

Case Report

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Spontaneous Pregnancy after Conventional non-Assisted Reproductive Therapy of Male Infertility due to Sever Oligoasthenoteratozoospermia - Case Report



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Abstract

A 34-years-old man was diagnosed with primary infertility of 12 years duration due to severe oligoasthenoteratozoospermia (OATS). His hormonal profile was normal. Patient was treated for 2 months using traditional drugs (conventional non-assisted reproductive therapy). After 2 months, spontaneous pregnancy was diagnosed based on an evidently increased β -human chorionic gonadotropin (β -hCG) level in his wife's blood. The pregnancy was confirmed by transabdominal ultra sonography where a gestational sac with ~7 weeks viable fetus was observed and documented. In conclusion, severe OATS can be successfully treated by conventional non-ART therapy.

Keywords : Oligoasthenoteratozoospermia; Male infertility; Spontaneous pregnancy; Conventional drugs

Abbreviations : NON-ART: Non-Assisted Reproductive Techniques; IVF: In vitro Fertilization; OATS: Oligoasthenoteratozoospermia

Introduction

Infertility is a worldwide health problem and it is considered as one of the most common health disorders among young adult couples [1]. According to our previous study, male infertility was found to be responsible for ~1/3 (29.9 %) of infertility cases (1281/2622) and the percentage of OATS was around 7% (183/2622) [2]. Jo and Ja Kang in 2016 reported that in 30-45% of male infertility cases, the cause of the abnormal semen parameters was hesitant. But Jo & Ja [3] were reported also treatment of OATS is standardized approach for the dealing with idiopathic male infertility but it remains elusive. On the other hand, traditional treatment of OATS by non-assisted reproductive techniques (non-ART) is still not standardized. Regarding the conventional oral therapy (oral therapy by antibiotics and antioxidant) of male infertility due to OATS, a gap in published reviews was noted in the last decade. Furthermore, the conventional ART therapy is still expensive and usually used as the last option of infertility treatment. In this case report, we successfully treated a patient with male infertility due to severe OATS which we called it oral therapy or conventional non-assisted reproductive therapy (non-ART therapy) for infertility treatment. It is the policy of our In vitro Fertilization (IVF)

Center to give a chance for anti-inflammatory, anti-bacterial and supportive therapies before embarking on ART therapy.

Case Report

A 34-year-old man was presented to IVF Center on 25/1/2017 with primary infertility of 12 years duration. No history of testicular injury, varicocele, torsion/hydrocele, cancer and chemotherapy was found after thorough questioning. Physical examination revealed normal vital signs with a BMI of 23.5kg/m², bilaterally palpable vas deferens, and normal masculine habitus with no signs of gross abnormalities. He was married to 32-years-old-lady who was apparently reproductively fertile i.e., all infertility investigations were done and shown to be normal. Verbal consent was taken from the couple prior to sending this case report for publication.

Semen analysis

The semen analysis was investigated on the first visit (patients already familiar with procedures of infertility centers and from the first visit they are usually ready to collect semen analysis for investigation) to the clinic with sexual abstinence period of 3-5 days. Semen was collected in the outpatient semen-

laboratory in a sterile plastic. In the analysis, the volume was measured using a graded tube and the sperm count was done by the manual slide method. Motility was scored as percentages of:

- A. Fast forward progressive,
- B. Slow forward progressive,
- C. Non-progressive and
- D. Immotile spermatozoa in total number of 200 counted spermatozoa in at least five power fields per replicate, according to the WHO manual [4].

Table 1: Treatment Protocol traditional drugs for husband (conventional non-ART).

Doxycycline 100mg tablet	1x2 for 2 weeks
Vita Zinc Capsules	1x3 for 45 days
Speman	1x2 for 2 months
Dostinex 0.5 tablet	1/5 tablet per week for one month
Human Chorionic Gonadotropin 5000IU/vial	Intramuscular injection once per week for 2 months
Postmenopausal Gonadotropin injection, Vials 150IU/vial	Intramuscular injection once per week for 2 months

His wife was treated by a two weeks course of doxycycline and vaginal wash. At the same time they were advised to avoid intercourse during the course of treatment and the husband was

Table 3 : Fertility Investigations Before and after non- ART -Treatment.

