A stepwise approach for the management of short cervix: time to evolve beyond progesterone treatment in the presence of progressive cervical shortening

Check for updates

OBJECTIVE: Progesterone treatment can effectively manage cervical shortening in women with cervical length (CL) of ≤25 mm, but not in those with a CL <10 mm.[1] To date, a consensus concerning the management of women who have progressive cervical shortening while on progesterone treatment or of those who have a very short CL has not been reached. Recent studies have suggested that cervical cerclage in this group of women may prolong pregnancy and decrease preterm births.[2,3]

STUDY DESIGN: We conducted a prospective study that was based on singleton pregnancies screened for fetal anomalies during the second trimester scan and were diagnosed with CL shortening (≤25mm). Major fetal anomalies, the presence of placenta previa, active vaginal bleeding, cervical cerclage in situ, as well as adolescent pregnancy and signs of active labor were considered as exclusion criteria. The study received institutional review board approval (527/29.9.2014), and eligible women provided informed consent prior to their inclusion to the protocol. All women with ultrasonographic evidence of CL ≤25 mm and a singleton pregnancy received vaginal progesterone (80 mg/dL vaginal gel) at night and were followed up once a week. If CL was reduced ≤15 mm, or, in cases with an initial cervical length ≤15 mm and a gestational age of <26 weeks, a modified McDonald procedure with a 5-mm polyester cerclage tape (Cervix-Set, B. Braun, Aesculap AG, Tuttlingen, Germany) was offered under epidural anesthesia. We chose 15 mm as the cut-off for cerclage based on

TABLE
Outcomes

	Progesterone n = 38	Cerclage n = 25	Progesterone + cerclage n = 37	*P* value
Gestational age at intervention, wk	22 (19—25)	23 (19—25)	22 (19—24) progesterone 23 (19—26) cerclage	<.001[a]
PPROM	0/38 (0%)	3/25 (12%)	0/37 (0%)	.014
Gestational age at delivery, wk	38.4 (25.3—41.1)	38.3 (28—40.3)	38.5 (20—40.4)	.683
Delivery <37 wk	6/38 (15.8%)	7/25 (28%)	8/37 (21.6%)	.498
Delivery <34 wk	4/38 (10.5%)	5/25 (20%)	5/37 (13.5%)	.586
Delivery <32 wk	2/38 (5.2%)	3/25 (12%)	3/37 (8.1%)	.594
Delivery <28 wk	1/38 (2.6%)	0/25 (0%)	2/37 (5.4%)	.622
Latency period, wk	16 (1.6—19.1)	14.4 (4.4—20.4)	15.3 (0.7—17.3)	.028[b]
Birthweight, g	3100 (820—3960)	3200 (970—4500)	3120 (510—3935)	.818
Apgar score 1'	9 (2—9)	9 (5—9)	9 (0—9)	.303
Apgar score 5'	10 (2—10)	10 (7—10)	10 (0—10)	.478
NICU	4/38 (10.5%)	4/25 (16%)	5/37 (13.5%)	.870
CPAP	1/38 (2.6%)	3/25 (12%)	5/37 (13.5%)	.266
Intubation	3/38 (7.9%)	0/25 (0%)	0/37 (0%)	.114
Neonatal death	1/38 (2.6%)	0/25 (0%)	2/37 (5.4%)	.622
Neonatal hospitalization, days	3 (0—60)	3 (0—7)	3 (0—5)	.398

CPAP, continuous positive airway pressure; *NICU*, neonatal intensive care unit; *PPROM*, preterm premature rupture of membranes.

Continuous variables are expressed as median (range) values.

[a] Post hoc analysis revealed that gestational latency period differed between cerclage following progesterone administration and all other groups. No other differences were noted.; [b] Post hoc analysis revealed significant differences among progesterone-only and cerclage-only latency periods. No other differences were noted.

Daskalakis. A stepwise management of short cervix. Am J Obstet Gynecol 2019.

previously published evidence for cerclage effectiveness.[4,5] After the procedure, all women were routinely treated with intravenous cefuroxime 750 mg and metronidazole 500 mg every 8 hours for the first 2 days, while prophylaxis was continued for an additional 8 days with oral roxithromycin 300 mg once a day.

