

Abnormal Conditions of Hyperviscosity Disease

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Description

Patients with GUCH with Eisenmenger complex and other cyanotic defects have varying levels of erythrocytosis and associated increased cellular viscosity. Symptoms of hyperviscosity include dizziness, tinnitus, blurry vision, sluggish mentation, fatigue, headache, acral paresthesias, myalgias, nausea, and dyspnea. Although phlebotomy does not have a role in stroke prevention among patients with cyanotic CHD, it has been used to counter symptoms of hyper viscosity. If phlebotomy is performed for this indication, the volume removed should be replenished with isotonic saline or colloid solutions to achieve maximal effect. Phlebotomy, however, can contribute to iron deficiency to which these patients seem predisposed. Of note, iron deficiency can contribute to hyperviscosity symptoms, although probably not to viscosity itself. Iron deficiency has also been identified as a risk factor for stroke in adults with cyanotic CHD. Consequently iron deficiency should be avoided. In patients who have already become iron deficient, oral iron therapy should be advanced slowly until a hematocrit response is just detected to avoid a rapid increase in hematocrit, which can precipitate hyperviscosity symptoms.

Infective Endocarditis

Congenital heart defects are at high risk for endocarditis. In fact, patients with complex cyanotic congenital heart defects, constructed systemic-to-pulmonary shunts, or those with congenital valvular defects, are in the highest risk group along with patients with prosthetic heart valves. The clinical diagnosis is made using the Duke criteria, which are outlined. These criteria incorporate echocardiographic findings. It is important to recognize that many of the common sites involved with infective endocarditis are not visible on standard transthoracic and even trans esophageal echocardiography. These include the systemic-to-pulmonary surgical shunts, as well as the extra cardiac prosthetic heart valves. The clinician needs to be aware of this, and maintain a high index of suspicion when evaluating adults

with CHD presenting with fever, especially in the setting of bacteremia. Systemic embolization is a common occurrence, and the adult patient with CHD with right-to-left shunting is at an increased risk as a consequence of right-sided lesions having access to the systemic circulation. The CNS receives most of these emboli. Vegetation size, mobility, valve involved, infection. Systemic embolization is a common occurrence, and the adult patient with CHD with right-to-left shunting is at an increased risk as a consequence of right-sided lesions having access to the systemic circulation. The CNS receives most of these emboli. Vegetation size, mobility, valve involved, infection with Staphylococcus aureus or fungal organisms are all predictors of a higher risk of embolization. Anticoagulation has never been demonstrated to be of benefit in these patients, and it is felt to result in a higher risk of hemorrhagic transformation in the first few weeks. Mycotic aneurysms arise as a result of septic embolization of vegetations to the nutrient vessels of the arterial system. The resultant growth and spread of the infectious process results in a high-risk lesion associated with a 60% mortality. Patients may develop severe headache, altered sensorium, or focal neurologic deficits, which however can also remain clinically silent before rupture. A brain abscess is usually thought to present sub acutely, often with progressive focal neurologic deficits, symptoms of intracranial pressure and fever. Acute onset of focal neurologic deficits in children and young adults with cyanotic CHD are almost as likely caused by a brain abscess or stroke. The suddenness of onset in cases of cyanotic C.I.D probably reflects the pathophysiology with initial embolism of infected material, local brain ischemia or anoxia, conductor to growth of anaerobes. Bacterial proliferation, and abscess formation. The hypoxemia caused by right-to-left shunting provides an ideal milieu for rapid growth of the lesion. Indeed, the hypoxia and ischemic tissues are critical factors for encouraging the growth of anaerobic streptococcus or other anaerobes, which are common organisms in cases of brain abscess. Early clinical suspicion and prompt diagnosis remain keys to successful medical management.