



AYURVEDIC MANAGEMENT OF PID-RELATED TUBAL BLOCK AND PYOSPERMIA: A HOLISTIC APPROACH TO RESTORING FERTILITY IN A COMPLEX INFERTILITY CASE

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ABSTRACT

Infertility involving combined female and male factors is especially complex when structural pathology, chronic genital tract infections, and infection-related sexual dysfunction coexist.^[1] Pelvic inflammatory disease (PID) contributes to tubal obstruction, recurrent vaginitis, pelvic pain, and dyspareunia; persistent inflammatory vaginitis may lead to secondary vaginismus, reducing coital frequency and natural conception potential.^[2,3] In men, pyospermia with oligoasthenoteratospermia and erectile dysfunction further aggravates subfertility.^[4] Ayurveda provides an integrative framework addressing reproductive tissue health, genital tract immunity, inflammation, and sexual well-being.^[5] This case report describes a couple with three years of primary infertility. The 32-year-old female had PID-related left tubal block, recurrent vaginal and urinary tract infections, intramural fibroid, and chronic pelvic pain. Vaginismus was secondary to inflammatory vaginitis rather than a primary psychosexual disorder, resulting in painful intercourse and functional infertility. The 36-year-old male partner presented with oligoasthenoteratospermia with pyospermia, erectile dysfunction, and reduced libido. Two prior intrauterine insemination (IUI) cycles had failed. An Ayurvedic protocol comprising infection-focused reproductive cleansing, targeted formulations, lifestyle modification, and counselling was implemented. Resolution of vaginitis resulted in reversal of secondary vaginismus, improvement in pelvic and seminal parameters, and restoration of painless intercourse. The couple conceived naturally and presented in six months with a positive urine pregnancy test and appropriately rising serum β -hCG levels. This case emphasizes infection-driven secondary vaginismus as a reversible contributor to infertility and highlights the potential of integrative Ayurvedic management in complex PID-related tubal and severe male factor infertility.

KEYWORDS: Ayurveda, pelvic inflammatory disease, tubal block, pyospermia, oligoasthenoteratospermia, secondary vaginismus, integrative infertility care.

INTRODUCTION

Infertility in today's era affects couples globally, with equal contributions from male and female factors.^[1] Pelvic inflammatory disease (PID) remains one of the leading causes of tubal factor infertility, often resulting in unilateral or bilateral tubal obstruction, chronic pelvic pain, and recurrent reproductive tract infections.^[2,3] These complications can disrupt gamete transport, endometrial receptivity, vaginal microbiome balance, and sexual comfort, collectively reducing the probability of natural conception.^[2,3]

Recurrent vaginal and urinary infections commonly accompany PID and may cause dyspareunia, discharge, altered pH, and local inflammation—further impairing fertility.^[2,3] In some women, chronic pelvic pain and repeated infections can also lead to secondary sexual dysfunction, including vaginismus, which limits comfortable intercourse but is typically a secondary phenomenon rather than a primary sexual disorder.^[2,3]

Male infertility often coexists in such couples, with factors such as pyospermia (presence of leukocytes in semen), oligoasthenoteratospermia, and erectile

dysfunction being common contributors. Pyospermia reflects genital tract infection or inflammation and is associated with oxidative damage to sperm, impaired motility, and reduced fertilization potential.^[4]

Ayurveda conceptualizes infertility through dosha imbalance, reproductive tissue depletion (*Shukra/Artava Dushti*), obstruction in reproductive channels (*Srotorodha*), and diminished genital tract immunity. Treatment emphasizes systemic cleansing, rasayana (rejuvenation), restoration of reproductive health, and mind–body harmony.^[5]

This case report presents the Ayurvedic management of a couple with complex infertility arising from PID-induced tubal block, recurrent infections, secondary vaginismus, and severe male factor infertility including pyospermia. The integrated approach resulted in natural conception after three years of failed attempts.

CASE REPORT

Patient Information

A 32-year-old female presented with a 3-year history of primary infertility. She had been married for 4 years and had previously undergone two failed intrauterine insemination (IUI) cycles along with multiple follicular monitoring cycles, none of which resulted in conception. She reported recurrent episodes of vaginal itching, foul-smelling discharge, and frequent urinary tract infections along with significant pain and difficulty with intercourse due to vaginismus over the past several years. The patient also expressed considerable emotional distress related to repeated treatment failures and fear of intercourse due to vaginismus.

Her diagnostic evaluation revealed an intramural fibroid and a left-sided tubal block identified on hysterosalpingography (HSG). Due to the multifactorial nature of her symptoms, she opted for Ayurvedic management aimed at improving reproductive and sexual health. Treatment was initiated in May 2025.

