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# A MODERN VIEW ON METHODS OF PREGNANCY ABORTION

**Drupp Yuri**

Ph.D., Associate Professor  
Department of Obstetrics and Gynecology No. 3  
Bogomolets National Medical University, Kyiv

**Usevych Igor**

Ph.D., Associate Professor  
Department of Obstetrics and Gynecology No. 3  
Bogomolets National Medical University, Kyiv

**Hychka Nazariy**

Ph.D., Associate Professor  
Department of Obstetrics and Gynecology No. 3  
Bogomolets National Medical University, Kyiv

The desire to reduce the negative impact of abortion on a woman's body is topical in obstetrics [1, 2, 3, 4]. The problem of “safe” abortion is a priority.

Instrumental abortion and electric vacuum aspiration are viewed as traditional methods, although they are the most traumatic and lead to a wide variety of complications [1, 3, 5, 6].

Implementation of new abortion techniques, such as medication-induced abortion and manual vacuum aspiration into practice made it possible to reduce the number of complications and make the procedure less traumatic, but did not solve the problem in general. Thus, further optimization in selection of abortion method and optimal timing of the procedure with the purpose of improving the efficiency and safety of artificial abortion during early periods of gestation remains an important direction in preservation of reproductive health [7, 8, 9].

**The aim** of this research was reducing the number of complications of the early abortion by determining the optimal time and method of abortion.

**Materials and methods.** The study involved 57 patients who presented to the gynaecological department with the purpose of termination of unwanted pregnancy in its early stages. All patients were divided into two clinical groups: group 1 included 25 women who underwent medication-induced abortion, with the further division into subgroup 1A - 13 women in the first phase of the “conventional” cycle, and subgroup 1B, which included 12 women in the second phase of the “conventional” menstrual cycle. Group 2 included 32 women who underwent manual vacuum aspiration, further dividing into subgroups 2A - 17 patients in the first phase of the “conventional” cycle, and 2B - 15 patients in the second phase of the “conventional” menstrual cycle.

Patients were included in the study group based on the following criteria: reproductive age (18-42 years) and a confirmed early pregnancy (up to 42 days of amenorrhea). All women underwent a calculation of the phase of the “conventional” menstrual cycle on the day of the abortion.

The termination of pregnancy was carried out by means of medication in accordance to the Order of Ministry of Health of Ukraine No. 582 and instructions on the use of mifepristone, as well as the manual vacuum aspiration method.

The presence of pregnancy and its stage were confirmed by the complex of clinical, laboratory and ultrasound examinations.

The hormonal status of all women was studied on the day before the abortion, on days 3 and 14 after taking mifepristone or going through manual vacuum aspiration. Chorionic gonadotropin (hCG), follicle-stimulating hormone (FSH), estradiol and progesterone levels were measured.

Ultrasound examination of the pelvic organs was carried out using convex transducers in transabdominal and transvaginal techniques.

Statistical data processing was carried out using the statistical software package “Excel 2010” and the application package “STATISTICA”.

The results have shown that in 24 patients in clinical group 1 medication-induced abortion was successful, with only 1(0.24%) patient having partial removal of the ovum.

In patients of subgroup 1A, on the third day after the onset of bloody discharge, the hormonal palette corresponded to the basal level of hormones of the follicular phase of the menstrual cycle: FSH -  $5.6 \pm 0.52$  mU/ml, estradiol -  $620 \pm 21.4$  nmol/l, progesterone –  $47.3 \pm 2.4$  nmol/l. On the 14th day after the abortion, the FSH index was  $9.9 \pm 1.2$  mU / ml, estradiol -  $432.6 \pm 56.4$  nmol / l, progesterone -  $10.4 \pm 3.2$  nmol/l. Apparently, the data corresponded to the preovulatory phase of the menstrual cycle. In patients of subgroup 1B, on day 3 of the post-abortion period, the FSH level was  $4.9 \pm 0.1$  mU / ml, estradiol -  $748 \pm 3.2$  nmol/l, progesterone -  $67.5 \pm 3.2$  nmol/l. On the 14th day, the level of FSH was  $7.4 \pm 2.1$  mU/ml, estradiol -  $256.5 \pm 78.4$  nmol/l, progesterone -  $34.2 \pm 10.2$  nmol/l. As you can see, these parameters of hormonal status remained in phase 2 of the “conventional” cycle, which could possibly indicate a failure in the return of physiological menstrual cycle.

In subgroup 2A of clinical group 2, complications were present in 3 (8.4%) patients: 1 (2.3%) patient of subgroup 2A and in 2 (5.8%) patients of subgroup 2B. Partial removal of the ovum was detected in 3 (5.8%) women.

In subgroup 2A, by day 3, there was a significant increase in FSH level, reaching  $5.9 \pm 1.2$  mU/ml, and  $9.9 \pm 1.3$  mU/ml by day 14 ( $p < 0.001$ ). In patients of subgroup 2B, by day 3, the FSH level was only  $3.2 \pm 0.13$  mU/ml, rising to  $7.9 \pm 2.3$  mU/ml by 14th day, which is significantly less than in patients who had an abortion in “conventional” first phase of the cycle ( $p < 0.001$ ). On the 3rd and 14th days of the post-abortion period, the changes in dynamics of estradiol ( $735 \pm 64.3$  nmol/ and  $345.8 \pm 45.3$  nmol/l) and progesterone ( $71 \pm 4.1$  nmol/l and  $34.2 \pm 2.3$  nmol/l) levels corresponded to the indicators of the progesterone phase of the menstrual cycle.

Regardless of the method, as a result of the formed menstrual cycle, in patients who terminated pregnancy in the 2nd phase of the “conditional” menstrual cycle, the resumption of menstruation was not observed until day 48-60 after the abortion, and the duration of bloody discharged was  $11 \pm 1.4$  day. Whereas those who terminated pregnancy in the 1st phase of the “conventional” cycle, restored their menstrual function on the 29-38 day after the abortion, and the duration of haemorrhages never exceeded  $8 \pm 2.1$  days.

**Conclusions.** Conducted studies have shown that the efficiency of medical abortion was 97.9%. The efficiency of manual vacuum aspiration was 94.2%. In patients of both clinical groups, when pregnancy was terminated in 2nd phase of the “conventional” menstrual cycle, the complications developed 3.4 times more often in comparison to the abortion during the first phase. In addition, on the 14th day after the termination of pregnancy, in all patients who had an abortion in the 1st phase of the “conventional” cycle, the parameters of the hormonal profile practically corresponded to those during the preovulatory phase (restoration of the menstrual cycle), and in all patients after abortion in the 2nd phase of the “conventional” cycle, both on the 3rd and on the 14th day after the abortion, an obvious hormonal imbalance was formed.

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