

### Abstract

The present study was carried out during the period 25/1/2017 to 20/3/2018 at AL-Sader Teaching Hospital in AL-Najaf , to study of the relationship between the hormone leptin and infertility in men with study the effect of some factors chemical and hormonal ,in addition to the study of some of demographic factors such as age , infertile type, state of infertility and body mass index on a hormone leptin. Included the study of fifty blood sample taken from the men with infertility and forty blood sample of normal male who were confirmed by their fertility and had at least one child, were considered a control group in the current study : according to age both groups divided to three age groups . Included the study examining hormones the following :(leptin , LH, FSH, prolactin, insulin and testosterone ) The present study showed a significant increase ( $P \leq 0.05$ ) in the levels of insulin and leptin in different age groups, while the increase in the hormones LH, FSH, and prolactin are within the age group of (46-55) in men with infertility compared to the control group . While there was a decrease in the level hormone testosterone within age groups (20-35),(36-45) in men infertility compared with the control group .The results showed high cholesterol ( $P \leq 0.05$ ) within age group( 36-45),(46-55), as well as high Triglyceriol and LDL within the age group (46-55) year. Also the results showed the presence of a different not a senior level HDL in men with infertility compared to the control group . The study also found that the level of leptin in men with primary infertility is higher than that of fertile men .The current study also showed that the level of leptin in men with secondary infertility was higher than that of fertile men .The present study Showed high leptin hormone in men who have cases of infertility following (Azoospermia, Oligozoospermia, Teratospermia) and that the difference of a statistically significant ( $P \leq 0.05$ ) compared with control group. The study also found positive correlation between leptin and insulin, cholesterol ,LDL, and Triglyceriol .also found negative correlation between leptin and testosterone ,FSH,LH, prolactin and HDL. As shown the study of positive relationship with a difference a statistical and under the degree of the possibility of ( $P \leq 0.05$ ) between body mass index and hormone leptin .

Conclusions: leptin play an important role in regulation of testicular function among infertile male by direct action on testes by binding to specific receptor on leydig cell leading to inhibition of testosterone secretion