Male Fertility Parameters	Reference Range	Upon Presentation	Post-Treatment	Notes
	(4)	25/01/2017	29/03/2017	
Sperm volume (ml)	2-5	1.7	3	Improved
Sperm count (106/ml)	>20	0.2	3.6	Increased x 7
Sperm motility (%)	>50%	Zero	25	Increased markedly
Sperm abnormal morphology (%)	>40%	68%	32	Decreased
Grade-A of activity (%)	15%	Zero	5	Increased markedly
Grade-B of activity (%)	25%	Zero	12	Increased
Grade-C of activity (%)	35%	Zero	30	Increased
Grade-D of activity (%)	25%	100%	53	Decreased
FSH mIU/mL	1.24-15.6	9.16	8.4	Normal
LH mIU/mL	1.42-7.8	7.35	5.9	Normal
Testosterone ng/mL	3-11	3.16	8.3	Increased
Prolactin ng/mL	2-17	14.48	9.17	Decreased

Discussion

Absent or markedly decreased sperm count/motility or both can cause male infertility and is an indicator for an assisted reproductive technique [5,6]. However, as in this case, the policy of our IVF center for management of male infertility is to give a chance for classical or conventional non-ART treatment before the couple is enrolled for any assisted reproductive technology (conventional-ART). However, it should be noted that severe oligoasthenoteratospermia is the most difficult to treat among

asked to do masturbation and ejaculation at least 1-2 times per week, Table 1 & 2.

Table 2 : Treatment Protocol traditional drugs for wife (conventional non-ART).

Doxycycline 100mg tablet	1x2 for 2 weeks
Vaginal wash	One daily for 10 days during the antibiotic treatment and starting from day 7 of menstrual period
Intercourse and intravaginal	For husband masturbation and ejaculation was recommended to be
ejaculation was avoided for 1 month starting from day-1 of treatment for both husband and wife	performed 1-2 times per week during the first month of treatment

Results

After conventional non-ART treatment of this case, an improvement in the semen volume, sperm count and motility were noted and reported, Table 3. Active grade 1 motile sperms were recorded. On 25th May, 2017, the couple reported a one-week missed-period. During transabdominal ultrasound, a normal gestational sac of 6-7 weeks with viable fetal pool was noted. Pregnancy was confirmed by positive laboratory result for the presence of 2,798.01IU/mL serum beta human chorionic gonadotropin.

all causes of male infertility and is the cause of approximately 7% of infertility cases.

The purpose of antibiotic use in this case was to treat any possible infection by fastidious bacteria (which usually reported “no growth” during semen culture test) that may have caused the increased number of white blood cells in the semen analysis in spite of the negative bacterial growth in the semen culture. Allow, et al. [1] had reported that male infertility accounts for a high percentage (40-50%) of total infertility and that male

seminal fluid infections and sperm agglutination due to anti-sperm antibodies account for 17.73% and 29.90% respectively of male infertility factor [1].

The role of antioxidants in the management was important to improve the sperm parameters both qualitatively and quantitatively. In a study published by Ashok in 2017, it was reported that antioxidants such as glutathione, vitamins E and C, carnitines, coenzyme-Q10, N-acetylcysteine, selenium, zinc, folic acid, and lycopene have shown to reduce OS-induced sperm damage [7]. In our case, we believe that all the sperm parameters were improved, at least partially, by the antioxidant treatment.

The role of gonadotropins in this case was also in improving the sperm count, motility and viability. In an observational study of 166 infertile male partners of couples undergoing in-vitro fertilization, it was shown that FSH treatment improves sperm DNA fragmentation, which in turn leads to increased pregnancy rates in infertile males undergoing in-vitro fertilization [8].

Conclusion

The husband (case) became a father after a mild improvement in his sperm quality tests. We recommend at the end of this case report to extend the study to cover more cases, and if proved beneficial to recommend it as worthwhile effort to try for male infertile-patients with asthenospermia before turning to ART-therapy.

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