



Drug Monitor

ONLINE EDITION

Ultrasonography-Guided Anticoagulation After DVT

Determining the duration of anticoagulation following an episode of deep vein thrombosis (DVT) can be tricky. To do so, providers must weigh the risk of recurrent venous thromboembolism (VTE) after therapy discontinuation against the increased potential for bleeding complications with prolonged therapy. And the current standard of three to six months for patients with no permanent risk factors has not sufficiently addressed the problem of recurrent VTE, say researchers from the Ultrasound Findings to Adjust the Duration of Anticoagulation in Patients with Deep Vein Thrombosis (AESOPUS) Study.

In an earlier investigation, they had demonstrated that the presence of residual vein thrombi, as shown by ultrasonography, is a “powerful and independent risk factor of recurrent VTE.” With the current study, therefore, they set out to discover whether the use of ultrasonographic findings to guide duration of anticoagulation therapy could improve outcomes.

The study included 538 patients, enrolled from nine university or hospital centers in Italy, who had experienced a first episode of DVT and subsequently completed three months of warfarin therapy without incident. These patients were assigned randomly to either a flexible-duration (ultrasonography-guided) or a fixed-duration (standard therapy) anticoagulation group. In the fixed-duration group, patients with secondary DVT discontinued treatment while those with unprovoked DVT received three more months of warfarin. In the flexible-duration group, patients whose ultrasonography

results showed recanalized veins discontinued therapy, while those whose results showed persistent thrombi continued anticoagulation for up to nine months (secondary DVT) or up to 21 months (unprovoked DVT). Repeat ultrasounds were performed every six months for patients with persistent thrombi. All patients were monitored for symptomatic recurrent VTE for 33 months and for major bleeding events during and up to one month after warfarin therapy.

The rate of recurrent VTE was 17% (46 of 268 patients) in the fixed-duration group and 12% (32 of 270 patients) in the flexible-duration group, which yielded an adjusted hazard ratio of 0.64 for ultrasonography-guided anticoagulation. Two patients in the fixed-duration group and four in the flexible-duration group had major bleeding episodes—none of which were fatal.

The researchers note that a “substantial” number of patients in their study had recurrence despite vein recanalization. Nevertheless, they conclude that the use of ultrasonography improves the identification of patients who are at highest risk for recurrence. They emphasize that the absolute benefit appeared to be greatest in patients with unprovoked DVT, in whom 12 thromboembolic events were prevented at the cost of 65 person-years of extra treatment and no additional major bleeding events. By contrast, in patients with secondary DVT, only two thromboembolic events were prevented at the cost of 36 person-years of extra treatment and two additional major bleeding events. More research is needed to confirm these findings, however, as the sample size was not powered to detect differences in efficacy between

these subgroups of patients—or to detect differences in bleeding complications between the two treatment arms.

Source: *Ann Intern Med.* 2009;150(9):577–585.

Antibiotic Resistance Hampers UTI Treatment

Antibiotic resistance is making it more difficult to treat your common, garden variety urinary tract infections (UTIs). Resistance to β -lactam antibiotics prompted a switch in the 1990s to trimethoprim/sulfamethoxazole (TMP/SMX). Unfortunately, TMP/SMX is falling victim to resistance and its use is now limited. Fluoroquinolones (FQs) are the new first-line treatment choice in local areas where the TMP/SMX resistance rate is greater than 20%. In a retrospective study, researchers from Marmara University, Istanbul, Turkey aimed to identify the TMP/SMX resistance rate in their local emergency department (ED) and which empiric antibiotics were being prescribed for UTI outpatient management.

They found that a total of 274 patients were diagnosed in the ED with uncomplicated UTI between June 2004 and May 2005. Of these, 251 patients had been prescribed empiric antibiotics, with five (2%) of them prescribed TMP/SMX. The majority of patients (214; 85%) were prescribed FQs; ofloxacin was the most popular choice. The resistance rate for TMP/SMX was 34%, and all of the resistant microorganisms were *Escherichia coli*.

Unfortunately, say the researchers, the resistance rate for the FQ-treated patients also was found to be high, at 16.4%, with all the resistant microor-

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ganisms *E. coli*. Given the high resistance rates found for both drugs, the researchers caution against empiric FQ use. One major problem, they

point out, is that antibiotics are available without a prescription in Turkey. They suggest controlled marketing and controlled antibiotic use to help

prevent antibiotic resistance in their geographic region. ●

Source: *J Emerg Med.* 2009;36(4):338-341.
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