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Original Research Article

Title: To determine efficacy of Fertility Treatment at a Non-IVF Centre

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Abstract

Background & Methods: The aim of the study is to determine efficacy of Fertility Treatment at our Non-IVF Centre. The couples attending the out-patient department of fertility clinic at our hospital were examined clinically after detailed history taking including examination of male partners. Couples whose examination was suggestive of RTIs/PID were given a course of antibiotics for both partners for 2 weeks as per the CDC guidelines prior to starting infertility treatment. Hormonal profile, Viral makers, Blood sugar & HSG for tubal patency was done for female partner & Semen Analysis and culture was done for the Male partner.

Results: Out of total 100 conceptions till date 97 were intra-uterine gestations. 03 patients had ectopic gestations which were managed medically or laparoscopically & 03 had missed abortions managed by medical methods. 31 intrauterine pregnancies have been successfully delivered till date with 27 intrauterine pregnancies are continuing uneventfully in the ante-natal period.

Conclusion: The cost factor involved in setting up an IUI lab is far less compared to an IVF centre. More so, IUI being less invasive and less infrastructure intensive with a shorter learning curve is advantageous over IVF. This study emphasizes the fact that every infertility patient does not warrant an IVF. By doing systematic work-up of infertility couples visiting our clinics & doing basic procedures like treating RTIs, diagnostic & operative hysterolaparoscopies along-with COH+IUI/TI we can achieve successful outcomes in 50% of the clientele.

Keywords: efficacy, fertility & IVF.

Study Design: Observational Study.

Introduction

Detailed and diligent history taking and comprehensive clinical examination is the initial step in evaluation and management of infertility. The couple's condition dictates the treatment to be used, & after a number of treatment sessions, successful outcome is determined by pregnancy & childbirth [1]. By circumventing the natural fertility process, Assisted Reproductive Treatments (ART) improves the likelihood of conception (and childbirth). The

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number of attempts & the quality of treatment centre services are important determinants of success. A number of variables affect how well infertility treatments work [2].

Studies have indicated that the duration of treatment has an impact on the couple's ability to conceive. Different methods are used by doctors in clinics to determine the efficacy of assisted reproductive therapy, or ART. Couples who visit clinics may be surprised by the disparate rates of success that are reported [3]. The live birth ratio of couples who receive successful treatment to the total number of couples who have had treatment (or the number of successes per number of treatment cycles) has been used to measure the success rate [4].

To avoid waste of time, money, or psychological distress that can be caused by failure of conception, it is crucial for couples with failed infertility treatment to be able to quantify odds of success of the same line of treatment in subsequent attempts.

The challenge for physicians & patients is in deciding whether to continue same modality of treatment & in the choice of treatment center, & treatment efficacy is an objective parameter to guide decision making. The absence of definite criteria and standard definitions of successful fertility treatment outcomes is a lacuna that needs to be addressed. There is variation across centres in definition of treatment success and modality of calculation.[6-8].

A standard criteria and definition of successful treatment outcome, that is at the same time both consistent & practical, by comparing methods of calculating success, we can determine which method is more appropriate & realistic. In this paper, we describe & compare four methods of calculating success with data from infertile couples with male factor and unexplained infertility[9].

Material & Methods

Both couple’s baseline tests were normal, & depending on the circumstances, they had three to six cycles of ovulation induction starting on the second day of the cycle followed by IUI or timed intercourse. Patients who had endometriomas, bilateral bocks on HSG, or any other structural uterine abnormalities had diagnostic hysterolaparoscopies & received the appropriate care. In order to further identify the cause of infertility, patients who failed to conceive following six cycles of ovulation induction using IUI/TI also had diagnostic hysterolaparoscopies. ATT was administered for six months in accordance with usual protocol to patients who had bilateral tubal blockages verified by laparoscopy & thicker tubes with segmental blocks suggestive of tuberculosis. For three months, patients with mild to moderate oligo-asthenospermia received treatment with clomiphene, antioxidants, & antibiotics based on their culture sensitivity. ART centers were consulted for additional treatment of patients with azoospermia, severe OATS, or infertility that did not improve following OI+IUI (6 cycles). The couples received appropriate counseling on the case & treatment plan. In order to determine the antral follicle count during an IUI cycle, the female partner was advised to report on days two or three of her cycle for a baseline Trans-Vaginal Ultrasound Scan (TVS). From day two to day six, oral ovulation induction agents were administered in the form of tablets of clomiphene citrate 50/100 mg daily or tablets of letrozole 5 mg daily for five days. Injectable gonadotrophins were administered on days six, seven & eight, & thereafter as needed by the patient.