Menstrual History

Table 1: Menstrual History of Patient.

Parameter	Details
Cycle Regularity	Regular
Duration	4-5 days
Dysmenorrhea	Mild
No. of pads per cycle	12-14 pads
Breakthrough Bleeding	Absent
Presence of Blood Clots	Present (occasionally)

Fertility Treatment History

The couple had previously undergone two unsuccessful cycles of intrauterine insemination (IUI) and multiple follicular monitoring studies. IUI had been advised primarily due to the presence of secondary vaginismus in the female partner and erectile dysfunction in the male partner, which limited effective coital intercourse. Although advanced assisted reproductive techniques

were recommended thereafter, the couple opted for exclusive Ayurvedic management owing to personal preference and treatment-related emotional fatigue.

Obstetric History

G₀P₀L₀A₀D₀ (No prior conceptions)

General Health Examination

Table 2: Patient Vital Signs.

Vitals	Values
Pulse	84/min
BP (Blood Pressure)	118/78 mmHg
Respiratory Rate (RR)	20/min
SPO ₂ (Oxygen Saturation)	98%

Table 3: Other General Examinations.

Parameter	Observation
Naadi Pariksha	Pitta
Appetite	Normal
Bowel	Regular
Sleep	Disturbed at times due to stress
Energy Levels	Moderate, fluctuating
Mental State	Anxious, demotivated

Personal History

Table 4: Personal History of Patient.

Alcohol Consumption	No
Smoking	No
Junk Food Intake	Occasionally
Spicy Food Intake	Regularly
Sleep Schedule	Irregular; frequent late nights
Physical Activity	Sedentary Lifestyle
Stress Levels	High (family and work stress)

Sexual History

Table 5: Sexual History of Patient.

Vaginal Dryness	No
Dyspareunia	Present (due to vaginismus)
Loss of Libido	Yes
Difficulty with Penetration	Yes

Past Medical and Surgical History

The patient had no history of major systemic illness. Her medical history was significant for recurrent vaginal infections and recurrent urinary tract infections. Gynecological evaluation revealed the presence of an intramural uterine fibroid (20mm*15mm*12mm) and a left-sided tubal block on hysterosalpingography (HSG). There was no history of prior surgical interventions.

Diagnostic Investigations**Table 6: Diagnostic Investigations.**

Test	Findings
HSG	Left tubal block
USG Pelvis	Intramural fibroids (20mm*15mm*12mm); normal uterine cavity; no ovarian cysts
Vaginal Swab	Recurrent candidal infection
Urine Routine	Occasional pyuria
Hormonal Profile	Within normal limits

Male Partner Findings

The male partner was 36 years old at the time of evaluation. His primary clinical concerns included pyospermia, oligoasthenoteratospermia, erectile dysfunction, and reduced libido.

General Assessment

Psychosocial assessment indicated moderate stress levels and low sexual confidence. By the second follow-up visit, the patient expressed a subjective loss of hope regarding fertility outcomes.

Semen Parameters (Baseline)**Table 7: Semen Analysis Parameters.**

Parameter	Findings
Sperm concentration	18 million/mL
Progressive motility (Grade I)	5%
Sperm morphology	25% normal forms; predominantly head defects
Pus Cells	10–12 hpf
Liquefaction time	105 minutes
Semen culture	Growth of <i>Escherichia coli</i>

Treatment and Management**Table 8: Treatment and Management- Female.**

Medicine given	Ingredients/Contents	Dosage
<i>Tablet Upaja (300 mg)</i>	<i>Kumari, Shuddha Kasis, Dalchini, Sonth, Gulkand</i>	2 pills after breakfast and 2 pills after dinner
<i>Tablet Poshini (600 mg)</i>	<i>Shuddha Hingul, Bang Bhasma, Shivlingi, Shatavari, Ashwagandha, Jivanti, Putranjivak</i>	2 pills after breakfast and 2 pills after dinner
<i>Tablet Jivani (750 mg)</i>	<i>Shuddha Hingul, Bang Bhasma, Karanja, Khadir, Asvattha, Shirish, Shalmali</i>	2 pills after breakfast and 2 pills after dinner
<i>Tablet Bhedini (600 mg)</i>	<i>Sariva, Patol, Shuddha Hingul, Lauha Bhasma, Anantmool, Guggulu, Nimba, Kutaja,</i>	2 pills after breakfast and 2 pills after dinner

Table 9: Treatment and Management- Male.

