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Case Report

The impact of an Unani Formulation in unexplained Secondary Infertility: A Case Report

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ABSTRACT

With a prevalence incidence of 8 % to 37%, unexplained infertility (*Uqr*) is by definition empiric because it does not address a particular defect or functional deficits. Couples with unexplained infertility have a higher than zero chance of becoming pregnant without treatment, but it is less likely than couples who are fertile. The ingredients in the Unani formulation, are *baikh asgand* (Withania somnife*ra Dunal*), *baikh piyabansa* (*Barleria prionitis* Linn), *gule dhawa* (*Anogeissus latifolia*), and *gule nilofar* (*Nymphaea alba* Linn), were used to treat unexplained secondary infertility, possess the characteristics of *muqawwi bah* (Aphrodisiac), *muqawwi Rahim* (Uterotonic), *muwallid-i-mani* (ovulation-inducing), and *mughalliz-i-mani* (an agent which increases the viscosity of semen) beginning from the fifth day of the last menstrual cycle for five days with milk. The first cycle of treatment led to the conception of the women.

Keywords Unexplained infertility*, Uqr,* Secondary infertilit*y, muwallid-i-mani, muqawwi bah,* Unani formulation.

INTRODUCTION

In clinical medicine, secondary infertility is defined as an inability to conceive despite exposure to pregnancy for one year (2 years in some epidemiological studies), after having conceived at least once previously. In countries with limited resources, secondary infertility is a prevalent, curable, and unaddressed reproductive health issue. Following a year of unsuccessful attempts at conception, the couple is typically referred for evaluation. But it is well known that primary infertility is much more frequent than secondary infertility in resource-rich nations, whereas the opposite is true in sub-Saharan Africa (Dhont N, 2011). Evidence suggests that male factors contribute to 30% of infertility, female factors to 45%, and unidentified causes account for 25% of cases (Kazemeini SK, 2017). With a prevalence rate ranging from 8% to 37%, this type of infertility is known as "unexplained infertility"(Kamath MS, 2016). The fundamental assessment of infertility should take into account signs of ovulation, the condition of the fallopian tubes, and adequate sperm production Kamath MS, 2016). On the basis of the common tests carried out during the evaluation of infertility, the recommended treatment options frequently depend on the etiology. Some factors, such as expectant management, can be taken into account in young women (25 years), especially if the duration of infertility is less than 3 years, which is not applicable in older women (>35 years) (Kazemeini SK, 2017). The like hood of becoming pregnant is decreased by 2%, or roughly 25%, for every additional month of infertility beyond the average (Kamath MS, 2016).

Numerous plants and plant-based products have been shown in the Unani System of Medicine to effectively treat stress, impotence, and infertility (Ahmad MK, 2010). As conception is most likely to occur after menstruation, a number of formulations with the properties of *muqawwi* bah (Aphrodisiac), *muqawwi rahim* (Uterotonic), *muwallid-i-mani* (ovulation-inducing), and *mughalliz-i-mani* (an agent which increases the viscosity of semen) have been mentioned for the treatment of infertility (Shameem I, 2019; Khan MA, 2003; Majoosi AIA, 2010; Begum S, 2020; Sina I, 2010; Ghani N, 2011) and are to be used starting from the fifth day of the menstrual cycle. These medicines are known to contain phytoestrogens and may cause ovulation by keeping the hormonal balance in check (Shameem I, 2019). We present a case of secondary infertility without apparent cause in which the impact of an Unani formulation was investigated.

CASE PRESENTATION

A married couple (28-year-old female and 29-year-old male partners) with a history of secondary infertility issues was referred to the gynecology OPD at NIUM Hospital. The couple

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has been trying to conceive for the past 1.5 years after getting married. The couple has been trying to conceive for the past 1.5 years after getting married, and they report feeling extremely stressed out because of their lack of success. The patient reported a regular menstrual cycle of 28-30 days with a moderate amount of flow for 3-4 days her BMI was 26.93 kg/m2, and she attained menarche at 12 years of age. The patient never had menstrual molimina or headache, visual disturbances, galactorrhea, vasomotor symptoms, or reduction in exercise tolerance with no significant medical or surgical history. The couple reported consanguinity in marriage but there was no family history of infertility on either side of the partner. The patient was a housewife, did not smoke, drink alcohol, or use any other drugs, and is from a low socioeconomic group. In addition to being in good health, the patient's partner reported no issues with erection, ejaculation, or pain during sexual activity. He had no significant medical or surgical history and never had urogenital infections or been exposed to STDs. He is a vegetable vendor by trade and does not smoke, drink excessively, use drugs, or self-medicate. Three to four times a week, the couple engaged in vaginal intercourse.

