Identifying anticoagulation therapy as a key patient risk factor helps hospitals tailor fall prevention efforts

The Adverse Health Event reporting system has helped identify a specific population that is at a very high risk for injury if they sustain a fall. Due to increasing medical complexities in an aging population, falls resulting in serious injury or death continue to challenge hospitals and evidence shows falls are increasing across the community. In the past year it has been identified that 90 percent of fall deaths in Minnesota hospitals occur in patients who are either over age 85 or are on medications known as anticoagulants.

One of the major indications for use of anticoagulant medications is to prevent stroke in patients with a heart rhythm abnormality called atrial fibrillation. This is an irregular and often rapid heart rate that promotes blood pooling in the heart, increasing the risk for blood clots that can lead to stroke. According to Dr. Bruce Burnett, director of thrombosis and anticoagulation services at Park Nicollet Methodist Hospital in St. Louis Park, the risk of stroke with atrial fibrillation increases with age and is quite substantial in the elderly population. As a result, patients are often placed on anticoagulant medications, which decrease blood clotting and help prevent strokes.

In an effort to prevent patients from suffering a stroke, health care professionals are balancing the risk for bleeding injury should the patient fall. The evidence shows that elderly patients are more likely to suffer a stroke than fall. Yet the risk of becoming injured from a fall while on anticoagulants is significant. Studies show that if the patient is on an anticoagulant medication, the risk for bleeding or serious injury is greater.

“Elderly patients who are on anticoagulant therapy have a 50 percent greater chance of suffering an intracranial hemorrhage (brain bleeding) than those patients not on anticoagulants,” explained Dr. Burnett. “And, of those patients who fall and suffer an intracranial hemorrhage, the risk of mortality is increased by 45 percent if they are on anticoagulants.”

The introduction of new anticoagulant medications has made the situation even more complex for hospitals trying to keep patients safe. Three new drugs have been approved by the Federal Drug Administration for use in patients with atrial fibrillation and one has been approved for treatment and prevention of venous thromboembolism (deep vein thrombosis and pulmonary embolism).

“Traditional anticoagulants such as Warfarin require consistent monitoring and dosing adjustments due to the fact that many factors can affect the patient’s response to the medication,” said Dr. Burnett. He says that one of the things that makes the new anticoagulants attractive for providers is there is no need for dosage adjustments or monitoring of anticoagulation affect due to how the medications work. These agents may actually be a better option for patients who have difficulty in managing Warfarin therapy safely.

A major concern when putting elderly patients on these newer anticoagulants is that there’s an underrepresentation of patients over age 75 in clinical trials of these medications. Therefore, providers don’t have as clear of an idea of the risk-benefit of these agents in the elderly. Additionally, these newer medications are sensitive to kidney dysfunction and are not immediately reversible should bleeding complications occur.

Keeping patients safe
Hospitals across Minnesota are working hard to not only prevent falls but to also reduce the potential for injury if a patient at risk for serious injury does fall by identifying those who are risk for bleeding.

Additionally, providers are looking at other risk factors for anticoagulation therapy and trying to reduce the risk of injury if a patient does fall.

“We are trying to get better management of dosing for patients on Warfarin therapy and are minimizing the use of other antithrombotic agents such as aspirin and Plavix for elderly patients who are also on
anticoagulation therapy as this doubles or triples their risk of intracranial hemorrhage,” explained Dr. Burnett.

Hospitals across the state have begun to incorporate “risk for injury” into assessments for fall risk, which allows staff to tailor interventions after identifying individual risk factors (known as the ABCs) such as:

- **Age** (patients over 85 are at greater risk for injury from falls);
- Risk for **bone** fracture (a patient has osteoporosis, for example);
- **Anticoagulant** use (commonly used to prevent stroke and blood clots, this medication can cause the patient to hemorrhage); and
- Whether the patient is post-**surgical**.

The Minnesota Hospital Association has formed a work group, comprised of physicians, pharmacists and nurses, to review fall events involving patients who were taking anticoagulants at the time of the fall. The work group aims to identify best practices for managing elderly patients on anticoagulants while they are in the hospital as well as practices that can be implemented to keep them safe from falls and from sustaining a serious injury as a result of a fall.

“Our goal is to disseminate preliminary best practices in early 2014,” said Julie Apold, MHA senior director of patient safety and a member of the work group. “However, our work will evolve as we continue to learn about how to keep this very vulnerable population safe from falls and injuries from falls.”