1. Beehj (500 mg)	<i>Shweta Musali, Shuddha Kaucha, Gokshur, Ashwagandha, Guduchi, Vridhadaru, Shatavari, Bala, Amalaki, Varahi Kanda, Kokilaksha, Vidarikanda, Jivanti, Akkalgaru, Jayphal, Swarnamakshik bhasma, Swarna Bang, Shuddha Shilajit, Salab Mishri Churna</i>	2 pills after breakfast and dinner
2. Makar (250 mg)	<i>Makardhwaj Rasa Powder, Karpura, Jatiphala, Maricha, Javitri</i>	1 pill at night before sleep
3. Jivani (750 mg)	<i>Shuddha Hingul, Bang Bhasma, Karanja, Khadir, Asvattha, Shirish, Shalmali</i>	2 pills after breakfast and 2 pills after dinner

Lifestyle & Dietary Advice

The patient was advised simple lifestyle and dietary measures to support healing—warm, fresh meals; avoidance of heavy, fermented, or fried foods; and adequate warm-water hydration to reduce Kapha congestion. Gentle pelvic floor relaxation exercises were included to ease muscular tension. Stress management with pranayama, music therapy, and a regular 10 PM–6

AM sleep routine helped regulate Apana Vata and emotional balance. Counselling addressed fear of intercourse, introduced gradual desensitization for vaginismus, and included joint sessions to improve communication and intimacy. Regular follow-up calls supported adherence and steady progress.

Month-on-Month Improvement

Table 10: Month-on-Month Improvement.

Month	Clinical Focus & Interventions	Observations / Improvements
Month 1	General detoxification and initiation of Ayurvedic formulations for both partners; lifestyle and stress management	~60% reduction in abnormal white discharge in female; ~20% reduction in burning sensation and pelvic pain for both partners after sexual contact
Month 2	Continuation of targeted formulations; counseling and sexual health support	Further reduction in female white discharge (~80%); 40% improvement in dyspareunia; male partner showed reduction in sexual dysfunction, including improved libido and erectile function
Month 3	Focus on reproductive tissue rejuvenation, ovulatory support, and male semen optimization	Male partner showed improved sperm count, motility, and morphology, reduced pus cells, and better liquefaction time; female partner started ovulating naturally
Month 4	Consolidation of treatment, pelvic floor exercises, and timing intercourse for conception	Complete relief from abnormal white discharge in female; couple resumed regular intercourse aimed at conception
Month 5	Continued treatment; cycle tracking and conception-focused counselling	Stable vaginal health; sustained improvement in sexual function and emotional well-being; optimized fertile-window intercourse
	Conception monitoring and	Positive urine pregnancy test
Month 6	follow-up	(UPT) and elevated serum β -hCG confirming early intrauterine pregnancy

Outcome

In six months, the couple presented with a positive urine pregnancy test. Serum β -human chorionic gonadotropin (β -hCG) levels were appropriately elevated, and an early obstetric ultrasound confirmed a viable intrauterine pregnancy. This case demonstrates the effectiveness of consistent Ayurvedic management, pelvic floor rehabilitation, and holistic emotional support in achieving conception in complex dual-factor infertility.

DISCUSSION

This case demonstrates the effective Ayurvedic management of infertility arising from a combination of pelvic inflammatory disease (PID)-related tubal block, recurrent genital tract infections, and significant male-factor involvement in the form of pyospermia. The female partner had a documented left-sided tubal block on hysterosalpingography, most likely resulting from prior pelvic infection and chronic inflammation. In addition, she experienced recurrent vaginal and urinary infections that disturbed the local reproductive environment and contributed to persistent pelvic discomfort. Over time, this chronic pain and infection-associated anxiety led to increased pelvic floor guarding, resulting in secondary vaginismus. While vaginismus posed an additional barrier to intercourse, it was considered a consequence of the underlying pathology rather than the primary fertility concern.^[1, 2, 3]

PID-induced tubal obstruction compromises gamete transport, fertilization, and early embryo movement, significantly reducing natural conception rates. From an Ayurvedic viewpoint, this corresponds to *Srotorodha* (obstruction of reproductive channels) and *Vata-Kapha vitiation*, creating an environment of chronic inflammation, impaired circulation, and reduced

receptivity in the pelvic region. Recurrent infections further indicate **Kapha-Pitta aggravation** within the yoni and mutravaha srotas, necessitating a combined approach of detoxification, immune regulation, and tissue nourishment.^[5,6]

The therapeutic protocol comprised three proprietary Ayurvedic formulations—*Jivani*, *Upaja*, *Bhedini* and *Poshini*—administered to address chronic pelvic inflammation, ovulatory dysfunction, and impaired endometrial receptivity through complementary mechanisms.