The woman had no successful pregnancy outcome, as she had a history of spontaneous abortion at 5 months of gestation due to premature membrane rupture in her first pregnancy three years prior, followed by the history of stillbirth at the hospital at 8 months of gestation in her second pregnancy 1.5 years prior.

Her vital signs were stable, and a systemic examination revealed nothing abnormal. A per vaginal examination revealed a firm, mobile, normal-sized, anteverted uterus without fornicial tenderness. The investigation was recommended, and the male partner's semen analysis revealed a 50 million sperm study with normal morphology and good motility. She had a B-positive blood group, Hb percent of 10.7mg/dl, FBS of 73mg/dl, TSH of 1.31mU/L, and normal CUE when her CBC, ABO Rh typing, CUE, and FBS results were obtained.

MATERIALS AND METHODS

The Unani compound formulation consists of *Majoon Mocharas* 5gm, *Sharbat Unnab* 20ml, *Jawarish Amla* 5g, which was taken twice daily, and 6g powder of *Baikh asgand* (*Withania somnifera Dunal*), *Baikh piyabansa* (*Barleria prionitis* Linn), *Gule dhawa* (*Anogeissus latifolia*), and *Gule nilofar* (*Nymphaea alba* Linn), taken with milk for 5 days starting from the fifth day of last menstrual period. In addition, the patient was advised to have timed intercourse.

Asgand contains alkaloids and steroidal lactones as main constituents, gul dhawa consists of saponins, tannin quercetin, and phenolic compounds, *gule nilofar* is rich in alkaloids, whereas *piyabansa* contain anthraquinone pigmented, barleriaquinone; all these constituents are responsible for phytoandrogen-oogenic, antistress and insulin-sensitizing activities (Shameem I, 2019; Anonymous, 2003; Gupta AK, 2004; Satyavati GV, 1987).

The description of the single drug is given as follows:

Fig. 3 ***Baikh Asgand*** **(*Withania somnifera Dunal*)**

It is a well-known Unani medicine used in many parts of the world. It is also known as Indian ginseng, has been described in Unani medicine as *muwallid-i-Mani* (ovulation-inducing), and *mughalliz-i-mani* (an agent which increases the viscosity of semen), *muqawwi Rahim.* A mixture of powder of *asgand* 1 part, ghee 1 part, and milk 8th or 10th part is very effective for conception if taken soon after menstruation. *Asgand* is beneficial in gynecology for irregular menstruation, female and male infertility, and impotence.

Fig. 4 ***Baikh piyabansa*** **(*Barleria prionitis* Linn)**

It is a tropical Indian plant, used as a medicine for a long time. It possesses emmenagogue, analgesic, appetizer, hemostatic and antiseptic properties and is beneficial for conception when used in a dose of 10.5 g with milk.

Fig. 5 ***Gule dhawa*** **(*Anogeissus latifolia*)**

The tree is remarkable for the large amount of gum that flows from it, hence known as Dhawa. Flowers are used as an aphrodisiac, astringent, antipyretic, refrigerant, anthelminthic and antidiarrheal.

Fig. 6 ***Gule nilofar*** **(*Nymphaea alba* Linn)**

Flowers have androgenic and reproductive properties. It is a well-known Unani medicine used for thousands of years by eminent Unani physicians and described by Ibn Sina in his book "*advia qalbia*" as a potent *mufarrah* (tranquilizer). It possesses aphrodisiac uterotonic and anti-inflammatory properties and is useful in impotency, premature ejaculation, etc.

FOLLOW-UP END RESULTS

During follow up it was observed that the patient had a response to the treatment i.e.; after taking the Unani compound formulation for just one cycle. She missed her period and urine for pregnancy test revealed that she was pregnant, and an early obstetric scan revealed an early intrauterine gestation of 6 weeks 3 days, with evidence of cardiac activity.

DISCUSSION

A couple is typically referred for evaluation in the OPD of the National Institute of Unani medicine Bangalore after 1.5 years of unsuccessful attempts at conception. The couple had no successful pregnancy outcome, as she had a history of spontaneous abortion at 5 months of gestation due to premature membrane rupture in her first pregnancy three years prior, followed by the history of stillbirth at the hospital at 8 months of gestation in her second pregnancy 1.5 years prior, suggested secondary infertility. Her vital signs were stable, and a systemic examination revealed nothing abnormal. A per vaginal examination revealed a firm, mobile, normal-sized, anteverted uterus without fornicial tenderness with a regular menstrual cycle of 28-30 days with moderate flow. The investigation was recommended for both the partners, and the male partner's semen analysis revealed a 50 million sperm study with normal morphology and good motility. Despite

being consanguineous in marriage, neither partner's side of the family had a history of infertility, as parental consanguinity has been linked to stillbirths, low birth weight, preterm delivery, abortion, infant and child mortality, congenital birth defects, cognitive impairments, cardiovascular risks, malformations, and many other complex disorders.

