

Planned Vaginal Birth or Elective Repeat Caesarean: Patient Preference Restricted Cohort with Nested Randomised Trial.

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Editors' Summary

Background

Rates of caesarean section are rising around the world, particularly in high- and middle-income countries, where most women have a choice of how their baby is delivered. Historically, the obstetrician in charge of the woman's care made the decision on whether to perform an elective (planned) caesarean section based on medical criteria. For women who have had a previous caesarean section, typically, their options for mode of childbirth are either a trial of vaginal birth or an elective repeat caesarean section. The proportion of women attempting a vaginal birth after a previous caesarean section has been declining in many countries partly due to the variable chance of achieving a successful vaginal birth (reported between 56% and 80%) and partly because of negative reports of the risk of complications, both to the mother and the baby, of a having a vaginal delivery following a caesarean section. Consequently, the rates of repeat caesarean section have risen sharply, for example, currently 83% in Australia and almost 90% in the US.

Why Was This Study Done?

Both elective repeat caesarean section and subsequent vaginal delivery after a previous caesarean section have clinical risks and benefits. Most obviously, having a surgical procedure puts the woman having the repeat caesarean section at risk of surgical complications, especially if performed under a general anaesthetic, and her baby may be at risk of respiratory complications. However, subsequent vaginal delivery following a previous caesarean section may put the mother at risk of bleeding severely enough to need a blood transfusion (more than 1,500 ml blood loss) and she may also be at increased risk of rupturing her uterus; and her baby may have an increased risk of dying or of becoming brain damaged due to lack of oxygen.

However, to date there have been no randomized controlled trials of elective repeat caesarean section versus vaginal delivery following a previous caesarean section to compare the health outcomes of mother and baby and a recent systematic review could draw no conclusions. So the researchers conducted this prospective cohort study based on patient preference (with a few women agreeing to be randomized to mode of delivery), to compare the health outcomes for mother and baby for elective repeat caesarean section versus vaginal delivery in women following a previous caesarean section.

What Did the Researchers Do and Find?

Between 2002 and 2007, the researchers recruited 2,345 suitable women (that is, women who had one previous caesarean section, were currently 37 weeks pregnant with a single baby, and who were clinically able to have a vaginal delivery) from 14 maternity hospitals throughout Australia. A few women (22) agreed to be randomized to either mode of delivery but most women chose her preferred option. Then, depending on the woman's preferences for mode of birth, participating obstetricians either scheduled a date for an elective caesarean section (1,098 women) or assessed on-going suitability for the woman to have a planned vaginal delivery (1,225 women). However only 535 (43.2%) women who chose to have a vaginal birth were able to deliver this way because of failure to progress in labour or fetal distress: 334 of these women (27.0%) had to have an elective caesarean section and 368 women had to have an emergency caesarean section.

Although no women died, women who had a planned caesarean section experienced less severe bleeding than women who delivered vaginally. There were no infant deaths in those born by elective caesarean section but two unexplained stillbirths in the planned vaginal delivery group. There was also a reduced risk of nonfatal serious outcome before discharge from hospital for infants delivered by in the elective caesarean section. The researchers calculated that one infant death or near death would be prevented for every 66 elective caesarean sections performed in women who had a previous caesarean section.

What Do These Findings Mean?

These findings show that in women who had delivered by a previous caesarean section delivering their next baby by planned caesarean section was associated with less infant death and better health outcomes for the mother before she was discharged from the hospital compared to women who had a subsequent vaginal delivery. This information can be used by women, clinicians, and policy makers in helping to make decisions about the mode of subsequent deliveries and best care for women who have had a previous caesarean section.