



Combining Tradition and Technology: Ayurvedic Preconception Care Paves the Way for *In Vitro* Fertilisation Success — A Case Report

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Abstract

Infertility is a critical issue that affects a staggering 186 million people worldwide, with a prevalence ranging from 9-18 % of the general population. For many couples, Assisted Reproductive Technology (ART) represents their last hope for starting a family. However, in the event of treatment failure, it becomes a significant source of physical and emotional distress, exacerbating the already challenging experience of infertility. This case study highlights a 32-year old woman diagnosed with primary infertility who had been unable to conceive, even after undergoing conventional fertility treatments, including multiple Assisted Reproductive Technology procedures. She presented with symptoms of hot flushes, nausea, and irritability, which persisted following repeated cycles of ovulation induction. Upon further assessment using *Ayurvedic* principles, she was diagnosed with *Anapathya Vandhya*. Following a course of *Ayurvedic* preconception care, the patient experienced significant relief from her symptoms and successfully conceived through *in vitro* fertilization in a subsequent cycle. With its focus on holistic, personalized care, *Ayurvedic* preconception care can be a valuable complementary option for individuals to optimize their reproductive potential and achieve their dream of starting a family, including those who are pursuing Assisted Reproductive Technology. This case of primary infertility reports the success of *In Vitro* Fertilization after *Ayurvedic* preconception care, demonstrating the potential benefits of integrating traditional medicine with modern fertility treatments.

Keywords: Assisted Reproductive Technology, *Ayurveda*, Case Report, *In Vitro* Fertilization (IVF), Infertility, Preconception Care

1. Introduction

Infertility is a medical condition with a prevalence of 9-18% of the general population¹. Female infertility (40%)² is contributed by peritoneal and tubal factors (35%), ovarian factors (15%), endometriosis (15%)³ and congenital uterine anomalies (2-8 %) ⁴. Among these,

the unicornuate uterus accounts for 2.4% to 13% of all *Müllerian* anomalies, and endometriosis may result in gynaecological and obstetric complications resulting in poor reproductive outcomes⁵. Treatment primarily aims at eliminating infertility factors found in either partner, where a statistically good prognosis can be assured only

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in anovulation conditions⁶. In such a scenario, Assisted Reproductive Technology (ART) may be the only way of hope to achieve a child. In *Ayurveda*, infertility can be included under *Vandhyata*, one among the 20 *yonivyapad*⁷. Among its various etiological factors, *Acharya Vagbhata* gave importance to *Beeja dosha*⁸. Various organizations of health professionals identified preconception care as an essential part of prenatal care considering the improvement in pregnancy outcome⁹. According to WHO, "Preconception care is a set of interventions that are to be provided before pregnancy, to promote the health and well-being of women and couples, as well as to improve the pregnancy and child-health outcomes"¹⁰. *Ayurveda* recommends preconception care before arriving at the doorstep of pregnancy for getting a physiologically, psychologically, and spiritually healthy child or *supraja*. It includes *shodhana* (cleansing therapy) and lifestyle modification to achieve a state of health for begetting a healthy progeny¹¹. The present case of primary infertility reports the success of *Ayurvedic* preconception care before an IVF.

2. Patient Information

A 32-year old Indian, married, non-smoking, non-alcoholic female diagnosed with primary infertility for seven years of married life, presented with complaints of hot flushes, nausea, abdominal distension, irritability, and distress for two years, from her first *in vitro* fertilization in 2018. She started her infertility treatment in 2014, after three years of married life. Previous investigations include routine laboratory tests, hormonal assays comprising follicle-stimulating hormone, luteinizing hormone, prolactin, thyroid function test, Anti-Mullerian Hormone (AMH), pathological and serological tests, Ultrasonography (USG), laparoscopy and diagnostic hysteroscopy following histopathological analysis. Investigations into the male factor revealed a normal seminogram. She underwent repeated ART including six Intrauterine Inseminations (IUI), two IVF, and concomitant fertility drugs, all of which failed. The patient stopped all medications on her own due to hot flushes, nausea, abdominal distension along with psychological disturbances like irritability, and distress from continuous exposure to interventions with added disappointment due to the failure of treatments.

