

Review and commentary of key non-JVS-VL articles

More is not necessarily better

Adjunctive Intermittent Pneumatic Compression for Venous Thromboprophylaxis

Arabi YM, Al-Hameed F, Burns KEA, Mehta S, Alsolamy SJ, Alshahrani MS, et al. Saudi Critical Care Trials Group N Engl J Med 2019;380:1305-15.

Conclusions: In critically ill patients who were already receiving pharmacologic thromboprophylaxis, the use of intermittent pneumatic compression (IPC) did not significantly lower the incidence of deep venous thrombosis (DVT).

Summary: The PREVENT trial, an investigator-initiated study, was performed in 20 sites across Saudi Arabia, Canada, Australia, and India. More than 2000 critically ill patients who were on pharmacologic therapy for DVT prophylaxis were fairly equally randomized to receive or not receive adjunctive IPC. The IPC devices varies between knee and high thigh or foot-only pumps, for at least 18 hours/day. Twice weekly ultrasound scans were performed to detect new proximal lower extremity DVT. New DVTs were seen in 3.9% of IPC group and 4.2% of controls. A composite endpoint of venous thromboembolism (pulmonary embolism or any DVT) occurred in 10.4% and 9.4% of IPC group and controls, respectively.

Comments: If you have ever tried to wear one of these devices, you may find them to be uncomfortable and hot. They can cause skin blisters or even bruises from the foot pumps (which feel like a punch to the bottom of your foot every time they rapidly inflate). They are definitely not a relaxing leg massage. Additionally, in critically ill patients, they may contribute to limb ischemia in those who have lower extremity atherosclerosis or those who are on vasoconstrictive medications necessary for blood pressure and cardiac support.

Just say no to radiation in pregnancy

Pregnancy-Adapted YEARS Algorithm for Diagnosis of Suspected Pulmonary Embolism

van der Pol LM, Tromeur C, Bistervels IM, Ni Ainle F, van Bommel T, Bertoletti L, et al. Artemis Study Investigators N Engl J Med 2019;380:1139-49.

Conclusions: Pulmonary embolism (PE) remains a leading cause of death in pregnant women in the Western world. The use of a pregnancy-adapted algorithm in pregnant women with suspected PE was successful and safely avoided the ionizing radiation exposure from computed tomographic pulmonary angiography (CTA) in 32% to 65% of pregnant patients in their third to first trimesters, respectively.

Summary: This prospective multicenter multiyear study of pregnant patients with suspected PE screened for PE using three criteria from the YEARS algorithm. In addition to measuring D-dimer level, patients were assessed for clinical signs of deep venous thrombosis, hemoptysis, and PE as the most likely diagnosis. If all were negative and D-dimer low, PE was ruled out. Ultrasound compression testing was used on patients with clinical signs of deep venous thrombosis. If a clot was seen, anticoagulation therapy was initiated and no CTA was performed. CTA was only done on patients with a D-dimer of greater than 1000 ng/mL with no YEARS criteria or more than 500 ng/mL with one to three YEARS criteria. This algorithm avoided CTA in 65% of pregnant patients in the first trimester and 32% of those in their third trimester.

Comments: The fetus is most susceptible to the harmful effects of radiation exposure in the first trimester of pregnancy. Avoiding an unnecessary CTA by the use of an alternative, and accurate, decision-making algorithm seems intuitive and safe. I commend these and other authors who have studied combinations of clinical probability, laboratory testing, and ultrasound imaging for PE predictability in pregnant patients. We need a uniform strategy and guidelines to approach these vulnerable patients.

Sweet!!! A randomized, controlled trial to add to the vein ablation evidence

Randomized Clinical Trial of Endovenous Laser Ablation Versus Direct and Indirect Radiofrequency Ablation for the Treatment of Great Saphenous Varicose Veins

Hamann SAS, Timmer-de Mik L, Fritschy WM, Kuiters GRR, Nijsten TEC, van den Bos RR. Br J Surg 2019 May 16. doi: 10.1002/bjs.11187. [Epub ahead of print]

Conclusions: Endovenous ablation is the gold standard for treatment of chronic venous insufficiency secondary to axial venous incompetence. The two most common ablation modalities, laser (endovascular laser ablation [EVLA])