



PREDICTING SPONTANEOUS PRETERM BIRTH WITH SONOGRAPHIC CERVICAL LENGTH MEASUREMENT AND FETAL FIBRONECTIN TEST: A PROSPECTIVE STUDY (EPI 7.66)

JOANNA C.Y. FUNG, PIYA CHAEMSAITHONG, YUNYU CHEN, NUTNAREE YUENYONGDECHAWAT,
HILLARY H.Y. LEUNG, PATRICIA N.P. IP, CAITLYN S.L. LAU, LIONA C. POON



Introduction

- Spontaneous preterm birth (sPTB) is the leading cause of neonatal morbidity and mortality in many parts of the world¹
- Only 5-13% of women presenting with symptoms of threatened preterm labor subsequently deliver preterm (< 37 weeks)¹
- Sonographic cervical length (CL)** and **fetal fibronectin (fFN) level** in cervicovaginal secretion are currently the most promising tools in predicting sPTB²
- The evaluation of the predictive performance of fFN, cervical length and the combination of the two tools for sPTB could facilitate the development of a more effective predictive model for sPTB, which in turns allows more timely and targeted treatments

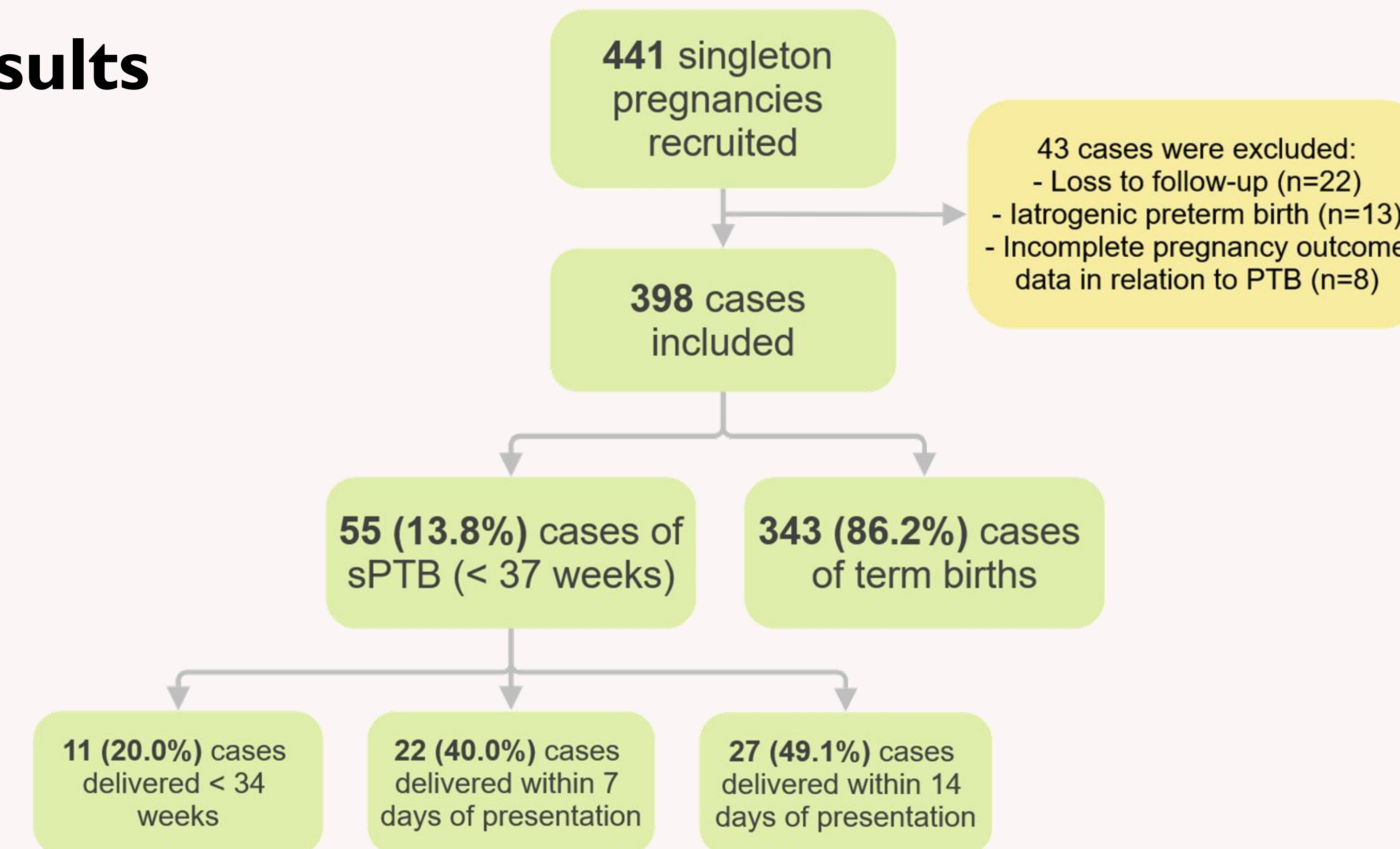
Objectives

- To evaluate the effectiveness of fFN in combination with cervical length for predicting sPTB in women presenting with threatened preterm labor