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Beginning on Day 9, the patient was called every other day for TVS to record the endometrial thickness & monitor serial follicular growth. Injection When the endometrial thickness was around 8 mm & the dominant follicle diameter reaches 18 to 20 mm, depending on the stimulation protocol, Human Chorionic Gonadotropin (HCG) 10000 IU IM was used as an ovulation trigger. USG was performed to check for ovulation 36 hours after HCG was administered, & if it was confirmed sonologically, IUI was performed. Two hours before IUI, the male partner was to provide a sample of his semen in a sterile container. Following semen liquefaction, a pre-wash semen analysis was conducted. In our lab, the density gradient approach is used to prepare the semen sample. The female spouse was made to lie in the lithotomy posture after the sample was prepared & the post-wash sample was observed under a microscope. IUI was performed under appropriate aseptic measures following appropriate external os focussing & removal of all cervical & vaginal secretions. After IUI, the patient was made to lie down for 15 minutes & then given tablets of Dydrogesterone (10 mg BD) every day to support progesterone during the luteal phase. Total IUI cycles performed at our centre during the entire duration of study were 100. In case a patient missed her periods, urine pregnancy test was done. If positive, all conceptions were confirmed with ultra-sonography for intra- uterine gestation.

Results

Table No. 1: Age-wise distribution of cases

S. No.	Age	No.	Percentage
1	21-25 years	42	19.4
2	26-30 years	106	49
3	31-35 years	64	29.6
4	36-40 years	04	02

Table No. 2: Infertility workload

S. No.	Age	No.
1	Total patients reported	216
2	Primary infertility	123
3	Secondary infertility	93
4	Successfully conceived till date	100
5	Referred to ART Centre for IVF/ICSI	09
6	Lost to follow up	07
7	On-going treatment	36

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Table No. 3: Duration of Infertility of patients

S. No.	Duration of Infertility	No.	Percentage
1	<2 years	46	21.3
2	2-5 years	84	38.9
3	5-10 years	82	38
4	>10 years	04	02

Table No. 4: Fate of conceptions

S. No.	Fate of conceptions	No. (N=100)	Percentage
1	Intra-uterine gestation	97	97
2	Ectopic gestation	03	03
3	Abortions	03	03
4	Successfully delivered till date	31	31
5	On-going uterine pregnancies	27	27

Discussion

Estimation of childbearing by ratio method: In this study, the childbearing rate (success) in the first treatment cycle (attempt) was 29.72% & in case of multiple attempts, 45.20% which is similar to previous research. Success in the first treatment cycle is not common, so this method does not provide a true picture of the treatment success & it seems to underestimate it[10].

Due to the time & repetition of treatment with its attendant costs, couples need to be aware of the probability of treatment success in order to decide whether to continue their treatment. When the result of the repetition of treatment cycles is considered, the success rate will be rise due to the effect of time, & this rate seems to be closer to reality. The pregnancy rate calculation with this method (as a ratio of successful conception to the total number treated) is to determine the success rate over a period. In fact, the number of attempts & the duration of treatment & the effect of couples who have left treatment have not been considered [11].

When the number of treatment cycles is changed by the number of couples as the denominator of the fraction, the calculation of the success rate changes slightly but is still far from clinical reality. In our study, the success rate considering the number of treatment cycles was 23.3%, which is consistent with other studies.

The drawback of this method is that when some couples fail to conceive, they may abandon the treatment & the number of their repeated cycles remains at the denominator of the fraction & the success rate that is calculated is underestimated [12]. It is an established fact that the longer a cohort of couples try, those more resistant to treatment tend to remain in the group, so they are less likely to succeed, & this affects the success rate.

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The impact of this factor on infertility is along with physiological changes that occur in ovaries with ageing. The success rate of ART procedures goes down with increasing age. In our study 75% of the successfully conceived clientele was below 30 years of age which further emphasises the above fact. The chances of successful conception markedly decrease after 35 years of age in women. Firstly, delaying marriage because of career issues & subsequently delaying pregnancy due to professional requirements are leading contributors to this problem of infertility[13]. A Twenty five percent (31) patient above age of 30 years who had conceived after infertility treatment in our study which is a significant fraction further supports the above statement. Out of 100 successful conceptions, 64 patients had primary infertility & 36 patients had secondary infertility. Nearly 60% patients had conceived with infertility of two to five years of duration. Forty percent successfully conceived patients had duration of infertility ranging from 6 to 10 years[14-15]. Financial status of couples & orthodox beliefs in certain societies & lower educational status of couples may be responsible for delay in seeking proper medical help for the problem. Out of 100 successful conceptions, 33 had female factor infertility, 17 had male factor infertility, 30 had combined & 20 couples had unexplained infertility in our study.

Conclusion

All cases of infertility do not need IVF and a significant proportion of couples can achieve clinical pregnancy with ovulation induction, follicular monitoring and IUI/timed intercourse alone. Adoption of standard criteria and definitions to quantify outcomes can ensure comparability across studies using different management protocols.

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