Thromboembolic Disorders in Pregnancy

In the US, thromboembolic disorders—deep venous thrombosis (DVT—see Peripheral Venous and Lymphatic Disorders: Deep Venous Thrombosis (DVT)) or pulmonary embolism (PE—see Pulmonary Embolism (PE))—are a leading cause of maternal mortality. During pregnancy, risk is increased because venous capacitance and venous pressure in the legs are increased, resulting in stasis, and because pregnancy causes a degree of hypercoagulability. However, most thromboemboli develop postpartum and result from vascular trauma during delivery. Cesarean section also increases risk. Symptoms of thrombophlebitis or their absence do not accurately predict the diagnosis, disease severity, or risk of embolization. Thromboembolic disorders can occur without symptoms, with only minimal symptoms, or with significant symptoms. Also, calf edema, cramping, and tenderness, which may occur normally during pregnancy, may simulate Homans' sign.

Diagnosis and Treatment

Diagnosis of DVT is usually by Doppler ultrasonography. In the postpartum period, if Doppler ultrasonography and plethysmography are normal but iliac, ovarian, or other pelvic venous thrombosis is suspected, CT with contrast is used.

Diagnosis of PE is increasingly being made by helical CT rather than ventilation-perfusion scanning, because it involves less radiation and is equally sensitive. If the diagnosis of PE is uncertain, pulmonary angiography is required.

If DVT or PE is detected during pregnancy, the anticoagulant of choice is a low mol wt heparin (LMWH). LMWH, because of its molecular size, does not cross the placenta. It does not cause maternal osteoporosis or thrombocytopenia, which can result from prolonged (≥ 6 mo) use of unfractionated heparin. Warfarin crosses the placenta and may cause fetal abnormalities or death (see Table 2: Pregnancy Complicated by Disease: Drugs With Adverse Effects During Pregnancy). Indications for thrombolysis...
during pregnancy are the same as for patients who are not pregnant. If PE recurs despite effective anticoagulation, surgery, usually placement of an inferior vena cava filter just distal to the renal vessels, is indicated.

If patients developed DVT or PE during a previous pregnancy or have an underlying thrombophilic disorder, they are treated with prophylactic LMWH 5000 units sc bid beginning at the first diagnosis of pregnancy and continuing until 6 wk postpartum.