3. Clinical Findings

The patient got married in 2010 when she was 23 years old. As a part of infertility treatment, basic investigations done for the couple after three years of married life (two years of natural contraception and one year of unprotected sexual life), revealed nothing abnormal. She took folic acids in 2013 and fertility drugs in 2014. Following that, she experienced a notable decrease in the amount of menstrual bleeding (1-2 pads/day, partially soaked on first two days and spotting on later days) accompanied by occasional umbilical spotting and a mild headache premenstrually which relieved after the onset of menstruation, unlike her previous menstrual cycles (lasting for 4-5 days, requiring the use of two pads/day fully soaked on initial three days and partially soaked on later days, without any associated complaints). She was taking Thyronorm (25 mg) for hypothyroidism since late 2015. When the initial four IUIs got failed, laparoscopy and diagnostic hysteroscopy were done in 2017 April which revealed a small and unicornuate uterus with a non-communicating right rudimentary horn and absent right tube. Chromopertubation showed a free spill of dye through the left tube. It also revealed endometriotic deposits in various pelvic structures, which were then fulgurated. The fifth and sixth IUIs done after confirming ovulation from the left ovary also failed, which made them opt for IVF. She underwent her first IVF in July 2018 (14 eggs retrieved, 11 eggs frozen, and three embryos transferred), but unfortunately, the cycle ended in failure. Subsequently, she began experiencing symptoms such as hot flushes, mood variations, and irritability. Second IVF, after transferring one matured embryo, also failed and she encountered the same symptoms she had experienced after the first unsuccessful IVF cycle. To get relief from the associated symptoms and for *Ayurvedic* preconception care before the third IVF, the patient visited our outpatient department in March 2019. Her personal history revealed a normal appetite with an uncoated tongue, regular bowel habits, and sound sleep. She attained menarche at 13 years. She had regular cycles with 28-30 days intervals, lasting for 4-5 days, requiring the use of two pads/day fully soaked on the initial three days and partially soaked on later days, without any associated complaints. Her present menstrual history revealed regular cycles (28-30 days intervals) with scanty bleeding (4-5 days duration, 1-2 pads/day, partially soaked on first 2 days and spotting

on later days) associated with occasional umbilical spotting and mild headache, one day before menstruation which subsided after the onset of menstruation. Her blood pressure was 110/70 mmHg, pulse rate 68/min, and body mass index 24.44 kg/m². She is of *Vata Pitta Prakr. iti* with *Madhyama Satva* (moderate mental strength) and *Madhyama Koshtha* (moderate bowel movements). Per speculum examination showed a nulliparous cervix with mild cervicitis and milky white discharge. Bimanual examination revealed an anteverted mobile uterus with mild lower abdominal tenderness and negative cervical motion tenderness. The medical history of the patient is detailed in Table 1.

4. Diagnostic Assessment

After incorporating the symptoms and investigatory reports, the present case was diagnosed as *Anapathya vandhya*¹² (primary infertility).

5. Therapeutic Intervention

The treatment plan primarily focused on *shamana chikitsa* (internal and external medication) (as shown in Table 2), with *Drakshadi Kashaya*, *Chandraprabha gulika*, *Kalyanaka ghritha*, *Aswagandha choorna*, and external application of *Pinda taila* for three months, after which the patient got complete relief from her symptoms. She

Table 1. Timeline of medical history

Year	Clinical events and interventions
2013	Basic investigations - normal findings; advised folic acid
2014	USG - normal findings, oral medication - six months, observed decreased amount of menstrual bleeding, occasional umbilical spotting with a mild premenstrual headache.
2015	Diagnosed hypothyroidism; Thyronorm medication.
2016 October	First IUI - failure
2016 November	Second IUI - failure
2016 December	Third IUI - failure
2017 January	Fourth IUI - failure
2017 April	Laparoscopy and diagnostic hysteroscopy
2017 November	Follicular study (ovulation from the left ovary); Fifth IUI - failure
2017 March	Follicular study (ovulation from the left ovary); Sixth IUI - failure
2018 July	First IVF- failure; experienced hot flushes, mood variation, and irritability
2018 December	Second IVF - failure; symptoms - hot flushes, mood variation, and irritability persisted
2019 March	Started <i>Ayurvedic</i> treatment

USG: Ultrasonography, IUI: Intrauterine insemination, IVF: *In vitro* fertilization

