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Ayurveda management of primary infertility associated with endometriosis - A case report

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ABSTRACT

Endometriosis is one of the most important causes of female infertility. This is a case report of a couple who presented with primary infertility after 10 years of marriage. On clinical evaluation and investigations, the wife, aged 32yrs, was found to have endometriosis. She took various treatments including hormonal therapies and multiple attempts of Assisted Reproductive Techniques of IUI, ICSI, and IVF-ET, but in vain. In Ayurvedic terminology that case was diagnosed as *Vandhyatva* (infertility) due to *Vatiki Yonivyapad* associated with *Paripluta*. Internal medicines and *Sodhana* (bio-cleansing therapy) therapies which included *Virechana* (Therapeutic Purgation), *Basti* (Therapeutic enema), and *Uttarabasti* (intra uterine douching) were the treatment modalities done with the aim of providing *Vatasamana*, *Lekhana* (Therapeutic Scraping), *Srothosodhana* (cleansing of functional channels), and *Garbhasthapana* (proper implantation and stability of embryo). Her 5 months of Ayurvedic intervention resulted in the conception and she delivered a full-term female baby weighing 2.8 kg through lower segment caesarean section.

1. Introduction

The prevalence of endometriosis is about 10 %. The prevalence is high amongst infertile women (30–40 %) whereas around 40–50 % of patients with endometriosis suffer from infertility. Infertility may be due to associated tubulopathy or ovarian dysfunction. Common signs and symptoms include chronic pelvic pain, dysmenorrhea, painful intercourse (dyspareunia), abnormal menstruation, etc [1]. The extensive search conducted in portals like PubMed and Scopus found only one case report presented in a conference in the year of 2013 [2]. The fact that studies published in indexed journals on this subject are relatively few in the field of Ayurveda indicates the importance of this article (see Tables 1–3)

The focus of this case was primary infertility due to endometriosis. A direct description of endometriosis in classical texts are not available. Due to the same reason the diagnosis and management of the condition is conducted based on the principles explained in classics, after considering clinical features, management principles of Vandhya and *Vatiki Yonivyapad*. The associated symptoms like burning sensation, dyspareunia, etc. can be treated by adopting the management principles of *Paripluta Yonivyapad*. Analyzing the clinical presentations of the patient, the disease condition was diagnosed as *Vandhyatva* due to *Vatiki Yonivyapad* [3] associated with *Paripluta*.

2. Patient information

A couple presented with primary infertility of 10 years since marriage, in the OPD on 25/5/2017. The semen parameters of the husband were found to be within normal limits. The female patient had a regular menstrual cycle with an interval of 35 days and 4–5 days of duration. Moderate lower abdominal pain during menstruation with severe breast pain (mastalgia) and increased body heat which aggravated a few days prior to the menstrual cycle was also observed. For her, painful intercourse was a serious matter of concern. These symptoms have been present for 10 years but after laparoscopic surgery, lower abdominal pain reduced for a long duration. They had undergone various modern infertility treatment methods including Artificial Reproductive Techniques of, ICSI and IVF-ET, in the past 9 yrs. Hystero laparoscopic procedures were also performed. Meanwhile, they seemed very anxious and stressed due to the sustained subfertility, painful sexual act, and

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Table 1
Timeline of events.

Date	Observation/remarks	Treatment
1/05/2009	Chocolate cyst with internal echoes on right ovary 6.6 × 3.3 cm	Treatment initiated as per modern medicine protocol.
15/06/2009	Right ovarian chocolate cyst	Laparoscopy advised.
27/06/2009	Endometrial cyst aspirated; adhesions present on the left uterosacral ligament.	Hystero laparoscopy done.
24/12/2015	3 embryos were collected; 1 cryopreserved.	ICSI failed.
12/04/2016	Preserved embryo collected	IVF-ET failed. No treatment carried out next one year.
25/05/2017	Diagnosed as per Ayurveda	Ayurvedic treatment was initiated.
6/06/2017	Dyspareunia, moderate dysmenorrhoea, mastalgia	*Panchakarma* treatment was initiated.
20/07/2017, 24/08/2017	Treatment session after menstruation	*Ksheerabasti, Utharabasti*
26/8/2017	Ovulation occurred	Internal medicine revised:
26/11/2017	UPT (Urine Pregnancy Test) is positive with LMP: 14/10/2017.	Patient conceived.
11/7/2018	female baby: 2.8kg	Patient delivered on LSCS.

