ABSTRACT

Infertility is the inability of a man or a woman to contribute to conception or failure to conceive even after 12 months of regular intercourse without using any method of contraception.

Male infertility refers to the inability of a male to contribute to a pregnancy in a fertile female within one year of unprotected intercourse. In human population about 13 to 18% of the married couple suffers from Infertility. The contribution of the male factor in these infertile couple accounts for 40 to 50%. Main male factors of infertility are due to deficiencies in the sperm count and semen quality. About 11% of men attending Infertility clinics are diagnosed as being oligospermic or azoospermic with unknown reason and this has become a major cause of concern. It can occur either as an isolated disorder or syndrome.

According to a study conducted by World Health Organization in 1987 regarding the diagnosis and management of male infertility, it was reported that in 20% of couple with infertility, the problem could be attributed predominantly to the male. The incidence of infertility at global level is 13 to 18% and the male factor is responsible in 50% of the cases. The etiology of the male infertility is multifactorial and still little is known about the causative factors dealing with impaired spermatogenesis. In men, the main causes of infertility are oligospermia, asthenospermia, teratozoospermia and azoospermia, which account for 20–25% of cases.

In view of this, the present investigation was undertaken in the infertile men and control subjects of Mysore, South India. The objectives of the study included physical examination of the subjects with reference to reproductive organs including
per rectal examination of the internal genital organs, establishment of the spermiogram, hematological analysis through physical and chemical parameters. Investigation of the reproductive hormones such as Testosterone, Estrodiol, Luteinizing hormone, Follicle stimulating hormone, and Prolactin were carried out for all the subjects. Assessment of the external genital organs, through Color Doppler Ultrasound scanning for Scrotum and Trans Rectal Ultrasound Scanning for internal reproductive organs was carried out for all the subjects.

A total of 274 infertile subjects were considered in the present study from Medivawe IVF (In Vitro Fertilization) and Fertility research hospital in Mysore. The age of the study subjects ranged from 21 to 50 years. A total of 130 healthy men were also randomly selected as controls from different ethnic backgrounds and locations of the city. This study was approved by the Institutional Human Ethical Committee of University of Mysore. The informed written consent was obtained from all the participants. The infertile cases then were analyzed and classified into different sub-groups based on semen profile which includes Aspermia, Azoospermia, Oligozoospermia, Asthenozoospermia and combined conditions according to WHO Guidelines.

The present research work was taken up, to achieve new insight into the causative factors of the male sub-fertility or infertility in our population. Findings obtained have mainly focused towards the understanding of the Anatomical and Pathological changes of external and internal reproductive organs of infertile male population of India in general, South India in particular.

The findings are: (a) The incidence of consanguineous marriage was found to have no significant difference between infertile and control groups. (b) Coital
frequency was found to have no significant difference between infertile and control groups. (c) Age was found to have no significant difference between infertile and control groups. (d) Body mass Index (BMI) was found to have no significant difference between infertile and control groups. (e) Impaired semen physical characteristics were significantly high in infertile group when compared with the control group. (f) Hormones such as Luteinizing hormone, Follicle stimulating hormone and testosterone were significantly different between two study groups. (g) Both left and right testicular volume as well as total testicular volume was significantly lower in infertile men. (h) Prostate volume also was significantly lowered in infertile when compared to control group. (i) Mean value of both right and left seminal vesicle volume in infertile group was lower when compared with the control subjects but the difference was not significant. (j) Epididymis was found with significantly more abnormalities in infertile group. (k) In infertile group, considerable numbers of the subjects were found to be associated with different degrees of right and left Varicocele. (l) In infertile group, considerable numbers of the subjects were found to be associated with different degrees of right and left hydrocele.