

Advancement in Treatment of Male Infertility

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This study was conducted at Nishtar Hospital, Multan from 1st Jan. 1994 to 30th Sept. 1996 in the Department of Gynaecology and Obstetrics. In all 210 male partners of sub-fertile couples were evaluated. Proper history was taken and they were thoroughly examined. Pre-requisites of semen analysis were observed. Proper criteria for semen analysis were set and 210 semen reports were evaluated according to that criteria. Out of 210 patients, 63 had oligospermia (30%), 21 had azoospermia (10%) These 210 patients were also evaluated on the basis of hormonal profile which included FSH, LH, testosterone, prolactin. 39.7% of Oligospermic men had low testosterone and about 55% azoospermic had low testosterone. Various treatment regimens were tried including Anti-estrogens, gonadotrophins, HCG, bromocriptine, testosterone. Those patients who did not respond to medical treatment were referred for IVF. This study highlights that male factor solely contributes about 30-40 % to sub-fertility and it was being ignored previously but now it is no more an untreatable problem and there are various options and treatments which can be offered to the male patients for sub-fertility.

Key words: Male infertility, Semen analysis, ART.

A couple is considered to be infertile, if they have unprotected intercourse for one year without conception.

Infertility has been estimated to affect 15% of couples. It is believed that in 30% it is solely due to male factor while in another 20% both partners have problems. Therefore in about 50% of couples male factors are at least partially responsible. In a study of 1386 cases of infertility Saeed and Rana found out that in 40% of cases in Pakistani Population male factor is responsible for infertility.

Standard techniques used to diagnose and treat male infertility have often been primitive and have not been subjected to scientific evaluation.

In the past major focus of fertility problems has been female patients, so it is traditionally the gynaecologist to whom couple is referred.

Previously male patients were treated by Urologist, recently due to various advances in field of assisted reproductive techniques gynaecologist is now able to offer a modern treatment to infertile males as well. Treatment of infertility is becoming a team work, where each member not only plays his role, but also needs to understand working sphere of other members of the team.

Patients and methods

This study was conducted at Nishtar Hospital, Multan from 1st January 1994 to 30 September 1996. It is based on 210 semen analyses of male partners of infertile couples attending OPDS.

Evaluation of male partners

Careful and detailed history was taken and following points were noted.

1. Attention directed to the history of childhood development, including illness and puberty.
2. Family history of delayed puberty.

3. Past or present exposure to environmental toxins, extreme heat, drugs or chemotherapy as well as excessive alcohol intake.
4. History of any operation in the inguinal or genital region, particularly for hernia and undescended testis.
5. Sexually transmitted diseases.
6. Endocrinal disorder
7. Detailed history regarding the difficulty and frequency of intercourse.

Examination of male partners

Following points were noted.

1. Routine examination of male partner
2. Special attention to assessment of body appearance.
3. Hair distribution
4. Sense of smell.
5. Presence of gynaecomastia.
6. Testicular size, consistency and presence of varicocele.
7. Evidence of hormonal upsets.

Following pre-requisite were observed for semen collection.

1. 3-4 samples were taken over a period of three months.
2. Patients were advised 3-4 days abstinence.
3. Sample was taken in sterilized container and examined within half an hour.
4. Samples were taken by method of masturbation and patients were advised not to use any lubricant or any other material.

Criteria for normal semen

1. Volume measured, but this parameter is not important unless consistently it is less than 1 ml or more than 6 ml.

2. Count should not be less than 20 million/ml.
3. Normal motility should be more than 60%.
4. Semen is checked and rated for viscosity, important if it is consistent and associated with decreased motility.
5. Sperm agglutination is recorded and if present an evaluation should rule out infection and patient should be checked for anti-sperm antibodies.
6. Sperm morphology should be looked at, careful count should be done for both head and tail defects. About 30-40 % normal is acceptable.
7. Semen carefully observed for WBC, bacteria, trichomonas. High PH suggests infection.

Results

Two hundred and ten patients were evaluated with their age ranging from 20-46 years. 147 couples (70%) had been infertile for 3-4 years. 42 couples (20%) were infertile for about 8-10 years. Remaining 21 couples (10%) were infertile for 10-15 years.

