

Venous Thromboembolism Prophylaxis in Post-Acute and Long-Term Care

By Christine Kilgore

Given that at least 60% of all venous thromboembolism (VTE) events in medically ill hospitalized patients occur in the weeks after hospital discharge, it seems time to support extended VTE prophylaxis in high-risk medical patients with a low bleeding risk who are discharged to post-acute care, said Patrick P. Coll, MD, AGSF, CMD, at the Annual Conference of AMDA – The Society for Post-Acute and Long-Term Care Medicine.

“If you believe as I do that this is something you should be addressing in your post-acute care patients, you may want to sit down and talk with your patient about the risks and benefits of VTE prophylaxis [with either low-molecular-weight heparin (LMWH) or the direct oral anticoagulants (DOACs) rivaroxaban or apixaban] for somewhere in the range of four weeks,” said Dr. Coll, professor of family medicine and medical director for senior health at UConn Health.

There is a paucity of high-quality evidence to guide VTE prevention in the PALTC setting overall and in high-risk patients discharged to post-acute care after a hospital stay for medical illness.

But hospitalized patients and patients in post-acute care are increasingly similar, and their clinical condition rather than the location of care should be the determinant of whether VTE prophylaxis is offered, he said.

“Patients are discharged quite early, often with their condition not changing much between the day prior to discharge and the day after discharge, and yet historically you get VTE prophylaxis in the hospital and then you go to post-acute care and you don’t,” Dr. Coll said.

He recommended a review published last year in the *Journal of Clinical Medicine* that documents how extended thromboprophylaxis with DOACs in particular has the potential to significantly reduce VTE-related morbidity and mortality in hospitalized medically ill patients after discharge (*J Clin Med* 2020;9:1002).

The American Society of Hematology 2018 guideline for management of VTE, which has not since been updated, recommends using LMWH over DOACs for VTE prophylaxis in acutely ill hospitalized patients.

Dr. Coll told *Caring* after the meeting that he does not switch from LMWH

to a DOAC at the time of admission to post-acute care, but he will discuss with the patient the advantages of switching to a DOAC if the VTE prophylaxis is to be continued after being discharged from the facility to home. His recommendation to strive for four weeks of anticoagulation is based on data indicating that most post-hospital VTEs occur within four weeks of the patient’s discharge.

VTE prophylaxis also may be considered for long-term care patients with acute illnesses who remain in the facility for treatment rather than being sent to the hospital, he said at the meeting.

The International Medical Prevention Registry on Venous Thromboembolism (IMPROVE) risk assessment model may be useful for deciding whether an individual is at high risk of VTE and in need of anticoagulation, Dr. Coll said. Factors included in the scoring system include cancer, immobilization for at least seven days, a stay in the intensive care unit or coronary care unit, and age older than 60 years. Other risk assessment methods include an elevated D-dimer value (double the upper limit of normal).

The risk factors for bleeding that would contraindicate VTE prophylaxis in post-acute patients include bronchiectasis/pulmonary cavitation, an active gastrointestinal (GI) bleed or GI bleed within the prior three months, or the provision of dual antiplatelet therapy, he said.

Experience is greater in post-acute care with VTE prophylaxis in orthopedic surgery patients, but Dr. Coll noted that anticoagulation should last a minimum of 10 to 14 days for those who have had total hip or knee arthroplasty.

DOACs have not been evaluated in patients who have undergone hip fracture surgery, so “here you’d probably choose to use the low-molecular-weight heparin,” Dr. Coll said.

Aspirin generally should not be used as the sole initial agent for VTE prophylaxis after hip fracture surgery or total hip or knee arthroplasty, he noted. In his practice, a prescription for aspirin warrants a call to the orthopedic surgeon “to ask about changing to another agent,” he said.

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Continued from previous page

DVT and Pulmonary Embolism

In a separate session addressing the evaluation, management, and treatment of deep venous thrombosis (DVT) and pulmonary embolism (PE) in the nursing home, Angela Sanford, MD, CMD, associate professor in the Department of Medicine, Division of Geriatric Medicine, at Saint Louis University School of Medicine, emphasized that nursing home residence is “one of the strongest risk factors for VTE — and an independent one.”

The diagnostic study of choice for patients with a suspected VTE depends on whether the resident is at low–moderate risk or at high risk or having VTE. A D-dimer test is an appropriate initial test for individuals with a low–moderate pretest probability of VTE. For patients deemed to be at high risk, venous duplex Doppler is best for diagnosis of DVT. (Computed tomography pulmonary angiography is best for PE, which is fatal 5% to 10% of the time.)

The Wells scoring system for DVT risk — or consideration of its criteria, at least — may be helpful for assessing risk, Dr. Sanford noted. Its risk criteria include immobility, calf swelling (>3 cm compared with the other leg), localized tenderness along the deep venous system, and previously documented DVT.

The goal of treatment during the acute phase of a DVT is “to prevent clot extension, embolization, and chronic complications [like post-thrombotic syndrome],” said Dr. Sanford during the “Latest Approaches to Difficult Medical Issues” session. “If imaging can’t be obtained in less than four hours of clinical suspicion of DVT, consider empiric anticoagulation ... until imaging is done.”

With the advent of new treatment options, most residents with DVT are good candidates for treatment in place, she said. Patients who have had recent surgery or who have cardiopulmonary instability, signs of PE (e.g., hypotension, severe dyspnea, or tachycardia), thrombocytopenia, or poor renal or hepatic function are among those who should be considered for hospitalization.

DOACs are now widely regarded as first-line agents for DVT, Dr. Sanford said. In a systematic review and meta-analysis published last year, DOACs demonstrated improved efficacy in preventing recurrent VTE and VTE-related deaths in adults aged 75 and older compared with vitamin K antagonists, with similar bleeding outcomes (*J Am Geriatr Soc* 2020;68:2021–2026).

In another presentation, pharmacist Jennifer Pruskowski, PharmD, cautioned that the main challenge with DOACs in the PALTC setting is that the capsules cannot be broken open to be crushed for patients with dysphasia. “If you have a resident who cannot swallow,” she said, “I’d suggest you go back to warfarin.” Dr. Pruskowski is assistant professor and director of geriatrics

pharmacy, research, and education at the University of Pittsburgh School of Medicine.

Dr. Sanford said that in most cases anticoagulation as acute treatment should be continued for three months. Patients with proximal DVT, a persistent risk factor, or a high risk of recurrence may need lifelong anticoagulation, Dr. Sanford said.

The risk of VTE may be greatest after nursing home admission, she noted, referring to a study of nursing home

residents (both long-term and post-acute patients) in Olmstead County, MN, in which 111 of 3,465 residents experienced VTE. Incidence was inversely associated with time since admission and was highest in the seven days after nursing home admission, the investigators found (*Thromb Haemost* 2018;118:1316–1328).

Asked during the question-and-answer period whether there could be future recommendations for short-term VTE prophylaxis for new long-term care patients,

Dr. Sanford said, “It will be interesting to see if anything comes down the pipeline.”

Dr. Coll told Caring that for patients who have had a recent acute illness or injury and are admitted to the nursing home from settings other than a hospital, “you might be able to make a case for initial VTE prophylaxis.”

More research is needed, he stressed. “A large clinical trial looking at prevention of VTE in the PALTC setting is long overdue.”

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