CASE REPORT

Successful Pregnancy After IUI with Retrograde Ejaculated Sperm

Sajad K Wani[1], Abida Gull[2]

Department of Fertility, Harkaar Superspeciality Centre, Srinagar, J&K, India.

ABSTRACT

Objective: To report a case of successful treatment of complete retrograde ejaculation by superovulation and intrauterine insemination (IUI), by collecting spermatozoa from post ejaculatory urine.
Design: Case report.
Setting: Private infertility clinic (Harkaar Superspeciality Centre).
Patient(s): A couple with primary infertility for 7 years due to male's complete retrograde ejaculation due to congenital hypoplastic prostate gland. The woman was having subserosal fibroid but otherwise normal menstrual cycles.
Intervention(s): Super-ovulation and Intrauterine insemination IUI was done after alkalinizing urine and preparing IUI sample by processing post ejaculatory urine. IUI was done twice after HCG administration.
Result(s): This protocol was used successfully to achieve pregnancy in this couple.
Conclusion(s): To our knowledge, this is the first reported case of successful management of infertility through this protocol in Kashmir, j & k, India. This method obviates the need for more invasive sperm retrieval techniques. ***JMS 2016; 19(2):e1-e4***.
Key Words: Retrograde ejaculation, IUI, super-ovulation, Kashmir.

INTRODUCTION

Retrograde ejaculation is a condition in which no or minimal antegrade ejaculate is produced although orgasm is present and all the sensations of ejaculation may have been experienced by the patient [(1)].Diagnosis is ascertained by absent or intermittent emission of ejaculate, presence of spermatozoa in post-coital urine specimen and ability to empty the

bladder during erection and the presence of spermatozoa in the post coital specimen of urine [2].Retrograde ejaculation accounts for 0.3 to 2% of male infertility and is the most common cause of ejaculatory dysfunction [2].

Etiology of retrograde ejaculation is multifactorial and may be congenital, acquired or idiopathic in origin. Prostatectomy is the most common surgical procedure leading to retrograde ejaculation. Diabetic neuropathy can also lead to retrograde ejaculation [1,3]. In idiopathic group no clear cause is found.

In patients with retrograde ejaculation, urine can be collected after orgasm. However, without proper processing and pre-treatment, spermatozoa found in post ejaculatory urine centrifugation pellet will be almost dead and of low quality due to effects of acidic pH of urine, osmotic stress and toxicity due to urea [1]. Such spermatozoa are thus rendered unfit for fertilization when used in assisted reproductive techniques like IUI.

CASE PRESENTATION

I report a successful case of treatment of infertility due to retrograde ejaculation.

For Correspondence:

Dr. Sajad K Wani
Department of Fertility, Harkaar Superspeciality Centre, Srinagar, J&K.
Email: sajjadwani826@yahoo.com
Phone: +91-9821878131

A couple presented with diagnosis of primary infertility with male being 41 years and female 35 years old. Hormonal profile of female was normal and she underwent hysterosalphingography (HSG) which showed normal uterine cavity and patent and healthy fallopian tubes. Transvaginal sonography (TVS) of female showed normal ovarian volume with good antral follicle count. Furthermore, subserosal fibroid of 4x3 cms was found at fundus on anterior wall of uterus.

Overview of the male records showed hypoplastic prostate gland with dilatation of prostatic urethra, favouring congenital cause for retrograde ejaculation. Also previous semen analysis investigation records showed presence of spermatozoa in post ejaculatory urine but were not quantified. After three days of abstinence patient was asked to produce post ejaculatory urine sample for analysis and following parameters were revealed:

Count	:	65 x 10^6 / ml
Motility	:	55%
Rapidly progressive	:	32%
Slow progressive	:	23%
Morphology	:	5% normal

Couple was given options of medical management as well as assisted reproductive techniques like IUI, ICSI etc. They preferred IUI over other treatment modalities.

MANAGEMENT AND OUTCOME

Female underwent baseline ultrasound scan (TVS) on day two of cycle.

Ovulation induction drugs, clomiphene citrate 100mg, was given to female from day two for five days with the aim of achieving superovulation. Transvaginal sonogram on day 7th showed one dominant follicles in right ovary measuring 11 x 10mm, 9x8mm and small follicles. Left ovary did not show any dominant follicle. Further HMG-75 IU intra-muscular, was given on day 8 and day 10 of cycle.

TVS on day 12th revealed two follicles in right ovary measuring 19 x 18 mm, 18 x 16mm respectively. HCG – 10000 IU was given on evening of day 13th followed by IUI on day 14th and day 15th.

Male preparation was done as follows:

Liquid alkalizer (syrup alkanorm) two tablespoonfuls mixed with 300ml of water and started orally by male twice daily one week before expected IUI.

On the day of IUI he was first asked to empty his bladder by passing urine. A 300mL drink of an alkaline solution (prepared as above) was administered orally. After 30 minutes the male was instructed to drink an additional 300mL of water. He was then provided with a sterile 50mL, labelled wide mouthed container to collect any antegrade ejaculate and a further two sterile 100mL, labelled wide mouthed containers to collect urine immediately after ejaculation. Upon analysis, an antegrade sample of 0.3 mL was produced but it was devoid of spermatozoa and discarded. The urine sample was prepared by pipetting into sterile 15mL conical tubes and centrifuged at 320g for 5 minutes. Following the initial centrifugation, the supernatant in each tube was removed and the sediment in all tubes aspirated into a single 15mL conical tube using sterile technique and centrifuged at 320g for 5 minutes. Following supernatant removal, the pellet of urine sediment was sampled and examined microscopically. 60% active motile spermatozoa were observed. The urine sediment was gently layered onto a 1 mL each of 80% and 40% double density gradient (PURESPERMgrad-II) and centrifuged at 320g for 10 minutes. The supernatant was removed and the sediment aspirated into a 3 mL sperm washing medium (PURESPERM-C) and centrifuged at 320g for 5 minutes. The supernatant was discarded and 0.4 ml of wash media was added and sample was ready for IUI [4,6].

Final sample was analysed under microscope and revealed following parameters:

Count	:	75 x10^6 /ml
Motility	:	98 %
Morphology	:	8% normal

IUI was done on day 14th and 15th of cycle.

Female was given luteal support in form of natural micronized

progesterone 200mg (PG-RON-200mg) orally daily starting from 15th day of cycle for 14 days.

Pregnancy was confirmed with urine pregnancy test at home on day 16th following last IUI. Ultrasound revealed singleton pregnancy at 5weeks 3 days gestation.

DISCUSSION

Use of post ejaculatory centrifuged urinary sample in cases of retrograde ejaculation by IUI is an effective treatment and has been described in literature elsewhere but the paucity of knowledge on such methods in Kashmir is the aim of writing this case report.

Alkalinizing of urine helped in acquiring motile and good quality spermatozoa for successful IUI.

Treatment options for retrograde ejaculation includes medical management with anticholinergics and sympathomimetics, surgical sperm retrieval techniques [5] like PESA, TESE etc, and urinary sperm retrieval as described above.

This case presentation describes urinary sperm retrieval as a simple and effective means of assisting retrograde ejaculation patients achieve successful pregnancy.

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