Summary:

Infertility is defined as the inability of a couple to conceive after a period of 12 months of intercourse without the use of contraception. This public health problem involves all regions of the World.

This cross-suction study was conducted on (72) couples of infertile patients (72 females and 72 males) whose age ranges between (18-52) years, seen in Maternity and children Teaching Hospital in Diwaniya city for the period from December 2012 to May 2013. Other (40) healthy subjects (20 females and 20 males) were presented as a control group. Blood samples were collected from both groups, genomic DNA was extracted from peripheral blood leukocytes for molecular study to reveal any association between single nucleotide polymorphism G197T and predisposition to infertile males. Polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) technique was used for this purpose and digestion of the amplified DNA products by restriction endonuclease (*BSe*RI enzyme) gave fragments with different molecular sizes which express certain genotypes.

Optical density of antisperm antibody and Anti follicle stimulation hormone antibody in the serum was detected by enzyme–linked immunosorbent assay technique and from which antisperm antibody and anti follicle stimulation hormone antibody concentrations were evaluated according to standard carve and cut-off respectively. Semen samples were obtained from both infertile and control males by masturbation after 3–5 days of sexual abstinence and kept in sterile nontoxic recipients and analyzed for volume, liquefaction time, pH, sperm count, sperm motility morphology, round cell, pus and red blood cells.

The current study showed that the highest percentage of infertile males among age group of (20-29) and (30-39) years were 46% and 40% respectively, while the highest percentage of infertile females was 68% within the age group of (20-29) years.

The results revealed that semen parameter had no significant differences for volume, liquefaction time, pH and round cells, and highly significant for sperm count, sperm motility, morphology, pus and red blood cells, and also there was high prevalence of primary infertility (71%) than secondary infertility (29%) among infertile couples included in the study.

Regarding the Serum positivity of antisperm antibody and anti follicle stimulation hormone antibody in peripheral blood of infertile couples the results observed significant association between antisperm antibody, anti follicle stimulation hormone antibody and infertile women (P value 0.18, 0.32 respectively), while non significant for antisperm antibody in infertile males P value (0.129).

Higher prevalence of antisperm antibody 31.94% among infertile couples, and also it is higher in primary infertility 7(14%) and 12(24%) for males and females respectively when compared with secondary infertility were 1(5%) and 3(14%) for males and females respectively.

This study detected the absence of G197T Single Nucleotide Polymorphism of *Protamine 1* in the studied population.