Controversy on another possible risk of preterm delivery after cervical conization: time interval between conization and conception

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We have read with the interest the article by Guo *et al.*, "Effects of loop electrosurgical excision procedure or cold knife conization on pregnancy outcomes" [1]. Cold knife conization significantly increased the rate of preterm delivery (PD) of the subsequent pregnancy compared with the control, but loop electrosurgical excision procedure (LEEP) did not. Thus, the risk of PD may depend on the conization procedure. We wish readers to pay attention to another possible risk of after-conization-PD: the time interval between conization and conception.

Although the reason why conization increases the rate of PD is unclear, three possibilities have been suggested: 1) reduction of cervical collagen, reducing cervical strength, 2) removal of the cervical gland, weakening the cervical barrier function, and 3) loss of cervical plasticity, making the fetal membranes more vulnerable to preterm rupture [2]. Site "healing" may require some time, and thus pregnancy soon after conization may be more likely to cause PD.

To our knowledge, three reports on this issue showed contradictory results. The USA data [3] showed that shorter conization to conception interval, i.e., 2.5 vs. 10.5 months, significantly increased the PD rate. Two other nation-register-based studies from Finland [4] and Denmark [5] found no differences, although they only lightly touched on this issue. We re-examined this issue.

We examined patients (n = 30), who 1) had received conization, 2) visited this institute in the first trimester and received regular pregnancy check ups, and 3) gave birth to infants here over a 14-year period. Conizations were performed with various procedures including electric incision (n = 15), LEEP (n = 6), cold knife (n = 4), or others. Ten received cervical cerclage (MacDonald or Shirodkar) and the remaining 20 did not. Procedures and whether to perform cerclage depended on attending doctors' decision. We examined whether the PD rate (< 37 + 0 weeks) was associated with the interval between conization and conception.

The median time interval between conization and conception was 640 days (range 334-1180 days). Of 30 patients, PD occurred in nine. The rate of PD did not differ between the conization procedures or whether cerclage was performed. Importantly, the rates of PD in patients with intervals < 18 vs. ≥ 18 months was 33% vs. 28%, respectively, showing no significant difference (Fisher's exact test). This was also true in women with intervals < 12 vs. ≥ 12 months.

Although our study population was small, our strength was that the present data was obtained in a single center, in which treatment including monitoring or tocolysis has been the same during study period. In our population, women became pregnant much later after conization than those in the USA study [3]. Thus, we do not know whether a much shorter interval (i.e., 2.5 months) increases the PD risk. Japanese women may be more cautious about PD and/or recurrence of the cervical diseases, and thus they may postpone pregnancy: we did not recommend the use of contraceptions after conization.

Conization increases the PD rate. It depends on the procedure as shown by Guo *et al.* [1]. More study is needed to determine whether the interval between conization and pregnancy also affects the rate of PD. This issue should be more widely discussed by both gynecologic oncologists and obstetricians.

References

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Reply from the Editor-in-Chief

The pregnancy consequences of conization and electrosurgical excision of the uterine cervix for high grade cervical lesions and rarely for early stage cervical cancer are major considerations, as affected women are mostly young desiring further childbearing. The literature data are still controversial in terms of the rate of post-treatment pregnancy complications and whether electrosurgical excision is preferable to conization. Most data however suggest correlation between the size and depth of the excised cervix and the obstetrical outcome. The point Dr. Shigeki Matsubara and colleagues raised is valid, and it is highly recommended to re-evaluate the available data accordingly.

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