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The Relationship among AMH and Thyroid Hormones in Infertile Men suffering from Hypothyroidsim and Hyperthyroidism

A Thesis
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Summary

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The objective of this study is to investigate the relationship between infertility and the thyroid gland disorders in men, and to find a relationship with Anti-Mullerian hormone (AMH), and selected parameters, such as: blood groups, thyroid disorders(hypo and hyper), age, duration of infertility, body mass index and smoking. The study conducted in Infertility Center of Al-Sader Teaching Hospital of AL-Najaf province of Iraq, for the period from October ٢٠١٤ until March ٢٠١٥.

The study includes seventy blood samples taken from infertile men and fifty blood samples from their normal fertile males which have been confirmed and they have at least one child properly, and they have been considered as a control group. The ages of patients and the control group ranged between (٢٠-٥٠) years old, and sub divided into three age groups: first group (٢٠-٣٠) years old, second group (٣١-٤٠) years old, third group(٤١-٥٠) years old.

The present study included the examination of the following hormones ($T^{٣}$, $T^{٤}$, TSH, AMH, FSH , LH). The purpose of disclosure of the relationship between hormone levels with each other, and knowledge of the relationship between the thyroid gland disorders and the inability to have children and infertility.

The results indicated a significant increase ($P\leq ٠.٠٥$) in the levels of FSH and LH in the infertile men compared with the control group, while there was a significant decrease in the level of AMH and $T^{٣}$ in the patients compared with the control group . Also, the results showed non significant differences in the levels of $T^{٤}$, TSH in the infertile men compared with the control group.

The study showed a strong relation in the percentage of infertility with O blood group of patients when compared with fertile men, while the results showed a significant decrease at (P≤٠.٠٥) in AMH levels among patient with disorders of the thyroid gland (hyper). Also it recorded a rise morally and a significant difference (p≤٠.٠٥) in AMH for males with infertility levels in the age group (٢٠-٣٠ years) compared with other age groups, As well as a moral increased and significant difference (P≤٠.٠٥) in AMH levels for males with infertility in duration of infertility (١-٥ years) compared with other periods. The body mass index increases significantly and significant difference (p≤٠.٠٥) in AMH levels for males with infertility for normal weight category compared with the other categories. The study also reports a significant decrease (P≤٠.٠٥) in AMH for males with infertility levels in smokers compared with nonsmoker.

The study also includes a knowledge of the relationship between all levels of the hormone AMH with other hormones, where it was noted the presence of a significant negative relationship between AMH and all hormones T٣, T٤, FSH, LH. while it was noted the existence of a significant positive relationship between AMH and TSH.

The present study concluded that thyroid disorders definitely impacts testis development, spermatogenesis and male fertility such that could affect semen quality and may lead to infertility. AMH is one of the key factors conditioning the normal development of male genitals. Serum AMH determination is clinically valuable in assessing gonadal function.