

Causes of Hemoptysis in Eisenmenger Syndrome – A CT Angiography Study

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Introduction: Hemoptysis is a common cause of morbidity in Eisenmenger syndrome, but the causes of hemoptysis are not well defined. We analyzed the clinical predictors and causes of hemoptysis in a cohort of patients with Eisenmenger syndrome using computerized tomographic pulmonary angiography (CTPA).

Materials and methods: Of the 95 patients of Eisenmenger syndrome studied (mean age 23.7 ± 7.7 years; 57 male), 38 patients (40%) had presented with hemoptysis, and all of them underwent a CTPA within two weeks of index bleed.

Results: Patients with hemoptysis had a reduced 6 minute walk distance (356.2 ± 92.5 meters) as compared to patients without hemoptysis (395.1 ± 126.9 meters) ($p = 0.03$). However, other baseline demographic characteristics including diagnosis, complexity of lesion, functional class, and symptoms did not differ among patients with and without hemoptysis. Of the 38 patients, 17 had a treatable cause of hemoptysis and received appropriate treatment. The identifiable causes included aorto-pulmonary collaterals, pulmonary thrombosis (2 patients), pulmonary tuberculosis (2 patients), pulmonary artery dissection (1 patient). Treating an identifiable cause reduced the risk of recurrence of hemoptysis by 0.46 (95% CI 0.28 – 0.64).

Conclusion: Hemoptysis remains a major cause of morbidity in patients with Eisenmenger syndrome. Hemoptysis occurs more frequently in patients with greater exercise limitation. CT pulmonary angiogram immediately following an episode of hemoptysis could identify a potentially treatable cause in nearly half of the patients and such treatment results in lesser recurrence of hemoptysis.