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Ayurveda intervention in primary infertility: A case report

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Abstract

While procreation, as food and sleep are basic instincts of every living creation, conception in Ayurveda is a consecration requiring harmony of the physical and mental body of the couple and of their exterior. The following case report is of primary infertility that presented with post ovulatory changes yet conceived in the same period. On examination, she presented with Shukradushti indicating functional derangement of reproductive system along with irregular bowels and renal functioning. A holistic approach was taken which included Ayurveda oral treatments, appropriate modifications in lifestyle, diet and activity regimen; awareness and counseling about mental, environmental and social health. The adopted protocol thus set right the body's internal dynamics that increased scope for ovulation and thereafter conception and sustenance as well leading to the birth of a male baby.

Keywords: Primary infertility, *apraja*, shukradushti, *narayana tailam*, *saumanasya*, case report

Key Messages

1. A case report of primary infertility since 8.5 years who presented with post ovulatory changes yet conceived with Ayurveda intervention in the same cycle.
2. A cumulative approach involving internal and external Ayurveda therapies, counseling, along with modifications in lifestyle, diet, sleep and sexual routine constituted the adopted treatment protocol.
3. In the present case scenario, Ayurveda intervention produced a comprehensive effect contributing to ovulation; fertilization and implantation of the embryo; and also in sustenance of the pregnancy up to its first detection and later on led to the successful delivery of a male child.

1. Introduction

Garbhadhana (~pre-conception care) in Ayurveda is considered one among the 16 *Sanskara* (~consecration) in life [1]. However, around 60-80 million people suffer from infertility globally with 25% in India [2]. Apart from physiological problems, preventable issues include PCOS, STD'S, post-partum infections etc. and life style factors like-age, nutrition, weight, exercise, psychological stress etc. [3]. Infertility in Ayurveda is described as *Apraja* (~primary-infertility) and *Sapraja* (~secondary-infertility) [4]. Parallel to treating the pathology, health with regard to appetite, digestion, excretion, sleep routine etc. is to be acknowledged as chief fertility-markers [5]. The present case report is of an *Apraja* (~primary infertility) whose current imaging although suggested of no dominant follicles, formation of corpus luteal cyst and post ovulatory changes in right ovary, she however successfully conceived in the same cycle with Ayurveda intervention and lifestyle modifications. The conception thereafter sustained and successfully led to the birth of a male child.

2. Materials & methods

2.1 Patient information

A female patient aged 32 years, married since 8.5 years, moderately built, professionally a nurse, belonging to middle class family visited the Ayurveda OPD of the hospital on September 2020 with an eagerness to conceive.

2.2 Clinical findings

The patient along with her husband who was currently not under any kind of treatments since 2 years had expressed their anxiousness to conceive. It was when she went to seek infertility treatment post marriage that she was diagnosed with PCOS for which she had sought treatment. There was a past history of a hysteron - laparoscopy to treat para ovarian cyst (left ovary) in 2014. Running parallel she was under conventional treatment for infertility for 6.5 years since the time of marriage. Meanwhile, a previous semen analysis performed in 2013 was in normal range.

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No relevant family history of infertility was present from both of the couple. Since the couple reported to have not been able to conceive even after undertaking conventional treatments they came to seek Ayurveda treatment for the same.

Her menstrual history reveals that since 4 months her menstruation had been a 28 day cycle with bleeding for 4-5 days. Her LMP was on Aug 28 2020. There was a presentation of mild back ache with a negative for other signs like discolorations, foul smell, increased bleeding, leucorrhoea etc.

She had a normal appetite yet frequently encountered a feeling of indigestion. Sleep was sound, emptied bowels which followed an erratic pattern of evacuating once in 2-3 days and had an average urine output of 5-6times/day and 1-2times/night. Besides previous unsuccessful attempts, her mental strength seemed to be moderate and she was keen on getting pregnant.

Due to professional reasons, she was regularly on night shifts for around 8 years but was unemployed since 4 months for the reason to conceive. The husband aged 37 years was also a nurse by profession. It was inferred that due to occupational reasons the couple had an erratic diet, sleep and lifestyle routines with no physical exercise of any sort. On detailed interrogation it was revealed that since they were working at different districts the couple used to have a planned yet regular intercourse for a period of 10 days during the ovulation phase.

