Timing of mid-trimester cervical length shortening in high-risk women.

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Abstract

OBJECTIVE: To examine the natural history of cervical length shortening in women who had experienced at least one prior spontaneous preterm birth at between 17+0 and 33+6 weeks' gestation.

METHODS: This was an analysis of prerandomization data from the multicenter Vaginal Ultrasound Cerclage Trial. Serial cervical length was measured by transvaginal sonography in 1014 high-risk women at 16+0 to 22+6 weeks. We performed survival analyses in which the outcome was cervical length shortening <25 mm and data were censored if this did not occur before 22+6 weeks' gestation. The incidence of cervical length shortening and the time to shortening were compared for women whose earliest prior preterm birth was in the mid-trimester, defined as <24 weeks, vs. those at weeks 24-33. Similar comparisons were performed based on each patient's most recent birth history.

RESULTS: Time to cervical length shortening by survival analysis was significantly shorter (hazard ratio (HR)=2.2, P<0.0001) and the relative risk (RR) of shortening significantly higher (RR=1.8, P<0.0001) for women whose earliest prior spontaneous preterm birth was at <24 weeks. A larger effect was observed for women whose...
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most recent birth was at <24 weeks (HR=2.8, P<0.0001; RR=2.1, P<0.0001). The observed hazard ratios remained significant after adjusting for confounders in a multivariable Cox proportional hazards model.

CONCLUSION: Women with a prior spontaneous preterm birth at <24 weeks are at a higher risk of cervical shortening, and do so at a higher rate and at an earlier gestational age, than do women with a later preterm birth history.

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