

## The Effect of GR6 on Some Semen Physiological Parameters of Human Infertile Patients in Tikrit City

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### Abstract

Male infertility may occur due to different causes. Therefore different therapeutic approaches have been applied in order to improve the ability of men to get children. Semen analysis is used to determine the fertility potential in male, but the occurrence of pregnancy is the evidence of sperm ability for fertilization. Many drugs were used for treatment of male infertility, but there is little attention in the use of GR6, which is used popularly for this purpose. One hundred infertile men were treated with GR6. The present study showed that the treatments are safe and there were no important side effects. After four month of treatment, the active sperm motility, testosterone level, LH level and sluggishly motile sperm were increased significantly in infertile men treated with GR6. While sperm count and FSH level were insignificant increased. On the basis of results, GR6 is safe and effective in the treatment of male infertility.

تأثير مادة GR6 على بعض القياسات الفسلجية للحيامن في الأشخاص المصابين  
بالعقم في تكريت

عبدالرحمن جهاد منصور

### المستخلص

يحدث العقم لدى الذكور لأسباب عديدة تستخدم العلاج لتحسين قدرة الرجال على إنجاب الأطفال. إن تحليل  
المني يجري لتحديد القدرة على الإخصاب في الذكور ولكن حصول الحمل هو الدليل على قدرة الحيامن على  
الإخصاب، الدراسة الحالية تضمنت علاج الذكور المصابين بالعقم (ج ر 6). 100 ذكر عقيم عولج بال (ج ر  
6) بثلاث مجاميع مجموعة بجرعة 100 ملغم و المجموعة الثانية بجرعة 50 ملغم و المجموعة الثالثة عولجوا  
بجرعة 25 ملغم. بعد أربعة أشهر من العلاج كانت نسبة النطف ذات الحركة الفعالة ومستوى هرمون  
التستوستيرون الخصوي ومستوى هرمون LH 0 FSH بشكل ملحوظ إحصائياً.  
وبناء على النتائج فإن (ج ر 6) أمين و فعال في علاج العقم لدى الرجال.

## **Introduction**

Male infertility is defined as inability of the wife to conceive after one year of continuous unprotected intercourse (1). Infertility and sub fertility affect up to 15% of all couples trying for child (2). In these couple, problem in the male is responsible for about one third of cases (3). Several etiological factors in male infertility have been identified and it is now clear that a proportion of these factors have been a genetic basis (4,5). Also, inadequate secretion of LH (luteinizing hormone) and FSH (follicle stimulating hormone) by the anterior pituitary cause hypogonadotropic hypogonadism (6,7). Decreasing intratesticular androgen result in a defective spermatogenesis (8). Conversely, excess androgen also causes inhibition of spermatogenesis, therefore, testosterone in high concentration acts as contraceptive by its negative feedback inhibition of FSH secretion (9). So, the stimulation of estrogen receptors decrease the pulse amplitude of GnRH (10,11). High level of prolactin inhibits GnRH secretion & impaired spermatogenesis leading to hypogonadism and impotence (12). Adrenal insufficiency and congenital adrenal hyperplasia also impair sexual performance (13, 14). Semen analysis is the most important of all the investigations used in the assessment of the potential fertility of the male. However, the analysis of semen involved a rough estimate of the number of sperm present and their average motility, the analysis of semen must be performed in a properly standardized manner and the result reported within pre-determined limits of precision (15,16). The drug used in this study called GR6 & compose of bioflavonoids, Ginseng Extract, Wheat Germ oil, Safflower oil, Yeast concentrate & Royal Jelly. This aim of this is to investigate the possible therapeutic effects of GR6 in the

treatment of male infertility. While the objectives of this study were :-

- 1-Determine the effect of GR6 in treatment of male infertility, including its effect on hormonal status and seminal fluid parameters.
- 2-Determine the effective dose of GR6 which should be given for treatment of male infertility.
- 3-Investigate the possibility of any side effects which appear during the treatment.

## **Patients and methods**

This study is prospective cross sectional study. It was conducted on 100 infertile men with age range from 25 to 45 years from June to Dec 2006. Firstly, the gynecologically examination of female partner was done to exclude any female partner causes of infertility. Then the male partner was recommended to consult a fertility specialist for complete evaluation. A questionnaire was prepared to obtain the information from the infertile men before semen analysis.

