Review: LMWH Safe, Effective in Pregnancy

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VIENNA — The largest ever systematic data review of the use of low-molecular-weight heparin during pregnancy suggests that it is safe and effective for both prophylaxis and treatment of venous thromboembolism, Catherine Nelson-Piercy, M.B., reported at the annual meeting of the International Society of Obstetric Medicine.

In recent years, low-molecular-weight heparin (LMWH) has become the standard therapy for both thromboprophylaxis and management of acute venous thromboembolism (VTE). “Thromboembolism is still the leading cause of maternal death in the UK. For that reason, we are keen to promote the use of low-molecular-weight heparin for prophylaxis,” said Dr. Nelson-Piercy, an obstetrician at Guy’s and St. Thomas’ Hospitals Trust, London.

There are still no large randomized trials to help guide practice in this area, however. To overcome this lack of data, Dr. Nelson-Piercy and her associate Ian Greer, M.D., of Glasgow (Scotland) University, conducted a systematic electronic database review of all studies through December 2003 that investigated the use of LMWH during pregnancy. Exclusion of studies of women with artificial heart valves, those that did not provide data on LMWH administration, and a few others for methodologic reasons left a total of 2,659 pregnancies from 59 separate reports.

Prophylaxis of VTE was for the most common indication for LMWH use, comprising 28 studies and 1,319 pregnancies. Prevention of recurrent pregnancy loss, a rapidly growing use for LMWH, was the indication in 370 pregnancies in 14 studies, while treatment of VTE was the indication for 174 pregnancies in 15 studies.

Enoxaparin was the most common low-molecular-weight heparin used (1,158 pregnancies, including 185 for treatment and 1,048 for prophylaxis), followed by dalteparin (783) andnadroparin (530).

The reasons for LMWH prophylaxis use during pregnancy wasn’t specified in all the studies, but those cases were still included in the safety analysis, Dr. Nelson-Piercy explained.

In the treatment studies, the rate of deep vein thrombosis among the 174 LMWH recipients was 1.15%, which was extremely low, compared with 5% for unfractionated heparin use among men and nonpregnant women. Bleeding complications occurred in a total of 1.72%, including prenatal bleeding in 0.57% and postpartum hemorrhage of more than 500 ml in 1.15%. Non-heparin-induced thrombocytopenia occurred in 0.57%.

Among the 2,485 pregnancies in which LMWH was used for thromboprophylaxis, 1.4% of the women had thrombosis, including 0.84% with VTE and 0.56% with arterial thrombosis. All the women who experienced arterial thrombosis were known to have antiphospholipid antibody syndrome. Bleeding complications, including prenatal bleeding, postpartum hemorrhage, and wound hematoma occurred in 2.1%.

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Allergic skin reactions to LMWH occurred in just 0.08%. “I hope this provides the evidence that we can stop doing platelet counts 1 week after starting’ LMWH,” she said.

There were fewer cases of postoperative infection, however. In 2003 there were 80,028 no-indicated-risk primary C-sections performed in 2001—an increase of more than 5,000 since 1996. This represented approximately 26% of the total increase in primary cesareans between 1996 and 2001.