Relation between sexual dysfunction and infertility based on hormonal profile

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Abstract:

    Background: Sexual dysfunction and infertility is associated with hormonal profile follicle stimulating hormone, prolactin, luteinizing hormone, testosterone, T4 and estradiol, so this study aimed to measure hormonal profile to patients in Khartoum-Sudan.

    Methodology: This is cross sectional case control hospital based study, it was conducted in AL-Aml National Hospital, Khartoum, Sudan from April 2016 to May 2016. In this study 50 known males with infertility, 50 males with sexual dysfunction and 50 control group were selected measure follicle stimulated hormone (FSH), prolactin(PRL), luteinizing hormone (LH), testosterone (TES), T4 and estradiol (E2).

    Results: The results show significant relation between sexual dysfunction and hormonal profile FSH (0.027), Testosterone (0.000) and estradiol (0.024). Also show significant relation between infertility and hormonal profile Testosterone (0.000) and Estradiol (0.003).

    Conclusion: Follicle Stimulation Hormone, Testosterone and Estradiol show decreased levels in dysfunction and infertility group. So, there is a relation between infertility and dysfunction with hormonal profile.

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Key words: Sexually Dysfunction and Infertility

INTRODUCTION

Sexual dysfunction is defined as the inability to achieve or maintain an erection required for satisfactory sexual intercourse. It is a pathology that affects men's happiness, self-esteem and popular relations and may also contribute to serious psychological problems.[1, 2]

Infertility is the inability of a person to reproduce by natural means. In humans infertility may describe a woman who is unable to conceive as well as being unable to carry a pregnancy to full term. There are many biological and other causes of infertility, including some that medical intervention can treat.[1] Infertility rates have increased by 4% since 1980s, mostly from problems with fecundity due to an increase in age [2]. About 40% of the issues involved with infertility are due to the man, another 40 % due to the women, and 20% result from complication with both partners [3].

As sure as men age, so too do there sperm [6]. Most recent data on aging sperm reported that the volume, motility (ability to move toward its destination), an awaiting egg [7,] and structure of sperm all decline with age.

MATERIALS AND METHODS

This is cross sectional case control hospital based study. In this study 50 known males with infertility and 50 males with sexual dysfunction and 50 control groups were selected for the study group.

The data were collected including age and type of the patient (sexual dysfunction, infertile or control).

Permission to conduct this study was obtained from University of Khartoum faculty of medical laboratory sciences and verbal consent was obtained from volunteers.

Venous blood sample was collected about 4 ml using a disposable plastic syringe into tube of heparin. The samples were then analyzed by TOSHO AIA-360 analyzer for measuring follicle stimulated hormone (FSH), prolactin (PRL), luteinizing hormone (LH), testosterone (TES), T4 and estradiol (E2).

Statistical analysis was performed using the SPSS (SPSS for windows version 17).

RESULTS

This study was conducted to assess the relation between sexual dysfunction and infertility in male on level of serum hormone (FSH, LH, prolactin, testosterone, T4 and estradiol).

Theses study was included 150 patient divided into three groups 50 as sexual dysfunction and 50 as infertile male and 50 control group.

The age range of all groups between (20-60).

Table 1: shows mean and SD of hormonal profile for sexual dysfunction and infertility:

Type		FSH	LH	PRO	TES	T4	E2
Dysfunction	Mean	7.62	6.226	9.421	4.908	6.924	25.92
	Std.	5.951	4.220	4.300	1.5192	1.913	5.227
Infertile	Mean	11.22	7.480	10.86	5.110	8.331	22.85
	Std.	9.746	6.640	8.226	2.6899	2.327	11.78
Control	Mean	9.96	5.768	8.192	520.58	7.512	30.64
	Std.	4.356	3.010	4.951	168.15	1.950	13.43
Total	Mean	9.60	6.491	9.493	176.86	7.589	26.47
	Std.	7.167	4.887	6.132	262.23	2.138	11.15

Table 2: shows the significance of hormones in two groups (dysfunction and control):

| Type		Sig (p,value)
FSH	dysfunction	0.027
	Control	
LH	dysfunction	0.534
	Control	
PRL	dysfunction	0.188
	Control	
TES	dysfunction	0.000
	Control	
T4	dysfunction	0.131
	Control	
E2	dysfunction	0.024
	Control	

The table show significant result for FSH (0.027), Testosterone (0.000) and Estradiol (0.024) in dysfunction group.

Table 3: shows the significance of hormones in two groups (infertile and control):

Type		Sig (p,value)
FSH	Infertile	0.407
	Control	
LH	Infertile	0.101
	Control	
PRL	Infertile	0.052
	Control	
TES	Infertile	0.000
	Control	
T4	Infertile	0.060
	Control	
E2	Infertile	0.003
	Control	

The table show significant result for Testosterone (0.000) and Estradiol (0.003) in infertile group.

Figure 1: shows the frequency of sexually dysfunction, infertility and control groups according to the age group. The highly percentage of sexual dysfunction and infertility among age group between (51-60).
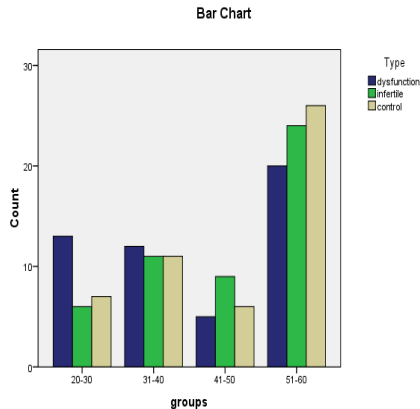
DISCUSSION

Understanding the dynamics of endocrine changes in the normally aging male is important not only because of the important role hormones play in the maintenance of sexual characteristics and sexual activity, but also for the diagnosis and management of endocrine and metabolic diseases. Data concerning the influence of age on androgens are inconsistent.

The results show decreased levels FSH, TES and E2 in sexually dysfunction and infertile groups.

Several researchers have reported a decrease in free and total testosterone concentrations, whereas others have failed to find age-related changes in testosterone.[8,12] Although testosterone seems to decline slightly with age, we could not find any statistically significant correlation between age groups and the values testosterone ,This decline with age is related to decreased Leydig cell mass, decreased testicular perfusion with relative hypoxia and alterations in pituitary-hypothalamic function.[13]

There is no relation between LH, T4 and PRL in both sexually dysfunction and infertile groups.

PRL has not been studied well in men with sexual dysfunction or infertility. Davidson et al, 1990 and Deslypere et al, 1984; found no correlation between male PRL levels and age, while Vekemans and Robyn reported, 1975 a slight rise in PRL in 55 to 65 year-old men compared to those 20 years younger.[14,12-13]

CONCLUSION

Follicle Stimulation Hormone, Testosterone and Estradiol show decreased levels in dysfunction and infertility group. So, there is a relation between infertility and dysfunction with hormonal profile.

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