Table 1

Parameter Studied	n=	%age
Normal volume of semen (2-5 mls)	117	56
Volume more than 5 mls	33	16
Volume less than 2 mls	58	28
Normal sperm count (more than 20 million/ml.)	126	60
Sperm count less than 20 million/ml.	63	30
Azoospermia	21	10
Motility normal (more than 60% motile)	84	40
Motility below 40%	105	50
Motility between 40-60%	21	10
Normal count and normal motility.	98	47
Reduced count and reduced motility.	42	20
Normal count and reduced motility	54	26
Reduced count with normal motility.	14	7
Abnormal morphology (more than 40% abnormal)	10	5

Table 2. Age distribution of patients with oligospermia

Age	n=	%age
20-25 years.	3	4.7
26-35 years.	26	41.2
36-45 years.	30	47.6
46 - above	4	6.3
Total	63	100

63 patients had oligospermia which accounts for about 30%

Table 3. Age distribution of patients with azoospermia

Age	n=	%age
20-25 years.	2	9.5
26-35 years.	10	47.6
36-45 years.	8	38
46 - above	1	4.7
Total	21	100

Ten percent were found to be totally azoospermic. Semen characteristic of 200 fertile Pakistani men were studied by Rchan (1994) whose findings are similar to other studies

Table 4 Endocrinological studies of patients of oligospermia

Investigation	n=	%age
FSH		
Normal	56	88.8
Raised.	3	4.7
Low	4	6.3
L.H.		
Normal	54	85.7
Raised	4	6.3
Low	5	7.9
Prolactin		
Normal	57	90.4
Raised.	6	9.5
Low	0	0
Testosterone		
Normal	38	60.3
Low	25	39.7

Table 5. Endocrinological studies of patients of azoospermia

Investigation	n=	%age
FSH		
Normal	8	38.0
Raised.	12	57.1
Low	1	4.7
LH		
Normal	7	33.3
Raised.	13	61.9
Low	1	4.7
Prolactin		
Normal	20	95.2
Raised.	1	4.7
Testosterone		
Normal	10	45
Low	11	55

There is controversy as to minimum initial hormone studies needed to evaluate infertile male properly (Sigman, M., 1987).

Strong consideration was given to measurements of testosterone, LH, Prolactin as well as FSH.

Interesting finding was that in Oligospermic individuals 39.7 % had low testosterone and in azoospermic around 55% had low testosterone

Saeed et al (1994) found raised FSH levels with decrease in seminal transferrin in cases of oligospermia.

In mild to moderate oligospermic FSH was almost normal.

Table 6 Treatment strategies in patients with azoospermia

Management	n=	%age
No treatment (Primary testicular failure)	12	57.1
Referral to Urologist for Vasography/ Testicular biopsy	8	38
Gonadotrophin replacement therapy	1	4.7
bromocriptine therapy	1	4.7
Total	21	100

Table 7 Treatment strategies in patients with oligospermia

Treatment	n=	%age
Anti-oestrogens	26	41.2
Gonadotrophins + HCG.	5	7.9
Bromocriptin.	7	11.1
Testosterone	25	39.6
Total	63	100

All patients with oligospermia and about 43.6% with azoospermia received medical treatment before resorting to any other option. Semen count between 10-20 million/ml were advised IUI and below 10 million/ml advised ICSI.

Discussion

Male factors are responsible for infertility in about 40-50 % of patients.

In our set up when a couple is not conceiving, main brunt of the problem goes on to the female partner, Male partners very infrequently come for investigations and examinations, observing this we made it a point that next time women should come with her husband. once couples started coming we had to explain the male partner that in conception both female and male partners are equally involved and husbands should undergo examination and investigation and should be attending clinics of andrology regularly.

In our study we found out that male factor contributes quite a lot to the problem of sub-fertility and should be given due importance.

Previously there was no definite treatment available but now with latest advancement there are various options, which we can offer to the patients.

New advancement have evolved in the field of infertility like IUI, MESA, IVF, ICSI.

Field of Andrology is gradually developing day by day and mostly it is being done by the Gynaecologist who is trained in this specialty. For treatment of infertility there is a basically a teamwork, requiring Gynaecologist, Andrologist, Urologist, Embryologist and Ultrasonologist.

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