

The use and misuse of fetal fibronectin testing:

A retrospective audit

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Introduction

- Among women who present with threatened preterm labour, the rate of preterm birth is low¹
- The use of Hologic® Rapid Fetal Fibronectin (fFN) vaginal swabs is used for predicting imminent preterm birth, and defining women as low risk of preterm birth²
- This test may reduce unnecessary hospital admissions, interventions and costs
- A negative result is defined as <50ng/mL with a negative predictive value of 98% of preterm birth within 14 days³

Aim

To assess the clinical response to fFN results at a tertiary obstetric hospital

Methods

- A retrospective audit of fFN tests performed between 1/1/2018 to 21/10/2018 for women with symptomatic preterm labour in the emergency department
- Data analysed; quantitative fFN, gestation at time of fFN, gestation at delivery, department, past history of preterm birth, gravidity and parity, referral method, plurality of pregnancy and indication for fFN
- Ethics approval was granted by Mercy Health Human Research Committee

Characteristic	N (%)
Gestation at time of fFN (weeks)	
<23	3 (1.2)
23-28	100 (38.5)
29-32	75 (28.8)
33-35	47 (18.1)
>35	1 (0.4)
Unknown	34 (13.1)
Total	260
Parity post-delivery	
1	79 (36.4)
2	71 (32.7)
>2	53 (24.4)
Unknown	14 (6.5)
Total	217*
Past history of preterm birth	40 (18.4)
Referral method	
Self	199 (76.5)
Transfer	35 (13.5)
Unknown	26 (10.0)

Figure 1. Demographics of women who received fFN test

*duplicates removed for women who received >1 test

Results

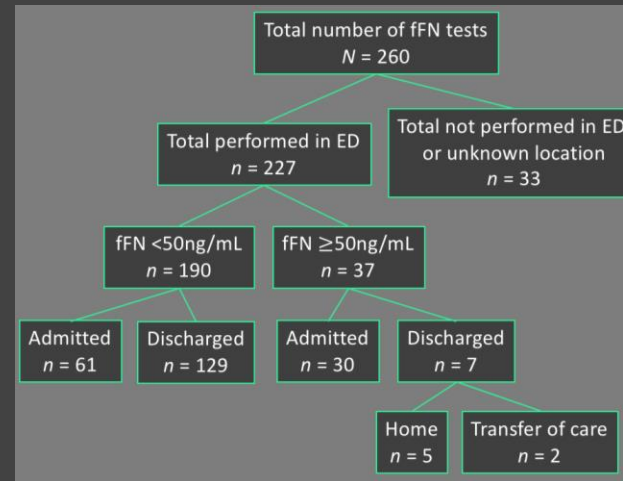


Figure 2. Admission vs. discharge following fFN test

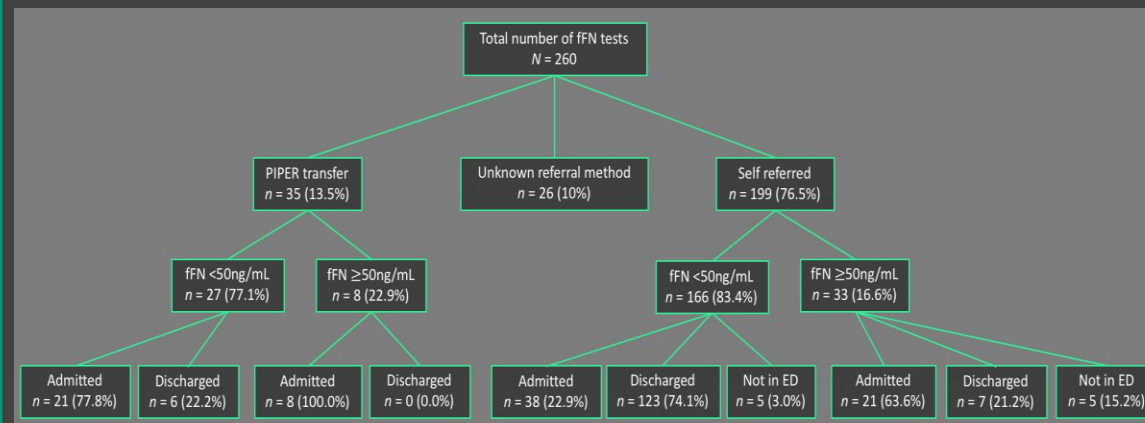


Figure 3. Admission vs. discharge according to referral pathway

PIPER: Paediatric Infant Perinatal Emergency Retrieval

Discussion

- Women with low levels of fFN were frequently admitted
- Clinicians were not sufficiently reassured by a negative test, or performed fFN testing in clinical scenarios in which the test result would not impact on practice
- Clinical response was inappropriate in up to 66 (29.1%) of the fFN tests, similar to a recent audit of another centre¹
- The costs associated with the inappropriate use of fFN include the cost of the test, unnecessary admissions and interventions
- Limitations: missing data points for gestational age at delivery, unknown when test was inappropriately performed following vaginal examination or post-coital, unknown rates of intervention (tocolysis, antenatal corticosteroids, etc)

Conclusion

Further education of clinicians is required, as well as investigation into why this test is frequently used outside of hospital guidelines

Citations

1. Mahomed K, Anwar S, Geer JE, Ballard E, Okano S. Evaluation of fetal fibronectin for threatened preterm labour in reducing inappropriate interventions. Aust N Z J Obstet Gynaecol. 2019;59(4):523-7.
2. Deshpande SN et al. Rapid fetal fibronectin testing to predict preterm birth in women with symptoms of premature labour: a systematic review and cost analysis. Health Technology Assessment. 2013;17(40).
3. Abbott DS, Radford SK, Seed PT, Tribe RM, Shennan AH. Evaluation of a quantitative fetal fibronectin test for spontaneous preterm birth in symptomatic women. Am J Obstet Gynecol. 2013;208(2):122 e1-6.