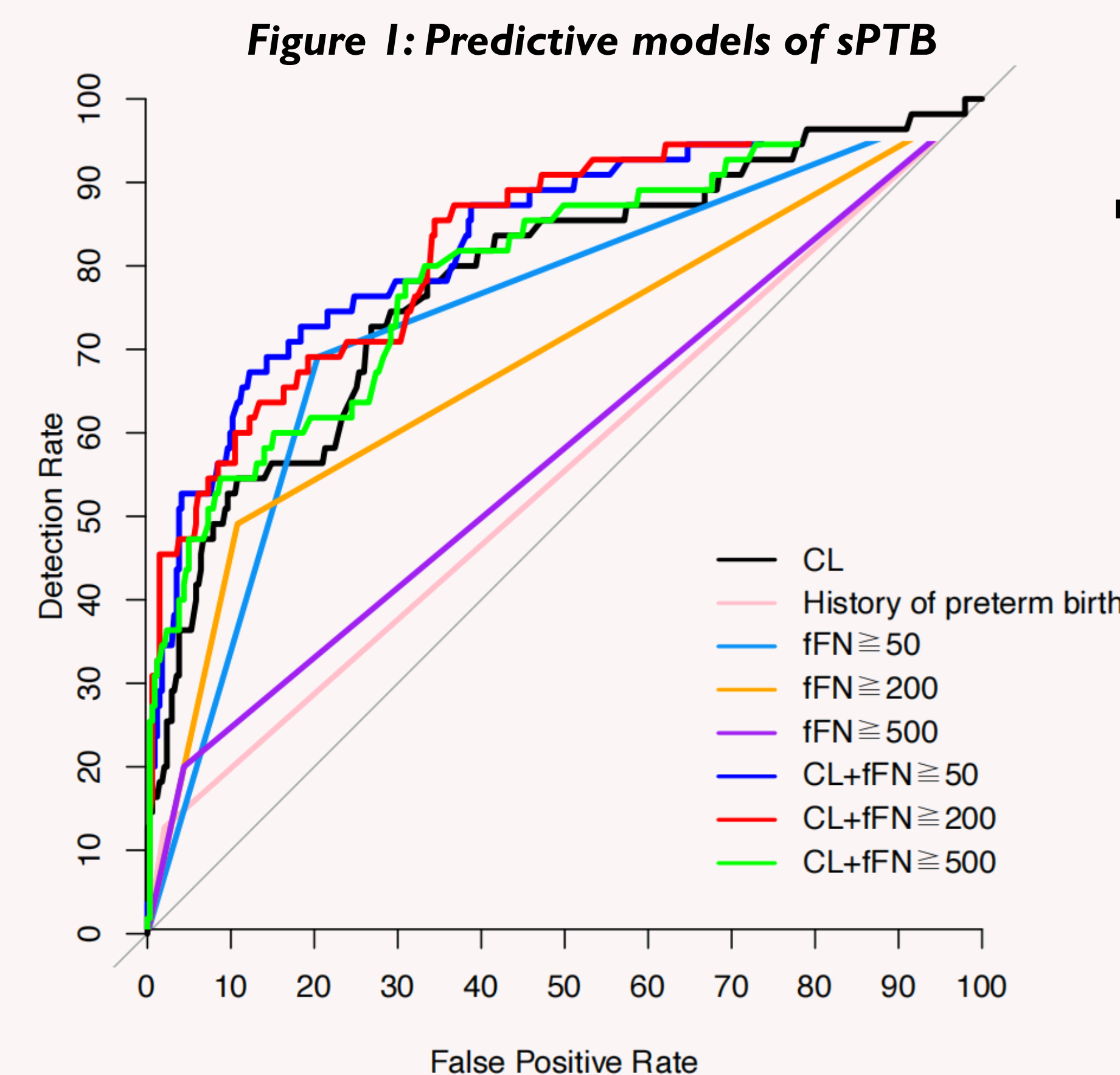
Methods

- A prospective observational study in two tertiary hospitals in Hong Kong SAR, China, and Bangkok, Thailand, between October 2020 and December 2024
- Singleton pregnancies at 20-36 weeks gestation with symptoms of threatened preterm labor were included
- Cervical length and fFN level in cervical vaginal fluid were measured
- Logistic regression analysis was performed to develop the predictive models of sPTB

