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CLINICAL AND ANATOMICAL OUTCOME AFTER PULMONARY ARTERIOVENOUS MALFORMATION EMBOLOTHERAPY

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Purpose: To assess the long-term clinical and imaging results of technically successful pulmonary arteriovenous malformation (PAVM) embolization.

Materials and Methods: 155 consecutive patients (65 male, 90 female) with PAVM were treated over 3-years (1996-1999) with pushable fibered coils or detachable balloons. Follow-up was clinical assessment, unenhanced helical chest CT, and physiological evaluation within 1 year and then every 5 years.

Results: Hereditary hemorrhagic telangiectasia (HHT) was present in 148 patients (96%). 415 PAVMs were occluded during 205 procedures. Clinical follow-up was available over 3-7 years and imaging follow-up 1-7 years (mean 2.9). PAVM-related symptoms or growth occurred in 34 of 155 patients (22%) during follow-up. Symptomatic events included TIA/stroke in 4, brain abscess in 4 and hemoptysis in 3 and seizure in 1. PAVM involution by imaging occurred in 97% of lesions. Eleven residual PAVM in 10 patients (6.9%) were due to recanalization (7), accessory feeding artery (1), pulmonary collaterals (1), or bronchial collaterals (2). Ninety-seven previously small PAVMs grew to a significant size in 28 patients.

Conclusions: Residual PAVM perfusion or reperfusion is uncommon but can result in significant symptoms. Growth of small PAVMs is more common than previously thought, occurring in 18% of our patients. Most patients with residual or enlarged PAVMs are symptomatic, but a significant minority is asymptomatic, detected with imaging. Follow-up of treated patients is required at 1 and every five years.