



DAWES-REDMAN CARDIOTOCOGRAPHY AFTER 42 WEEKS GESTATION (POST-MATURITY)

The problem of post-maturity

Post-maturity, beyond 42 weeks, is rare nowadays because of policies to expedite delivery at or before this time. It has well-known perinatal risks, which together comprise the post-maturity syndromes – stillbirth, late-onset preeclampsia and late-onset fetal growth restriction. These are associated with declining placental function which includes placental aging or senescence.

However individual mothers may refuse induction. Regular cardiotocography may then be instigated in an attempt to ensure fetal safety. This may include computerised CTG using the Dawes-Redman system.

Are the Dawes-Redman criteria valid in late post-maturity?

Heart rate patterns are controlled in the fetus as well as in later life, by the brain (central nervous system). Post-mature fetuses are no different in this regard. Fetal stress or distress can cause altered CTG features, because fetal brain function is affected.

Our archive has 1096 cases that mostly delivered 1-3 days beyond 42 weeks, (294 days), during the 30 years between January 1991 and December 2020. Criteria were not met in 7.2% of cases. These babies were more likely to be delivered by Caesarean section before labour, to be small for gestational age and to stay for more than one day in special care. However, they were less likely to require vaginal operative delivery and have low Apgar scores.

The numbers are low and prove nothing. They confirm that Dawes-Redman analysis continues to function as it does at term, but with the expected uncertainty that characterises pre-labour CTG in general.

Recommendation

If a mother requests that her pregnancy be continued beyond 42 weeks after she has been advised of the associated risks, CTG monitoring is an important part of her safety net. In these circumstances Dawes-Redman cardiotocography is to be preferred to orthodox visual assessment, in the same way as it is at earlier gestational ages.

Prof Chris Redman
Nuffield Department of Reproductive and Women's Health, Oxford.

Prof Manu Vatish
Professor of Obstetrics

Beth Albert
Specialist Midwife for Dawes-Redman CTG monitoring