International Journal of ChemTech Research
CODEN(USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.10 No.9, pp781-789,2017

Evaluation of Possible Effects of Exon-4Integrityand Distribution ofAndrogen Receptor Genein Idiopathic IraqiMale Infertility Groups

MajidHameed Jaffer[1]*, Abdul Amir N. Al-rikabi[1] andBushraJawad majeed[2]

[1]Department of Biology, College of Science, Al Mustansiriya University, Baghdad, IRAQ.
[2]Manager of Kamal Al Samraei Hospital, Ministry of Health, Baghdad, IRAQ.

Abstract: Infertility is a major health problem which affects approximately 22% of married couples in reproductive age. Androgens (testosterone and dihydrotestosterone) from another side are essential for male fertility and the maintenance of spermatogenesis, and to determine the expression of male phenotype, and their actions are mediated by single androgen receptor (AR).

So any mutation that disrupts (AR) functions completely or partially results in androgen insensitivity syndrome with impaired spermatogenesis and even XY genotype.

In the present study, male patients with infertility divided as (non-obstructive azoospermia, oligo and oligoasthenozoospermia) were studied in order to investigate the molecular genetics and molecular analysis for androgen receptor gene alteration, as a reason of male infertility in Iraq.

For molecular study 100 patients (39 azoospermia, 16 Oligo and 45 oligoasthenozoospermia) were examined, and 30 normal men were subjected for detection of androgen receptor gene alteration using molecular analysis by polymerase chain reaction (PCR) for exons (4) of androgen receptor gene.

The results show deleted exon 4 as detection by PCR in the groups of infertile men but control group. The Androgen receptor (AR) gene deletion was considered in all infertile groups as compared with control group, and in exons (4) the highest percentage of deletion was registered in oligoasthenozoospermic patients 40% from wild exon in a highly significant differences ($P<0.01$).

The patients with deleted exon 4, appeared decreased semen volume, progressive motility in a highly significant differences ($P<0.01$), and decreased grade B, and increased in liquefaction time in a significant differences ($P<0.05$) as compared with semen parameters of patients with wild exon (4).

The results demonstrated the necessity of the exons (4) presence and integrity for the AR function and spermatogenesis process.

Key words: Infertility, Androgen receptor, oligoasthenozoospermia, exons (4), spermatogenesis.

*****