It’s a common scenario. A patient has a minor orthopedic procedure, such as a hammertoe repair, and receives a cast. The patient is immobilized at home and ends up with deep vein thrombosis (DVT).

Venous thromboembolism (VTE), a frequent complication of surgery that manifests as DVT or pulmonary embolism (PE), affects up to 600,000 Americans each year and contributes to at least 100,000 deaths annually. Research has shown that about half of the people worldwide who should be receiving VTE prophylaxis are not getting it.

Patients with elevated VTE risk include those who:
• have a history of prior VTE
• are on prolonged bed rest
• have had major surgery
• have a family history of blood clots or a clotting disorder.

The growing number of longer, more complex procedures in outpatient settings suggests an increasing risk of VTE in ambulatory surgery patients.

In addition to being a risk for patients with lower limb casts, DVT has been recognized recently as a potential complication after shoulder surgery and closed reduction of traumatic shoulder dislocations.

Real risk is at home
At present, there is no clear guideline on VTE prevention for ambulatory surgery patients who are at risk.

“We can monitor patients when they’re in ambulatory surgery, but the real risk is when they get home and they are immobilized,” says Nicholas Morrissey, MD.

“We have to start looking at outpatient settings as a pathway for treating outpatients more aggressively after they are discharged and not just relying on hospital settings to prevent DVTs.” Dr Morrissey, an attending surgeon at New York-Presbyterian Hospital/Columbia University Medical Center and assistant professor of surgery and vascular surgery at Columbia University College of Physicians and Surgeons, New York City, and his colleagues have recently developed a DVT risk assessment tool. (The tool is posted in the OR Manager Toolbox at www.ormanager.com)

Data points to increased risk
“Data on the incidence of DVT in the outpatient surgery population are hard to come by because the people who are collecting data are in hospitals, and they are collecting data on hospitalized patients,” Dr Morrissey told OR Manager. “Outpatients are not consistently followed up for DVT, so the information isn’t consistent enough to be reliable.” Still, he says, the data
that is available points to the increased risk of DVT after ambulatory surgery and the need for uniform guidelines for preventing this complication in outpatients.

**Reports in the literature**

Several reports on DVT in outpatients are in the literature. A new study by Thomas et al assessed the incidence of DVT in orthopedic outpatients with lower limb casts. Of 381 patients, 7 developed DVT, and 4 of those had an associated PE. Even though the proven DVTs were low, the researchers say the potential of developing a PE in these patients was high. They emphasized the need for a uniform guideline in the management of outpatients at risk for DVT.

In a 2004 review and case report, Holzheimer found an increased risk for VTE in patients having laparoscopic surgery because of the detrimental effects of pneumoperitoneum on venous flow. The author warned that family practitioners may be confronted with this complication more often because of the number of patients having outpatient laparoscopic surgery.

Wirth et al in a 2001 study evaluated the risk of VTE after outpatient knee arthroscopy and the efficacy and safety of low-molecular weight heparin (LMWH) in preventing VTE in these patients. A total of 262 patients were randomized to treatment with LMWH (117 patients) or no treatment (122 patients). Five DVT were detected in the no-treatment group and 1 in the LMWH group. The treatment group tolerated the LMWH well with no major bleeding; 4 had minor bleeding, the researchers reported.

**Prophylaxis for outpatients**

"Prophylaxis for DVT in outpatients is becoming more of an issue because of all the procedures now being done on an outpatient basis and outpatient procedures being performed on sicker patients," says Dr Morrissey. "It's something people are starting to talk about."

Many of the outpatient cases he performs are vascular access procedures in which patients are given IV heparin as part of the procedure, he noted. Anticoagulants are more of an issue in procedures such as arthroscopies. Orthopedic surgeons are concerned about the bleeding associated with anticoagulants.

"I've seen DVTs in a couple of orthopedic patients just in the last couple of months," he says.

**DVT assessment for all patients**

New York-Presbyterian Hospital launched an initiative aimed at reducing the incidence of DVT in 2009. DVT risk is assessed among all patients admitted to the hospital, those coming in through the emergency room, and those having outpatient surgery. Patients also receive literature and information about DVT and its prevention.

Noting that DVT and PE are the number one cause of preventable hospital death, Dr Morrissey says, "The goal of the program is to drive down the incidence of these disorders in patients, no matter how they enter the system."

**Risk assessment tool**

The DVT risk assessment tool has been incorporated into the hospital's electronic medical record system. No action is needed for patients who are
already taking anticoagulants. For those who are not on these medications, physicians answer a series of questions, and the results are used to compute a DVT risk score.

The physician then places an order for DVT prophylaxis—such as heparin, LMWH, or Coumadin—for patients determined to be at risk.

Many patients can discontinue the medication once they are no longer immobilized. But those who have already had a blood clot may need to take medication for several months after surgery, he says.

He adds that more surgeons are starting to consider DVT prophylaxis for their outpatients because of what they see in their inpatients.

“We are realizing that because our inpatients have such short stays now, they are coming back to us with DVTs. We’re diagnosing them as outpatients,” he says.

There is a major emphasis, he says, not only on DVT prophylaxis in hospitalized patients but also to ask: “Do they need it when they go home? There’s an increased awareness of that need.”

—Judith M. Mathias, RN, MA

References