Results

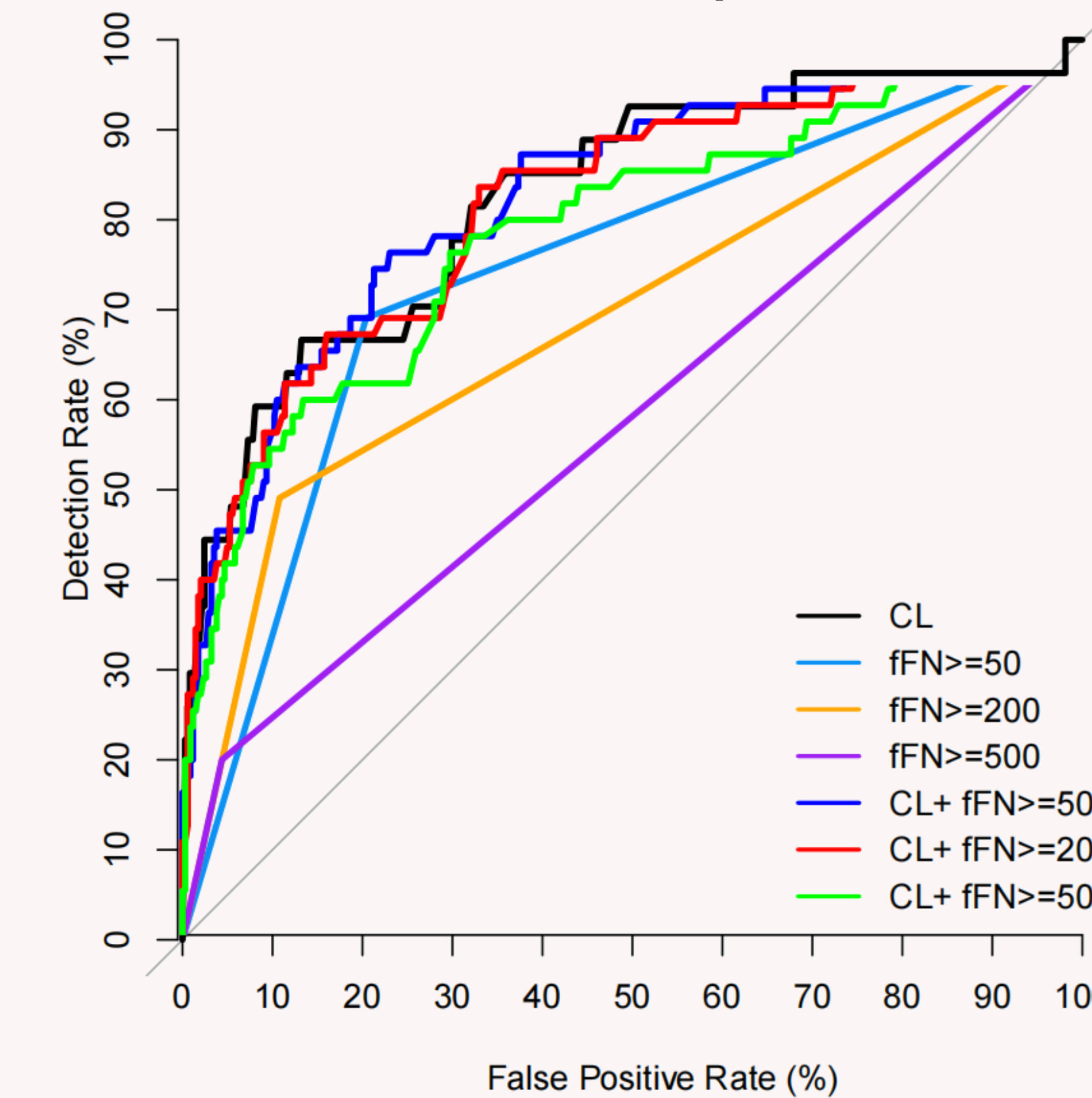


- Women with sPTB had significantly lower cervical length ($p < 0.001$) and higher levels of fFN ($p < 0.001$) than those with term births



- For the prediction of sPTB, the combined models of cervical length and fFN at threshold at ≥ 50 ng/mL or ≥ 200 ng/mL provided significantly better performance compared to any single measure alone ($p < 0.05$) (**Figure 1**)

