C-Obs 27

Measurement of cervical length for prediction of preterm birth

Introduction

There is controversy around the routine ultrasound assessment of the cervix as a means of defining risk of preterm delivery in low risk women. There is also good data showing that therapeutic intervention (with progesterone) for ‘high risk’ pregnancies, defined on the basis of a short cervix, have a reduced prevalence of preterm birth. This document highlights some of the contemporary issues around this topic.

Statement

- Accurately measured ultrasound cervical length has an inverse relationship with the risk of preterm birth,.

- Cervical length is most accurately measured by transvaginal ultrasound examination. Most normal ranges / likelihood ratios describing the risk of preterm labour have been calculated using a standardised technique for measurement. The patient should have an empty bladder and the vaginal probe should be placed in the anterior fornix, minimising pressure on the cervix as this increases cervical length. The length of the endocervical canal should be measured in a straight line from the internal to the external cervical os. As the cervix is dynamic, three measurements should be made over a five minute period and the shortest measurement reported for clinical use.

- Other features of the cervix such as funnelling (effacement of the internal aspect of the cervix) and shortening in response to fundal pressure are known to be associated with preterm delivery – but do not add significant advantages to predictive modelling when compared to accurate measurement of cervical length alone.

- Charts describing normal cervical length from 16-36 weeks have been constructed. The median cervical length at 20 weeks is 42mm, the 1st centile is 23mm.

- In singleton pregnancies, having transvaginal assessment of cervical length performed as part of the routine anomaly scan at 20-24 weeks gestation, a short cervix has been shown to be associated with an increased risk of preterm birth. A cervical length of 23mm (the first centile) is associated with a 2.8 fold increase in risk of preterm delivery <34 weeks gestation. Cervical lengths of 15mm, 10mm and 5mm have likelihood ratios of 7.3, 13.3 and 24.3 for preterm delivery <34 weeks respectively.

- There is a growing body of evidence suggesting that interventions, such as progesterone and/or cervical cerclage may be of benefit for women otherwise considered low risk of preterm birth found to have a short cervix in the midtrimester. Accordingly, it is becoming more common for cervical length assessment to be offered, and performed, at the time of the routine midtrimester
ultrasound. Studies have used variable cut-off’s to define a ‘high risk’ cohort that merits therapeutic intervention, but on current evidence using a cut-off of 20mm appears to be appropriate. Treatment with progesterone reduces the risk of preterm delivery <34 weeks by 42% and reduces neonatal morbidity. Approximately 11 women need to be treated to prevent one preterm delivery <34 weeks. The use of progesterone is discussed in more detail in a separate RANZCOG clinical guideline (C-Obs 29b).8

Cervical length assessment among women with risk factors for preterm birth

- Meta-analysis has also shown that a subgroup of women who have other risk factors for preterm birth, especially previous history of preterm birth, may benefit from cervical cerclage.9 Further research in this area would be of value.

- Whilst cervical length also has predictive value in twin pregnancies, there is no clear evidence that therapeutic intervention for those with a short cervix reduces the risk of preterm delivery.10,11 There may, however, be some benefit in recognising multiple pregnancies at risk of preterm delivery, so that appropriate arrangements can be made for care in a tertiary centre with a neonatal unit and so that steroid cover can be arranged.

- Ultrasound assessment of cervical length can also be useful in defining management for women with a previous history of preterm delivery where an indication for cerclage is unclear and for women attending with symptoms and signs of threatened preterm labour at 24-34 weeks.12,13

References


Links to other College statements

[C-Gen 15] Evidence-based Medicine, Obstetrics and Gynaecology

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