**Extended Treatment for Venous Thrombosis**

Management of a deep vein thrombosis and/or pulmonary embolus has historically included three months of treatment with an anticoagulant. Since recurrence of venous thromboembolism (VTE) is highest in the first year after treatment, I and others have suggested checking for an elevation of the d-dimer fibrin degradation product one week after completing treatment, to determine if three more months of anticoagulation is indicated.

Recently, the prevention of a second venous thromboembolic episode (secondary prevention) has become a more precise exercise in both decision making and patient safety. The fundamental concept of determining if a VTE is “provoked” or “unprovoked” is the first step in this decision process. A DVT that is postsurgical or from an indwelling catheter falls into the provoked category and three months of anticoagulation is customarily recommended. VTE recurrence for these patients is <1%/year since the insult is usually overcome or removed. Other provoked but nonsurgical conditions are pregnancy, trauma, bed rest for more than three days, immobilized limb or prolonged confined-space travel (plane, car, train). VTE recurrence risk for this group is 4%/year and more than 3 months of anticoagulation is usually not recommended.

Hereditary or acquired thrombophilias as well as malignancy undergoing treatment, while technically falling into the provoked category are conditions NOT part of this decision process and are dealt with separately; often with empirically extended courses of anticoagulation to prevent VTE recurrence.

Unprovoked thromboembolic events are just that. In this distinctive group there is no history of immobilization or trauma, no surgery within three months or cancer diagnosis within 5 years. For reasons which are not clear, this group had a VTE recurrence rate of 10% in the first year and 30% over 5 years. Also unexplained is that over 5 years, males had 2-3 times the VTE recurrence risk as females and that pulmonary embolus without a DVT had a 50% 5 year mortality risk. Finally, after initial anticoagulation treatment, the presence of even normal serial d-dimer levels in this group (adjusted for patient age) can still result in a 6%/year risk of VTE recurrence.

Over the last several years, daily aspirin (81mg) has been recommended post anticoagulation to reduce recurrence rates as a balance between aspirin’s modest efficacy in secondary VTE prevention vs. aspirin’s perceived greater safety profile compared to chronic anticoagulation.

The latest study called “Einstein Choice”, published in the New England Journal of Medicine in 2017 convinces me that for the unprovoked VTE group, anticoagulation for an additional 12 months with one of the new direct acting oral anticoagulants ( ex. rivaroxaban) is as safe as aspirin therapy yet reduces VTE recurrence rates by 75% compared to aspirin’s only 20% efficacy. In addition, the dose of rivaroxaban that accomplishes this feat is half (10mg/day) of the normal VTE treatment dose.

There will likely be new guidelines which will recommend extended anticoagulation for patients with an unprovoked VTE using the newer oral agents. Cause and gender still remain the most relevant factors for predicting the risk of VTE recurrence.

Thankfully, prevention of venous thrombotic recurrence with the new oral anticoagulants seems just as safe as daily aspirin and far more effective.

It continues to be an honor to help care for your patients.

Gary Dworkin, MD RPVI