



Navigating Iliofemoral Deep Vein Thrombosis in Pregnancy: Endovascular Treatments and Maternal-Fetal Medicine Insights

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ABOUT THE STUDY

Pregnancy, a transformative and vulnerable period in a woman's life, brings with it a multitude of physiological changes, including an increased risk of Deep Vein Thrombosis (DVT). Deep vein thrombosis occurring in the iliofemoral veins during pregnancy is a rare but potentially life-threatening condition. Managing this condition presents a clinical challenge due to the unique considerations of pregnancy. In recent years, endovascular treatments, such as catheter-directed thrombolysis and venous stenting, have emerged as potential options for pregnant women with iliofemoral DVT. This study explores the safety and efficacy of endovascular treatment in managing pregnancy-related iliofemoral DVT on the evolving landscape of maternal-fetal medicine.

The challenge of pregnancy-related iliofemoral DVT

Deep vein thrombosis during pregnancy is a complex condition influenced by various factors, including hormonal changes, venous stasis, and hypercoagulability. When DVT occurs in the iliofemoral veins the large veins in the pelvis and upper thigh it can lead to significant morbidity and mortality. The risk of pulmonary embolism, a life-threatening complication, is heightened in pregnant women with iliofemoral DVT.

Historically, the management of iliofemoral DVT during pregnancy primarily involved anticoagulation therapy, such as Low-Molecular-Weight Heparin (LMWH). While anticoagulation effectively prevents thrombus propagation, it may not fully address the underlying mechanical obstruction caused by the thrombus. This is where endovascular interventions have gained attention as potential adjuncts or alternatives to standard anticoagulation therapy.

Safety concerns

Radiation exposure: One of the primary concerns surrounding endovascular treatment during pregnancy is radiation exposure.

Fluoroscopy, a commonly used imaging modality during these procedures, exposes both the mother and fetus to ionizing radiation. Minimizing radiation exposure is predominant, and strategies like lead shielding and optimization of fluoroscopy settings are employed to reduce radiation doses.

Risk of bleeding: Pregnancy itself is a hypercoagulable state, and anticoagulation therapy increases the risk of bleeding. When combined with endovascular interventions, the risk of bleeding complications, such as access site hematomas or retroperitoneal bleeding can be further elevated. Close monitoring and a multidisciplinary approach are essential to mitigate these risks.

Fetal radiation exposure: Another concern is the potential fetal radiation exposure during the procedure. Although the doses are typically low and considered safe, the long-term effects of fetal radiation exposure remain uncertain. Therefore, it is crucial to carefully weigh the risks and benefits of endovascular treatment in each case.

Efficacy considerations

Thrombus resolution: Endovascular treatments, such as catheter-directed thrombolysis, have shown potential in achieving rapid thrombus resolution in iliofemoral DVT. This can alleviate venous obstruction, potentially reducing the risk of post-thrombotic syndrome, a chronic condition that can cause pain and disability.

Symptom improvement: Many pregnant women with iliofemoral DVT experience significant pain, swelling, and functional impairment. Endovascular interventions can lead to rapid symptom relief, improving the quality of life for these patients.

Pulmonary embolism prevention: By addressing the iliofemoral thrombus more directly, endovascular treatments may offer an added layer of protection against pulmonary embolism, a catastrophic complication of DVT.

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Clinical decision-making

The decision to pursue endovascular treatment for pregnancy-related iliofemoral DVT should be made on a case-by-case basis.

Thrombus extent: The location and extent of the thrombus are critical determinants. Large, obstructive thrombi are more likely to benefit from endovascular intervention.

Gestational age: Timing is significant and also risks associated with endovascular treatment may be higher in the first trimester when organogenesis occurs, making it preferable to delay the procedure until the second trimester if possible.

Patient's clinical status: The overall clinical condition of the patient, including her symptoms and response to anticoagulation therapy, should guide the decision-making process.

Multidisciplinary approach: Collaborative decision-making involving maternal-fetal medicine specialists, interventional radiologists, hematologists, and obstetricians is essential. The

potential benefits and risks must be thoroughly discussed with the patient, and her preferences should be considered.

CONCLUSION

Pregnancy-related iliofemoral DVT poses a unique set of challenges that require a multidisciplinary and individualized approach to management. Endovascular treatments offer potential benefits in terms of rapid thrombus resolution, symptom relief, and pulmonary embolism prevention. However, safety concerns, such as radiation exposure and bleeding risk, must be carefully considered.

As we move forward, continued research and collaboration among specialists in maternal-fetal medicine, interventional radiology, and obstetrics are essential to refine the criteria for selecting patients who will benefit most from endovascular treatment. Ultimately, the goal is to optimize both maternal and fetal outcomes, ensuring that pregnant women with iliofemoral DVT receive the most appropriate and effective care available.