

Rapid Progression of Nulliparous Labor Increases the Risk of Preterm Delivery in a Subsequent Pregnancy

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Abstract

Objective: We examined the relationship between the duration of nulliparous labor at term and threatened preterm delivery (PTD) in a subsequent pregnancy.

Materials and methods: We retrospectively reviewed the records of 154 uncomplicated singleton multiparas with no history of second-trimester spontaneous abortion or PTD. We conducted multivariate logistic regression analyses to determine risk factors for threatened PTD. Parameters included the duration of nulliparous labor i.e., the times from onset of labor to full dilation and from 4cm to full dilation, maternal age, body mass index, gravidity, parity, smoking, gestational age at delivery, and birth weight in a subsequent pregnancy.

Results: The duration of nulliparous labor was associated with the need for rescue with cerclage and/or tocolysis in a subsequent pregnancy, when < 6.5h were required for full dilation from onset of labor and when < 2.0h were required to progress from 4cm to full dilation. These durations were considered optimal cut-off values. The duration of nulliparous labor at term < 6.5h from onset to full cervical dilation predicted subsequent threatened PTD with sensitivity, specificity, and positive and negative predictive values of 84.6%, 67.0%, 23.9%, and 97.3%, respectively. Those values for duration < 2.0h from 4cm to full dilation were 76.9%, 64.2%, 20.8%, and 95.8%, respectively. The combined sensitivity, specificity, and positive and negative predictive values of both parameters were 69.2%, 77.4%, 27.3%, and 95.3%, respectively.

Conclusion: Women with rapid progression of nulliparous labor are at risk of requiring treatment for PTD in a subsequent pregnancy.

Key words: Cervical cerclage, Cervical length, Precipitous labor, Threatened preterm labor and Tocolysis.