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Correspondence

Comment on the combination of mifepristone and misoprostol for the termination of second-trimester pregnancy

To the Editor,

We are happy to see Li et al's [1] report in the 2011 issue of the *Taiwanese Journal of Obstetrics and Gynecology*, which provided a good suggestion for our clinical practice. Dr. Li et al [1] suggested that the combination of mifepristone and misoprostol was safe and effective for first-trimester pregnancy termination. The above-mentioned suggestion is worthy of being announced again, since much evidence supported that concurrent mifepristone and misoprostol is more effective than prostaglandin derivatives alone for second- or third-trimester abortion. In fact, two other published articles in the same year (2011) in the *Taiwanese Journal of Obstetrics and Gynecology* also highlighted the benefits of the combined therapy compared with each alone [2,3].

Mifepristone (RU 486) is a 19-norsteroid that specifically blocks receptors for progesterone and glucosteroids and a well-known selective progesterone receptor modulator. Although the action of selective progesterone receptor modulators on progesterone receptors might be agonist and antagonist [4,5], mifepristone showed a potent antiprogestogenic effect for pregnancy, acting as a competitive inhibitor of the progesterone receptor and used as a pretreatment 24–48 hours before inducing first-trimester abortion with a prostaglandin analog. Mifepristone may sensitize the uterine myometrium to prostaglandin; decrease the contractility threshold of the uterus, and ripen the cervix facilitating abortion; and oxytocin is released physiologically by the posterior pituitary, stimulating uterine contractions. Misoprostol, a synthetic prostaglandin E1 analog, was initially used to prevent peptic ulcers. With its cervical-ripening and uterotonic properties, misoprostol became one of the most useful drugs in pregnancy termination and labor induction. Misoprostol has proved effective for pregnancy termination at various gestational ages, cervical ripening, labor-induction in term-pregnancies, incomplete-abortion treatment, and postpartum hemorrhage management. Therefore, the recently published articles addressing the topic of the misoprostol administration route and dose interval between mifepristone and misoprostol might further improve our clinical practice.

The first study from a Hoopmann et al's [6] retrospective study, which investigated the effect of mifepristone before administering a prostaglandin derivative on induction time, showed that 333 patients had medically indicated terminations after the first trimester, in which the prostaglandin derivatives were administered with or without pretreatment with 600 mg mifepristone. The authors found that the induction interval shortened significantly by pretreatment with mifepristone. The combination of mifepristone and a prostaglandin derivative was the most effective regimen for medical pregnancy termination.

The second study from Dickinson et al's [7] prospective randomized trial of medical abortion with misoprostol after mifepristone priming at 14–24 weeks of gestation, showed that 302 patients received 200 mg mifepristone orally, followed by an 800-mg vaginal loading misoprostol dose 24–48 hours later. The patients were then randomized to receive additional 400-μg misoprostol doses orally every 3 hours, vaginally every 4 hours, or sublingually every 3 hours. The conclusion showed that vaginal or sublingual misoprostol after a vaginal loading dose in second-trimester medical abortion with mifepristone priming is associated with a shorter time to pregnancy termination compared with an oral regimen.

The combination of mifepristone and misoprostol for second-trimester termination has a shorter induction time and lower misoprostol dose compared with misoprostol alone. Both sublingual and vaginal routes of misoprostol administration resulted in a shorter abortion duration compared with that using the oral route. The differences in duration or side effects between sublingual and vaginal routes of misoprostol administration were not significant [8]. However, sublingual administration may be preferred by patients over vaginal administration due to ease of use [7].

Taken together, we found that the combination of mifepristone and misoprostol vaginally followed by vaginal or sublingual misoprostol may be effective and preferred for second-trimester pregnancy termination. We highly recommend that since women with no previous deliveries or increased gestational age (> 16 weeks) may have an increased failure rate of medical termination, a longer interval time (41–45 hours) between mifepristone and misoprostol may be more suitable for these groups [9].

Conflicts of interest

The authors have no conflicts of interest relevant to this article.

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