Table 2. *Shamana chikitsa* (Internal and external medication)

Medicine	Method of administration
<i>Drakshadi Kashaya</i>	50 ml twice daily before food
<i>Chandraprabha gulika</i>	1 tablet twice daily after food
<i>Kalyanaka ghritha</i>	1 tsp daily morning in empty stomach
<i>Aswagandha choorna</i>	1 tsp with milk at bedtime
<i>Pinda taila</i>	Whole body external application

Table 3. Treatment protocol

Treatment procedure	Method of administration	Duration
<i>Deepana pachana - Amruthotharam kashaya</i> , ¹³ <i>Vaishwanara choorna</i> ¹⁴	5 g choorna in 50 ml <i>Kashaya</i> twice daily before food	Day 1-2
<i>Snehapana - Dadimadi ghritam</i>	<i>Arohanakrama</i> after assessing <i>agnibala</i> and <i>koshta</i>	Day 3-9
<i>Snehana swedana</i>	<i>Sarvanga abhyanga - Dhanwantharam tailam</i> ¹⁵ and <i>Bashpasweda</i>	Day 10-12
<i>Virechana - Avipathi choornam</i> ¹⁶	30 g with hot water at 8 am	Day 12
<i>Samsarjana</i>	4 anna kaala	Day 13
<i>Sthanika chikitsa</i>	<i>Yoniprakshalana - Nalpamaradi kashayam</i> , ¹⁷ <i>Yonivasti - Tiktakam ghrita</i> ¹⁸ <i>Sthanika lepa - Jatamayadi choorna</i>	Day 14-15
<i>Yogavasti</i>	<i>Niruhavasti</i> - 750 mL <i>Mustadi yapana vasti</i> ¹⁹ <i>Anuvasana</i> - 45 mL <i>Dhanwantharam tailam</i> and 45 mL <i>Sahacharadi tailam</i> ²⁰	Day 14-21
<i>Uttaravasti</i>	<i>Uttaravasti</i> on <i>niruhavasti</i> days - 3-5 mL <i>Phalasarpis</i> ²¹	Days 15,17, 19
<i>Pinda Sweda</i>	<i>Shashtika Sali - Ksheerabala tailam</i> ²²	Day 17-21

was then admitted for *Shodhana chikitsa* (cleansing therapy), for 21 days (as shown in Table 3) including *sthanika chikitsa* like *Yoniprakshalana*, *Yonivasti*, *sthanika lepa* over the lower abdomen and *Uttaravasti*. The patient was discharged on 19/7/2019.

6. Follow Up Outcomes

The patient did her 3rd IVF on 9th September, 2019 which was successful with twin live intrauterine gestation of 6-7 weeks as per USG done on 7th October, 2019.

7. Discussion

The success rate of ART after *Ayurvedic* preconception care in infertile couples is not well studied and documented. However, a previous case report has shown that *Ayurvedic* treatment protocol could improve the AMH value, thus making eligible for ART²³. *Ayurvedic* literature supports the benefits of preconception care in begetting a healthy progeny for a healthy couple. The present case of primary infertility after a few unsuccessful ART was treated based on *Ayurvedic* preconception care. The treatment initially focused on complaints of hot flushes and irritability experienced after many cycles of ovulation induction. *Drakshadi Kashaya*²⁴, *Chandraprabha vati*²⁵ and *Pinda tailam*²⁶ helped to pacify the hot flushes by its *dosha shamaka* properties (pacifies *Vata* and *Pitta*). *Aswagandha choorna*²⁷, by its *Rasayana* (immunomodulation) and

