Natural Pregnancy in Infertile Couples Using Red and White Bahman Root Extract ,P.M Remedy

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ABSTRACT

Introduction: The incidence of infertility as a serious health problem is constantly increasing and the role of male factor is of a wide range up to 50%, which has severe bio psychosocial consequences. Despite many advances, there is not enough evidence for the effectiveness of medical treatments so research in this field is still needed. Today national alternative medicine and traditional medicine is recommended by WHO and widely used in general population. It has important and considerable role in the treatment of male infertility so more research is recommended for valuable source of Iranian Traditional medicine experiences to identifying and discovering new drugs. Case presentation: In this study we present an oligospermic men which had improvement in semen parameters and result in a spontaneous natural pregnancy by using hydro alchohlic (80% ethanol) extract of red and white bahman after period of 3 month. Conclusion: It seems that use of complementary medicine and Iranian Traditional Medicine (ITM) experiences, can offer new therapies and treatments for the male infertility.

Key Words: Iranian Traditional Medicine, Infertility, Oligospermia, White Bahman, Red Bahman.

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INTRODUCTION

Infertility as a growing problem with bio-psycho-social complications in different societies refers to the failure to achieve a clinical pregnancy after 12 months of regular unprotected sexual intercourse [1]. About 15% of couples are infertile, with men's share varies between 30 and 50%[2]. Insufficient sperm production and lack of sperm production have been reported to account for 40%-90% and 10% of the male of infertility, respectively [3]. Empirical treatments used in many classical medicine sources, including the European Association of Urology Guidelines on Male Infertility (2012 Update), include the use of clomiphene citrate, tamoxifen, FSH, hMG, VIT C, VitE, carnitine, glutathione, antioxidants, zinc, high protein-rich diet, zinc and selenium combinations, FSH recombinant growth hormone and pentoxifylline, all of which have all been effective on semen quality; however, there is not sufficient scientific evidence on their effectiveness [2, 4]. Hormone therapy has been effective in patients with early primary hypogonadism, but the fertility rate is not better than placebo [5]. Long-term consumption of tamoxifen, which has liver complications along with carnitine consumption has positive results but is still under investigation [5]. The previous studies have reported effects of a complex of different vitamins as antioxidants on the sperm count, which generally showed no significant increase, and the most effect was due to

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prevention of the oxidation of lipids of the sperm cell wall on the modification of sperm shape and motility [6]. Despite the widespread advances in recognizing the pathophysiology of male infertility, there are still few known treatment methods and there is no proven treatment protocol for the treatment of oligospermia and men's infertility [7]. There is also a real need to further researches on male infertility [2]. In addition to worldwide demand for the use of alternative medicine therapies for various diseases, especially chronic diseases, the use of complementary and alternative medicine for the treatment of infertility has also increased in the world [8]. Iranian Traditional Medicine (ITM) also named Persian medicine (PM) provides valuable experiences that have been used for centuries to treat diseases, including infertility, and has different research capabilities for researchers [9].According to ITM, infertility is equivalent to the concept of "oghm" or "oghr", and ITM scientists like classical medicine scientists, refer to infertility causes pre testicular, testicular and post testicular examination [10]. Based on ITM perspective, medicines and foods that are highly nutritious can help increase sexual power or improve the quality and quantity of semen [11]. One of the plants has been used by ancient Iranian people and ITM scientists or as the main herb in compound drugs for the infertility treatment is red and white bahman that is native to Iran [12]. red and white bahman contain the characteristics referred to by ITM in the treatment of impotence and infertility like as positive effects on the vital organs such as brain, heart, liver and testicles [12].There is a controversies in scientific name for red and white bahman (bahmane sefid and bahmane sorkh). The names of Centaurea behen [13, 14] for white bahman [15, 16] and Statice limonium [13, 14] for red bahman were frequently used in the literature but DNA bar coding study to matching the traditional name and scientific name still is going on. Various studies have been carried out on these two plants in classical medicine. The antioxidant [17], anti-anxiety [18] and antimicrobial of effects of Centaurea behen have been proved in animal studies [19]. Previous animal studies showed that Statice limonium have antioxidant effects on brain and testicular fat cells [20] and also boosts liver function [21]. In a case study, Bioos et al. investigated the effect of a combination of traditional medicine known as Lobobe niroza on impotence and semen parameters and semen parameters and results showed it had increasing effects on the sexual desire. red and white bahman is one of the drugs that make up this compound drug [22]. This study is a case study that reports the effects of drug on semen parameters and the onset of spontaneous pregnancy following a three-month daily intake of the 500 mg of dried hydro alcoholics root extract of red and white bahman. The current study aimed to introduce one of the most commonly used herbs in the treatment of infertility in ITM so that further additional studies are provided for researchers in this field.

