Estimating the risk of adverse birth outcomes in pregnant women undergoing non-obstetric surgery using routinely collected NHS data: an observational study

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Plain English summary

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We set out to estimate the risk of adverse birth outcomes following an unrelated surgical procedure (non-obstetric surgery) during pregnancy. Using English NHS hospital administrative data, we identified 6,486,280 pregnancies in the period April 2002 to March 2012. Women had surgery in 0.7% of these pregnancies.

We found that having an operation was associated with a small additional risk of all adverse birth outcomes compared with not having an operation. We took into account factors including maternal age, social class and illnesses that women had during pregnancy.

We estimated that there was one additional preterm delivery for every 31 procedures carried out during pregnancy; one additional caesarean section for 25 procedures; one additional long inpatient stay for every 50 procedures; one additional stillbirth for every 287 procedures; and one additional low-birthweight baby for every 39 procedures. The risk of adverse birth outcomes in pregnant women undergoing non-obstetric surgery is relatively low, confirming that surgical procedures during pregnancy are generally safe.

It is not possible to tell whether the worse outcomes in pregnancies in which surgery was carried out were attributable to the surgery or the health problems that were being treated, and we do not know if the outcomes would have been better or worse if the surgery had not been carried out. However, we believe that our findings improve on previous research, by utilising a more recent and larger data set based on UK practices, and that they may help to inform mothers of the expected risks of having a procedure during pregnancy.
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