Combined use of phosphodiesterase-5 inhibitors and selective serotonin reuptake inhibitors for temporary ejaculation failure in couple undergoing assisted reproductive technologies

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Objective: To explore the drug treatment for temporary ejaculation failure in couple undergoing assisted reproductive technologies (ART).

Design: Case report.

Setting: Andrology unit, center for reproductive medicine.

Patient(s): Five patients suffering from temporary ejaculation failure during ART.

Intervention(s): Assisted reproductive technology. Semen samples were collected by masturbation. The combined use of phosphodiesterase-5 inhibitor (PDE5-I; vardenafil, 10 mg) and selective serotonin reuptake inhibitor (SSRI; sertraline, 50 mg) to treat patients who failed to collect semen on the day of egg retrieval.

Result(s): Five patients with unexpected ejaculation failure during ART treatments were identified; two patients could not produce spermatozoa 3 h after taking PDE5-I (sildenafil, 50 mg). However, the use of PDE5-I (vardenafil, 10 mg) plus SSRI (sertraline, 50 mg) enabled them to provide spermatozoa successfully. It suggested that the combined protocol could be more efficient for temporary ejaculation failure than sildenafil alone. On the day of the egg retrieval, we directly prescribed vardenafil and sertraline for the other three patients and got sperm samples without difficulty 2 h later.

Conclusion(s): The results indicate that the combined protocol of vardenafil plus sertraline could resolve the unpredictable ejaculation failure during ART. We presume that it might be helpful for attenuating the patients’ stress and anxiety. (Fertil Steril® 2009:91:1806–8. ©2009 by American Society for Reproductive Medicine.)

Key Words: Phosphodiesterase-5 inhibitor, selective serotonin reuptake inhibitor, assisted reproductive technologies, temporary ejaculation failure, anxiety

During assisted reproductive technologies (ART) treatment, oocyte retrieval commonly follows pituitary down-regulation and controlled ovarian stimulation. It is necessary for the husband to produce fresh spermatozoa on demand for fertilization. Unfortunately, sometimes the husband fails to collect a semen sample on the day of egg retrieval because of psychologic stress and anxiety. To our knowledge, reports about such cases and management are scarce. The methods for sperm recovery in this situation include taking medicine such as phosphodiesterase-5 inhibitors (PDE5-Is; sildenafil 50 mg)(1, 2), sex therapy(3, 4), vibrostimulation (4, 5), prostatic massage (6), and invasive procedures such as rectal probe electroejaculation (7, 8), vasal sperm aspiration (9), percutaneous epididymal sperm aspiration (10), and testicular sperm aspiration (11, 12). These techniques, however, are not always able to overcome the problem of sperm recovery. If no sperm is available, the patients have to cancel the treatment cycle or cryopreserve their oocytes.

We describe, for the first time, the successful combination of PDE5-I and selective serotonin reuptake inhibitor (SSRI) during ART treatments for unexpected ejaculation failure. It is an efficient and noninvasive method to prevent a delay in insemination which may compromise the ART results.

CASE REPORTS

The first case was a 29-year-old patient, 180 cm in height and 81 kg in weight. His wife was 28 years old. They were referred for IVF because of fallopian obstruction. They described their sexual function as regular and harmonious. The sperm analyses were normal and the man never had difficulties in providing sperm samples on demand. However, on the day of egg retrieval he had temporary ejaculatory failure because of stress, and we prescribed sildenafil for him. Three hours later, the medicine had on effect and the patient asked...
The diagnosis of male infertility has been associated with a loss of self-esteem and an increase in patients' anxiety and somatic complaints. This situation imposes tremendous stress on the men and may lead to unexpected ejaculation failure on the day of oocyte retrieval for IVF/ICSI (13). A significant delay of the insemination procedure for IVF may compromise the results of these treatments. Because a mature oocyte can be fertilized within 12–24 h, prolonged preincubation before insemination adversely affects the chance of fertilization and developing into an embryo (1). However, it has been demonstrated recently that some men experience sexual dysfunction of a psychogenic nature in response to the diagnosis of infertility. One-third of couples undergoing infertility diagnosis and therapy said that the treatment had a negative effect on their sexual relationship. In particular, the male partner's fears of having lost potency owing to infertility might be exacerbated by and during scheduled sexual intercourse (14). Saleh et al. (5) reported that 405 men with normal sexual functions who obtained the first sperm sample without difficulty were informed that the analysis of semen was abnormal. When the second sample was requested 2 weeks later, 46 of 405 (11%) failed to obtain sperm by masturbation. All 46 men experienced problems with erection or orgasm and had severe anxiety during attempts to masturbate and sexual contact with their partners.

Five patients with unexpected ejaculation failure during IVF treatments were identified in our center. All described their sexual function as regular and harmonious and had previously been able to obtain sperm samples by masturbation for analysis at least twice, but they failed on the day of egg retrieval. They attributed the unexpected failure to the strong stress and severe anxiety.

When a patient has difficulty in producing a sperm sample by masturbation, invasive and noninvasive methods could be used. The invasive methods include vigorous massage of the prostate, rectal probe electroejaculation and surgical aspiration. Because anesthetic procedures and operating facilities are required, these methods can not be applied in acute situations.

Noninvasive methods for facilitating sperm procurement can be proposed: help from the partner, sexual intercourse with a nontoxic condom, the prescription of sildenafil, penile vibration, and the viewing of a sexually stimulating video. But they are not always effective. Saleh (5) reported that only 20% of males undergoing infertility evaluation with psychosexual problems were able to collect semen using vibratory stimulation.

Sertraline is an SSRI used to control depression, panic disorder, obsessive-compulsive disorder, post-traumatic stress disorder, social anxiety disorder, and a severe form of premenstrual syndrome. It also has been widely used to treat premature ejaculation (PE) (15–17). Chen et al. (18) identified the efficacy of sildenafil as adjuvant therapy to SSRIs in the treatment of PE and decreasing SSRI side effects such as dysfunction of erection, arousal, ejaculation, and orgasm. The results showed that sildenafil plus SSRI had a higher success rate (98%) than SSRI alone and was better than lidocaine application or SSRI treatment alone in terms of the International Index of Erectile Function scores and PE grades. The present results showed that the combination treatment was more effective than sildenafil alone. The first two patients succeeded in producing sperm samples, and no side effect was noted. This experience prompted us to offer vardenafil...
plus sertraline directly to patients who faced unexpected ejaculation failure during ART treatments and all of them succeeded in providing sperm sample easily without any side effect. It suggested that vardenafil plus sertraline helped the patients in producing spermatozoa on demand in an efficacious and safe manner.

In conclusion, if no contraindications exist, vardenafil plus sertraline for temporary erectile dysfunction during ART is a simple and cost-effective method for men to produce spermatozoa on demand. It avoids the risks of surgical procedures in most cases and prevents a delay in insemination which may compromise the ART results.

REFERENCES