New Test to Accurately Determine the Onset of Labour

A team at the University of Warwick has developed the new test that provides an accurate way to confirm the onset of labour in both full term and preterm pregnancies.
A second application for the test is expected to be the identification of women who may not progress during induction.

LIMITATIONS OF CURRENT TESTS

The current test for foetal fibronectin is detectable in vaginal secretions at the end of pregnancy; a negative result can be used to determine if a patient is not in labour. A positive result means a patient is at a higher risk of giving birth early, but it cannot be used as an indicator that a patient is in labour, so it does not help the clinician decide how to manage a patient's care.

THE WARWICK TECHNOLOGY

The Warwick team has identified a biomarker that can provide both a positive and negative indicator of the onset of labour. The biomarker is a direct indicator of the biochemical changes associated with the onset of labour. The test is a based on a simple antibody test using cells from a cervical swab.
The test can also be used to identify women who are unlikely to progress during an induction. Failed induction is one of the primary reasons why a woman may undergo an unplanned Caesarean section because the baby may become distressed during a prolonged labour. In addition, the prolonged labour typically associated with a failed induction may result in a fatigued uterus which can lead to a number of serious complications for the mother.

KEY BENEFITS

The key benefits of the new test are expected to be as follows;

- A low-cost, accurate determination of whether a woman is in labour will help hospitals decide the best treatment pathway for women who are full term, for example, whether to send the patient home or ask them to stay at the hospital.
- A clear differentiation between women who are in preterm labour and those who aren't will allow the clinician to make better treatment decisions, for example, whether or not to administer corticosteroids to help mature the foetus' lungs.
- An indicator that a patient will be unlikely to be successfully induced will allow the clinician to plan a Caesarean section rather than waiting until the foetus is distressed, and also reduce the occurrence of postpartum haemorrhage for the mother.

PROJECT STATUS

A small number of clinical trials have been conducted with women at high risk of preterm labour and also with women who underwent induction. The data shows a clear linear correlation between the biomarker and the progression of labour.
The University is now looking for commercial partners who will be interested in collaborating with the research team to improve the sensitivity of the assay and determine the clinical utility of the test.

PATENT & PUBLICATION

This biomarker is the subject of a published PCT patent application:

PCT/GB2014/052203 Control of Uterine Contractions

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