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LETTER

Therapeutic dilemma in patients with short cervices during pregnancy after conization

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Dear editor

We read the recent review article entitled "Prevention of preterm delivery: current challenges and future prospects" by van Zijl et al.[1] However, they did not adequately discuss the prevention of preterm delivery in cases with a history of conization, or a cone biopsy of the uterine cervix.[2,3] Performing a cervical cerclage has been common in the treatment of pregnant women with cervical insufficiency to prevent preterm delivery, as reported by van Zijl et al.[1] However, the effect of prophylactic cerclage in women with a history of conization is little understood, because there are no prospective randomized controlled trials concerning the efficiency and risk of prophylactic cerclage in this subgroup of pregnant women.[3–15] Table 1 summarizes the previous examinations concerning the effect of prophylactic cerclage in pregnancy after conization, including four English language articles searched using PubMed (Bethesda, MD, USA) and eight Japanese language articles searched using Igaku Chuo Zasshi® (NPO Japan Medical Abstracts society, Tokyo, Japan), with the key search terms of "cerclage" and "conization".[4–15] In these studies, statistical significances of the categorical variables were tested by χ^2 test (with Yates's correction) or Fisher's exact test. As shown in Table 1, there have been some small retrospective population-based cohort studies in this field. In an earlier study,[3] cerclage has been recommended in pregnancies following excessive cone biopsy. However, some recent studies have suggested an association between local infection in cases of short cervices related to large cones and preterm labor in women with a history of conization.[4–7] In these cases, sutures can act as a foreign body and lead to uterine irritability and contractions after a cerclage procedure.[5–7] Moreover, some authors have reported a significant increase in pathologic flora in the vagina and cervix after cerclage leading to chorioamnionitis and preterm labor.[16] Thus, prophylactic cerclage is used more sparingly in pregnancies following conization in recent years.[5–7]

Between 2011 and 2015, 62 cases of pregnancy with a history of conization were managed at the Japanese Red Cross Katsushika Maternity Hospital. During this period, I had not performed cerclage in any cases of pregnancy with a history of conization irrespective of the cervical length. Of the 62 cases, nine cases (15%) resulted in miscarriage or preterm delivery (18%). In eight (89%) of the nine cases, chorioamnionitis of the placenta was confirmed microscopically. My cases may support the latter studies,[4–7] suggesting an association between infection and preterm labor in women with a history of conization.

A therapeutic dilemma exists among patients with short cervix in pregnancy after conization.

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Table 1 Preterm delivery rate (%) with pregnancies after cervical conization with and without prophylactic cerclage in four English and eight Japanese retrospective population-based cohort studies

	Preterm delivery/ abortion	Prophylactic cerclage		*P*-value
		Yes	No	
English literature				
Zeisler et al,[4] 1997	<37 weeks	23% (7/30)	21% (8/39)	0.78
Nam et al,[5] 2010	<37 weeks	50% (3/6)	25% (15/59)	0.42
Shin et al,[6] 2010	<28 weeks	8% (2/25)	7% (2/31)	0.58
	<34 weeks	20% (5/25)	19% (6/31)	1.00
	<37 weeks	36% (9/25)	29% (9/31)	1.00
	<37 weeks (CL <25 mm)	25% (3/12)	43% (3/7)	0.62
Rafaeli-Yehudai et al,[7] 2014	<34 weeks	32% (7/22)	6% (5/97)	0.02
Japanese literature				
Nagasaka et al,[8] 2002	<37 weeks	60% (3/5)	13% (1/8)	0.24
Matsui et al,[9] 2008	<37 weeks	30% (3/10)	30% (6/20)	1.00
Tokunaka et al,[10] 2010	<37 weeks	Unknown (n=8)	Unknown (n=21)	NS
Muro et al,[11] 2013	<34 weeks	6% (2/35)	25% (3/12)	0.06
	<37 weeks	20% (7/35)	42% (5/12)	0.14
	<34 weeks (CL <25 mm)	0% (0/13)	100% (3/3)	<0.01
	<37 weeks (CL <25 mm)	23% (3/13)	67% (2/3)	0.44
Tanimoto et al,[12] 2013	<37 weeks	36% (4/11)	30% (14/47)	0.82
Ishiguro et al,[13] 2013	<37 weeks	19% (4/21)	–	–
	<37 weeks (CL <25 mm)	50% (4/8)	–	–
Kawasaki et al,[14] 2013	<37 weeks	17% (1/6)	12% (7/58)	0.75
Kawana et al,[15] 2015	<33 weeks	–	4% (5/68)	–
	<37 weeks	–	18% (12/68)	–

Abbreviations: NS, not significant; CL, cervical length.

Disclosure

The author reports no conflicts of interest in this communication.

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Authors' reply

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Dear editor

We have read the response by Dr Suzuki with interest, and we agree with Dr Suzuki that our paper does not discuss preventive measures in cases with a history of conization. However, in our opinion, there is currently insufficient evidence of benefit from a cerclage in this specific group.

It is known that women with a prior excisional procedure have a higher risk of preterm birth.[1–3] As Dr Suzuki already points out, there are no randomized controlled trials that focus on the prevention of preterm birth in these high-risk women. So far, literature on the best strategy to prevent preterm birth after cone biopsy is lacking. Therefore, our paper does not give clear advice on how to treat these cases.

Kindinger et al[4] recently described a preventive strategy in 725 women postconization. They report that a targeted monofilament cerclage can reduce preterm birth rates in women with a history of cone biopsy. However, they also notice that a reduction of cervical length of $<10\%$ between two time points indicates a term birth and these women can be excluded from cervical length follow-up.

We do strongly emphasize the importance of a randomized controlled trial that evaluates interventions such as a cervical pessary and cerclage for the prevention of preterm birth in women with a short cervix after cone biopsy or conization. A small German prospective pilot study among 21 patients evaluated the placement of a cerclage pessary in women with at least one cold knife conization between 2010 and 2013.[5] The aim of this study was to investigate the mean interval between pessary placement and delivery. Mean cervical length measurement at pessary placement was 19 mm (range 4–36 mm) at a mean gestational age of 17+2 weeks of gestation (10^{+5}–24^{+0} weeks). The included women did not receive progesterone. Mean interval between pessary placement and delivery was 145 (87–182) days, resulting in a mean gestational age at delivery of 38+0 (31^{+1}–41^{+0}) weeks. Further randomized controlled trials are necessary to truly assess the effectiveness of these treatments in women with a short cervix after conization.

Disclosure

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