Jivani was prescribed primarily for the management of chronic pelvic inflammatory pathology and its reproductive sequelae. The formulation contains *Shuddha Hingul* and *Bang Bhasma*, which are traditionally employed for their antimicrobial and tissue-reparative properties. *Karanya* and *Khadir* contribute potent anti-inflammatory and antimicrobial actions, supporting resolution of recurrent vaginal infections, abnormal vaginal discharge, and vaginal irritation. *Ashvattha*, *Shirish*, and *Shalmali* possess anti-inflammatory and mucosal-healing properties, facilitating restoration of endometrial integrity compromised by chronic inflammation and infection. Collectively, these actions contribute to improvement of the uterine environment, reduction of inflammation-associated vaginismus, and potential reversal of tubal dysfunction secondary to longstanding pelvic inflammatory disease. *Tablet Upaja* was administered to support physiological follicular development and ovulation.

Kumari is traditionally recognized for its role in regulation of menstrual cyclicity and support of ovarian function. *Shuddha Kasis* contributes to improved

hemopoiesis and endometrial vascularity, thereby supporting uterine receptivity. *Dalchini and Sonth* exert anti-inflammatory and metabolic regulatory effects, enhancing ovarian responsiveness and facilitating natural ovulatory rupture. *Gulkand* provides cooling and adaptogenic effects, supporting hormonal balance and mitigating stress-related ovulatory disturbances. **Tablet Bhedini** supports the management of uterine fibroids by addressing underlying *Pitta-Rakta* and *Kapha* imbalance, chronic inflammation, and impaired tissue metabolism (*dhātu agni*). *Sariva, Anantmūla, Patola, Nimba, and Kutaja* exert anti-inflammatory and *Rakta-sodhana* actions, helping reduce pelvic congestion, abnormal bleeding tendency, and inflammatory changes associated with fibroids. *Guggulu* enhances lekhana (scraping) and granthi-hara properties, supporting gradual reduction in fibroid-related tissue proliferation and improving pelvic circulation. *Lauha Bhasma* aids in correcting iron deficiency secondary to menstrual irregularities and supports healthy endometrial function. *Śuddha Hīngula*, in its processed form, improves drug bioavailability and assists in resolving chronic pathology. **Tablet Poshini** was included to restore overall female reproductive potential and improve oocyte and uterine health. The formulation contains *Shuddha Hingul* and *Bang Bhasma*, traditionally used to strengthen reproductive tissues and enhance cellular metabolic activity. *Shivlingi* is described in classical Ayurvedic literature as a fertility-supportive agent, contributing to improvement in oocyte quality and implantation potential. *Shatavari* supports endometrial nourishment and hormonal balance, while *Ashwagandha* aids neuroendocrine regulation and stress modulation. *Jivanti* and *Putranjivak* act as reproductive rejuvenatives, enhancing uterine receptivity and supporting early gestational stability. Together, these formulations were designed to act synergistically by resolving infection and inflammation, restoring endometrial health, regulating ovulation, and enhancing fertility outcomes through a multimodal integrative mechanism.^[6,7,8]

Following the identification of pelvic inflammatory disease and tubal involvement in the female partner, evaluation of the male partner was conducted to assess potential contributory factors to the couple's infertility. Semen analysis revealed oligoasthenoteratospermia, with a sperm concentration of 18 million/mL, markedly reduced progressive motility (Grade I motility of 5%), and abnormal morphology, with only 25% normal forms predominantly exhibiting head defects. Leukocytospermia (10–12 pus cells per high-power field), prolonged liquefaction time of 105 minutes, and a positive semen culture for *Escherichia coli* indicated pyospermia and chronic genital tract inflammation. Inflammatory mediators and oxidative stress associated with pyospermia can impair spermatogenesis, reduce sperm count, compromise membrane integrity, and cause structural abnormalities, while infection-induced changes in seminal plasma, including altered enzymatic activity and increased viscosity, further diminish motility and

functional competence.^[6,7,8]

The coexistence of male pyospermia and female PID suggests a potential bidirectional infectious dynamic, with chronic male genital tract infection serving as a reservoir for pathogens that may exacerbate female reproductive tract inflammation, and persistent female infection potentially reinfecting the male partner. Management focused on addressing pyospermia and enhancing sperm quality, including reduction of oxidative stress, counseling to improve sexual confidence, and integrative Ayurvedic therapy aimed at strengthening Shukra *dhatu* and balancing *Vata*-predominant stress responses, which collectively contributed to gradual improvement in motility, morphology, and overall fertility potential.^[6,7,8]

