

Team finds labor induction need not increase cesarean risk

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Contrary to a belief widely held by obstetricians, inducing labor need not increase a woman's risk for cesarean section delivery in childbirth, scientists at the University of California, San Francisco and the Stanford University School of Medicine have found.

The research was conducted by a team affiliated with the Stanford-UCSF Evidence-based Practice Center, which focuses on furthering the practice and translation of evidence-based medicine to improve health outcomes for populations and individuals. Findings of the study will appear in the August 18 edition of "*Annals of Internal Medicine*."

"It appears there is misunderstanding regarding the association of increased [cesarean deliveries](#) with elective induction of labor, a procedure which has been rising in frequency," said Aaron Caughey, MD, PhD, lead author of the paper and a UCSF associate professor of obstetrics, gynecology and reproductive sciences. "However, our findings need to be tempered with women's and physicians' expectations of choosing to induce labor."

"Elective induction can be done in such a way as to avoid raising c-section rates - it's possible," said Douglas Owens, MD, director of the Stanford-UCSF Evidence-based Practice Center, and an author of the study. Owens is a senior investigator with the Veterans Affairs Palo Alto Health Care System and a professor of medicine at Stanford.

The scientists reviewed existing research that examined elective

induction of labor, in which women have labor induced by choice rather than for medical reasons. Of note, the majority of the research findings were limited to women who were about one week past their due date. Although the rate of elective inductions has more than doubled since 1990, the practice has been poorly studied, and physicians have worried these inductions exposed women to higher risk for cesarean and the medical complications that can follow a surgical delivery, according to the research team.

But physicians' concerns may be unfounded. The confusion arises in part from a flaw in the observational studies that link elective induction to higher cesarean risk, Owens said. Observational studies usually compare electively induced labor at a particular gestational age with spontaneous labor at the same time in pregnancy.

"That comparison is misleading because it doesn't reflect the clinical decision that women and their physicians must make," Owens said. Women and their doctors can't decide to start spontaneous labor on a particular date; they can induce labor or wait. The risks of induction must be weighed against the risks of staying pregnant. Near the end of gestation, as the fetus gets bigger, staying pregnant increases a woman's chance of needing a cesarean. And past the full gestational period of 40 weeks, the placenta may transmit oxygen to the fetus less efficiently. Thus, in labor, there may be an increased need to deliver via cesarean to prevent fetal distress.

To ensure that their research evaluated the choices women and physicians must make, the team reviewed randomized controlled trials that assigned women to an elective induction group or an "expectant management of pregnancy" (waiting) group at a particular time in late pregnancy. These studies indicated that elective induction of labor at or after 41 weeks' gestation lowered cesarean risk by 22 percent compared to waiting. (Too little research had been done on elective induction

earlier in pregnancy to draw conclusions about it.) The researchers also observed that women whose labor was electively induced were half as likely to have meconium-stained amniotic fluid, a sign of fetal intrauterine stress. Both findings suggest elective inductions may be safer than continuing pregnancy past 41 weeks.

There's an important caveat to these results, however. Obstetricians need to be patient enough to see if the induction is working before deciding to try a cesarean, the research team noted.

"We're concerned that our findings may not translate to many hospital settings in the United States," said Caughey. Most of the studies reviewed were done at academic medical centers, and many were conducted in other countries, he said, noting physicians in different settings may allow different amounts of time for an induction to work. Prior research has indicated that doctors often tend to proceed from starting an induction to cesarean fairly quickly.

But the take-away message for pregnant women, said Owens, is still that induction can be done without increasing cesarean risk if obstetricians are willing to give induction of labor sufficient time to work. "Women should talk with their physician about how they would handle induction and what their approach to the procedure would be," he said.

Further analysis of elective induction of labor in a variety of settings is badly needed, Caughey added. In addition to assessment of the risks of elective induction, researchers need to explore whether the procedure is cost-effective, since each induction adds about \$3,000 to \$5,000 to the cost of birth.

"It's pretty surprising that something obstetricians do all the time hasn't been studied all that well," he said. "If you're dealing with pregnant women, you don't want to take any unnecessary risks."

Source: University of California - San Francisco

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