CASE PRESENTATION

This study is a retrospective observation study. The patient was a 40-years-old male with infertility who was under treatment from August 2013 to March 2016. The patient married 18 years ago and for 10 years OCP and IUD was used as contraceptive method by his wife and did not use any contraceptive methods for last 8 years. According to the examinations performed on the infertility-related problems, the patient's wife was healthy. The patient did not mention any history of varicocele and other urological diseases, including orchitis, testicular pain, and sexually transmitted infections. There is no history of alcohol consumption. The patient was normal for sexual desire and libido and had no complaint about early ejaculation. They had regular sexual intercourse three to four times per week. There were no history of known diseases, such as endocrine diseases, chronic liver or kidney disease, and other systemic diseases, as well as the history of mumps in childhood or other diseases that might lead to infertility or impaired semen parameters. Patient had a history of hemorrhoidectomy, anal fistulectomy, smoking 5 years ,five cigarettes a day and drug addiction, which has been left since 5 years ago. There was a family history of positive infertility in the patient's brother. The patient's weight, height and BMI is 83kg, 182cm and 25, respectively. The patient is a farmer who is in high risk group due to being exposed to pesticides. According to results of the reproductive system examination, the size of the testicles was normal, with the right and left testicle volume of 25 ml approximately. The appearance of the reproductive system and the distribution of pubic hair were normal. There were no surgical scars on the penis or testicles. There were no symptoms of varicocele and hydrocele and the epididymis and ejaculatory duct touch is normal, too.
The patient has been visited frequently by several urologists in recent years, and has taken various therapeutic treatments such as vitamin E, zinc, and VIT C after being diagnosed with idiopathic infertility and the presence of oligospermia; however, the patient has not received any medicine since 4 months before the intervention. The patient had no history of using the ART method.

Laboratory tests:

The serum levels of FSH, LH, testosterone, were normal at the time of admission, and the results of the patient's tests were negative for HIV antibody, hepatitis B antigen and hepatitis C antibody. Initially, after obtaining the informed consent and before the intervention, semen analysis was performed again with the result showing a moderate oligoaspermia (Table 1). In this study, semen

analysis of the patient was performed at all stages according to the WHO 2010 standards and by a specialized infertility laboratory. The patient's semen was also prepared according to the standard conditions at the laboratory site and using masturbation method, within three days of the last ejaculation. The patient was treated with 500 mg of the hydro-alcoholic dry extract of the red and white bahman once a day before meal for three months. The plant used in this study was purchased from a valid medicinal plant store, and its hydro alcoholic and dry extract was prepared. The patient monitored monthly for drug complications. Complications were not reported during the study period. The semen analysis was performed again at the end of the three month period and The patient's wife became pregnant naturally at the end of course (Table 1). The patient did not receive any other medications during the three-month period of drug use, and the results showed improvement in the quality of semen parameters, including sperm count, total sperm count, motility, morphology, and semen volume.