In young women (25 years), expectant management can be considered, especially if the duration of infertility is 3 years, which is not applicable in the advanced age of women (>35 years). Treatment decision is based on prognostic factors such as duration of infertility and age of the female partner (Kazemeini SK, 2017). The likelihood of becoming pregnant is decreased by 2%, or roughly 25%, for every extra month of infertility (Shameem I,2019). The patient, in this case, was 28 years old, but she was unable to become pregnant despite 1.5 years of unprotected sexual activity and after receiving modern treatment, which caused the couple stress and demonstrated the need for conventional treatment.

Numerous formulations have been offered for the treatment of infertility in the Unani system of medicine, and one of the most successful formulations has been used to help a stressed-out couple conceive. The ingredient combination includes *Baikh asgand* (*Withania somnifera Dunal*), *Baikh piyabansa* (Barleria prionitis Linn), Gule dhawa (*Anogeissus latifolia*), and *Gule Nilofar*, which has been mentioned in the Unani system of medicine as having aphrodisiac, uterotonic, ovulation-inducing, phytoandrogen-oogenic, antistress and insulin-sensitizing properties. Since the patient was instructed to take this formulation with milk for five days starting on the fifth day of the previous period and timed sexual activity, fortunately, women conceived within a single cycle.

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SEMEN ANALYSIS REPORT

Semen: 104/2022 Date: 07/03//2022

Patient Name: [redacted] Age: 29 yr/m

Referred: [redacted] OPD.No:531547

Sample collected at: 11.10 am

Quantity: 3ml

Color: Grey white.

Ph: 9.0

Viscosity: Normal

Liquifaction: Normal

Motility studied at: 12.00 pm

Sperm count: 50million sperms/mm^3

MOTILITY	NORMAL	PATIENTS VALUE
Rapid progressively(classA)	>25%	40 %
Progressively(class B)	>25%	40%
Class A+B	**>50%**	**80 %**
Non progressively (class C)	<50%	10%
Immotile or static(classD)	<50%	10%
Class C+D	**<50%**	**20%**

Normal forms : 60%

Abnormal forms : 40%

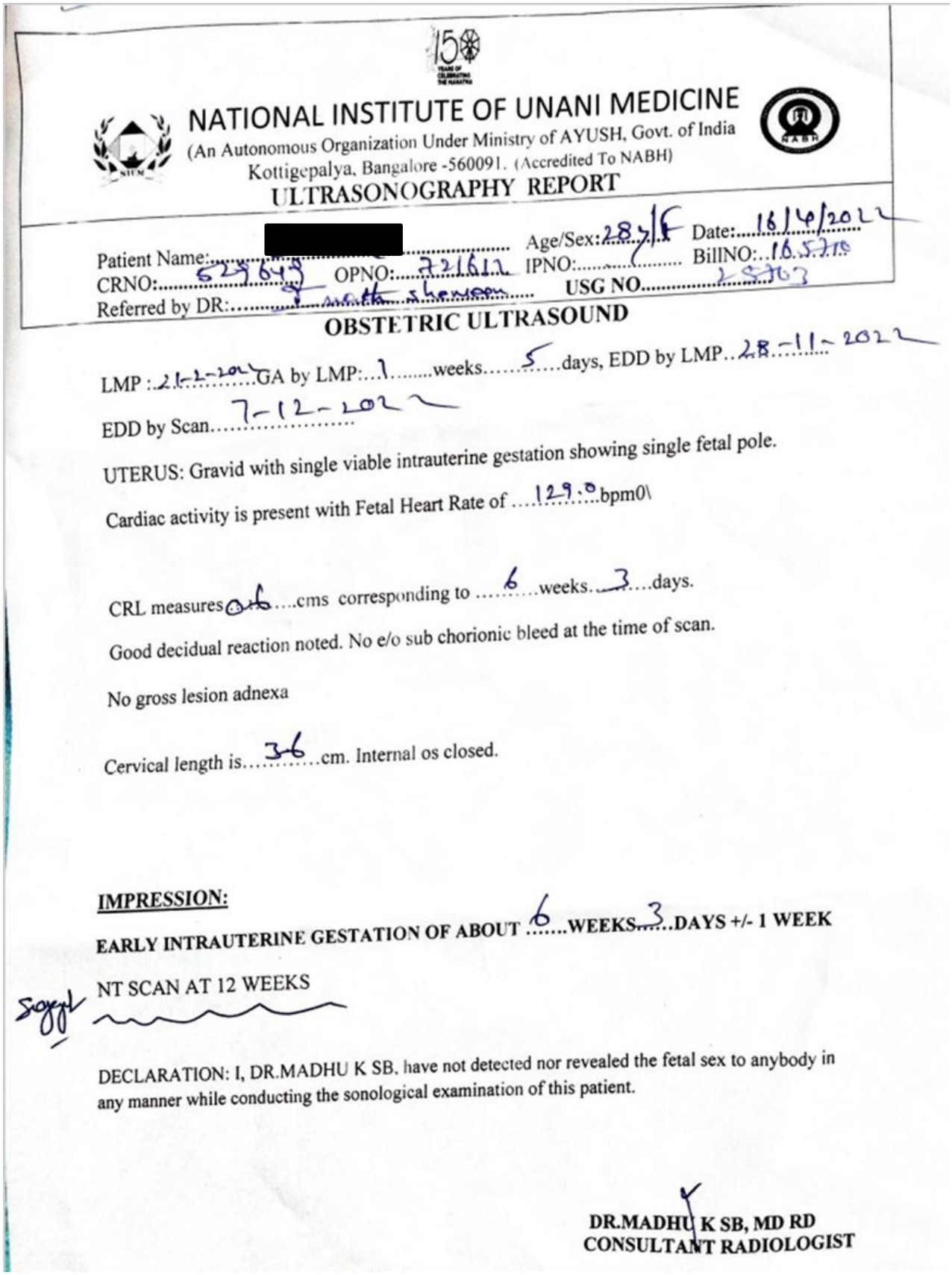
IMP- Features are suggestive of Normozoopermia

