Compared with vaginal deliveries, cesarean sections may be associated with an increased risk of endometriosis, according to the findings of a large prospective cohort study conducted in Sweden. Using data from the Swedish Patient Register and the Swedish Medical Birth Registry, researchers identified women who had an initial diagnosis of endometriosis after their first delivery. Of 709,090 women included in the study, 3110 (0.4%) new cases of endometriosis were noted. Women who had a cesarean section were 80% more likely than women who had a vaginal delivery to receive an in-hospital diagnosis of endometriosis after delivery of their first child (hazard ratio, 1.8; 95% confidence interval, 1.7-1.9).

Most cases of primary endometriosis are diagnosed early in life, with symptoms beginning around the time of the first menses. When endometriosis occurs later in life, as it did with 3110 women in this study, it is almost always iatrogenic and caused because of a previous uterine surgery. Although the literature is peppered with cases of scar endometriosis or iatrogenic endometriosis, this is the first large study confirming the association between cesarean section and general pelvic endometriosis.

The study findings showed that the overall risk of any endometriosis was 0.4% in the vaginal birth group and 0.6% in the cesarean delivery group, and the overall risk of cesarean scar endometrioma was 0.1%. A notable finding was that the increase in risk of endometriosis was for all types of endometriosis, not just scar endometrioma, which is uncommon and occurs when an endometrial stem cell becomes implanted at the surgical site during surgery involving the endometrium.

The analysis also showed that the risk of endometriosis increased over time, with 1 additional case of endometriosis occurring for every 325 women who underwent a cesarean section in a 10-year period. However, there was no dose-response effect, meaning that endometriosis was no more likely to develop in women who had 2 or more cesarean deliveries than in women who had just 1 cesarean delivery.

The overall risk of endometriosis developing after a cesarean delivery remains very low. Other more common maternal risks related to cesarean sections include infection, blood loss requiring transfusion, and deep vein thrombosis or pulmonary embolism. The long-term risks of cesarean section include uterine rupture of the incision site and problems with the position or type of placental growth in future pregnancies.

Primary Points:
- General pelvic endometriosis occurs more often in women who had a cesarean section than in women who gave birth vaginally for their first delivery, although the overall risk remains very low.
- The risk of endometriosis does not increase with the number of cesarean deliveries a woman undergoes.

Cesarean Section Increases Risk of Endometriosis


Links: