



Editorial

Blockage of uterine-feeding vessels—A real choice to maintain the uterus?

The blockage of feeding vessels to the uterus is a well-known procedure in the management of various kinds of emergency situations, such as postpartum hemorrhage (PPH), placental accreta or percreta, and various kinds of tumors, for example, uterine fibroids.^{1,2} Blockage of these uterine vessels can be performed by radiologists [a procedure known as uterine artery embolization (UAE)] and finished by surgeons (a procedure known as uterine vessel occlusion).³ UAE has become increasingly accepted as a minimally invasive uterine-sparing procedure, and studies including Horng's publication in this issue have reported the successful preservation of the uterus.^{4,5} Furthermore, UAE may be one of the most frequently used and effective methods in the management of women with major obstetric hemorrhage with uterus preservation,⁶ although sometimes, peripartum hysterectomy cannot be completely avoided for the purpose of saving a life.⁷ The rate of peripartum hysterectomy use has significantly decreased recently, partly because of improvements in anesthesia, medicine, surgery, and even radiology. Therefore, it is necessary to identify this high-risk population to enable a clear, precise, and early use of UAE, so as to avoid destructive procedures such as peripartum hysterectomy. The recent trend toward the use of a minimally invasive procedure and organ-preservation is now widely accepted, especially for the maintenance of reproductive function in these women during their reproductive age. The uterus has been regarded as the regulator and controller of important physiological functions, a sexual organ, a source of energy and vitality, and a maintainer of youth and attractiveness, all of which contribute to the importance of uterus preservation.

However, it would be of interest to understand more about the functioning of the uterus after UAE, especially the impact on the future fertility. Unfortunately, presently available data are insufficient to routinely offer UAE to women who wish to preserve their fertility.⁸ Furthermore, concern about the negative impact on pregnancy outcomes of the use of UAE in reproductive-aged women has always existed^{9,10} and is still a subject of controversy.¹¹ In comparing reproductive outcomes between complete uterine-feeding vessel occlusion, UAE, and partial uterine-feeding vessel occlusion (laparoscopic uterine artery occlusion), a recent study showed that the pregnancies of women who were treated with UAE were at significantly increased risk of spontaneous abortion when compared with the pregnancies of women treated with laparoscopic uterine artery occlusion,¹² suggesting that even using different strategies for

uterine-feeding vessel occlusion might affect the fertility outcomes of the women. In recent research, Lee et al.¹³ compared the differences between relatively complete occlusion of uterine-feeding vessels and partial occlusion of uterine-feeding vessels and found that a possible deterioration of ovarian function as a result of undergoing relatively complete occlusion of uterine-feeding vessels compared with partial occlusion of uterine-feeding vessels could be highly suspected, because the dramatic changes in the serum follicular stimulating hormone levels were more apparent in the group with relatively complete occlusion of uterine-feeding vessels at the first month after operation. However, the effect might only be transient, since there was little influence on the regularity of the menstruation cycles in these patients, although the difference in the changes of follicular stimulating hormone levels between the two groups could be identified at the end of the first year after surgery. In this issue, Dr. Horng et al. evaluated the effect of UAE for PPH in women during a relatively long-term follow-up (mean 6.8 years) focusing on future menstruation, fertility, and future pregnancy. As predicted, alternation of the menstruation cycles in these patients after UAE was not significant, compared with that before UAE. However, this was consistent with the finding that those women with symptomatic uterine fibroid-related menorrhagia who were treated with UAE or uterine vessel occlusion might have improved anemia secondary to menorrhagia.^{2,3,14} How the menstruation flow decreases after UAE is still unknown, but it is reasonable to suppose that the amount of endometrial growth during the menstrual cycle might also be decreased, though no literature focusing on this topic is available.

We agree with the value of UAE in the management of women with severe PPH; however, the possible negative impact on the reproductive function is still worthy of our attention, though this study showed absence of a negative impact on future reproduction after UAE.

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