Prior surgical abortion as independent risk factor for preterm birth

Preterm birth is the number one cause of perinatal mortality in many countries, including the US. Defining risk factors for prediction of preterm birth is an important goal for several reasons. First, identifying women at risk allows initiation of risk-specific treatment. Second, it may define a population useful for studying particular interventions. Finally, it may provide important insights into mechanisms leading to preterm birth. Prior surgery on the cervix, such as cone biopsy and LEEP procedures, is associated with an increased risk of spontaneous preterm birth. History of uterine evacuation, by either induced termination of pregnancy or treatment of spontaneous abortion by suction dilation and curettage or by dilation and evacuation, which may involve mechanical and/or osmotic dilatation of the cervix, has been associated with an increased risk of preterm birth in some studies, but not in others. Moreover, with recent increases in the use of medications (misoprostol and mifepristone), it would be important to assess outcomes in subsequent pregnancies after medical termination of pregnancy as the element of cervical trauma is minimized with these techniques.

Our study we pooled data from 36 studies including 1,047,683 women with history of abortion and found that surgical methods used in a common form of abortion or to clear the womb after a spontaneous miscarriage appears to significantly increase the risk of a later preterm birth. The additional risk is small — .7 percent — when compared to women who have not had the surgery or who may have used medical means to clear their uterus, but, when considered in the light of hundreds of thousands of women who have had such surgery, this is an unnecessary risk to take.

Surgical evacuation of the uterus mechanically stretches the cervix, and does so quickly. In normal birth, dilation of the cervix occurs slowly over a period of many hours. Mechanically stretching the cervix, however, may result in permanent physical injury to the cervix. Resulting scar tissue, for example, could increase the probability of faulty placental implantation in the womb, and could increase risk for infectious diseases

In contrast, medical abortions involve use of one or two drugs — misoprostol and mifepristone, known as RU-486 — designed to mirror the process of a spontaneous abortion. Mifepristone, which is approved in the U.S. for aborting pregnancies up to 49 weeks, softens the uterus over time and misoprostol induces contractions. The combination is said to be effective in terminating 95 percent of pregnancies, and in finishing spontaneous abortions where some of the tissue supporting the pregnancy needs to be removed.

Abortions are increasingly being conducted using the medical approach, which requires several days to conduct and likely two visits to a provider

Included in the meta-analysis were 31 studies that reported prior abortions in women who later

delivered another child, and five studies that focused on women, who later became pregnant, who spontaneously aborted a prior pregnancy but needed either surgery or medicine to complete the miscarriage.

The goal was to look at women who subsequently delivered a child before the 37th week of pregnancy.

We found that

> Considering all 1,047,683 women enrolled in the 36 studies, women with a history of uterine evacuation had a significantly higher risk of preterm birth (5.7 percent) compared to a control group of women who did not have either a surgical or medical procedure (5 percent); had babies that were of low birth weight (7.3 percent versus 5.9 percent), and infants that were small for their gestational age (10.2 percent) versus 9.0 percent).
> Of the 31 studies that reported prior abortions, 28 included 913,297 women who had surgery, and three included 10,253 women given medical abortions. Women with prior surgical abortion had a significantly higher risk of preterm birth (5.4 percent versus 4.4 percent for the control population), low birth weight babies (7.3 percent versus 5.9 percent), and small gestational age infants (10.2 percent versus 9 percent).
> In the three studies that looked at medical abortions, the risk of preterm birth was the same as in the control group.
> In the five studies of 124,133 women that looked at spontaneous miscarriages, those women who had a surgical procedure to clear the uterus had a higher risk of subsequent preterm births compared to the control group (9.4 percent versus 8.6 percent).

“These data — the most comprehensive look at the issue to date — find that prior surgical uterine evacuation may be an independent risk factor for preterm birth,” says Berghella. “The findings warrant caution in the use of these surgical techniques, and should encourage the development of safer surgery as well as use of medical methods.”

This is not a study that suggests abortions per se are risky and shouldn’t be done. What we are saying is that women should be given a choice between a surgical and a medical procedure, and should also be informed about the potential risk to subsequent pregnancy.

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