form were the most commonly observed (40%, 34.5% respectively) and the latter was more frequent in diabetic patients ( $p=0.047$ ). There was a predilection for involvement of the upper lobes (51% of cases). The most frequent antifungal therapy were intravenous amphotericin B deoxycholate (AmB) or AmB aerosolized (79.7% totally), surgery (33.3%), and AmB combined surgery (28.3%). Overall inhospital mortality was 52.5%, with hemoptysis (odds ratio (OR) =26.68;  $p=0.017$ ), dyspnea at presentation (OR=31.47;  $p=0.022$ ) and angioinvasion (OR=12.21;  $p=0.03$ ) as independent risk prognostic factors, whereas surgery (OR=0.032;  $p=0.003$ ) was an independent protection prognostic factor. Our analysis of the literature shows that tranchobronchial mucormycosis is a rare but severe disease with high mortality because of nonspecific presentation and a variable predisposing factor, and combined medical-surgical therapy would improve the survival rate.