

Predictive value of post-cerclage cervical length changes for pregnancy for pregnancy outcome

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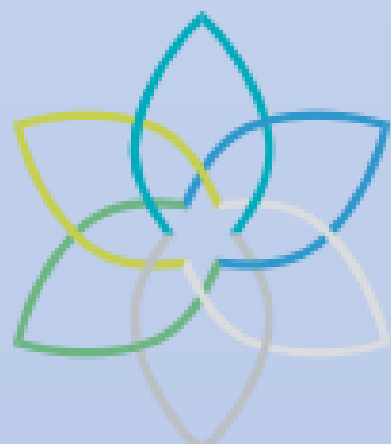
Objective

Cervical cerclage is widely used to prevent preterm birth (PTB) in women at risk of cervical insufficiency, yet it remains unclear whether cervical length measured after cerclage retains prognostic value. This study aimed to evaluate whether serial transvaginal cervical length measurements following McDonald cerclage can predict spontaneous PTB.

Methods

This retrospective study included 157 singleton pregnancies with cerclage performed between 2010 and 2024 at a tertiary center. Cerclage was placed either prophylactically based on obstetric history or emergently due to ultrasound or physical examination findings. Cervical length was measured by transvaginal ultrasound before and after cerclage and then at two-week intervals until 32 weeks.

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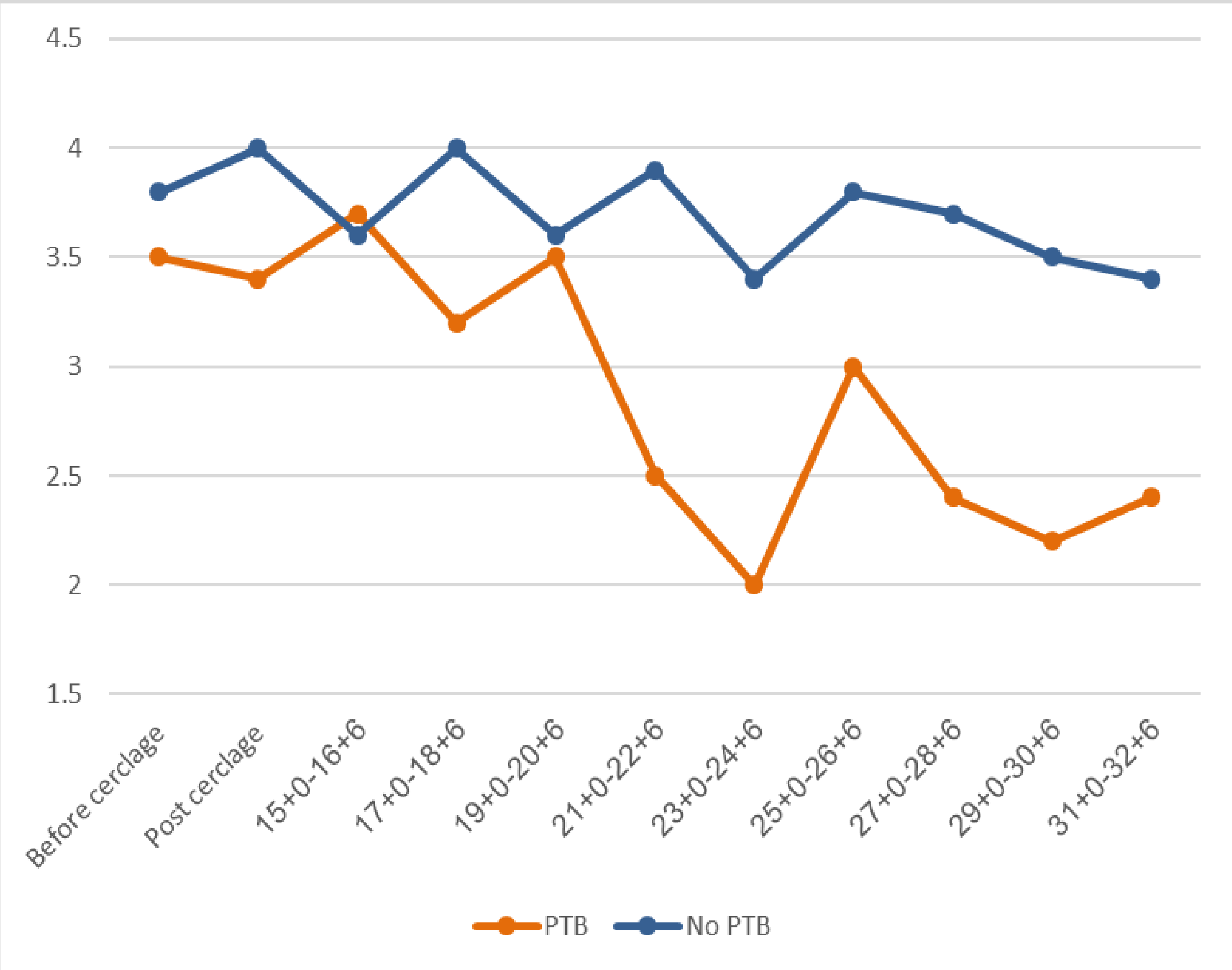
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Results

Among 109 women who underwent prophylactic cerclage, 23 experienced spontaneous PTB <37 weeks. Cervical length was significantly shorter in the preterm group at several time points: 2.5 vs. 3.9 cm at 21–22+6 weeks ($p=0.042$), 2.0 vs. 3.4 cm at 23–24+6 weeks ($p=0.016$), 3.0 vs. 3.8 cm at 25–26+6 weeks ($p=0.042$), and 2.4 vs. 3.4 cm at 31–32+6 weeks ($p=0.015$). In multivariable analysis adjusted for history of PTB, progesterone use, and gestational age at cerclage placement, shorter cervical length at 23–24+6 weeks (aOR 4.13, 95% CI 1.23–13.89, $p=0.021$) and at 25–26+6 weeks (aOR 3.39, 95% CI 1.08–10.64, $p=0.037$) was independently associated with PTB <37 weeks. Cervical length at 25–26+6 weeks also predicted PTB <32 weeks (aOR 4.76, 95% CI 1.20–19.60, $p=0.027$). Among the 48 women who received emergency cerclage, 12 delivered before 37 weeks. Cervical length was significantly shorter in those who delivered <32 weeks at 23–24+6 weeks (1.4 vs. 3.2 cm, $p=0.044$) and at 25–26 weeks (1.5 vs. 2.3 cm, $p=0.044$).

Conclusions

Serial cervical length monitoring after cerclage provides clinically relevant prediction of spontaneous PTB and may help guide post-cerclage management decisions. Incorporating routine cervical length assessment during the second trimester, even after cerclage, may help optimize outcomes in women at high risk for preterm delivery.



Serial cervical length in women with vs without preterm birth <37 weeks after prophylactic cerclage, PTB preterm birth