History of past illness reveals that the female patient was a K/C/O bronchial asthma and also succumbed to frequent UTI.

2.3 Diagnostic focus and assessment

The patient had visited with a USG scan of the pelvis and a follicular study report taken on day 9 and day 11 of her

current cycle (Fig 1 & Fig 2). Owing to the report which suggested an ovulatory cycles with a radiological impression of no dominant follicles, formation of corpus luteal cyst in right ovary on day 9th and on day 11th with post ovulatory changes in right ovary, she came to seek Ayurveda treatment for the same.

The patient was examined for the following parameters and were thus recorded as follows: BP – 100, 60 mm Hg, PR – 96 bpm, RR – 20 pm, O₂ saturation – 100 %, Ht - 161 cm, Weight - 58.2 kgs and BMI - 22.30.

A detailed examination through Ayurveda examination tools was also conducted and is listed out as *Rogi Pariksha* (~patient examination) under Table 1 and *Roga Pariksha* (~Examination of disease) under Table 2. The *Samprapti* (~Pathogenesis) in the current case was evident that *Apana Vayu* (~division of wind humor responsible for excretion) was in *Avarodha* (~occlusion) which was inferred with issues regarding her irregular menstrual cycles, irregular bowel evacuation and frequent episodes of urine infection. The occlusion eventually had led to aggravation of *Vata* hampering *Mutra* - (~urine), *Purisha* - (~bowel), *Artava*- (~menstrual) and *Shukra*- (~reproductive) dhatu (~system) along with their respective Stotra (~subtle body channels) thus vitiating both the biological contents and their respective pathways. It was also inferred that since the *Agni* (~digestive system) is directly above the *Apana Vayu*, it had been succumbed to constant vitiation and the former again vitiating the latter like a vicious circle, both of which lead to a qualitatively-deficient production and excretion of biological entities especially of *Shukra* and the ones stated above. The role of the psyche and occupation in aiding the pathogenesis was also borne in mind.

Table 1: *Rogi - pariksha* - Examination of patient

Factors of examination	Outcome
<i>Prakruti</i> (~body constitution)	- <i>Vata pitta</i>
<i>Vikruti</i> (~vitiating elements) <i>Dosha</i> (~humor)	- <i>Vata Pradhana Tridoshaja</i> (~three humor affliction with dominance of wind humor)
<i>Dushya</i> (~tissue elements)	- <i>Rasa</i> (~plasma), <i>Artava</i> (~menstrual blood), <i>Shukra</i> (~reproductive element)
<i>Sara</i> (~tissue excellence)	- <i>Madhyamam</i> (~moderate), <i>Mamsa Sara</i> (~muscle tissue excellence)
<i>Samhanana</i> (~compactness of physical body)	- <i>Madhyamam</i> (~moderate)
<i>Satva</i> (~mental strength)	- <i>Madhyamam Bala</i> (~moderate)
<i>Satmya</i> (~grading of dietic habits)	- <i>Madhyamam</i> (~moderate)
<i>Ahara Shakti</i> (~digestive ability)	- <i>Madhyamam</i> (~moderate)
<i>Vyayama Shakti</i> (~physical ability)	<i>Pravara</i> (~high)
<i>Pramana</i> (~body weight)	- 58.2kgs - <i>Madhyamam</i> (~moderate)
<i>Vayas</i> (~age)	- <i>Madhyamam</i> (~moderate) - (adulthood) 32yrs
<i>Agni</i> (~digestive capacity)	- <i>Manda</i> (~weak)
<i>Mala</i> (~bowel movements)	- <i>Krura</i> (~irregular) Once in 2 - 3 Days
<i>Mutra</i> (~urine output)	- 5-6 times (day) / 1-2times (night)
<i>Kshut</i> (~appetite)	- Present
<i>Nidra</i> (~sleep)	- Sound
<i>Artava</i> (~menstrual history)	- 5-6days / 28 Day Cycle Since 4 Months