Balya (anabolic) properties, along with *Kalyanaka ghrita*²⁸, added improvement in overall health, both physically and mentally. Acharya emphasizes the importance and role of *sukra*, *artava*, *ashaya*, *marga*, and *hrid* (mind) which is not afflicted by any *doshas*, in getting a healthy progeny²⁹. *Dadimadi ghrita* given for *snehapana* is specifically indicated in *Vandhyata*³⁰. There is no gynecological disease without the involvement of *Vata dosha*, and for *Vata shamana*, the best treatment mode in *Ayurveda* is *vasti karma* which is considered as *Ardha chikitsa*³¹. *Mustadi yapana vasti*, having *Sadyobalajanana* (promotes power) and *Rasayana* (immunomodulation) properties, added effect to the treatment. *Uttara Basti* is indicated for many gynecological disorders, and it also helps in the development of healthy ovum³². Inflammatory symptoms and hot flushes due to post IVF complications in the present case can be due to the vitiation of *pitta*. Mild cervicitis and vaginal discharge, observed during the pelvic examination, were effectively managed through *Sthanika chikitsa*, such as *yoni prakshalana* and *lepa* over the lower abdomen, using *Jatamayadi choorna*³³. These therapeutic measures played a crucial role in pacifying the *pradushta sthanika dosha*, thereby promoting a healthy reproductive passage (*marga*).

8. Conclusion

Ayurvedic preconception care including both *shamana* and *shodhana chikitsa* helped the patient in attaining a

successful IVF without any associated complaints. In the case of conventional infertility treatment, *Ayurvedic* preconception care gives a higher likelihood of pregnancy including for those trying Assisted Reproductive Technology.

9. Patient Perspectives

The patient was satisfied both physically and mentally with the treatment received.

10. Patient Consent

The patient provided permission for publication of this case report.

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12. References

1. Aghajanova L, Hoffman J, Mok-Lin E, Herndon CN. Obstetrics and gynecology residency and fertility needs. *Reprod Sci.* 2017; 24(3):428-434. <https://doi.org/10.1177/1933719116657193>
2. Jeffcoate N. *Jeffcoate's Principles of Gynaecology*. 8th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2014. p. 651.
3. Jeffcoate N. *Jeffcoate's Principles of Gynaecology*. 8th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2014. p. 653.
4. Caserta D, Mallozzi M, Meldolesi C, Bianchi P, Moscarini M. Pregnancy in a unicornuate uterus: A case report. *J Med Case Rep.* 2014; 8:130. <https://doi.org/10.1186/1752-1947-8-130>
5. Caserta D, Mallozzi M, Meldolesi C, Bianchi P, Moscarini M. Pregnancy in a unicornuate uterus: A case report. *J Med Case Rep.* 2014; 8:130. <https://doi.org/10.1186/1752-1947-8-130>
6. Jeffcoate N. *Jeffcoate's Principles of Gynaecology*. 8th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2014. p. 665.
7. Kavyathirtha NRA. (Reprint ed.). *Commentary Nibhandhasangraha of Dalhana on Susruta Samhita* of Susruta, Uttara sthana; Yonivyapat pratishedam: Chapter 38, Verse 9-10. Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 669.
8. Shentaye VDS. (1st ed.). *Commentary Indulekha of Indu on Ashtanga Sangraha of Vagbhata, Sarira Sthana; Garbhavakranti sarira: Chapter2, Verse 30.* Pune: Shrimad Atreya Publications; 1980. p. 276.
9. Atrash HK, Johnson K, Adams M, Cordero JE, Howse J. Preconception care for improving perinatal outcomes: The time to act. *Matern Child Health J.* 2006; 10(5 Suppl):S3-11. <https://doi.org/10.1007/s10995-006-0100-4>
10. World Health Organization. Regional Office for South-East Asia. Preconception care. WHO Regional Office for South-East Asia; 2014. Available at: <https://apps.who.int/iris/handle/10665/205637>
11. Paradakara HSS. (Reprint ed.). *Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Sarira sthana; Garbhavakranti sarira: Chapter 1, Verse 18.* Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 366.
12. Hariharaprasad T. (1st ed.). *Harita Samhita of Harita, Tiritiya sthana; Vandyopakrama adhyaya: Chapter 48, Verse 1-6.* Varanasi: Chaukhamba Krishnadas Academy; 2005; p. 448.
13. Vaidyan KVK, Pillai SG. *Sujanapriya Commentary of Sahasrayogam (Malayalam), Kashayayogangal, Jwaraatisara.* 27th ed. Alappuzha: Vidyarambham Publishers; 2007. p. 40.
14. Paradakara HSS. (Reprint ed.). *Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Chikitsa sthana; Gulma chikitsa: Chapter 14, Verse 34.* Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 687.
15. Paradakara HSS. (Reprint ed.). *Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Sarira sthana; Garbhavyapad sarira: Chapter 2, Verse 47-52.* Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 383.
16. Vaidyan KVK, Pillai SG. *Sujanapriya Commentary of Sahasrayogam (Malayalam), Choornayogangal, Jwaraatisara.* 27th ed. Alappuzha: Vidyarambham Publishers; 2007. p.165.
17. Bhavaprakasha of Bhavamishra, Poorvakhand; Prathama Bhaga: Vatadi Varga, Verse-1. Varanasi: Chaukhamba Sanskrit Sansthan, p. 247.
18. Paradakara HSS. (Reprint ed.). *Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Chikitsa sthana; Kushta chikitsa: Chapter 19, Verse 2-7.* Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 711.

