

## Efficacy of Unani formulation in unexplained primary infertility – A case report

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### ABSTRACT:

Infertility is a serious public health problem that affects people of all sexes and society as a whole, with prevalence of 16%–37%, Indians are using botanicals since time immemorial to alleviate wide range of human diseases, World Health Organization has estimated 80% of people worldwide are dependent on herbal medicines for their primary health care due to its safety, efficacy and less side effects. In classical Unani literature, various formulations have been mentioned for the treatment of infertility. This case report was an effort to understand the role of Unani formulation in infertility. A married couple presented with chief complaint of failure to conceive since last 2 years. Investigations were carried out, diagnosis of unexplained infertility was made after thorough evaluation of the case. Basic infertility investigations like husband semen analysis, hysterosalpingography and pelvic ultrasonography, hormonal profile was done, which was within normal limit. Selected formulations are *ma'jūn-i-mocharas* & *Safūf darchini*, it helps in infertility. The above mentioned formulations were given 5g twice a day orally with plain water, for a duration of 3 months. The patient got conceived in 4<sup>th</sup> month. These formulations have assisted in conception as they act as uterine tonics, containing alkaloids and steroidal lactones, flavonoids, tannins, saponins, and thus beneficial to enhance infertility.

**KEYWORDS:** *Moaene hamal*, *Muqaww-i-Rahim*, *Muwallid-i-Manī*, Unani Medicine, Unexplained infertility, *Uqr*.

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### INTRODUCTION:

Unexplained infertility is defined as absence of conception despite 12 months of unprotected intercourse, not explained by anovulation, poor sperm quality, tubal pathology, or any known cause of infertility.<sup>[1]</sup> Of couples

experiencing infertility, up to 30% are diagnosed with unexplained infertility after a standard evaluation. <sup>[2,8]</sup> It is necessary to confront the issue of low fecundity after six cycles of unprotected intercourse without conception regardless of age. A couple is usually referred for evaluation after one year of

unsuccessful trials of conception with unprotected intercourse in the fertile phase of the menstrual cycle. Treatment options are determined by prognostic factors such as the duration of infertility and the age of the female partner. Higher cumulative pregnancy rates are associated with shorter infertility durations (2 years) and female partners under the age of 30. The likelihood of becoming pregnant is decreased by 2%, or around 25% per year, for every extra month of infertility over the average.<sup>[5]</sup> For most couples, the best initial therapy is a course (typically 3 or 4 cycles) of ovarian stimulation with oral medications and intrauterine insemination (OS-IUI) followed by in vitro fertilization for those unsuccessful with OS-IUI treatments.<sup>[3,4,6]</sup> Therefore additional therapies with more potential benefits are urgently needed for the benefit of society, therefore we present a case report of unexplained primary infertility, as we have explored the positive outcome with the Unani formulation. The purpose of the study is to demonstrate the application and value of Unani medicine's synergistic effect in ensuring the best possible outcome in cases of unexplained primary infertility. India houses approximately 47,000 plant species, of which only 800 are included in the preparation of herbal drugs.<sup>[4]</sup> Indian people have been using botanicals since time immemorial to alleviate a wide range of human diseases. World Health Organization (WHO) has estimated 80% of people worldwide are dependent on herbal medicines for their primary health care due to their safety, efficacy and fewer side effects.<sup>[7]</sup> In classical Unani text, *Uqr* (infertility) is defined as failure to conceive either due to defect in male or female partner, even idiopathic infertility has been described

in detail. <sup>[5]</sup> Various formulations are mentioned for the treatment of *uqr*, possessing the properties of *muqaww-i-rahim* (utero tonic) *moaen e hamal* (helpful in conception) and *muwallid-i-mani* (ovulation inducing drug).

#### **CASE HISTORY:**

A married couple (30 years female partner & 29 years male partner) presented to Gynec OPD of NIUM Hospital with complaint of possible fertility issue. The couple has been married for 2 years and since then, has been trying to conceive and reports a high degree of stress related to their lack of success. The patient had a regular menstrual cycle of 28-30 days with moderate flow for 5-6 days. The couple had never sought any treatment for the same. She had moderate built with no significant medical or surgical history. There was no history of consanguinity in marriage and family infertility on either side of the partner. The patient was a homemaker, belongs to a low socio-economic group and had no history of STDs, smoking, alcohol or other drug intake. The patient's partner also reported good health and no problems with erection, ejaculation or pain during intercourse. He had no prior urogenital infections or exposure to STDs & no significant medical or surgical history. He is a software engineer working in the office and had no habits of smoking, alcoholism, drug abuse or self-medication. The couple had vaginal intercourse 2-3 times per week.

