

U.S. FOOD AND DRUG ADMINISTRATION

2006 Safety Alerts for Drugs, Biologics, Medical Devices, and Dietary Supplements Heparin Sodium Injection

Audience: Vascular surgeons, ER personnel, pharmacists, and other healthcare professionals

[Posted 12/08/2006] FDA notified healthcare professionals of revisions to the WARNINGS section of the prescribing information for Heparin to inform clinicians of the possibility of delayed onset of heparin-induced thrombocytopenia (HIT), a serious antibody-mediated reaction resulting from irreversible aggregation of platelets. HIT may progress to the development of venous and arterial thromboses, a condition referred to as heparin-induced thrombocytopenia and thrombosis (HITT). Thrombotic events may be the initial presentation for HITT which can occur up to several weeks after the discontinuation of heparin therapy. Patients presenting with thrombocytopenia or thrombosis after discontinuation of heparin should be evaluated for HIT and HITT.

How Significant is Your Heparin Problem?

Heparin-induced Thrombocytopenia (HIT) occurs in 3% of patients who receive therapeutic intravenous unfractionated heparin and 0.5% - 1% of patients who receive lower doses (subcutaneous or flushes), low- molecular-weight heparin, or even the tiny amounts that leach from heparin-coated catheters. (1-3). HIT can present 5 to 12 days after heparin exposure, with or without arterial or venous thromboemboli. Delayed recognition and treatment of HIT can contribute to poor patient outcomes (4).

Use of heparin can produce:

- Decrease in platelet count
- 30% - 75% of patients with HIT experience venous or arterial thromboemboli (5), causing:
 - Deep venous thromboses and pulmonary emboli
 - Arterial thromboses of the extremities
 - Stroke
 - Myocardial infarction
 - Dyspnea (shortness of breath)

References:

1. Warkentin TE, Levine MN, Hirsh J, Horsewood P, Roberts RS, Gent M, et al. Heparin-induced thrombocytopenia in patients treated with low-molecular-weight heparin or unfractionated heparin. *N Engl J Med.* 1995;332:1330-5. [PMID: 7715641]
2. Rice L, Huffman DM, Levine ML, Udden MM, Waddell CC, Luper WE. Heparin-induced thrombocytopenia/thrombosis syndrome: clinical manifestation and insights (Abstract). *Blood.* 1986;68(Suppl 1):339a.
3. Laster J, Silver D. Heparin-coated catheters and heparin-induced thrombocytopenia . *J Vasc Surg.* 1988;7:667-72. [PMID: 3367431]
4. Rice L, Attisha WK, Drexler A, Francis, JL. Delayed-onset heparin-induced thrombocytopenia. *Ann Intern Med.* 2002;136:210-215
5. Warkentin TE, Kelton JG. A 14-year study of heparin-induced thrombocytopenia. *Am J Med.* 1996;101:502-07. [PMID: 8948273]