## **Seminal Fluid Analysis**

Semen analyses were done before & after treatment with GR6 for 4 months for each patient & the samples were taken every month. The semen was collected in the laboratory by masturbation after 3-5 days of the sexual abstinence. The ejaculate was deposited in sterile plastic container. The seminal fluid was examined according to world health organization criteria of seminal fluid analysis (17).

## **Results**

One hundred patents were participating in this study. After 4 months of treatment with GR6, the results were as follow:- Sperm count was slightly increased in all patients who treated

with GR6. When GR6 was used in a dose of 50 mg and 100 mg/day the percentages of increase in sperm count were (5.24%) and (6.62%) respectively Table(1). Moreover, active sperm motility was significantly ( $P<0.01$ ) increased in patients treated by 25mg and 100mg/ day of (GR6) for three months (table 2). Moreover, the Sluggish sperm percent. was significantly increased ( $p<0.01$ ) in patients treated with GR6 in a dose of 25 mg, 50 mg, and 100 mg/ day for four months. In regard to hormonal assay, Serum FSH level as shown in

table 4, the percentage of increase in serum FSH level in treated group were (5.13, 10.5 and 6.33% ) when GR6 was used in a dose of 25mg, 50 mg and 100mg/day for four months respectively. In addition, to serum LH level was increased significantly ( $p<0.01$ ) when infertile men were treated with GR6 in a dose of 25 mg for four months, the percentage of change was (20.3%). However no further significant increase in the level of LH when the dose of (GR6) was increased to 50mg and 100mg/day for four months (table 5).

Table(1):- Show the effect of (GR6) on mean of sperm count in infertile men, when used in a dose of 25mg, 50mg, 100mg / day for four months.

Semen parameters	Patients groups	Before treatment X± SD	After treatment X±SD	P value	Percentage of increase
Sperm count Million/ml	1 <sup>st</sup> group 100 mg	52.4±29.3	55.3±27.8	N.S	5.24%
	2 <sup>nd</sup> group 50mg	50.7±30.6	54.3±30.5	N.S	6.62%
	3 <sup>rd</sup> group 25mg	45±25.2	45.6±26.6	N.S	1.31%

X± SD; mean ± standard deviation N.S :not significant.

Table(2):- Effect of (GR6) on active sperm motility in infertile men in a dose of 25 mg, 50mg and 100mg/ day for four months.

Semen Parameters	Treatment groups	Before Treatment X±SD	After treatment X±SD	P value	Percentage of increase
Active Sperm Motility %	1 <sup>st</sup> group 100mg	23.7 ± 13.4	35 ± 20.2	P<0.01	32.60
	2 <sup>nd</sup> group 50mg	30 ± 14.1	41.2 ± 17.6	P<0.01	27.18
	3 <sup>rd</sup> group 25mg	29.1 ± 13.9	39.2 ± 17.6	P<0.01	25.76

X± SD : mean ± standard deviation P value : level of significance between, before and treatment

Table(3):- Effect of (GR6) on the mean of sluggishly motile sperm in infertile men

Semen Parameters	Treatment With (GR6)	Before Treatment X±SD	After Treatment X±SD	P value	Percentage of increase
Sluggishly Motile	1 <sup>st</sup> group 100mh	9.41 ± 5.65	13.77 ± 5.5	P<0.01	31.60%
	2 <sup>nd</sup> group 50mg	12.86 ± 7.23	17.62 ± 7.52	P<0.01	27.00%
	3 <sup>rd</sup> group 25mg	18.2 ± 6.85	22.5 ± 6.8	P<0.01	19.10%

Table(4):- Effect of (GR6) used in a doses of 25mg, 50mg and 100mg/day for four months on the mean of serum FSH level of infertile men.

Hormonal level	Treatment With (GR6)	Before Treatment X±SD	After Treatment X±SD	P value	Percentage of increase
FSH mlU/ml	1 <sup>st</sup> group 100mg	4.73 ± 2.8	5.05±2.86	N.S	6.33%
	2 <sup>nd</sup> group 50mg	4.6 ± 1.77	5.14±1.91	N.S	10.5%
	3 <sup>rd</sup> group 25mg	5.73±2.17	6.04±1.96	N.S	5.13%

Table(5):- Effect of (GR6) on the mean of serum LH level of infertile men.

