Can cerclage prevent preterm birth in women who have a short cervix?

Often, it can—but only if they also have a singleton gestation and a history of spontaneous preterm birth.

In this meta-analysis of 504 pregnant women who fit this description and who had a cervical length of less than 25 mm before 24 weeks of gestation, cerclage significantly reduced the incidence of preterm birth before 35 weeks' gestation from 41% to 28% (relative risk [RR], 0.70; 95% confidence interval [CI], 0.55–0.89).

FAST TRACK

Continue to rely on clinical assessment and patient history to make decisions about cerclage

In the group of women who received cerclage, there were also substantial reductions in the rate of preterm birth before 37 weeks, 32 weeks, 28 weeks, and 24 weeks of gestation. And composite perinatal morbidity and death were significantly lower among infants born to women who underwent cerclage, compared with infants born to women who did not undergo the intervention (15.6% vs 24.8%; RR, 0.64; 95% CI, 0.45–0.91).

Berghella V, Rafael TJ, Szychowski JM, Rust OA, Owen J. Cerclage for short cervix on ultrasonography in women with singleton gestations and previous preterm birth. A meta-analysis. Obstet Gynecol. 2011;117(3):663–671.

EXPERT COMMENTARY

John T. Repke, MD, University Professor and Chairman, Department of Obstetrics and Gynecology, Penn State University College of Medicine, and Obstetrician-Gynecologist-in-Chief, The Milton S. Hershey Medical Center, Hershey, Pa. Dr. Repke also serves on the OBG MANAGEMENT Board of Editors.

This meta-analysis by Berghella and colleagues adds to the debate about the role of cervical-length measurement in determining candidacy for cerclage in an effort to reduce the rate of preterm birth. The authors are clearly passionate about the prevention of preterm birth—as we all are—but the conclusions they reach must be questioned.

First, it is misleading to report these results as Level-1 evidence. A meta-analysis can never, strictly speaking, be Level-1 evidence, although it may be based on an analysis of Level-1 evidence.

Sound confusing? Let's take, as an example, the study of the role of calcium supplementation in the prevention of preeclampsia. In JAMA, in 1996, a meta-analysis fairly conclusively demonstrated that calcium supplementation was effective in preventing

CONTINUED ON PAGE 55

WHAT THIS EVIDENCE MEANS FOR PRACTICE

We should continue to rely on clinical assessment and history to make cerclage decisions, a conclusion reached in a recent randomized, controlled trial.[6]

In the meantime, those of us who practice maternal-fetal medicine would be wise to stop spending time massaging the data (i.e., meta-analysis and secondary analyses) from trials that have already been performed and start spending time, effort, and money to conduct the well-powered trials that I (and Dr. Berghella and colleagues) believe that we need. This is not to say that cervical-length measurement is without value. We simply don't yet have the strength of association to accurately determine what that value is—most certainly not in the form of a screening tool for low-risk populations.

››JOHN T. REPKE, MD

CONTINUED FROM PAGE 56

preeclampsia (odds ratio, 0.38; 95% CI, 0.22–0.65).[1] Yet, a subsequent large randomized trial failed to confirm the findings of this meta-analysis.[2]

The lesson here? Level-1 evidence consists of appropriately powered, large-scale, randomized clinical trials. To date, we lack such trials with respect to cervical-length measurement and indications for cerclage. In fact, two of the authors of this paper are "on the record" as saying this very thing.

A 2009 paper by Owen and coworkers demonstrated only that cerclage for a cervical length below 25 mm reduced previable birth and perinatal death, but did not prevent births before 35 weeks unless the cervical length was less than 15 mm—and that bit of information came from a secondary analysis of the data.[3] In a follow-up study, Owen and coworkers concluded that cervical length did not predict preterm birth before 37, 35, or 28 weeks, whether or not cervical length was viewed as a continuum or was stratified.[4] And in an earlier meta-analysis reported by Berghella and associates in 2005, the authors conclude that "…cerclage may reduce preterm birth, and a well-powered trial should be carried out on this group of patients."[5]

References

1. Bucher HC, Guyatt GH, Cook RJ, et al. Effect of calcium supplementation on pregnancy-induced hypertension and preeclampsia: a meta-analysis of randomized controlled trials. JAMA. 1996;275(14):1113–1117.
2. Levine RJ, Hauth JC, Curet LB, et al. Trial of calcium to prevent preeclampsia. N Engl J Med. 1997;337(2):69–76.
3. Owen J, Hankins G, Iams JD, et al. Multicenter randomized trial of cerclage for preterm birth prevention in high-risk women with shortened midtrimester cervical length. Am J Obstet Gynecol. 2009;201(4):375.e1–8.
4. Owen J, Szychowski JM, Hankins G, et al. Does midtrimester cervical length ≥25 mm predict preterm birth in high-risk women? Am J Obstet Gynecol. 2010;203(4):393.e1–5.
5. Berghella V, Obido AO, To MS, Rust OA, Althiusius SM. Cerclage for short cervix on ultrasound: meta-analysis of trials using individual patient level data. Obstet Gynecol. 2005;106(1):181–189.
6. Simcox R, Seed PT, Bennett P, Teoh TG, Poston L, Shennan AH. A randomized controlled trial of cervical scanning vs history to determine cerclage in women at high risk of preterm birth (CIRCLE trial). Am J Obstet Gynecol. 2009;200(6):623.e1–6.