Table 2
Sodhana therapy

Procedures	Medicines	Duration (Days)
Snehapana (internal administration of ghee)	*Shatavaryadi Ghrta* [3 *Utharatantra,* 24, pp.899]	6
Abhyanga-Svedana (massage and steam)	*Pindataila* [3 *Chikitsasthana*, 22, pp.730]	3
Virechana	*Avipatti Churna* [3, *Kalpasthana*, 2, pp.743]	1
Ksheerabasti	*Shatavaryadi Ghrta, Yashtimadhu Kalka, Guduchyadi Ksheera Kashaya, Mahanarayana Taila.*	3
Uttarabasti	*Mahanarayana Taila* [6]	3
Ksheerabasti Uttarabasti	Two cycles repeated after menstruation	

financial problems. Unsuccessful attempt of second IVF-ET procedure on 12/05/2016 they took a gap of one year without any treatment. Then they were opted to explore a cost-effective alternative treatment for the conditions and on 25/05/2017 started Ayurveda treatment. Her due written informed consent was recorded before initiating the treatment.

3. Clinical findings

The female patient was lean with a BMI of 23. No abnormalities were detected on general examination, but her pelvic examination showed mild tenderness on the fornices. The uterus was anteverted. Per speculum examination showed mild erosion in the cervix and moderate discharge which has a physiological presentation. Pap smear was done and reported as mild inflammatory smear.

4. Diagnostic assessment

Laparoscopy is the golden standard in the diagnosis of endometriosis. As per laparoscopic reports, the uterus is fixed posteriorly with both ovaries stretched behind and both tubes are tortuous in the distal end. Right ovary with endometrial cyst (which was removed during laparoscopy). The bowel was adherent to the left uterosacral ligament. As per these laparoscopic reports case was diagnosed as primary infertility due to endometriosis and pelvic adhesions. The right ovarian chocolate cyst was diagnosed and removed by hysterolaproscopic procedure 7 years back. The signs and symptoms of endometriosis and pelvic adhesion persisted at the time of consultation. By analyzing the clinical features and investigations the disease was diagnosed as *Vandhyatva* due to *Vatiki Yonivyapad* associated with *Paripluta*. The predominant doshas were *Vata* and *Pitta.*

5. Therapeutic intervention

Internal medicine started with *Pachanamrita kvatha*[t] [4]15 ml with 45 ml lukewarm water and *Chandraprabha Vaṭi*[t] [5]1 tab, both morning and evening before food. *Abhayarishṭa* [3 *Chikitsasthana*, 8, pp. 648] 25ml morning and evening after food were also prescribed. She was advised to follow the diet with a reduced quantity of oils and spices and avoid the condition of deep-fried food articles as well as suppress natural urges. This set of medicines was continued for a period of 3 weeks. Considering the chronicity of the disease, *Sodhana* treatments were unavoidable. The modalities adopted were *Virechana, Basti*, and *Uttarabasti* as main therapeutic procedures and *Snehapana* (Internal oleation) and *Svedana* (Sudation) as preparatory procedures.

After the completion of Sodhana therapies, internal medicines were continued. During the post-ovulatory period as internal medicines, *Shatavaryadi Ghrta* 5 gm in an empty stomach (early morning) and in the evening *Ksheerabala* (101)-10 drops with warm milk, were also given. No adverse and unanticipated events occurred during course of treatment.

6. Follow-up and outcomes

The clinical assessment of patient was periodically done at an interval of one month. The severity of pain in dysmenorrhoea, dyspareunia, and mastalgia was assessed using the Visual Analogue Scale. Other symptoms were evaluated using a self-assessment module. Periodic sonographic monitoring was also carried out. Finally, her menstrual cycle was found delayed by one week and UPT was found positive with LMP on 14/10/2017. On ultrasonography presence of a single intrauterine gestational sac was observed. She delivered a female baby weighing 2.8 kg on11/07/2017 through LSCS.

7. Discussion

VThe chief complaint presented by the patient was the inability to conceive. After clinical evaluation, the female patient was diagnosed as having endometriosis. According to Ayurveda, that case was diagnosed as *Vandyatva* due to *Vatiki Yonivyapad* along with *Paripluta.* By analyzing *Samprapti* (etiopathogenesis) factors, *Dosha* involvement showed a

Table 3
Assessment and follow-up

Assessment	Details	Before treatment	After 1 month	After 3 month	After 4 month
Dysmenorrhoea	Symptoms	06	04	02	00
Dyspareunia	Symptoms	07	04	01	00
Mastalgia	Symptoms	08	06	04	02
Ultrasonography	Right ovary	No dominant follicle	9mm follicle	Not done	Normal
	Left ovary	6 × 10mm follicle	17 × 10 mm follicle	Not done	20 × 17 mm
	Endometrial thickness	5.1 mm	5mm	Not done	9 mm(trilaminar)

