Watch for Heparin-Induced Thrombocytopenia

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CHICAGO — Heparin-induced thrombocytopenia is common, underrecognized, and associated with high morbidity and mortality, Dr. Gary L. Schaer said at a satellite symposium held in conjunction with the annual meeting of the Society for Cardiovascular Angiography and Interventions.

Preliminary data from the U.S. multicenter Complications After Thrombocytopenia Caused by Heparin (CATCH) registry illustrate the scale of the problem. Among 1,132 CATCH enrollees in coronary care units on heparin with thrombocytopenia, a diagnosis of assay-positive heparin-induced thrombocytopenia (HIT) was confirmed in 7.1%.

And among another 2,440 CATCH participants enrolled because they'd been on heparin for more than 96 hours and were therefore at risk for HIT, 33% developed thrombocytopenia and 2.1% were confirmed as having HIT.

"This is clearly a more common problem than we're generally aware of," observed Dr. Schaer, professor of medicine and director of cardiac catheterization laboratories at Rush University Medical Center, Chicago.

Heparin-induced thrombocytopenia is an immune-mediated drug reaction thought to occur in roughly 2%-3% of patients who are on heparin for more than 5 days.

CATCH participants who developed thrombocytopenia had severalfold greater rates of in-hospital MI, death, shock, and major bleeding than did those who didn't develop it. They also had a significantly higher incidence of heart failure.

HIT is an immune-mediated drug reaction thought to occur in roughly 2%-3% of patients who are on heparin for more than 5 days. Up to one-half of patients with HIT also develop a thrombosis syndrome manifesting as MI, pulmonary embolism, deep vein thrombosis, stroke, or limb ischemia.

Indeed, HIT confers a 37-fold increased risk of thrombosis; by comparison, protein C deficiency carries a 14-fold increased risk, factor V Leiden a 7-fold increase, and lupus anticoagulant a 5-fold increase. It's estimated that 25,000-50,000 U.S. cardiovascular patients per year develop HIT with thrombosis.

The CATCH registry highlighted the problem of diagnostic delay of HIT. Physicians first suspected the disorder an average of 2 days after development of thrombocytopenia, and ordered serologic testing the next day. A hematologic consult and final diagnosis of HIT typically occurred 4 days after onset of thrombocytopenia.

HIT occurs less often with low-molecular-weight heparin than with unfractionated heparin. In the CATCH registry, the incidence of thrombocytopenia, which can have numerous other causes besides HIT, was 28% with low-molecular-weight heparin, 34% with unfractionated heparin, and 50% in patients who received both.

Dr. Schaer urged physicians to suspect HIT in any patient who develops unexplained thrombocytopenia with or without a thrombotic event 4-14 days after initiation of unfractionated or low-molecular-weight heparin.

The hallmark of HIT is a drop in the platelet count to less than 50% of a normal baseline or to less than 150,000 per microliter. Onset of thrombocytopenia can occur within a few hours in patients who already have antibodies from previous exposure to heparin.

Take action on the basis of the clinical diagnosis of HIT, he added. Don't wait for laboratory confirmation, which can take too much time.

The College of American Pathologists guidelines for testing in patients with suspected HIT describe assays such as ELISA (enzyme-linked immunosorbent assay) as an appropriate screening test for most labs.

The guidelines characterize the platelet serotonin release assay and other washed platelet assays as technically difficult and most appropriately carried out at a reference lab.

The pathologists also state that platelet aggregation testing using citrated platelet-rich plasma has a low sensitivity.

Dr. Schaer has received research grants from The Medicines Company, which funded the symposium. He is also on its speakers' bureau. ■