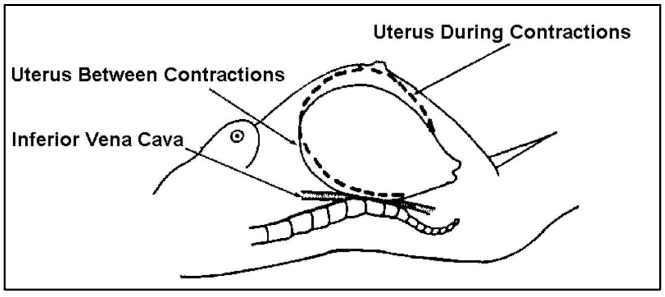
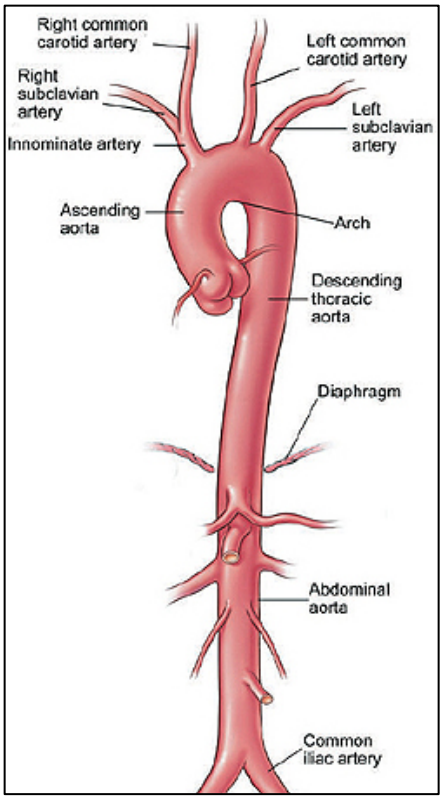
Supine Hypotensive Syndrome

Anesthetic Pearls: Anesthetic Implications and Management of Pregnancy Related Supine Hypotension

Supine Hypotensive Syndrome is an aggregate of signs and symptoms associated with approximately 10% of near term pregnant women lying in the supine position. The signs and symptoms include hypotension, pallor, diaphoresis, nausea, vomiting, and changes in mentation.



In this syndrome, the gravid uterus compresses the **inferior vena cava** causing a decrease in venous return and thereby decreasing cardiac output. These issues subsequently lead to signs of shock and decreased utero-placental flow. Anesthetic techniques that cause venodilation can worsen this condition. In addition to hypotension, the decrease in utero-placental flow can further be exacerbated by increasing uterine venous pressure (secondary to vena caval obstruction) and by uterine artery hypotension (secondary to compression of the aorta). Fetal distress results due to impaired utero-placental perfusion. **Compression of the aorta can be asymptomatic in the parturient but can rapidly lead to progressive fetal acidosis and bradycardia.**



In most parturients, the hypotensive syndrome does not occur because of the ability to initiate compensatory responses. These mechanisms include collateral routes to improve venous return (**paravertebral to the azygos vein**) and increased symptomatic tone. The paraverterbral to azygos collateral is important to note because an inadvertant intravascular injection of local anesthetic during an epidural injection can deliver a bolus of the anesthetic to the heart. The increased sympathetic tone allows for systemic blood pressure to be maintained despite a decrease in cardiac output.

Therapy for supine hypotensive syndrome involves placing the parturient in the **lateral decubitus position** (left better than right). The uterus can also be displaced off of the IVC or the aorta manually or by 10-15 cm elevation of the right hip.