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STUDY OF FSH, LH AND TESTOSTERONE IN AZOOSPERMIA

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ABSTRACT

O**BJECTIVES:** To establish relationship between azoospermia and FSH, LH and testosterone levels. **SETTING:** Department of Biochemistry, Nishtar Medical College, Multan. **PATIENTS AND METHODS:** 52 Male azoospermic patients were studied and their results were compared with 20 age matched healthy controls. **RESULTS:** Serum concentration of FSH was found to be significantly raised ($P < 0.001$) in azoospermic patients. LH and testosterone concentrations did not show any significant change on comparison with controls. **CONCLUSION:** It may be concluded that supplementation of testosterone to the patients of azoospermia will be of no benefit as these patients already had normal levels of this hormone.

INTRODUCTION

The gonads are bi-functional organs and produce germ cells and sex hormones. These two functions are closely approximated. Proper function of gonads is highly important for reproduction and hence for survival of the species. High concentrations of sex hormones are required for germ cell development¹.

The testes produce testosterone and spermatozoa. These functions are carried out by these types of cells.

1. Spermatogonia, which are located in the seminiferous tubules.
2. Leydig cells (also called interstitial cells) are scattered in the connective tissue between the coiled seminiferous and tubula.
3. Sertoli cells which form the basement membrane of the seminiferous tubules. Spermatogenesis is stimulated by FSH and LH secreted from anterior pituitary. It requires proper concentration of testosterone in the

systemic circulation².

Male infertility is usually determined by semen examination by estimating the alive sperm counts followed by the respective hormonal assay to determine the cause of infertility. The state in which there is total absence of spermatozoa in the semen sample is called azoospermia.

This study was planned to determine FSH, LH and testosterone hormone profile in azoospermic male patients who were otherwise healthy to find out the hormonal correlation with this disorder.

MATERIAL & METHODS

Blood sample was collected from 52 infertile males between 25-40 years of age; after confirmation of azoospermia by semen analysis. The serum was separated and assayed for FSH, LH and testosterone by RIA³.

RESULTS

The results of the present study are given in Table-I. The levels of LH and testosterone were found to be in normal range. Serum FSH level was found to be significantly raised ($P < 0.001$) in comparison with control.

Table-I. FSH, LH, and Testosterone concentration in azoospermia and normal males.

No. of Cases	FSH miu/ml	LH miu/ml	Testosterone ng/ml
52	45.64 ± 1.52	5.06 ± 0.24	5.82 ± 0.22
20 Control	6.84 ± 0.38	5.16 ± 0.25	6.14 ± 0.26

DISCUSSION

The present study indicate raised levels of FSH in azoospermic patients. The levels of testosterone and LH did not show any significant change in comparison with control. The results of present study are in confirmation with study performed by Wang et al⁴. In another study⁵, it was indicated that persistently raised FSH levels were found in azoospermic patients. The findings are also in confirmation of conclusion of Krcisur et al and Nabis et al^{6,7}. LH levels were found to be in normal range

along with testosterone. These findings are also in conformity with previous studies of Gow et al⁸.

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