To address this male factor infertility characterized by pyospermia, oligoasthenoteratospermia, and stress-associated sexual dysfunction, an integrative Ayurvedic regimen was initiated with the objectives of reducing genital tract infection and inflammation, mitigating oxidative stress, restoring spermatogenesis, and improving psychosexual health. The formulation **Beehi** containing *Shweta Musali, Shuddha Kaucha, Gokshura, Ashwagandha, Guduchi, Vriddhadaru, Shatavari, Bala, Amalaki, Varahi Kanda, Kokilaksha, Vidarikanda, Jivanti, Akkalgaru, Jayphal, Swarnamakshika Bhasma, Swarna Bang, Shuddha Shilajit, and Salab Mishri Churna* was prescribed to enhance sperm concentration, motility, morphology, and seminal plasma quality. These ingredients collectively support hypothalamic–pituitary–gonadal axis regulation, improve mitochondrial and membrane integrity of spermatozoa, and counter infection-induced oxidative stress through antioxidant and immunomodulatory actions. The **Makar** formulation containing *Makardhwaj Rasa, Karpura, Jatiphala, Maricha, and Javitri* was administered at night to act as a *Vajikarana* and *Rasayana*, supporting cellular energy metabolism, autonomic balance, and sexual endurance while facilitating optimal nutrient absorption. **Tablet Jivani**, comprising *Shuddha Hingul, Bang Bhasma, Karanja, Khadir, Ashvattha, Shirish, and Shalmali*, was prescribed to address persistent genital tract inflammation and pyospermia. Its antimicrobial, anti-inflammatory, and tissue-healing properties aid in reducing leukocytospermia, normalizing liquefaction time, decreasing seminal viscosity, and restoring seminal plasma enzymatic function. Collectively, this multimodal Ayurvedic intervention targeted the infectious, inflammatory, oxidative, endocrine, and psychosexual contributors to male infertility, resulting in progressive improvement in sperm parameters and overall fertility potential while also reducing the risk of bidirectional reinfection within the couple.^[7,8]

Emotional exhaustion from prior failed treatments had lowered the couple's morale, making counselling a critical element of the therapeutic plan. Regular reassurance, stress management practices, and

encouragement helped the couple remain committed to their regimen. Ayurveda inherently views mental balance, marital harmony, and emotional wellbeing as integral to reproductive success, aligning with the psychological needs of this couple.

The successful natural conception within six months of beginning treatment indicates that holistic Ayurvedic intervention—targeting infection-related tubal pathology, recurrent genital tract inflammation, male pyospermia, and emotional wellbeing—can create a favorable environment for conception even in complex infertility scenarios. This case reinforces the value of individualized, comprehensive management that simultaneously addresses structural, infectious, and functional factors affecting reproductive health.

CONCLUSION

This case demonstrates the potential effectiveness of a structured Ayurvedic approach in managing complex dual-factor infertility involving PID-related unilateral tubal block in the female partner and severe male factor infertility with pyospermia. Despite chronic infection, structural pathology, sexual dysfunction, psychological distress, and failed assisted reproductive attempts, natural conception was achieved through individualized, integrative care.

The female partner was managed with formulations including **Tablet Upaja, Poshini, Jivani, and Bhedini**, alongside lifestyle modification and counselling, resulting in resolution of recurrent genital tract infections, reduction in pelvic pain and dyspareunia, normalization of ovulatory function, and restoration of vaginal health. Importantly, vaginismus was identified as secondary to chronic inflammatory vaginitis rather than a primary psychosexual disorder; its reversal following infection control enabled painless intercourse and effective coital frequency, which was a pivotal factor in achieving natural conception. The male partner received tablets **Beehj, Jivani, and Makar** formulations, leading to marked improvement in semen parameters, reduction in pus cells, normalization of liquefaction time, and restoration of libido and erectile function.

This case further highlights the importance of couple-centred fertility management, wherein simultaneous treatment of both partners—addressing infection, sexual dysfunction, psychological stress, and lifestyle factors—proved essential for successful outcomes. The integration of psychosexual counselling, stress regulation, and behavioural modification supported treatment adherence, emotional balance, and restoration of intimacy.

In conclusion, this report suggests that systematic, couple-based Ayurvedic intervention may help restore reproductive function in multifactorial infertility involving PID, pyospermia, and secondary vaginismus. While larger controlled studies are warranted, these findings underscore the potential role of Ayurveda as a

complementary and integrative modality in comprehensive fertility care.

CONFLICT OF INTEREST

The authors declare no conflicts of interest relevant to this article.

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