Review: LMWH Safe, Effective in Pregnancy

BY MIRIAM E. TUCKER
Senior Writer

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 U.K. 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 by far 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 105 for treatment and 1,048 for prophylaxis), followed by dalteparin (783) and nadroparin (530).

The reason 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%.

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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%.

Thrombocytopenia was rare, occurring in just 0.08%. "I hope this provides the evidence that we can stop doing platelet counts 1 week after starting" LMWH, she said.

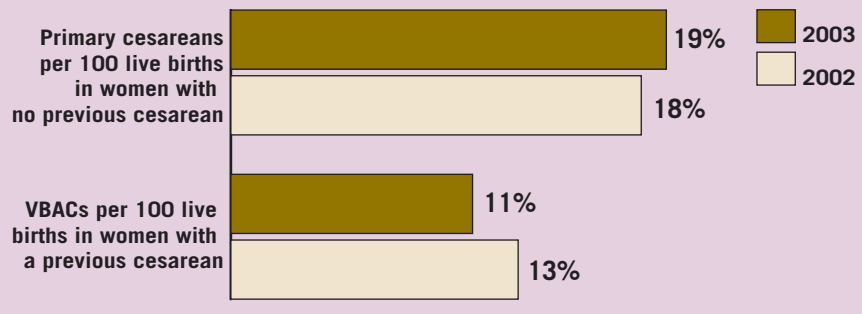
Allergic skin reactions to LMWH occurred in 1.15% during treatment and 1.9% with prophylaxis. This complication usually occurred at the site of injection and was most common with nadroparin and least with enoxaparin, with dalteparin falling between the two.

Heparin-induced osteoporosis was reported in just one patient, in whom dalteparin was used for thromboprophylaxis. However, a recent abstract from researchers in the United Kingdom reported three cases of osteoporosis associated with the use of tinzaparin during pregnancy. "Although our data are reassuring, we can't [ignore] osteoporosis," she said.

There were no maternal deaths in the treatment or the prophylaxis group. ■

DATA WATCH

Primary Cesareans Up, VBACs Down



Source: Centers for Disease Control and Prevention

KEVIN FOLEY, RESEARCH; DESIGN

Steep Rise Seen in 'No Indicated Risk' Primary C-Sections

BY CHRISTINE KILGORE
Contributing Writer

The number of women having primary cesarean sections without any apparent medical risk grew significantly during the 1990s and topped 80,000 in 2001, according to a new analysis of U.S. birth certificate data.

First-time C-sections in women with "no indicated risk" rose 67% between 1991 and 2001, from approximately 3.3% to 5.5%. The increase was gradual until 1996 and rapid toward the end of the study period. Increases were seen across all ages and parities.

Eugene Declercq, Ph.D., and his associates studied birth certificate data on approximately 4 million births per year between 1991 and 2001.

They looked specifically at women who had singleton, full-term, vertex-presentation births, without any medical risk factors or complications of labor or delivery listed on the birth certificate. They then focused on women who had a first-time cesarean.

The investigators declined to call these deliveries "elective" and instead used the term "no indicated risk" cesareans.

"Birth certificate data provide no record of the mother's intent," said Dr. Declercq, professor in the maternal and child health department at Boston University, and his associates (BMJ [Epub ahead of print] Nov. 19, 2004. Article DOI number: 10.1136/bmj.38279.705336. Available from www.bmj.com).

Age was a major factor in the rate of no-indicated-risk cesareans, they said. First-time mothers over 40 were five times more likely to have the procedure than were primiparous mothers aged 20-24.

Of multiparous women over 34 years of age who had previous vaginal births, more than 5% had a no-indicated-risk cesarean in 2001.

No-risk, primary cesareans were performed in a similar proportion—almost 5%– of women under 30 (all parities) in 2001; this represented growth of almost 60% since 1991.

All told, there were 80,028 no-indicated-risk primary C-sections performed in 2001—an increase of more than 25,000 since 1996. This represented approximately 26% of the total increase in primary cesareans between 1996 and 2001.■

Usual Timing of Antibiotics in Cesarean Delivery Is Adequate

BY MARY ANN MOON
Contributing Writer

WASHINGTON — Nothing is gained by giving prophylactic antibiotics earlier than usual in the course of cesarean deliveries, W. Ashley Hood, D.O., said at the annual meeting of the Central Association of Obstetricians and Gynecologists.

The traditional approach to antibiotic prophylaxis in cesarean deliveries is to give the mother the drugs just after the cord is clamped. This prevents the antibiotics from being transmitted to the neonate, where they could mask neonatal infection and raise the risk that resistance will develop.

It's still prudent to delay antibiotic prophylaxis until the cord is clamped. Earlier administration doesn't prevent more maternal infections, the study showed.

Some physicians argue that to best prevent maternal infection, however, antibiotics should be started just before skin incision so they will be on board as surgery commences. Proponents of this approach note that C-sections still account for 10% of all maternal mortality and that postcesarean infections—endometritis, wound infection, urinary tract infection, and pneumonia—are still a leading cause of maternal morbidity and death, said Dr. Hood of the University of Mississippi Medical Center, Jackson.

He and his associates assessed the effect of the timing of antibiotic prophylaxis in a study of 302 women undergoing nonelective cesarean delivery. Antibiotic prophylaxis was started at skin incision in 153 women and at cord clamping in 149. There were no significant differences between the two groups of patients in demographic characteristics, indications for cesarean delivery, or operative time.

There were fewer cases of postoperative endometritis in the group that received antibiotics at skin incision (12 patients, or 8%) than in the other group (22 patients, or 15%), but this difference was not statistically significant. The rates of wound infection also were similar, with 6 cases (4%) among women who received antibiotics at skin incision and 8 cases (5%) among those who received antibiotics at cord clamping.

Neonatal outcomes also were comparable between the two groups. Both groups had similar rates of neonatal sepsis, Apgar scores, and rates of admission to the neonatal intensive care unit, Dr. Hood said.

These findings confirm that it is still prudent to delay antibiotic prophylaxis until the cord is clamped, since giving the drugs earlier doesn't prevent more maternal infections or improve neonatal outcomes, he said. ■