

# Effectiveness of cervical cerclage in preventing recurrent preterm birth: a retrospective study

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## Abstract

**Objective:** This study aimed to clarify the effectiveness of cervical cerclage in preventing recurrent preterm births. **Design:** A retrospective study. **Setting:** The perinatal registration database of the Japan Society of Obstetrics and Gynecology Perinatal Center from 2014 to 2016. **Population or Sample:** For this study, 6,060 multiparous women with a history of preterm birth were reviewed. After excluding 17 subjects who had unknown indications for cervical cerclage, 6,043 subjects were included in this study. **Methods and main outcome measures:** The efficacies of elective, ultrasound-indicated, and emergency cerclage as preventive treatments for women with a history of preterm birth were evaluated by comparing the cerclage and non-cerclage cases. Prior to evaluation, a propensity score matching was performed for elective and ultrasound-indicated cerclage patients. **Results:** Elective cerclage did not reduce the risk of preterm birth in subsequent pregnancies for any of the pregnancy periods ( $p = 0.413$ ). Similarly, ultrasound-indicated cerclage was ineffective ( $p = 1.000$ ). In addition, for ultrasound-indicated cerclage, Kaplan-Meier survival curves showed that the risk of a subsequent preterm birth might increase at  $< 33$  weeks of gestation. However, the hazard ratio could not be determined to be statistically significant using the log-rank test at  $< 28$  weeks of gestation. In contrast, emergency cerclage significantly reduced the risk of subsequent preterm birth for all pregnancy periods ( $p < 0.001$ ). **Conclusions:** Subsequent preterm births were effectively prevented only in emergency cerclage cases. For elective and ultrasound-indicated cerclage, statistically significant differences in subsequent preterm births were not evident.

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