Background: The HACEK organisms (Haemophilus species, Aggregatibacter species, Cardiobacterium hominis, Eikenella corrodens, and Kingella species) are rare causes of prosthetic valve endocarditis (PVE). Wang et al. reported the rate of PVE caused by HACEK was 1.4% among all PVE. Little clinical information about HACEK PVE is available in the English-language literature during the last 50 years. The objective of this study is to describe the clinical characteristics and outcomes of patients with HACEK PVE in the English language literature. Methods: We carried out a systematic review of the English-language literature from 1965 to 2014, describing cases of HACEK PVE. Patients were included in this study if they had definite or possible PVE according to the modified Duke’s criteria. Results: We analyze the clinical, microbiologic characteristics, and outcome of 77 patients. Definite PVE was present in 54 of 77 patients (70.1%). Patients were predominantly man (67.5%) with a median age of 48.0 years (5-82). Common predisposing factor was dental invasive procedure (22.1%), and poor dental condition (18.2%). Clinical manifestations of endocarditis of more than 1 month duration were recorded in 35.5% (24/68). Fever presented in 93.6% (59/63) of patients. Aortic and mitral valve was involved at 48.1%, 32.5%, respectively. The most common organism was A. actinomycetemcomitans (36.4%), followed by C. hominis (27.3%). In hospital mortality was 10.0% (7/70 patients) and the most frequent complication was heart failure (42.9%, 18/42), followed by systemic embolization (18.2%, 14/77), and stroke (16.9%, 13/77). Conclusions: HACEK PVE is a very rare disease. HACEK PVE was associated with young age man and it’s vascular complications were relatively frequent and serious. The outcome of HACEK PVE was excellent whether treated medically or with surgery.

A hemothorax secondary to pulmonary embolism: an unusual complication of infective endocarditis

Infective endocarditis involving the tricuspid valve (TV) is an uncommon condition. It is rarer to see a hemothorax associated with pulmonary embolism. There are no even definite guidelines to aid the management for this complication. Here we describe arare case of a hemothorax complicated by pulmonary embolism caused by infective endocarditis. A 25-year old man with a congenital perimembranous VSD presented with fever for about 30 days. On physical examination, his body temperature was 38.8℃ and grade III holo-systolic murmur was heard. Laboratory results revealed leukocytes 11,600 cells/μL, and C-reactive protein 111.72 mg/l. A chest radiograph did not demonstrate any specific findings. Transesophageal echocardiogram showed echogenic material attached on ventricular side of TV and its chordae, which suggested infective endocarditis. Because, all blood culture bottles drawn from three different sites yielded growth of a Gram-positive coccus, penicillin and gentamycin were prescribed empirically. Finally, pan-susceptible Streptococcus sanguinis was identified as the causative microorganism in the blood cultures using a VITEK II system. On the 12th day of hospitalization, he complained of a pleuritic chest pain without fever. Physical examination revealed reduced breathing sounds and dullness in the lower left thorax. On his computed tomography of the chest revealed pleural effusion with focal infarction with pulmonary embolism on left lower lung. A thoracentesis was performed and yielded the hemothorax. A chest tube was inserted to drain the pleural effusion and removed after nine days. However, he did not receive anticoagulation therapy. He responded well to this treatment with penicillin for 6 weeks and gentamycin for 2 weeks. After that, ceftriaxone for the outpatient antimicrobial therapy was prescribed for 3 weeks. During a 10-month post-discharge follow-up, he showed no evidence of recurrent infective endocarditis or pulmonary embolism. Our case suggests an extremely rare complication of hemothorax resulted from pulmonary embolism caused by infective endocarditis. Particularly he was successfully treated by intravenous antibiotics with effective drainage, except anticoagulation therapy.