Table 1. Semen Analysis

Semen parameters	Before	After 3 month
Volume	3.2	4.4
Sperm concentration	8	27.6
Total sperm count	25.6	210
Normal morphology	2	74
Progressive motility	14	41.4
Live ratio	20	82.8
Total motility	69.3	50
Immotile	30.7	50

Table 2. Hormon Analysis

Sexual hormones	At base	After 3 month
Testosteron	13.2	3.78
LH	7.5	3.2
FSH	4.1	5.5

DISCUSSION

Various drugs have been used to treat infertility over a long period of time in the history of ITM. The results of the present study revealed that root extract of red and white bahman single dose a day (500mg) improved semen parameters as follows: sperm concentration, total sperm count, progressive motility, normal morphology and semen volume and the couples experienced normal pregnancy at the end of the study. red and white bahman is one of the drugs used to treat male infertility in ITM. This drug is used for this purpose in Iran as well as other Asian, some African and Arab countries. According to ITM perspective, red and white bahman increase male fertility and reproductive sexual performance as a drug of base, both in single and combined forms. The ITM believes in the harmony and proper functioning of the brain, heart, liver and testicles as the main organs responsible for fertility and sexual performance. Male infertility and impaired semen production are directly related to the type and quality of food and nutrition method, as well as any disruption in the normal functioning of the vital organs of the body, including brain, heart, liver, kidneys and stomach as major factors. Drugs that can boost the brain, heart, liver and testicles can have the greatest effect on the treatment of infertility and sexual dysfunction. Base on ITM references red and white bahman has all of these characteristics.

Mechanism of action and phytochemical components

There is no complete justification for the pharmacological effects of this drug on the male reproductive system and the improvement of spermatogenesis, the results of some studies, as well as the consideration of the phytochemical components of this drug, indicate that it can have hormonal and antioxidant effects. In spite controversies in scientific name of red and white bahman all candidate contains other ingredients such as saponins, tannins, carotenoids, flavonoids, and alkaloids that have antioxidant properties which are effective in on improving spermatogenesis [14, 23]. According to ITM perspective, nutrition is central to the treatment of male infertility [11]. On the other hand, the importance of nutritional deficiencies has been recognized in spermatogenesis and male idiopathic infertility [24]. Some studies have shown that in these patients, combination therapy may be effective in improving semen parameters and increasing fertility potential. In fact, this drug, as a nutritional supplement, considering its sedative effects on the functioning of the nervous system and antioxidant effects, may be a convenient and natural remedy for the combination therapy of these patients. According to reports, Centaurea behen [17] has protective and boosting effect on the liver function [21], which can be due to its proven antioxidant properties. The Statice limonium [25] was also reported to have anti-HCV effects. Today, the role of the liver is related to fertility and spermatogenesis. The liver is very effective because of its role in the synthesis of many intermediates of proteins and hormones and its effect on the endocrine glands and body metabolism, as well as by liver x receptors receptors that directly affect testicular function by stimulating testosterone production and initiating spermatogenesis [26].The brain also has a known effect on spermatogenesis through the hypothalamic-gonadal-pituitary gland axis. Many studies have reported the antioxidant effects of this drug on the brain, liver and testicles, but there has been no direct study on the effects of this drug on improvement of spermatogenesis,sexual behaviors.Clinical trials with high sample size and higher doses and longer treatment and follow-up should be carried out. Considering that the condition of semen parameters, especially in terms of motility and normal morphology, which is important in determining the type of ART and the success rate of ART methods, so even if this drug cannot increase the pregnancy rate in complementary clinical studies, it may lead to the use of

easier and less costly methods, such as IUI instead of IVF, and increase the success rate of ART methods by improving parameters of semen, especially motility and normal morphology. No serious complications were reported in this study. This drug is readily available. This study, considering the incidence of spontaneous pregnancy and the improvement of semen parameters is an invaluable study that can provide an opportunity for further studies by researchers.

CONCLUSION

The study of therapeutic approaches to alternative medicine, including ITM, supported by the WHO strategy, and the use of their experiences, can offer new therapies and treatments for the male infertility, and a step forward is taken for this common global problem.

Conflict of interest

The authors confirm that this article content has no conflicts of interest.

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