Antibiotics can prevent wound complications of childbirth

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A single dose of antibiotics can significantly aid healing of the severe tearing that occurs in vaginal tissues during many births, according to researchers at Lucile Packard Children's Hospital at Stanford, the Stanford University School of Medicine and Santa Clara Valley Medical Center. The study is the first to show that the simple treatment can prevent many of the short- and long-term repercussions of this relatively common complication of childbirth.

As many as one in five women suffer severe vaginal tears during childbirth. In the study, those who received the antibiotic endured roughly one-third as many infections or other wound-healing complications two weeks after surgical repair of their tears.

"Recovery from these tears can be painful and problematic," said Packard Children's obstetrician Yasser El-Sayed, MD, associate professor of obstetrics and gynecology and associate chief of maternal-fetal medicine at the School of Medicine. "If you add an infection, or a breakdown of the surrounding tissues, it's a huge burden on the emotional and physical well-being of a new mother."

El-Sayed and Kay Daniels, MD, clinical associate professor of obstetrics and gynecology at the School of Medicine, are co-authors of the research, which is published in the June issue of *Obstetrics and Gynecology*. Neena Duggal, MD, from Santa Clara Valley Medical Center, is the lead author of the study. The study is accompanied by an editorial in the same journal.

"This is very important news that will likely change obstetrical practice nationwide," said Maurice Druzin, MD, chief of obstetrics and gynecology at Packard Children's and the Charles B. and Ann L. Johnson Professor in the School of Medicine.

Vaginal tears, which occur between the vagina and the anus, are classified in severity according to their length. Third-degree tears extend into the muscle of the anal sphincter and fourth-degree tears reach the rectum. The tears are surgically repaired immediately after delivery but subsequent infections and poor healing that sometimes occur can have lifelong consequences, including incontinence of stool or gas and sexual dysfunction.

Duggal, Daniels and El-Sayed conducted a randomized, double-blind study in 147 women who experienced third- or fourth-degree tears while delivering infants at either Packard Children's Hospital or Santa Clara Valley Medical Center. After agreeing to participate in the study, the women were randomly assigned to receive a one-time intravenous infusion of either antibiotic or placebo during the repair of their tear. Neither the women nor their physicians knew which treatment they received.

The researchers found that four of 49 patients (8.2 percent) treated with antibiotics and 14 of 58 patients (24.1 percent) who received the placebo showed symptoms of infection or breakdown two weeks after the repair. The remaining 40 women did not return for their scheduled follow-up appointments, but the difference between the two returning groups was statistically significant.

"We're excited because it's such a simple intervention," said El-Sayed. The difference between the two groups persisted despite variability in surgical technique, suture and type of antibiotic.

Although the study was relatively small, the results detected an important difference in outcome. Until now, physicians were divided as to whether antibiotic treatment was helpful for these women, and most health-care providers made their own choices.

"At Packard," said El-Sayed, "antibiotic use was pretty hit-or-miss according to the preference of the physician. Personally, I didn't use it. But I certainly do now." Physicians at Packard Children's now routinely use antibiotics when repairing these types of tears.

Source: Stanford University