predominance of *Vata* and *Pitta*. While *Rasa* (assimilated components of digested food), *Rakta* (Blood tissue), and *Mamsa* (Muscle tissue) were the vitiated *Dushya* (which gets vitiated) and *Rasavaha* (Channels carrying nutrient fluids), *Raktavaha* (channels carrying blood tissue) and *Arthavavaha* (includes the channels with physiological importance in the regulation of menstrual cycles) were the *Srotas* (structural or functional channels) involved. *Srotodushti* included *Vimarga gamana* (diversion to the flow of the contents to the improper channels) and *Granthi* (occurrence of nodular growth in the body channels). *Adhishtana* (site of manifestation) of the disease was *Garbhasaya* (uterus) and the status of *Agni* (digestive/metabolic factors) was found to be Manda (weak). Correction of Agni was the most important initial step. *Pachanamrita kvatha* (indicated in the second phase of Jwara for the purpose of *Ama Pachana* which has the predominance of *Tiktarasa* (bitter taste*), Laghu* (light and easy to digest) *Ruksha (p*roperty which dries up) guna, *Ushna Virya* (hot potency), and *Katu Vipaka* (bio-transformed) was prescribed. The presence of drugs that possess *Sheetha Virya* (cold potency) like *Usheera, Parpataka*, and *Hribera* help to maintain the *Pitta* which was also one of the factors of etiopathogenesis of the disease. *Chandraprabha Vati* in which *Guggulu a*nd *Silajatu* become the chief ingredient is *Pachana* (enhancing digestion), *Lekhana* (therapeutic Scraping), *Chedana*, and *Kledasoshana* (expels the excessive fluid) with an added indication in *Yoni Roga*. As the disease was predominant with *Vata, Abhayarishta* was included to induce *Anulomana* and maintain the *Agni* with its *Laghu Ruksha* and *Sukshma gunas* (the quality of a substance that is responsible for spreading out).

The medicine selected based on dosa predominance, for *Snehapana* was *Shatavaryadi Ghrita* which is *Vata Pitta Samana* and *Brimhana* (nourishing therapy) in its action. Its predominant *rasa* is *Madhura* and *Virya* is *Sheetha*. Hence the administration of the drug in a considerably higher dose could facilitate the process of *Doshotklesa* without causing exhaustion to the patient. It took 6 days to obtain the *Samyak Snigdha Lakshana*. The next phase was *Abhyanga* (Therapeutic oil massage) followed by *Svedana.* The oil selected was *Pindataila* which is also *Vata Pitta Samana* in nature. After the *Purva karmas,* as *Sodhanatherapy, Virechana* with *Avipattichurna* which being predominant of *Madhura Rasa, Madhura Vipaka, Anushnasheetha Virya,* and *Pitta Shamana* in nature, was administered. *Trivrita,* one of the chief ingredients of the drug is explained as the best drug for *Sukhavirechana.*

Virechana resulted in 12 vegas (episodes), and the entire process was completed uneventfully. A modified form of *Ksheera Basti* was administered in the next phase. The basic reference of *Ksheera Basti* is explained in the treatment of *Vatashonita*. The specific combination of *Shatavaryadi Gghita Ksheera* processed with *Yastimadhu Kalka*, *Guduchyadi Ksheera Kashaya* and *Mahanarayana Taila* act as *Vata Pitta* samana, Anulomana and Brimhana. Uttara Basti is one of the most important local treatment in gynaecological disorders. *Mahanarayana Taila* which is *Brimhan* and *Vatahara* with an added indication in *Vandhyatva* was the selected medicine. As endometriosis was the basic pathology, we considered this as a *Granthi,* and hence the need for the action of *Tikshana, Ruksha* medicine to reach the target site was considered. *Kalyanaka Kshara* has*Tikshana,Ushna*, and *Ruksha* properties which are the essential factors for the required action. *Trilavana* by their *Sukhsma Guna* facilitates the entry to the site of action and the drugs like *Aruskara, Chitraka, Nagadandi* and *Gomutra* by their *Tikshana* and *Ruksha* properties function as *Chedana* and *Lekhana.* At the same time, the medium- *Mahanarayana Taila* improves the quality of endometrium and helps to form a suitable atmosphere for implantation.

During the post-ovulatory period, *Shatavaryadi Ghrita* and *Ksheerabala 101* were administered for proper implantation. The menstrual cycle got delayed by one week, so UPT was suggested which turned positive with LMP on 14/10/2017. Within 5 months of treatment, the patient conceived and delivered a female baby on 11/07/2018. Each phase of treatment was monitored and recorded carefully. The result obtained in the case was encouraging and signified the relevance of logical selection of medicines according to the stage along with the judicious combination of internal medicines, procedures, diet, and regimen for the complete cure of the disease.

8. Conclusion

Ayurvedic treatment modalities can manage primary infertility associated with endometriosis. Even though it is a single case, the result observed in this case is encouraging and the protocol followed in the case may be subjected to a clinical trial in a larger sample.

Author contributions

Asmabi.M.A was the physician responsible for the assessment, treatment plan and interaction with the patient.

Jithesh.M.K contributed in data analysis, interpretation, discussion and drafting of the case report.

Jyotsna Govindan structured, corrected the draft by spell check and grammar.

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Conflicts of interest

There are no conflicts of interest.

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