

Don't Delay Suturing for Postpartum Hemorrhage

BY SHARON WORCESTER

FROM OBSTETRICS & GYNECOLOGY

Uterine compression sutures for postpartum hemorrhage are more likely to fail when there is a delay of 2-6 hours between delivery and placement of the sutures, according to a large prospective population-based study.

Of 1.2 million women who delivered in the United Kingdom between September 2007 and March 2009, 210 who were treated with a uterine compression suture to control postpartum hemorrhage had adequate information for analysis. Of those, 25% continued to bleed and underwent hysterectomy, Dr. Gilles Kayem of the University of Oxford (England) and his colleagues reported.

Suture failure occurred in 42% of those with a 2- to 6-hour delay in suture placement, compared with only 16% of those with earlier suture placement. After adjustment for numerous socioeconomic, maternal, and medical factors, a 2- to 6-hour delay in suture placement was found to be independently associated with a fourfold increase in the odds of hysterectomy, the investigators found (*Obstet. Gynecol.* 2011;117:14-20).

"One possible explanation may be that unrecognized bleeding that prolongs the delay between the delivery and the treatment increases the risk of hysterectomy," they wrote, explaining that "a higher blood loss and disseminated intravascular coagulation would lead to clinical conditions that render hysterectomy almost inevitable."

Failure in this study was also more likely in women older than age 35 years, compared with younger women (adjusted odds ratio, 2.77); those who were multiparous, compared with nulliparous women (AOR, 2.83); those who were unemployed or employed in routine or manual occupations, compared with those in managerial positions (AOR, 3.54); and those who had a vaginal delivery, com-

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Major Finding: A 2- to 6-hour delay in suture placement was found to be independently associated with a fourfold increase in the odds of hysterectomy.

Data Source: A prospective population-based study of 1.2 million women, 210 of whom were treated with a uterine compression suture to control postpartum hemorrhage.

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pared with those who had a cesarean delivery (AOR, 6.08), the researchers found.

It is interesting, they noted, that vaginal delivery was the factor associated with the highest odds of hysterectomy in this study.

"It is possible that the obstetrician is more reluctant to perform a laparotomy to insert a compression suture after excessive bleeding after a vaginal delivery than after a cesarean delivery and that, therefore, only the women with the most severe hemorrhage were selected by the obstetrician to have a uterine compression suture after a vaginal delivery," they speculated.

Another possible explanation is that other methods – such as intrauterine balloon or uterine packing – were used successfully in some cases of hemorrhage after vaginal delivery, and thus were not identified in this study, suggesting that cases involving uterine compression sutures after a vaginal delivery may be the most serious, and no other treatment modalities were available to treat the affected patients, they noted.

No differences in failure rates were seen among suture types (B-Lynch, modified B-Lynch, and 32 other techniques such as figure-of-eight, multiple compression, or square sutures).

However, because this was not a randomized study, comparisons among the suture methods were limited, as the base-

line populations treated may have differed.

In all, 129 women (61%) had a hemorrhage resulting from atony. Hysterectomy rates according to the different types of uterine compression suture also were not significantly different. The hysterectomy rate was 26% in cases with atony and 23%

in cases with other causes, such as placenta accreta, placenta previa, and uterine tear. After adjustment for a number of variables, the risk of hysterectomy was no different in women with atony compared with other causes of hemorrhage.

Patients included in the study were women identified via the U.K. Obstetric Surveillance System (UKOSS). Case patients were those giving birth who were treated with a uterine compression suture to treat postpartum hemorrhage.

Strengths of the study include the collection of comprehensive population-based national information about women who were treated with compression sutures for postpartum hemorrhage, they said. The findings emphasize the need for careful evaluation of blood loss following delivery so that delays in recognizing and managing hemorrhage can be avoided, they concluded. ■

Technique Often Useful

Dr. Carolyn Zelop said that this study has important implications for practice. "I think the take-home message ... is that [the use of compression sutures] is a very reliable technique, but that it's probably less useful in the setting of placenta accreta," explaining that uterine atony appears to be the indication that leads to the most success with this technique.

Another important point made by the authors is that in the setting of vaginal delivery that is complicated by postpartum hemorrhage, it is important to "be on the clock and ready to move to the next intervention," since a delay of 2-6 hours in suture placement was associated

with increased risk of hysterectomy.

Although it seems logical that a clinician might be reluctant to proceed with laparotomy after vaginal delivery, a prolonged delay could predispose a patient to unrecognized blood loss, and increase the risk of compression suture failure. If mechanical tamponade techniques fail to control hemorrhaging, the clinician should proceed with laparotomy and uterine compression suture placement, she advised.

DR. ZELOP is director of maternal-fetal medicine at Beth Israel Deaconess Medical Center in Boston. She said she had no relevant financial disclosures.



FDA Warning: CV Deaths, Risks With Obstetric Terbutaline

BY ELIZABETH MEHCATIE

The Food and Drug Administration has issued a warning advising against the use of injectable terbutaline for preventing and for prolonged treatment of preterm labor and against any use of oral terbutaline in this setting, prompted by postmarketing reports of deaths and other serious cardiovascular events associated with the use of the drug in this setting.

"Death and serious adverse reactions, including increased heart rate, transient hyperglycemia, hypokalemia, cardiac arrhythmias, pulmonary edema, and myocardial ischemia have been reported after prolonged administration of oral or injectable terbutaline to pregnant women," according to an FDA statement.

Based on these reports and a review of the medical literature, the agency "has concluded that the risk of serious adverse events outweighs any potential benefit to pregnant women receiving prolonged treatment with terbutaline injection (beyond 48-72 hours), or acute or prolonged treatment with oral terbutaline," the FDA said.

This is not the first FDA warning issued about the

obstetric-related risks of terbutaline, an FDA-approved treatment for bronchospasm that has been used off label to treat and prevent preterm labor and to treat uterine hyperstimulation. In 1997, the agency notified health care professionals in a letter about concerns over the safety of long-term administration of subcutaneous terbutaline and revised the drug's labeling about the risk of serious cardiovascular adverse events associated with this use. But despite studies reporting a lack of safety and efficacy of terbutaline for the treatment of recurrent preterm labor and professional association recommendations, "prolonged use of terbutaline continues, with serious and sometimes fatal consequences," the FDA statement said.

Between 1976, when terbutaline was first marketed, and 2009, 16 maternal deaths associated with the obstetric use of terbutaline were reported to the FDA's Adverse Event Reporting System (AERS). Between January 1998, soon after the FDA issued the warning letter, and July 2009, 12 maternal cases of serious cardiovascular events associated with the use of terbutaline were reported.

While there are "certain obstetrical conditions" in which health care professionals "may decide that the

benefit of terbutaline injection for an individual patient in a hospital setting clearly outweighs the risk," the FDA statement said that terbutaline administered by injection or continuous infusion pump should not be used for more than 48-72 hours, and injectable terbutaline should not be used in outpatient settings. These warnings are being added to a new boxed warning in terbutaline labels.

In an interview, Dr. Washington Hill of Sarasota (Fla.) Memorial Hospital, welcomed the FDA warnings. Still, he cautioned that subcutaneous terbutaline should not be entirely abandoned because there are some obstetric situations where its use is beneficial, when used in the hospital setting and not in a pump. These include reducing contractions in a woman with tachysystole of the uterus due to pitocin or for intrauterine resuscitation, adjunct to external cephalic version, relaxing an inverted uterus or as an adjunct to managing inversion of the uterus, transporting a patient with contractions from one location to another, and rarely when delivering a second twin when the uterus needs to be relaxed.

Dr. Hill had no relevant financial disclosures. ■