Fetal fibronectin testing for reducing the risk of preterm birth

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RHL summary

Key Findings

This review found:

- Significantly lower risk of birth before 37 weeks of gestation when interventions are handled by knowing FFT results versus not knowing results.
- No differences shown for preterm birth before 34, 32 or 28 weeks gestation, gestational age at birth, low birthweight, perinatal death or maternal outcomes.

Clinical implications

Even though this review found a significantly lower incidence of preterm birth, interventions implemented after knowing FFT results were not assessed, and only one study detailed a management protocol. Despite the availability and common use of FFN in the management of women with symptoms of preterm labour, there is not yet sufficient evidence to support its use.

Evidence included in this review

Five randomized controlled trials of 474 pregnant women were included. One study used also ultrasound cervical length to proceed with interventions. All participants had symptoms or signs of preterm labour at randomization. No subgroup analysis could be done.

Quality assessment

The quality of trials included in this review was moderate.

Further research

In light of these results, further research is needed on the effects of FFN in management of preterm labour. Trials should be of high quality and should include diverse populations.

Cochrane review

Citation: Berghella Vincenzo, Hayes Edward, Visintine John, Baxter Jason K. Fetal fibronectin testing for
Abstract

Fetal fibronectin (FFN) is an extracellular matrix glycoprotein localized at the maternal-fetal interface of the amniotic membranes, between chorion and decidua, where it is concentrated in this area between decidua and trophoblast. In normal conditions, FFN is found at very low levels in cervico-vaginal secretions. Levels greater than or equal to 50 ng/mL at or after 22 weeks have been associated with an increased risk of spontaneous preterm birth. In fact, FFN is one of the best predictors of preterm birth in all populations studied so far, and can help selecting which women are at significant risk for preterm birth.

To assess the effectiveness of management based on knowledge of FFN testing results for preventing preterm birth.

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (January 2008), MEDLINE (1966 to December 2007) and all references in identified articles.

Randomized controlled trials of pregnant women between the gestational ages of 22 and 34 weeks screened with FFN for risk of preterm birth. Studies included are based exclusively on knowledge of FFN results versus no such knowledge, and we have excluded studies including women with only positive or only negative FFN results.

All four authors assessed studies for inclusion and quality and extracted data.

We identified 13 trials, of which five were eligible for inclusion. The five included studies randomized 474 women, of which 235 were randomized to knowledge and 249 to no knowledge of FFN.

Preterm birth less than 37 weeks was significantly decreased with management based on knowledge of FFN results (15.6%) versus controls without such knowledge (28.6%; risk ratio 0.54; 95% confidence interval 0.34 to 0.87). All other outcomes for which there were available data (preterm birth at less than 34, 32, or 28 weeks; gestational age at delivery; birthweight less than 2500 grams; perinatal death; maternal hospitalization; tocolysis; steroids for fetal lung maturity; and time to evaluate) were similar in the two groups. No other maternal or neonatal outcome was available for meaningful analysis.

Although FFN is commonly used in labor and delivery units to help in the management of women with symptoms of preterm labor, currently there is not sufficient evidence to recommend its use. Since this review found an association between knowledge of FFN results and a lower incidence of preterm birth before 37 weeks, further research should be encouraged.