Hormonal level	Treatment with (GR6)	Before Treatment X±SD	After Treatment X±SD	P value	Percentage of increase
LH ml:U/ml	1 <sup>st</sup> group 100mg	3.7±1.13	4.41±1.4	P<0.01	16%
	2 <sup>nd</sup> group 50mg	4.28±1.74	5.32±1.47	P<0.01	20.48%
	3 <sup>rd</sup> group 25mg	4.3±1.54	5.4±2	P<0.01	20.3%

## Discussion

This study was designed to investigate the efficacy of GR6 In treatment of male infertility, because (GR6) is known as diet which increase size weight of bees and their fertility (18).

Furthermore, it was traditionally known to prolong youthfulness, enhance sexual desire, and used for treatment of impotence and infertility (18,19). As well as content of vitamins, minerals, protein, sugars and lipid.

GR6 is well known as sexual tonic and infertility therapy (1,2). GR6 is a novel well balanced of natural micro nutrient ingredients. The six active components of GR6 are carefully selected so as to provide a balanced combination of well known vitalizing components, represented by Royal Jelly and Ginseng Extract, and components unique to GR6 among other biotonics, namely the recently re-discovered essential micro nutrients: the bioflavonoids. All ingredients are purely and completely natural and are absolutely free of any synthetic substances. As such, GR6 is a unique and total bioenergizer, biotonic and natural vitalizer for healthy as well as stressed individuals of various age groups and for both sexes (7). Citrus Bioflavonoids, formerly well known for their beneficial effects in decreasing capillary permeability and blood vessels fragility, are re-emerging after recent scientific researches as important and essential micronutrients. As natural anti-oxidants they work in harmony with vitamin E as highly efficient free radical neutralizers thus improving fitness and restoring vitality both to normal and oxidatively stressed individuals manifested as protection of the skin and blood vessels, decreased risks of cholesterol lipoprotein peroxidation, shielding against cell damage by extraneous environmental pollution GR6, with its rich content of purified standardized bioflavonoids assures a good daily supply of bioflavonoids both for healthy and stressed individuals who do not, or cannot, regularly consume adequate amounts of antioxidant-rich fruits and vegetables (9).

Ginseng extract is the purified and standardized extract of the roots rhizomes of the Korean plant panax. Ginseng is considered as a natural source of vitality, stimulation and fitness. Its benefits are based on

centuries of experience acquired in far eastern medicine and confirmed by current researches, the active ingredients are now made available by modern technology. For this reason there is an improvement in the parameters of semen of all infertile patients who participated in this study (10,11).

Wheat Germ oil is a natural oil and the richest source of vitamin E, the essential nutritional element vitamin E is an efficient anti-oxidant, is involved in the normal functions of the gonads, as well as of the nervous and muscular system. It is a recognized free-radical scavenger. By virtue of the rich source of vitamin E GR6 is capable of neutralizing these damaging free radicals guarding against any decrease of the antioxidants below normal levels. So, in this study GR6 improved & increase the secretion of FSH & LH hormones in infertile patients. Another substance that is found in GR6 is Safflower oil which is a refined natural fixed oil rich in polyunsaturated essential fatty acids. It provides high energy intake and assists in clearing circulating cholesterol in the form of its favorable unsaturated esters. In the present study the motility of sperm was improved after treatment with GR6 (3). Natural yeast is a provider of high quality protein (more than 45%) in the form of essential amino acids. It is also a rich source of vitamins of the B-complex group and of essential minerals and trace elements, both are confirmed to be fundamental for most biogenic processes, the yeast enzymes act as natural regulators of many digestive functions. This queen Royal bee jelly contains a variety of amino acid, lipids, carbohydrates, vitamins, enzymes and many other essential trace components. The administration of which has been shown to restore vitality and improve mental and physical activity for both males and

females. The accurately adjusted dose of Royal in GR6 assures the full benefit of this superior energizer without any undesired effects of excessive, un-needed and more costly higher concentrations (19).

## Conclusions

This study concluded the following:-

- 1-GR6 is a beneficial treatment for male infertility.
- 2-GR6 increased testosterone and LH level and also increased sperm motile activity.

The following points are recommended:-

- 1-Study the most effective constituents of GR6 in male infertility
- 2-Study the mode of action of GR6 in treatment of male infertility.
- 3-Study the effectiveness of GR6 when used for more prolonged period.

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