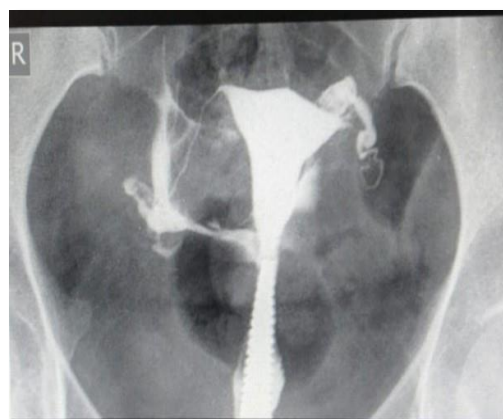
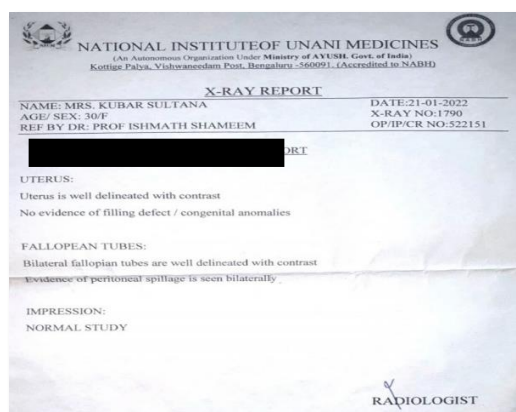
On examination, her vitals were stable, her breast revealed no tenderness or palpable lump, the bilateral chest was clear, and normal vesicular breathing sound & S1 & S2 were audible with no murmur and per abdomen was soft and non-tender. On gynaecological

examination, normal pubic hair distribution with no excoriation of vulva. Per vaginal examination revealed retroverted, normal-sized, mobile and firm uterus with no fornicial tenderness. Investigations recommended were semen analysis to exclude male partner and D2 S. FSH (day 2 serum follicular stimulating hormone), S. LH (serum leutinizing hormone), P (prolactin) Thyroid profile & TVS (transvaginal sonography) for antral follicular count and HSG (hysterosalpingography) on Day 9 of the cycle to evaluate female partner (fig 1). Husband semen analysis showed 38 million sperm count with normal morphology and good motility (fig 2) and female partner hormonal profile shows FSH 3.56 mIU/ml, LH 3.39 mIU/mL, PRL 24 ng/ml, on D2 of the cycle and TSH 3.16 mU/L (fig 4). HSG

showed normal uterine cavity and fallopian tube with bilateral spillage in the peritoneal cavity. TVS on D2 of the cycle showed good antral follicular count without any pelvic pathology.

#### **THERAPEUTIC INTERVENTION:**

Unani formulation comprises of *ma'jūn-i-mocharas* and *Safūf darchini* was advised 5g twice daily for three consecutive cycles. Patient was instructed to have timed intercourse. She missed her period in 4<sup>th</sup> cycle and urine for pregnancy test was positive. The woman had routine antenatal care at government hospital in her hometown and promptly updated her ANC investigations and obstetric scans till date, she had successful and uneventful pregnancy outcome and delivered a live female baby on 20<sup>th</sup> feb 2023.



**Figure 1: HSG Report: (a)** Reported result of HSG

**(b)** X-Ray film of HSG

Test Name/Method	Result	Units	Biological Reference Interval
<b>Sample Collected and Sent</b>			
<b>MICROBIOLOGY</b>			
<b>SPECIMEN</b>	SEMEN		
Time of Collection	11:00 AM		
Time of Receiving	11:20 AM		
Period of sexual Abstinence	3 DAYS		
<b>PHYSICAL CHARACTERISTICS</b>			
Liquification Time	WITH IN 45 MTS		
Colour	GREYISH WHITE		
Viscosity	NORMAL		
Volume	1.5 ML		
<b>MICROSCOPIC CHARACTERISTICS</b>			
Total Sperms Count	38.0 millions/cum		60-160 millions / cum
Actively Motile	35	%	
Sluggishly Motile	10	%	
Non Motile	55	%	
Pus Cells	6-8		
RBC's	NIL		

Figure 2: Husband semen analysis report

**ULTRASONOGRAPHY OF FEMALE PELVIS**

Length: 7.5 cm, Transverse width: 4.3 cm, Anteroposterior extent: 3.7 cm

Normal in size, contour and echotexture.

Antverted/Retroverted in position

No focal myometrial lesions noted in the uterus.

The Endometrial thickness is: 2.2 cm

Both ovaries are normal in size and echos.

Right ovary: 2.6 x 2.2 cm

Left ovary: 2.7 x 2.1 cm

No evidence of free fluid in POD.

No evidence of adnexa lesions

OTHERS: Nil

IMPRESSON: No significant Abnormality

DR. MADHU K. S.B. MD RD  
CONSULTANT RADIOLOGIST

Figure 3: Ultrasonography Report

Test Name/Method	Result	Units	Biological Reference Interval
<b>Sample Collected and Sent</b>			
<b>ENDOCRINOLOGY</b>			
<b>THYROID FUNCTION TEST</b>			
TOTAL T3	91.00	ng/dl	Adult : 60-200 Newborn 4Days: 100-740 1-15 Months : 105-245 1-9years : 94-270
TOTAL T4	5.00	µg/dl	Adult : 4.5-12.8 Newborn 4Days: 14.0-26.4 3Days-10Days : 9.9-21.9 1-11 Months : 7.0-15.7
TSH (THYROID STIMULATING HORMONE) 3RD GEN	3.16	mIU/ml	Adult : 0.3-5.5 Newborn 4days : 1.0-38.9 Child upto 1yr: 1.0-9.0 Pregnancy reference ranges for TSH 1st Trimester : 0.10 - 2.30 2nd Trimester : 0.20 - 3.00 3rd Trimester : 0.30 - 3.00