Table 2: *Roga Pariksha* - Examination of disease

Factor of examination	Element of vitiation	Parallel signs in patient
<i>Hetu</i> (~cause)	<i>Vata Vaigunyam</i> (~derangement of wind humor)	K/C/O pcod, profession, regular night shifts, anxiousness to conceive
<i>Purvarupa</i> (~premonitory symptoms)	<i>Artavadushti</i> (~erratic menstrual cycles)	past history of delayed menstruation
<i>Rupa</i> (~presenting complaints)	<i>Garbha Dharana Asamartha</i> (~Infertility)	Unsuccessful infertility treatments
<i>Pradhanya Samprapti</i> (~humor dominance)	<i>Vata Pradhana Vaigunyam, Vikruta Pitta & Vikruta Kapha</i> (~derangement of all humors with dominance of wind humor)	Irregular bowels and recurrent UTI An ovulatory cycle
<i>Vidhi</i> (~nature of disease)	<i>Nija</i> (~somatic causes) + <i>Agantu</i> (~external causes), <i>Sadhy a</i> (~curable)	Psychosomatic affliction
<i>Dosha Vikalpa</i> (~nuances of <i>Dosha</i> vitiation)	<i>Vata:Ruksha</i> (~dryness), <i>Cala</i> (~movement), <i>Sukshma</i> (~penetration) <i>Pitta:Ushna</i> (~hotness), <i>Tikshna</i> (~sharpness), <i>Sara</i> (~laxative) <i>Guna</i>	an ovulatory cycles

	<i>Kapha: Snigdha (~unctuousness), Sthira (~rigidness)</i>	
<i>Kala (~time of affliction) -</i>	<i>RutuKala (~ovulation phase)</i>	ovulation phase
<i>Bala (~disease strength) -</i>	moderate	Chronic history
<i>Anupashaya (~triggering causes) -</i>	<i>Vishamakriya (~inappropriate habits)</i>	Inappropriate lifestyle routines, night shift, anxiousness to conceive

2.4 Timeline and Therapeutic interventions

Ruling out any seminal abnormalities and other PCOS issues along with the fact of failure in conception with conventional treatments, the case presented thus was diagnosed as *Apraja* and was thereafter taken up in view of causing ovulation as she was still in the ovulatory phase i.e. day 12 of her menstrual phase.

Interventions such as oral medications, external applications and non-therapeutic interventions like food and lifestyle modifications, activity modifications, sexual routines, physical routines, routines for the psyche, breathing routines that were advised is listed below in the Tables 3 & 4 respectively.

Table 3: Timeline of Ayurveda Therapeutic Intervention

Time period	Intervention	Treatment summary with dose-Female	-Male
Sep 9 - Sep 17 (9 days)	Rx1 1st visit	Route of administration – Oral 1) Dashamula Arishtam 30ml + T. Yoga raja Guggulu 1 - TID- B/F 2) Ashwagandadhi Churnam 1.5 tsp with warm milk - morning - empty stomach 3) Narayana Tailam 5 ml @ 5 pm Route of administration – External 4) NarayanaTailam -Abhyangam	Ashwagandadhi Churnam 2tsp with warm milk @ bedtime Narayana Tailam -Abhyangam
Sep 18 - Sep 29 (12 days)	Rx 2 2nd visit	Route of administration – Oral 1) Dashamula Jeeraka Arishtam 30ml + T. Yoga raja Guggulu 1 - TID- B/F 2) Ashwagandadhi Churnam 2 TSP with warm milk - morning - empty stomach 3) NarayanaTailam 10 ml @ 5 pm Route of administration - External 4) Narayana Tailam–Abhyangam	Ditto
Sep 30 - Oct 17 (23 days)	Rx 3 3rd visit	Nil oral	Nil oral

Table 4: List of Additional Interventions

S.N	Type of intervention	Method of execution
1	physical exercise	20 min/day
2	deep inhalation & exhalation	10 breath cycles - 5times/day
3	hearing to soothing music	20 min/day
4	spending "me" time - engaging with oneself	15 min/day
5	sleep on time & avoid night shift routines	during pre-ovulation & ovulation phase
6	milk rice as a dinner desert	during pre-ovulation & ovulation phase
7	Sexual routine	Copulate on 4 th , 6 th , 8 th , 10 th , 12 th , 14 th & 16 th day of ovulation

3. Results

On the first visit on 09th September 2020, the patient had seemed very neutral in their expression and requirements. As she was still in the ovulatory phase, they were provided with an ideal sexual routine for the following days for a week's time. On completion of the 1st course of treatment for 10 days i.e. on 18th September 2020 the patient revealed of having a regularized and complete bowel evacuation for 8 out of 10 days and there was a lack of tiredness. She was more pleasant looking and wore a smile on her face and seemed to have a relaxed conversation than the initial visit. The dose of the

medicines was mildly increased in the second visit.