RESULTS: Overall, 101 patients were included, of whom 25 were treated with elective cervical cerclage (CL ≤15mm), whereas 76 received vaginal progesterone. Of the latter, 37 women were diagnosed with progressive CL shortening (≤15 mm) and were also managed with cerclage; thus, only 39 women remained in the progesterone-only group. One woman was excluded from analysis because she declined cerclage insertion. Baseline characteristics concerning first-trimester abortions and second-trimester pregnancy losses, history of preterm birth, cervical conization, and presence of preterm contractions were similar in the 3 groups. The perinatal outcome was comparable among the groups; preterm premature rupture of membranes was more frequent in the cerclage group, as well gestational latency period (increased in the progesterone group) (Table). The Kaplan−Meier survival plot depicted comparable outcomes among the 3 groups concerning gestational age at delivery (log rank 1.275, P = .529).

CONCLUSIONS: Our study findings support a stepwise approach in cervical shortening management, with the addition of cervical cerclage in women who do not respond to vaginal progesterone, or in those with a very short cervix during the initial evaluation. This approach was complemented by an extended course of antibiotic and anti-inflammatory prophylaxis, as there is evidence that supports a cross-link between intra-amniotic inflammation/infection and preterm birth. ∎

George Daskalakis, MD, PhD
Dimitrios Loutradis, MD, PhD
Aris Antsaklis, MD, PhD
1st Department of Obstetrics and Gynecology
Alexandra Hospital
National and Kapodistrian University of Athens, Medical School
Athens, Greece
8 I. Metaxa Street, 15236
P. Penteli, Athens, Greece
gdaskalakis@yahoo.com

Vasilios Pergialiotis, MD, MSc, PhD
Laboratory of Experimental Surgery and Surgical
Research N.S Christeas
National and Kapodistrian University of Athens, Medical School
Athens, Greece

REFERENCES

1. Romero R, Conde-Agudelo A, Da Fonseca E, et al. Vaginal progesterone for preventing preterm birth and adverse perinatal outcomes in singleton gestations with a short cervix: a meta-analysis of individual patient data. Am J Obstet Gynecol 2018;218:161–80.
2. Enakpene CA, DiGiovanni L, Jones TN, Marshalla M, Mastrogiannis D, Della Torre M. Cervical cerclage for singleton pregnant patients on vaginal progesterone with progressive cervical shortening. Am J Obstet Gynecol 2018;219:397.
3. Makrydimas G, Barmpalia Z, Sotiriadis A. Cervical cerclage for women with shortening cervix while on progesterone. Am J Obstet Gynecol 2018; pii: S0002-9378(18)30902-5.
4. 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: 663–71.
5. 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;201:375.

Delivery type, opioid prescribing, and the risk of persistent opioid use after delivery

OBJECTIVE: Cesarean delivery is associated with the persistent use of opioid pain relievers (OPRs), although whether this relates to the procedure or subsequent OPR prescribing is unclear.[1,2] We examined OPR prescribing and persistent OPR use among women undergoing cesarean and vaginal delivery.

STUDY DESIGN: We included pregnant women aged 15−44 years enrolled in Tennessee Medicaid and opioid-naïve ≥180 days prior to delivery (Jan. 1, 2007, through Sept. 30, 2015). We classified OPR exposure based on filled prescriptions during the postpartum period: no prescription, early only (≥1 fill from delivery to day 7 and none from days 8 through 42), early and late (≥1 fill from delivery to day 7 and days 8 through 42).

Persistent OPR use was defined as ≥1 OPR fill in each 45 day period from days 43 through 365 after delivery. We compared the risk of persistent OPR use by OPR exposure group and delivery type using Poisson regression with robust standard errors to calculate relative risks and 95% confidence intervals (CIs) adjusted for patient demographics, rurality,[3] smoking, depression, severe maternal morbidity, and pain conditions.

RESULTS: Of 102,541 women, 89.0% with a cesarean (early-only: 70.2%; early-late: 17.1%) and 52.7% with a