Prediction of preterm labor by cervical length or lower uterine wall thickness

Hung-Rwei Lia, Yau-Hong Lia, Peng-Hui Wang

Department of Obstetrics and Gynecology, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan, ROC; Department of Obstetrics and Gynecology, Taipei Veterans General Hospital, Taipei, Taiwan, ROC; Department of Obstetrics and Gynecology, National Yang-Ming University, Taipei, Taiwan, ROC; Department of Obstetrics and Gynecology, National Yang-Ming University, Taipei, Taiwan, ROC; Institute of Clinical Medicine, National Yang-Ming University, Taipei, Taiwan, ROC; Department of Medical Research, China Medical University Hospital, Taichung, Taiwan, ROC

Ultrasound is a very powerful tool and is frequently used in the pregnant mothers, not only for the absence of radiation exposure but also for its convenience and high accuracy. There are many approaches available for the application of ultrasound in pregnant women, based on the different purposes. In the January issue of the Journal of Chinese Medical Association, we read Dr. Woraboot’s article with interest. The authors found that transvaginal ultrasonography (TVS) might not be always available for the pregnant women, because of the difficulty to measure the cervical length (CL) accurately. Therefore, they attempted to use transabdominal ultrasonography (TAS) to detect lower uterine wall thickness instead of using TVS to measure CL. They found that correlation between lower uterine wall thickness measured by using TAS and CL measured by using TVS was highly positive ($r = 0.767$, $n = 166$, $p < 0.001$), suggesting that TAS approach might be a good alternative to TVS approach for pregnant women. In fact, there is a trend to report that either sonographers or pregnant women would decline TVS of CL screening, suggesting that TAS approach might be much more acceptable by some sonographers or pregnant women. We congratulated the success of this publication.

However, the current study attracts our attention, because the authors reported that short CL ($<30$ mm) at 16 to 24 weeks were found in 6% of their study ($n = 10$) and preterm birth rate of their study was 6.5%. Since the targeted purpose of TVS of CL screening at 16 to 24 weeks of gestation is for an early detection of pregnant women with risk of preterm labor. The audience might be interested both in the positive prediction value and negative prediction value of TVS of CL and TAS of lower uterine wall thickness. In addition, what is the cut-off value of lower uterine wall thickness responsible for 30 mm of CL that was defined as short CL by the authors? We look forward to see the authors’ response.

ACKNOWLEDGMENTS

This study is partly supported by grants from the Ministry of Science and Technology, Executive Yuan (MOST 106-2314-B-075-061-MY3), and Taipei Veterans General Hospital (V106D23-001-MY2-1; V107C-136; and V107A-022).

REFERENCES

3. Larscheid P, Maas N, Kennes LN, Najjari L. Transperineal ultrasound to measure cervical length of pregnant women in general and in particular with cervical insufficiency - a comparison of transabdominal and transperineal ultrasonography. Ultraschall Med 2015;36:59–64. [In German]