Figure 4: (a) Thyroid profile

Test Name/Method	Result	Units	Biological Reference Interval
<b>Sample Collected and Sent</b>			
<b>HORMONES</b>			
LH (Luteinizing Hormone)	3.39	mIU/ml	Female: Normally Menstruating: Follicular Phase : 3.9 - 12.5   Midcycle Peak : 8.7 - 76.3 Luteal Phase 10.5 - 16.9   Pregnancy : 0.1 - 1.5 Postmenopausal : 15.9 - 54.0 Childen : 0.1 - 6.0 Males (20 - 70 Years) : 1.3 - 9.3 >70 Years : 3.1 - 34.6
FSH (Follicle-Stimulating Hormone)	3.55	mIU/ml	Female: Normally Menstruating: Follicular Phase : 2.5-10.2   Midcycle Peak : 3.4 - 33.4   Luteal Phase 1.5-9.1 Pregnant : < 0.3   Postmenopausal : 23.0 - 114.3 Males (13 - 70 Years) : 1.4-18.1

SALAR M.D. INDIAN, B.Sc. (Bio-Chem) PGDMLT  
MANAGING DIRECTOR

\*\*\*End of Report\*\*\*  
This lab has External Quality Control Programme with Bio-Rad EQAS-USA.

Figure 4: (b) Hormonal profile

**OB - Early pregnancy Scan Report**

Real time B-mode ultrasonography of gravid uterus done.

Router: Transvaginal

Single intrauterine gestation

Maternal

Cervix measured 5.00 cms in length.

Fetus

Survey

Gestational Sac seen. Sac margins appeared regular

Gestational sac measured 38 X 18 X 39 mm. (Mean = 31.67)

Yolk sac seen

Yolk sac measured. 6 X 5 mm. (Mean = 5.5)

Embryo seen

Fetal activity present

Cardiac activity present

Fetal heart rate - 158 bpm

Biometry

GSac - 31.67 mm (8W 1D)

CRL - 19 mm (8W 5D)

Impression

Single intrauterine gestation corresponding to a gestational age of 8 Weeks 5 Days

Gestational age assigned as per biometry ( CRL )

Menstrual age 7 Weeks 5 Days

Corrected EDD 27-02-2023

DR. SAJID  
SONOLOGIST

Figure 5: Obstetric scan after conception

**RESULTS AND DISCUSSION:**

After unsuccessful trials of conception for a period of 1 year or more, couples are usually referred for evaluation, it is the biggest concern and clinical problem. Psychological illnesses like anxiety and depression are evaluated among many patients seeking medical treatment.<sup>[9]</sup> Diabetes, undiagnosed thyroid disorder, some autoimmune illnesses and luteal phase defects may be the cause for unexplained infertility.<sup>[10]</sup> The Practice Committee bulletin on unexplained infertility mentioned that the basic evaluation should provide evidence of ovulation, adequate sperm production and fallopian tube patency, all of these were evaluated in this case. The decision of treatment depends on prognostic factors such as duration of infertility and age of the female partner, shorter duration of infertility (2 years) and female partner under the age of 30, the likelihood of becoming pregnant is decreased by 2%, or around 25%, per year, for every extra month of infertility over the average. In this case, the patient's age was 30 years, which was a concern with regards to age criteria also she failed to conceive even after 2 years of unprotected intercourse, which indicates the need for the treatment.

*Ma'jūn-i-mocharas*, reported to possess *mujaffif* (siccative), *muqawwi reham* (uterine tonic), *qabiz* (astringent), *muwallid-i-Manī* (ovulation inducing), *mumsik wa mughalliz mani* (increase consistency of semen), *dafe fasaad khoon wa safra* (purifies blood and bile) and

beneficial in *sailanur reham* (leucorrhoea) and *uqr* (Infertility), and proved pharmacological activities include antioxidant, antibacterial, diuretic, hepatoprotective, hypoglycaemic and hypotensive, due to the presence of phytoconstituents such as polysaccharides, naphthoquinones, anthocyanins, lupeol and naphthol etc hence beneficial in *uqr*.<sup>(11)</sup> *Safūf darchini* contains *darchini*, *rewandchini*, *abhal*, *asgand*, *pudina khushk*, which was prepared with known benefits, act as uterine tonic and useful in infertility, as it contains alkaloids and steroidal lactones. UPT was positive, and pregnancy was further confirmed with ultrasonography which shows early pregnancy of 7 weeks 5 days with EDD on 27/02/23. Unani medicine helped the patient to conceive within 4 cycles of treatment, without any observable side effects. Further comparative studies, with serial follicular monitoring & mid-luteal serum progesterone, may be helpful to establish the effectiveness of Unani medicines in such cases.

**CONCLUSION:**

The present case report provides the evidence that compound unani formulations are effective in patients with unexplained infertility. Further research is required to evaluate and establish these unani formulations as reliable therapeutic options in unexplained infertility.



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