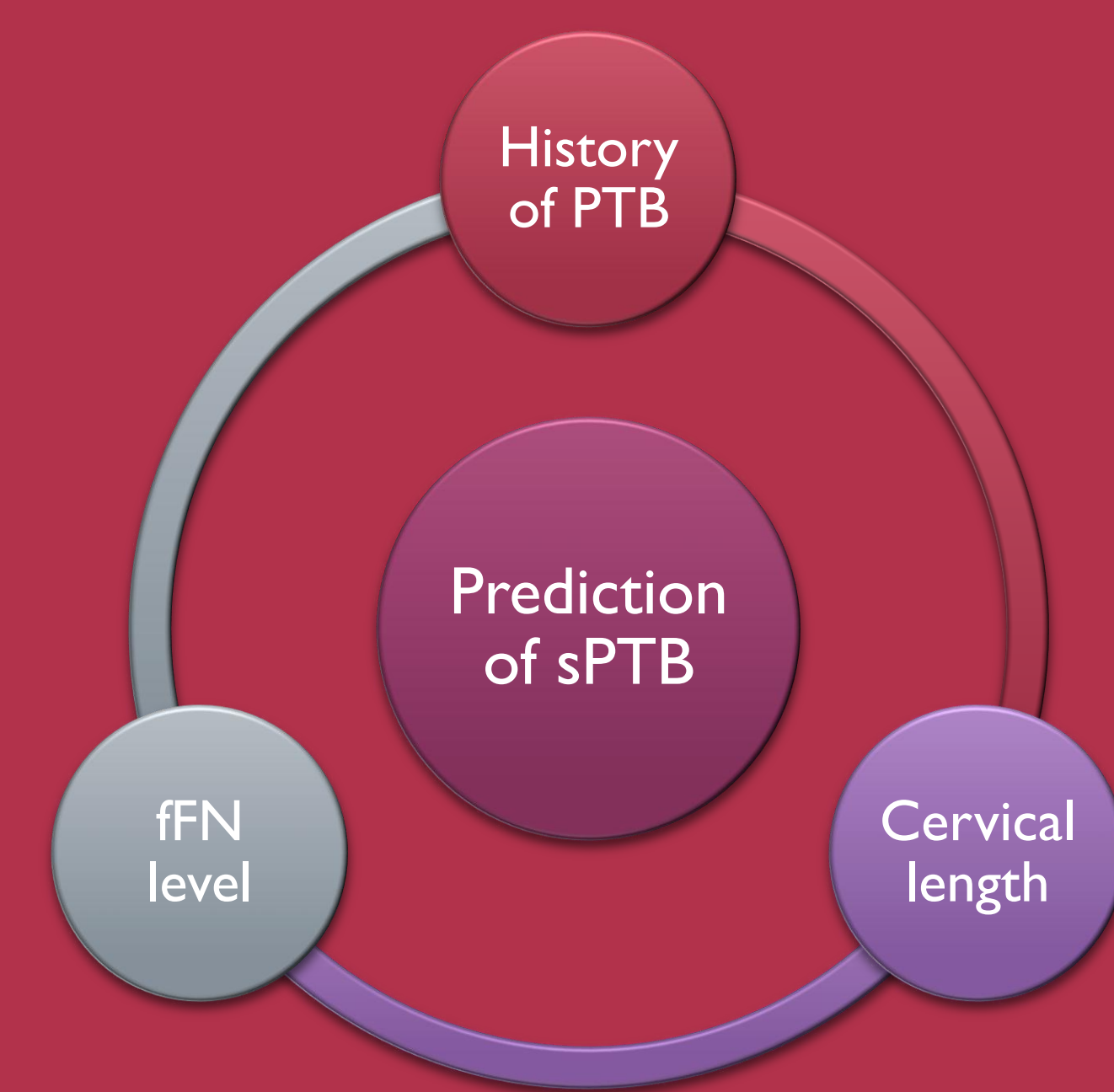
Figure 2: Predictive models of sPTB within 7 days



- For the prediction of sPTB within 7 days, models that integrated fFN and cervical length demonstrated a significant improvement in sPTB prediction compared to fFN alone (**Figure 2**)

Conclusion

- In women with symptoms of threatened preterm labor, a combination of **history of PTB**, **cervical length** and **fFN levels at thresholds of ≥ 50 ng/mL or ≥ 200 ng/mL** demonstrated the best performance in predicting sPTB.



References

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- Tsoi E, Akmal S, Geerts L, Jeffery B, Nicolaides KH. Sonographic measurement of cervical length and fetal fibronectin testing in threatened preterm labor. Ultrasound Obstet Gynecol. 2006;27(4):368-72.