All Cesareans Need VTE Prevention, Guideline Says

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Note that pregnant women have a four-to-five-fold increased risk of thromboembolism compared to non-pregnant women, and cesarean section approximately doubles the risk. **Point out that in view of the increased risk, placement of compression devices until the patient is ambulatory is recommended for all women not already receiving thrombo-prophylaxis.** All women having a cesarean delivery should get preventive therapy for venous thromboembolism, according to a new guideline from the American College of Obstetricians and Gynecologists.

Since the procedure doubles the risk of venous thromboembolism, physicians should place compression devices on all women who aren't already receiving some form of thromboprophylaxis, Andra James, MD, of Duke University, and colleagues wrote in the guideline, which was published in Obstetrics & Gynecology.

"Fitting inflatable compression devices on a woman's legs before cesarean delivery is a safe, potentially cost-effective preventive intervention," James said in a statement, adding that the sleeves "should be left in place until a woman is able to walk after delivery or, in women who had been on blood thinners during pregnancy, until anticoagulation medication is resumed."

The authors noted, however, that an emergency c-section should not be delayed for the placement of compression devices.

**In general, pregnant women have a four-to-five-fold increased risk of thromboembolism than women who aren't pregnant.**

About 80% of thromboembolic events in pregnancy are venous, including pulmonary embolism and deep vein thrombosis, with the majority being caused by the latter.

Thromboembolic disease is one of the leading causes of death in pregnancy, and risk factors include a personal history of the disease, the presence of thrombophilia, and being in the postpartum period, James and colleagues wrote.

So to guide prevention and treatment of the condition, the researchers created a guideline based on three levels of evidence.

Recommendations based on Level A, or "good and consistent" evidence, included using compression ultrasonography of the proximal veins to diagnose the disease when patients are experiencing symptoms such as pain and swelling in an extremity.

They noted that if the results are negative or equivocal and iliac vein thrombosis is still expected, clinicians can use an MRI for confirmatory testing. To confirm pulmonary embolism, both ventilation-perfusion scanning and CT angiography are associated with relatively low radiation exposure for the fetus. Recommendations based on Level B, or "limited or inconsistent" evidence, included using heparin compounds as the anticoagulants of choice. Neither unfractionated heparin nor low-molecular-weight heparin crosses the placenta, and both are considered safe in pregnancy, the researchers said, adding that low-molecular-weight heparin may have some advantages in terms of fewer adverse events. Warfarin, on the other hand, has been associated with potentially harmful fetal effects, especially with first-trimester exposure, they noted. All three anticoagulants, however, are compatible with breastfeeding because they don't accumulate in breast milk and thus won’t induce an anticoagulant effect in the infant. To minimize postpartum bleeding complications, the researchers recommended resuming anticoagulation therapy no sooner than four to six hours after vaginal delivery, or six to 12 hours after cesarean delivery. Recommendations based on Level C evidence, which are largely reliant on consensus or expert opinion, include the new guidance on taking preventive measures -- in this case, using pneumatic compression devices -- for all women having a cesarean delivery.

**Clinicians should to continue to use compression devices until the patient is ambulatory or until anticoagulation therapy is re-started, according to the guidelines.**