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Improving the screening accuracy for preterm labor: is the combination of fetal fibronectin and cervical length in symptomatic patients a useful predictor of preterm birth?

A systematic review.

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Abstract

OBJECTIVE:

Our objective was to systematically review the current medical literature to assess the accuracy of the combination of fetal fibronectin (fFN) plus ultrasound assessment of cervical length (CL) as screening tools for preterm labor and prediction of preterm birth (PTB), and to compare this to the traditional clinical method of digital cervical examination.

STUDY DESIGN:

We searched PubMed and Cochrane databases without date restriction using the key words "fibronectin" and "cervical length," limited to human studies published in English. In all, 85 studies were identified and supplemented by 1 additional study found through bibliographic search.

RESULTS:

Nine studies reported the association between fFN positivity plus CL measurement with PTB in women presenting with symptomatic uterine contractions. We conducted an analytic review of the sensitivity, specificity, positive predictive value, and negative predictive value of fFN plus CL for PTB. Further metaanalysis was not performed due to study heterogeneity, especially with respect to the range of gestational ages and variations in cutoff values for the diagnosis of short cervix. Although the clinical diagnostic methodology of preterm labor diagnosis by documenting uterine contractions plus cervical change is currently standard practice, a newer approach combining fFN and CL screening results in a higher sensitivity and positive predictive value for PTB risk while maintaining high negative predictive value.

CONCLUSION:

We conclude that this combined screening approach yields useful information regarding short-term risks that can be used to guide acute management, and effectively identifies a population at low risk in whom expensive and potentially dangerous interventions could be avoided.