Stack-on UFH Can Lead to Overanticoagulation

Providing stack-on unfractionated heparin (UFH) to patients receiving enoxaparin can lead to overanticoagulation and an increased bleeding risk—even when UFH is given 10 hours after the last enoxaparin dose. That was the conclusion of researchers from Hôpital Lariboisière, Paris, France and Bryn Mawr Hospital, Bryn Mawr, PA after evaluating stack-on UFH's cumulative anticoagulation effect in 72 healthy individuals aged 40 to 60 years who were already receiving enoxaparin.

The study participants were given 1 mg/kg enoxaparin every 12 hours for 2.5 days, and they were randomly assigned to receive a 70-IU/kg UFH bolus at either four, six, or 10 hours after their final enoxaparin dose. The researchers assessed participants' anticoagulation levels both during the enoxaparin phase and after the UFH bolus by monitoring their thrombin generation, which was assessed as endogenous thrombin potential (ETP); their activated clotting time (ACT); and their anti-Xa and anti-IIa activities.

The results indicated that, during the enoxaparin phase, participants' ETP levels decreased by about 40%; their ACTs showed no relevant anticoagulation effect; and their anti-Xa and anti-IIa activities increased to peaks of 1.03 IU/mL and 0.37 IU/mL, respectively. By contrast, the UFH bolus rapidly and completely inhibited thrombin generation, as assessed by ETP, for more than two hours. This inhibition occurred regardless of whether the bolus was given at four, six, or 10 hours after the last enoxaparin dose. In addition, the boluses given at all three time points increased participants' anti-Xa activities to greater than 2.3 IU/mL and their anti-IIa activities to greater than 1.4 IU/mL—levels that are well above those considered therapeutically acceptable. After the participants received UFH boluses at any of the time points, however, their ACTs remained within the range that is expected for individuals receiving UFH alone.

The researchers conclude that stack-on UFH should be avoided in patients receiving enoxaparin. They add that while ACT measurement is the standard method for monitoring UFH's anticoagulation effects during percutaneous coronary intervention, it may not be appropriate for evaluating these effects with stack-on UFH.

A Team Approach to Elders and Medication

Through the Acute Care for Elders (ACE) model, an interdisciplinary team works to preserve functional status and prevent adverse outcomes in hospitalized older patients. But can this model be an effective means of improving patients' medication use even when treating physicians are not directly involved with the ACE team?

To find out, researchers from Barnes-Jewish Hospital (BJ-H), St. Louis, MO and University of Alabama at Birmingham School of Medicine studied the model's effectiveness at BJ-H. There, an ACE team focuses specifically on hematology-oncology patients, whom it visits on daily rounds. Although the patients' physicians are not directly involved with the team, the team provides recommendations to these physicians through notes in the patients' charts. For the current study, the researchers recorded the ACE team's medication-related recommendations in 47 consecutive patients whom the team discussed. A review of the patients' charts was used to determine the frequency with which treating physicians implemented these recommendations.

The results indicated that polypharmacy was common among the patients—and increased during hospitalization. Furthermore, more than half of the patients were prescribed a medication that is considered risky for older patients. The ACE team made 51 recommendations involving medication, and 42 (82%) of these recommendations were confirmed in the patients' charts as having been implemented. A total of 25 patients (53%) had at least one alteration in their medication regimen: 13 (28%) had a potentially inappropriate medication discontinued, six (13%) had a medication error corrected, six (13%) were given new or increased laxative therapy for constipation, and four (9%) were given increased analgesics for pain. Other recommendations included clarifying the optimal timing of medication administration.

The researchers conclude that ACE team recommendations about medication can be effective even when treating physicians are not directly involved with the team. They suggest that future trials examine how ACE team recommendations affect specific adverse drug events, geriatric syndromes, patient survival rates, and costs.

Hormone Therapy and Mammography

Hormone therapy (HT) increases women's breast density, and increased breast density can hinder the effectiveness of mammography. Therefore, some clinicians recommend that women suspend HT for a short time before undergoing mammography in order to reduce the likelihood of mammography recall. Population-based evidence in support of this practice, however, has been lacking.

To fill in this knowledge gap, researchers from University of Washington and Group Health Permanente, both in Seattle, conducted a randomized, controlled trial involving 1,704 women, aged 45 to 80 years, who were receiving HT and were due for a mammogram. The researchers asked 567 women to suspend their HT for two months before the study mammogram, 570 women to suspend HT for one month before the study mammogram, and 567 women not to suspend HT. After the study mammogram, the researchers compared the three groups with regard to rates of mammography recall and changes in breast density from the participants' previous mammograms. They also collected information on the participants' adverse events for one year following the study mammogram and compared the adverse event rates of the three groups.

The results indicated that suspension of HT did not decrease the rates of mammography recall: those rates were 9.8% in the two-month suspension group, 12.3% in the one-month suspension group, and 11.3% in the no-suspension group. The rates did not change when the researchers excluded women who did not adhere to the instructions regarding HT suspension. In addition, the researchers did not find a relationship between HT suspension and decreased mammography recall when they looked at patient subgroups by age at recruitment, HT duration, or HT strength.

HT suspension did result in small decreases in breast density, however. Density decreased by a mean of 1.5% in the two-month suspension group and 0.9% in the one-month suspension group, while it did not change in the no-suspension group. HT suspension also was significantly associated with increased menopausal symptoms.

The researchers conclude that evidence does not support the practice of short-term HT suspension before mammography. They also note that many women may be unwilling to undertake such a suspension—61% of those approached for the study declined to participate because they wanted to continue HT.   ●