New blood clot guidelines for pregnant women

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Blood clot recommendations highlight challenges for pediatric and pre-surgery populations

New evidence-based guidelines address the prevention and management of thrombosis in key patient populations and reinforce recommendations related to the routine use of preventive therapies. Published as a supplement in the June issue of *CHEST*, the peer-reviewed journal of the American College of Chest Physicians (ACCP), Antithrombotic and Thrombolytic Therapy: ACCP Evidence-Based Clinical Practice Guidelines, Eighth Edition was developed by an international panel of 90 experts and includes more than 700 of the most comprehensive recommendations related to the prevention, treatment, and long-term management of thrombotic disorders. The guidelines include chapters on the challenges in preventing and treating thrombosis in pregnant women and children, and on managing peri- and postoperative patients, while also reinforcing previous guidelines related to the routine use of preventive therapies, including aspirin.

"For years, clinicians have faced challenges in preventing and managing thrombosis in women who are pregnant or patients who require surgery," said guidelines panel chair Jack Hirsh, MD, FCCP, Henderson Research Center, Hamilton, ON, Canada. "The new guidelines address many troublesome issues in antithrombotic therapy and provide clinicians with a variety of options for care in special patient groups." Antithrombotic and thrombolytic therapies are used to prevent and treat thrombosis or blood clotting that arises in arteries, veins, and the heart.

PREGNANT WOMEN

The new ACCP guidelines address challenging issues facing women who are pregnant or wish to become pregnant while undergoing long-term antithrombotic therapy. Pregnant women taking vitamin K antagonists (VKA), such as the anticoagulant warfarin, have an increased risk for birth defects and miscarriage and are, therefore, advised to stop taking VKAs before 6 weeks of fetal gestation. However, some pregnant women with certain types of mechanical heart valves may be continued on VKA therapy because of concerns about the effectiveness of alternative anticoagulants in preventing stroke and valve thrombosis. For other women taking VKAs who become pregnant, the guidelines recommend substituting low-molecular-weight heparin (LMWH) or unfractionated heparin (UFH). The guidelines recommend two options for doing this: (1) continuing VKA but performing frequent pregnancy tests to determine when pregnancy has been achieved, followed by the substituion of LMWH or UFH as therapy; or (2) substituting VKAs with LMWH or UFH prior to conception. Although the second option eliminates the potential for fetal exposure to VKA, it provides additional challenges. LMWH and UFH are more expensive than VKAs and must be administered through a once- or twice-daily injection as opposed to a once daily oral dose of VKAs. In addition, long-term use of LMWH or UFH can be associated with osteoporosis.

"If women substitute heparin prior to pregnancy and have difficulties conceiving, they may find themselves taking the medication for a much longer timeframe than expected," said guideline coauthor Shannon Bates, MD, McMaster University and Henderson Research Centre, Hamilton, Ontario, Canada. "This is not only inconvenient but also increases treatment costs and may be associated with long-term risks for the mother."

CHILDREN

Recommendations related to childhood stroke, one of the top ten causes of death in children, and congenital heart disease have been substantially expanded since the previous guideline. Arterial ischemic stroke (AIS), usually caused by embolism or thrombosis, is difficult to diagnose in children because underlying health conditions are markedly different than those in adult stroke and up to 15% of children with AIS have no apparent risk factors. The guidelines recommend that children with AIS receive initial antithrombotic therapy until underlying causes can be determined, followed by maintenance therapy to prevent long-term recurrence. In addition, the newly expanded guidelines on the prevention and treatment of thrombosis related to congenital heart disease interventions include discussions of ventricular assist devices and prosthetic heart valves.

"Care for children with major cardiac problems has improved dramatically. Many children who previously died now survive, but thrombosis remains a major cause of secondary complications for these children," said Dr. Hirsh. "Effective antithrombotic therapy is critical if these children are to grow up as normal, healthy children."

PATIENTS UNDERGOING SURGERY

For the first time, the guidelines dedicate a full chapter to the perioperative management of patients on long-term antithrombotic therapy who require surgery or other invasive procedures. Most patients must temporarily stop receiving therapy just prior to undergoing surgery, as well as during surgery, in order to minimize surgery-related bleeding. However, stopping antithrombotic therapy can increase the risk of a thromboembolic event. To address this challenge, the guidelines recommend that the risk of a thromboembolic event during interruption of therapy is balanced against the risk for bleeding when antithrombotic therapy is discontinued just prior to surgery. The guidelines also recommend routine use of thromboprophylaxis for patients undergoing

major general, gynecologic, or orthopedic surgeries and have been expanded to include bariatric and coronary artery bypass surgery.

GENERAL RECOMMENDATIONS

Overall, ACCP guidelines recommend thromboprophylaxis for most patients who are hospitalized; however, they do not recommend routine use of thromboprophylaxis for patient groups with a very low risk of venous thromboembolism. Low risk groups include patients undergoing laparoscopic surgery, knee arthroscopy, or those who take long airplane flights. For these patients, physicians can make decisions about thromboprophylaxis based on the individual patient's thrombosis risk. The guidelines continue to recommend against the use of aspirin alone as a means to prevent venous thromboembolism in any patient population because more effective methods are available.

Source: American College of Chest Physicians