ABSTRACT

Infertility is a disorder of the reproductive system which affects both men and women with almost equal frequency. In this study, an attempt has been made to evaluate the semen profile with cytogenetical, biochemical and immunological factors in infertile males. A total of 250 infertile male subjects and 100 fertile as control subjects males are recruited for this study. Genetic register is established. All information pertaining to family history is collected. Semen samples of both infertile and control subjects are analyzed according to WHO guidelines. In this study infertile group shown significant decrease in sperm quality and functionality compared to the control subjects. Further it is also evident the extensive variation in semen profile of the infertile subjects. Seminal fructose and citric acid levels were measured to evaluate to the functional status of accessory glands. Our observation shown asthenospermic and associated asthenospermic infertile groups have lower fructose value. Oligoteratozoospermic, oligospermic and azoospermic groups showed decreased seminal citric acid level than the other groups. Hormone profile was established among the different groups of infertile subjects in which 27.6% of the infertile male have varied FSH, 25.3% have varied LH and 32.2% varied testosterone level. Further, these hormones shown significance difference between the infertile groups. In addition to these, oxidative stress levels are measured by estimating the oxidative stress markers like reactive oxygen species (ROS), super oxide dismutase (SOD) and lipid peroxidase (LP). This study shown elevated levels of ROS with increased level of LP and decreased SOD activity in few infertile subgroups the result of such assay exhibits an excellent relationship between impaired sperm function. Antisperm antibodies in the blood serum of the infertile subjects are analyzed by ELISA
method. The result shown that 34% of the infertile males are positive for the presence of antisperm antibodies. Further cytogenetical analysis showed the infertile groups associated with 7.5% of chromosomal abnormalities. The present study thus reveals the occurrence of several etiologies that can induce alteration in the semen parameters. Hence the research work done emphasizes the need for thorough molecular investigation of an infertile male so as to diagnose the underlying cause precisely.