19. Acharya YT. (Reprint ed.). Commentary Ayurveda Dipika of Cakrapanidatta on Caraka Samhita of Agnivesa revised by Caraka and Drdhabala, Siddhisthana; Uttarabasti siddhi: Chapter 12, Verse 16-1. Varanasi: Chowkambha Krishna das academy; 2009. p. 731.
20. Paradakara HSS. (Reprint ed.). Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Chikitsa sthana; Vatavyadhi chikitsa: Chapter 21, Verse 67-69. Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 727.
21. Paradakara HSS. (Reprint ed.). Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Uttara sthana; Guhyaroga pratishedam: Chapter 34, Verse 63-67. Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 901.
22. Paradakara HSS. (Reprint ed.). Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Chikitsa sthana; Vatashonitha chikitsa: Chapter 22, Verse 45-46. Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 732.
23. Muraleedharan A, Unnikrishnan P, Narayan P, Krishnarajabhatt HS. An Ayurvedic treatment protocol to improve anti-mullerian hormone: A prerequisite for assisted reproductive technique- A case report. Ayu. 2017; 38(1-2):66-69. https://doi.org/10.4103/ayu.AYU_167_17
24. Paradakara HSS. (Reprint ed.). Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Chikitsa sthana; Jwara chikitsa: Chapter 1, Verse 55-58. Varanasi: Chaukhamba Sanskrit Sanstha; 2009. p. 554.
25. Srikantamurthy KR. (6th ed.). Sarangadhara Samhita of Sarangadhara, Madhya khanda; Vataka kalpana: Chapter 7, Verse 40-48. Varanasi: Chowkambha Orientalia; 2006. p. 105-106.
26. Paradakara HSS. (Reprint ed.). Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Chikitsa sthana; Vatashonitha chikitsa: Chapter 22, Verse 22. Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 730. <https://doi.org/10.1355/9789812309198-005>
27. Vaidyan KVK, Pillai SG. Sujanapriya Commentary of Sahasrayogam (Malayalam), Choornayogangal, Jwaraatisara. 27th ed. Alappuzha: Vidyarambham Publishers; 2007. p. 165.
28. Paradakara HSS. (Reprint ed.). Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Uttara sthana; Unmada pratishedam: Chapter 6, Verse 26-31. Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 799.
29. Paradakara HSS. (Reprint ed.). Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Sarira sthana; Garbhavakranti sarira: Chapter 1, Verse 8. Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 363.
30. Paradakara HSS. (Reprint ed.). Commentary Sarvanga Sundara of Arunadatta on Ashtangahridaya of Vagbhata, Chikitsa sthana; Panduroga chikitsa: Chapter 16, Verse 2-4. Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 701.
31. Acharya YT. editor, (Reprint ed.). Commentary Ayurveda Dipika of Cakrapanidatta on Caraka Samhita of Agnivesa revised by Caraka and Drdhabala, Siddhisthana; Kalpana siddhi: Chapter 1, Verse 39. Varanasi: Chowkambha Krishna Das Academy; 2009. p. 683.
32. Kavyathirtha NRA. (Reprint ed.). Commentary Nibhandhasangraha of Dalhana on Susruta Samhita of Susruta, Chikitsa Sthana; Anuvasana uttaravasti chikitsitam: Chapter 37, Verse 125. Varanasi: Chaukhamba Sanskrit Sansthan; 2009. p. 539.
33. Vaidyan KVK, Pillai SG. Sujanapriya Commentary of Sahasrayogam (Malayalam), Choornayogangal, Jwaraatisara. 27th ed. Alappuzha: Vidyarambham Publishers; 2007. p. 295.