

Time ovulation detection using transvaginal ultrasonography and urinary ovulation test

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Abstract

The timing of detecting the precise ovulation is very important in women at reproduction age and who plan the conception. In the present study it were included 30 patients divided in two groups. In the 1st group the ovulation date was determined by ultrasound and urinary ovulation test, and the 2nd group in which only with urinary ovulation test was evaluated. It were analyzed the rates obtaining pregnancy three or six months for both groups, considering that the patients were advised to have sex as often as possible during ovulation, and the ultrasound monitoring was performed on days 6, 9, 12 of menstrual cycle. The results shows that the rates of getting a spontaneous pregnancy at 3 and 6 months respectively were higher for patients from the 1st group versus the 2nd group. In the 1st group, 33% patients were pregnant at 3 months, 86.66% at 6 months, and from the 2nd group, 26.66% were pregnant at 3 months and 60% at 6 months. Our results sustain the fact that by using the combined technique (i.e. transvaginal ultrasonography and urinary ovulation tests) for ovulation detection represent a reliable method with better results comparing with the single technique, by using only urinary ovulation test.

Keywords: ovulation, ultrasonography, urinary test, conception

Introduction

The detection of ovulation time was long time been practices especially by the women who want to avoid pregnancy⁽¹⁾. The fertility clock starts approximately 3-5 days before ovulation and continues until 1-2 days after ovulation⁽²⁾. By identifying the exact timing of ovulation is considered to be vital for contraception and/or conception. Not only for women, but also for gynecologists who want to know if the menstrual cycle is in normal limits, different techniques were established⁽³⁾. Therefore, transvaginal ultrasonography can easily showed ovulation, being the reference technique. In the same context, can be used serial examination, in which the ovulation is represented by the point between maximum follicular and follicular collapse⁽⁴⁾.

In the present study, it was analyzed the rates obtaining pregnancy at three or six months using transvaginal ultrasonography and/or urinary ovulation test.

Methods

The study was made on two groups of 30 patients between 2015-2018 at Santerra Medical Center Constanta from Romania, who presented at the gynecology clinic for control in the view of the occurrence of a future pregnancy. The two groups were divided in the 1st group in which the ovulation date was determined by ultrasound and urinary ovulation test, and the 2nd group in which the patients were tested only from the urinary ovulation test point of view.

Patients from both groups were clinically normal. Moreover, the ultrasound, vaginal secretion and PAP

test were normal. The spermograms of the partners were found also in normal limits.

It were analyzed the rates obtaining pregnancy three months or six months for both groups, considering that the patients were advised to have sex as often as possible during ovulation.

On the 2nd group, ultrasound monitoring was performed on days 6, 9, 12 of menstrual cycle.

Results

The rates of getting a spontaneous pregnancy at 3 and 6 months respectively were higher for patients from the 1st group versus the 2nd group.

In the 1st group, 10 (33%) patients were pregnant at 3 months, 26 (86.66%) at 6 months, and from the 2nd group, 8 (26.66%) were pregnant at 3 months and 18 (60%) at 6 months.

The technique of measuring ovulation using a combination method, although it appears to be less compliant, is much safer and requires the patient to perform the ovulation tests correctly, and any doubts can be discussed at meetings with the gynecologist. We believe that these meetings are essential, both for monitoring the development of the dominant follicle and for counseling the medical and sexual patient.

Discussion

Anovulation cycles are an important cause of infertility⁽⁵⁾. Patients who have reported irregular menstrual periods over the years may have polycystic ovarian syndrome (i.e. characterized by anovulation or oligo-ovulation and hyperandrogenism)⁽⁵⁾.

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They are an important cause of abnormal uterine bleeding, both during adolescence⁽⁶⁾ and youth, including perimenopause^(5,7).

Approximately 1-2% of patients with anovulatory cycles develop endometrial cancer. Anovulatory cycles represent one of the most important causes of infertility^(3,4). Infertility defines the impossibility to procreate after one year of unprotected sex contacts (between two different sexes)⁽⁸⁾. Furthermore, about 40% of the causes of female infertility are ovulatory⁽⁹⁾ and urinary ovulation tests showed to be more useful for prediction of ovulation days⁽⁹⁾.

An extensive study in the 1950's reports cumulative pregnancy probability of 50% at 3 months, 72% at 6 months, and 85% at 12 months⁽¹⁰⁾.

The cumulative probability of pregnancy in couples with normal fertility was found to be 0.2 per month, 0.49 at 3 months, 0.74 at 6 months and 0.93 at 12 months⁽⁹⁾.

Thus, the cumulative probability of pregnancy is considered 93% at 12 months, the period considered for 2 heterosexual partners with normal fertility, with normal sexual activity, at least twice a week^(9,11,12).

Conclusions

The techniques used for the ovulation detection should be non-invasive, inexpensive and easy to use. Our study showed that the method of determining the ovulatory moment using the combined technique (i.e. transvaginal ultrasonography and urinary ovulation tests) is a reliable method with better results than the simple method like urinary ovulation tests. Furthermore, a better knowledge regarding the physical and hormonal changes during ovulation may lead to better methods in order to detect ovulation time. ■

Conflict of interests: The authors declare no conflict of interests.

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