DR.Renuka.B.N

Pathologist (MBBS, MD)

The data of this report will not be preserved for more than 30days.
The laboratory values to be correlated with clinical findings.
Repeat sample may be necessary in some cases where reconfirmation is required for technical reasons.

Fig.1 Husband semen analysis report



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ULTRASONOGRAPHY REPORT

Patient Name: [redacted] Age/Sex: 28/F Date: 16/11/2022
CRNO: 529643 OPNO: 721612 IPNO: BillNO: 16.5710
Referred by DR: Dr. Smitha Shenoy USG NO 2.5763

OBSTETRIC ULTRASOUND

LMP : 21-2-2022 GA by LMP: 7 weeks 5 days, EDD by LMP 28-11-2022
EDD by Scan 7-12-2022

UTERUS: Gravid with single viable intrauterine gestation showing single fetal pole.

Cardiac activity is present with Fetal Heart Rate of 129.0 bpm0\

CRL measures 0.6 cms corresponding to 6 weeks 3 days.

Good decidual reaction noted. No e/o sub chorionic bleed at the time of scan.

No gross lesion adnexa

Cervical length is 3.6 cm. Internal os closed.

IMPRESSION:

EARLY INTRAUTERINE GESTATION OF ABOUT 6 WEEKS 3 DAYS +/- 1 WEEK

NT SCAN AT 12 WEEKS

Sogyl

DECLARATION: I, DR.MADHU K SB, have not detected nor revealed the fetal sex to anybody in any manner while conducting the sonological examination of this patient.

DR.MADHU K SB, MD RD
CONSULTANT RADIOLOGIST

Fig.2 Obstetric Scan

Fig.3 *Baikh Asgand* (*Withania somnifera Dunal*)

Fig.4 *Baikh piyabansa* (*Barleria prionitis* Linn)

Fig. 5 *Gule dhawa* (*Anogeissus latifolia*)

Fig. 6 *Gule nilofar* (*Nymphaea alba* Linn)

CONCLUSION

Unani medicine assisted the patient in becoming pregnant after just one cycle of treatment without producing any observable side effects, and it may be a helpful complementary treatment option in the event that conventional treatments for female infertility are unsuccessful. As a result, this strategy can be taken into consideration when treating stressed-out infertile couples. However, there are still not enough clinical studies on effective Unani formulations. To determine the efficacy of Unani medicines in such circumstances, additional comparative studies utilizing serial follicular monitoring and mid-luteal serum progesterone may be beneficial.

LIST OF ABBREVIATIONS

OPD: Outpatient Department
NIUM: National Institute of Unani Medicine
BMI: Body mass index
STD: Sexually transmitted disease
Hb: Hemoglobin
FBS: Fasting blood sugar
TSH: Thyroid-stimulating hormone
CUE: Complete urine examination
CBC: complete blood count
Rh typing: Rhesus typing

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CONFLICT OF INTEREST

There are no competing financial interests of the authors.

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