

primary studies - published, non RCT

Bronchial artery embolization in adults with cystic fibrosis: impact on the clinical course and survival.

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Study design (if review, criteria of inclusion for studies)

Controlled non randomised clinical trial

Participants

Of 297 patients with cystic fibrosis hospitalized from 1990 to 2004, 30 patients (mean age, 26.7+/-9.2 years) presented with major or persistent hemoptysis that required 42 BAE sessions. These patients were compared with a control group of 27 patients without hemoptysis requiring embolization who were matched for age, sex, and forced expiratory volume in 1 second (FEV1).

Interventions

bronchial artery embolization (BAE)

Outcome measures

Hemoptysis stop, major complications, change in the slope of FEV1

Main results

Hemoptysis stopped within 24 hours after BAE in 96.6% of patients (n=29), and there were no major complications. The change in the slope of FEV1 after the BAE or matching date was significantly worse in the embolization group (P=.0007). At last follow-up, nine and one patients, respectively, had undergone lung transplantation in the BAE and control groups (P=.002). The 5-year survival rates without lung transplantation were 31% and 84%, respectively, in the BAE and control groups (hazard ratio, 5.95; P=.002). Sixty-two percent of patients were free of hemoptysis 5 years after BAE. The number of collateral arteries was the only factor associated with the risk of death or recurrent hemoptysis (P=.001).

Authors' conclusions

Despite the effectiveness of embolization in controlling recurrent or major hemoptysis, adults with cystic fibrosis who have undergone BAE for hemoptysis are at much higher risk of respiratory function aggravation, death, and the need for lung transplantation than those who have not undergone BAE for hemoptysis. They are more likely to die or to undergo lung transplantation than to present with recurrent major hemoptysis.

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See also

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Keywords

Hemoptysis; Respiratory Tract Diseases; Bronchial artery embolization; non pharmacological intervention - surg; Adult;