During her third visit which was on 30th September 2020, when the patient did not get her periods which was delayed by around 1 week of her expected date, the patient was advised to go for a UPT examination which revealed a positive sign for pregnancy. The medications were advised to be withdrawn owing to not externally interfere with the post-fertilization process if any. On the 4th visit which was after 16 days, a USG of pelvis confirmed a positive pregnancy with a gestation of 7 weeks and 3 days (Fig 3). Table 5 presents the treatment timeline with the parallel diagnostic findings.

Table 5: Treatment Timeline parallel with Radiological diagnostics

Diagnostics	Diagnostic summary	Radiological findings	Intervention
Sep 7 - USG	NO dominant follicle in right & left ovary	cyst with diffusely thick wall with cremated contour with minimal peripheral vascularity in right ovary - suggestive of corpus lutes cyst	Nil
Sep 9 - USG	NO dominant follicle in right & left ovary	follicular study report reveals post ovulatory changes in right ovary with no dominant follicle observed in both ovaries	Ayurveda treatment- Rx 1 - Sep 9 to Sep 17 Rx 2 _ Sep 18 to Sep 29
Sep 30	UPT	Positive for pregnancy	Nil oral
Oct 17	USG pelvis	Positive for pregnancy - Primi 7weeks3days	Nil oral

4. Discussion

Infertility has been on a rise and all the more amongst working couples. In the present case report, besides the professional background of the couple, night shift routines, increased stress levels with anxiousness to conceive which aggravated with previous history of infertility treatment

failures, the couple's planned intercourse schedules etc were all acknowledged. Although various treatment modalities have been successfully documented like *Basti* (~Enema), *Nasya* (~nasal medications) along with oral medications, the present case had resorted to no such cleansing therapies but only oral medications and lifestyle modifications. Both were

treated in the lines of *ShukraDushti* and also the modality adopted was intended to clear the *Avarodha* (~obstruction) of Vayu and parallel correcting the *Agni* as well.

As *Saumanasyam* (~happy mind) has been linked to as the chief factor in pregnancy, the significance of a favorable mind set was stressed upon^[6]. For the same reason, counselling was also done about the same to both the members. The couple and especially the female was encouraged to do an activity of their own interest for about 10-15 minutes every day. Additionally, a fertility-favorable life style routine was also advised which included an exercise routine of their choice, breathing exercises (deep inhalation and exhalation) and consumption of milk rice for dinner before the night of their sexual intercourse^[7].

On the physical grounds, as ovulation was the desired target, the treatment was zeroed on to the *Shukra* Dhatu as irrespective of gender, the latter is the only factor associated with *Garbha Dharana* (~conception)^[8]. Hence, such of the drugs which had a synergistic effect amongst - the gut, *Vata Dosha* and *Shukra* Dhatu, and meanwhile effective in facilitating conception were chosen.

The rationality for selection of drugs is hereby listed below. As *Vata* is the leading factor, to treat its occlusion the case was advised *Dasha Mula Arishtam* and *Yoga raja Guggulu* which simultaneously also treated the underlying *MandaAgni* (~weak digestion) and *Dhatu vagni Mandya* (~weak digestion in tissues). Alongside, she was also advised *Ashwagandadhi Churnam* to specifically target the *ShukraDushti* (~vitiating in reproductive system) and additionally improving the digestive system. And to improve the reproductive functioning besides the downward movement and pacification of Vayu she was also administered *Narayana Tailam* internally and for external application all over the body. Care was also taken with regard to *Aushadhakala* (~time of medicine administration) i.e. *Agni* was targeted by administering the medicine in the morning on an empty stomach and before food, Vayu was targeted by administering in the *Vata Kala* (~vata dominant phase of the day) i.e. at 5pm in the evening and the intake of a suitable *Anupana* (~after drink) such as milk was also adopted in order to facilitate the correction in the *Shukradhatu*. Table 6 below gives a wider focus on the pharmaco-kinetics of the selected formulations.

