



C-Obs 23

Timing of Elective Caesarean Section at Term

The timing of elective or pre-labour caesarean section at term should be decided with consideration given to both maternal and neonatal factors.

Neonatal Considerations:

Caesarean birth, without prior labour, has been consistently demonstrated to be associated with an increased risk of neonatal respiratory morbidity in term infants, including transient tachypnoea of the newborn (TTN), surfactant deficiency and pulmonary hypertension¹. When compared with either planned or achieved vaginal birth, elective caesarean birth is associated with a 2.1 to 6.8-fold increase in the risk of these respiratory morbidities in the near term neonate.^{2, 3} It is proposed that the increased incidence of respiratory distress following caesarean birth results from both surfactant deficiency (in the absence of the catecholamine surge accompanying labour), and from a failure to clear fetal lung fluid in labour.^{1,4} The incidence of transfer to a Neonatal Intensive Care Unit (NICU) following planned caesarean birth is twice that associated with planned vaginal birth.²

In response to this, deferring delivery until 39 weeks' gestation or later is recommended by many international obstetric bodies.^{5, 6} The rate of admission to NICU and the incidence of respiratory distress is inversely related to the gestation at delivery among infants born by elective caesarean birth at term^{1, 7, 8, 9}. These associations persist after adjustment for potential confounders, such as diabetes mellitus, pre eclampsia and intra-uterine growth restriction.⁹ While an alternate approach has been proposed by the Antenatal Steroids for Term Elective Caesarean Section (ASTECS) trial, (where the incidence of respiratory distress following caesarean section >37 weeks was significantly reduced by the administration of betamethasone prior to delivery¹⁰), administration of steroids in this setting has been subject to little investigation, and may not always be considered desirable.

Maternal considerations

Against the neonatal benefits need to be weighed the (mostly maternal) risks of deferring delivery until 39 weeks or beyond. UK data (11,12) suggests that about 10% of women booked for caesarean section at 39 weeks will labour prior to the date of scheduled caesarean section. The implication is that there will be a proportion of women who will need to have an emergency caesarean section in place of a planned caesarean section. This has important resource implications and the increased maternal hazard associated with emergency, rather than elective, caesarean section needs to be weighed against the expected improved perinatal outcomes. In some circumstances (e.g. placental insufficiency, footling breech presentation), there will also be increased perinatal risk associated with the onset of labour or spontaneous rupture of the membranes prior to birth. Local factors, such as availability of emergency caesarean section services should be considered.

On balance, weighing up the risk of respiratory morbidity following elective caesarean section and the risk of labouring prior to caesarean section it is recommended that elective caesarean

section in women without additional risks should be carried out at “approximately” 39 weeks gestation. Such women suitable for delivery at approximately 39 weeks gestation include breech presentation and uncomplicated repeat caesarean section.

Preterm elective caesarean delivery

In the event of maternal disease (such as pre-eclampsia), obstetric complications (such as placenta previa) or fetal complications (such as IUGR), earlier ‘elective caesarean delivery’ may be necessary after weighing up the relative hazards of premature delivery versus those associated with continuing the pregnancy.

Women should be informed of the risks surrounding elective delivery and the usual standards of documentation and consent should apply.

References

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Website Links

National Collaborating Centre for Women’s Health: Clinical Guideline caesarean section. London: RCOG Press; 2004. http://www.rcog.org.uk/resources/public/pdf/cs_section_full.pdf

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