Table 6: Pharmaco-kinetics of the administered drugs:

	<i>Yogaraja Guggulu</i> (SY) ^[9]	<i>Dasahamula Arishtam</i> (SY) ^[10]	<i>Ashwagandadhi Churnam</i> (SY) ^[11]	<i>Naarayana Tailam</i> (CKD) ^[12]
<i>Agni Vriddhi</i> (~enhancement of digestive system)	+	+	+	
<i>Shukra Vriddhi</i> (~enhancement of reproductive system)	+	+		+
<i>Vatagna</i> (~pacification of wind humor)	+	+	+	
<i>Adhobhaga Vata Kshaya</i> (~pacification of wind humor)				+
<i>Garbha Vindana / Putrad</i> (~fertility)		+		+

The Pharmacol - dynamics from the administered treatment can be inferred to have led to.

- Clearing the occlusion of Vayu and causing it to move in its natural course of downward movement. Subjectively, *Vata Anulomana* (~downward movement of Vayu) was established in the first course of treatment which was inferred by easy passing of stools – 8/10 days and the same was also observed during the 2nd administration too.
- Efficiently correcting the *Shukra-vaha*–stotra by effecting in a successful ovulation which is confirmed with follicular study report before start of medicines.
- Improvement in the quality of the *Shukra* Dhatu by effecting in its *Garbha Dharana Karma* thereby leading to a successful Conception.
- Contribution in implantation of the embryo and its successive sustenance post fertilization till the period of detection of pregnancy through UPT examination.
- Improving the *Agni* and thereby facilitating in causing an equilibrium in the body's over-all pharmaco - dynamics.

Hence, it may be concluded that based on subjective and objective evidences, the customized Ayurveda protocol had successfully channelized the body in achieving ovulation, fertilization of the ovum, implantation and sustenance of the embryo.

Although with a radiological evidence of no dominant follicles, corpus luteal cyst and post ovulatory changes, it seems to be that the conception and start of Ayurveda medications have occurred almost instantly. This suggests that Ayurveda medications had instantly corrected the Vayu which is responsible for other biological functions especially

conception in the current case^[13]. The cleared occlusion thus led to release of the ovum and successive biological changes thereafter. Although the radiological evidence is totally in contradiction of the following occurrence, the paper acknowledges a probability or otherwise for a prior conception which may or may not have occurred. However, in view of such a circumstance, what still appears to be evident is the role of the medications and other lifestyle modifications in causing sustenance of the already fertilized embryo (if occurred) and upto the period of detection of the pregnancy. Since the family lives in a different district as of the hospital the obstetric history was obtained over phone and hence produced for the case report, the details of which are listed below:

Nature of delivery: LSCS

Indication for LSCS: Precious pregnancy & oligohydraminos

Gestational Ag: 37 weeks

Radiological findings: IUGR

Date of delivery: May 15/2021

Gender: Male

Birth weight: 2.06 kgs

Thus with the current radiological proof of the patient it can be concluded that the Ayurveda intervention in this particular case has successfully contributed in three areas viz. ovulation, conception and sustenance of the pregnancy and subsequently up to the birthing of her baby.

5. Conclusion

Labelling non-conception with infertility need not always be

equated to a deadliest disorder with a hopeless cure. The possibility of managing Infertility needs to be looked upon from a wider perspective of not restricting to appropriation of one's reproductive functioning lest include a lifestyle that is favorable for the same. For that reason, *Garbha Dana* Samskara, basically a preconception care has been advised which encompasses in it regimen with respect to sexual routines, diet, activity, in parallel with significance over the role of mind, environment and social health. The current patient was a case of primary infertility with a previous history of PCOS who had resorted to conventional infertility treatments before. With a current history of regular menstrual cycles without medical intervention, she approached Ayurveda treatment for further proceedings. The treatment protocol adopted included internal and external medications along with modifications in lifestyle, diet and activity regimen; awareness about mental, environmental and social health. In the above case report, the comprehensive treatment modality had thus favored to set right the body's internal dynamics that triggered a series of events which evidently resulted in ovulation and thereafter conception, implantation and sustenance of the embryo until the prescribed medication time. The success of the treatment eventually leads to the birth of a male baby who was delivered through a C section owing to being a precious pregnancy.

6. Declaration of patient consent

Authors certify that they have obtained patient consent form, where the patient has given her consent for reporting the case along with images and other clinical information in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity but anonymity cannot be guaranteed.

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