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RECURRENT PREGNANCY LOSS: AN AYURVEDIC REVIEW WITH MODERN CORRELATION

[1]Dr. Rupali Manohar Kamble, *[2]Dr. Satish P Masavkar, [3]Dr. Sujata Jagtap

[1]Postgraduate Scholar, Department of Prasuti Tantra Evam Stree Roga, APM Ayurved Mahavidyalaya, Sion (East), Mumbai – 400022, Maharashtra, India.
*[2]Hon. Consultant & Physician, Department of Prasuti Tantra Evam Stree Roga, APM Ayurved Mahavidyalaya, Sion (East), Mumbai – 400022, Maharashtra, India.
[3]Professor and Head of Department, Department of Prasuti Tantra Evam Stree Roga, APM Ayurved Mahavidyalaya, Sion (East), Mumbai – 400022, Maharashtra, India.

***Corresponding Author: Dr. Satish P Masavkar**
Hon. Consultant & Physician, Department of Prasuti Tantra Evam Stree Roga, APM Ayurved Mahavidyalaya, Sion (East), Mumbai – 400022, Maharashtra, India.

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ABSTRACT
Recurrent pregnancy loss (RPL) is defined as the occurrence of two or more consecutive pregnancy losses and affects approximately 1–2% of couples of reproductive age[1]. The aetiology of RPL is multifactorial, encompassing genetic, anatomical, immunological, endocrine, infectious, and unexplained factors[2]. In Ayurveda, recurrent pregnancy loss can be correlated with *Garbhasrava* and *Garbhapata*, which describe repeated miscarriage or premature expulsion of the fetus due to disturbances in *Beeja* (ovum or sperm), *Kṣetra* (uterine environment), *Ritu* (fertile period), and *Ambu*[3,4](nutrition), along with faulty *Āhāra* and *Vihāra*. This review explores the modern understanding of RPL and its Ayurvedic correlation, emphasizing preventive, promotive, and therapeutic strategies through classical principles, lifestyle regulation, and *Pañcakarma* interventions.

KEYWORDS: Recurrent pregnancy loss, *Garbhasrava*, *Garbhapata*, *Beeja Doṣa*, *Kṣetra Duṣṭi*, *Ritu Doṣa*, Ayurveda, *Pañcakarma.*

1. INTRODUCTION
Recurrent pregnancy loss (RPL) represents a significant challenge in reproductive medicine[1], both clinically and psychologically. Despite advancements in diagnostic techniques, approximately 40–50% of RPL cases remain unexplained.[2] The condition imposes substantial emotional, psychological, and social stress on affected couples. Modern medicine recognizes genetic abnormalities, uterine malformations, endocrine dysfunctions (such as thyroid disorders, diabetes mellitus, and polycystic ovarian syndrome), infections, and immune-mediated disorders—including antiphospholipid antibody syndrome—as major contributing factors.[1]

Ayurveda offers a holistic perspective on human reproduction. According to classical texts, successful conception (*Garbha Utpatti*) depends upon the integrity of four essential factors— *Ritu* (appropriate fertile period), *Kṣetra* (healthy uterus), *Ambu* (adequate nourishment), and *Beeja*[5] (healthy ovum and sperm)—along with balanced *Tridoṣa* and *Dhātu*. Any disturbance in these factors may result in pregnancy loss. Recurrent miscarriage is described under *Garbhasrava* (pregnancy loss up to three months) and *Garbhapata* (loss after three months).[3,6] Ayurveda further emphasizes the importance of maternal lifestyle, mental health, and *Rasāyana Cikitsā* in strengthening reproductive capacity.

DISCUSSION
1.Modern Perspective VS Ayurvedic Correlation
1.1 Modern etiological factors
- Genetic factors: Chromosomal abnormalities in one or both parents or in the embryo[1]

- Anatomical causes**:** Uterine septum, fibroids, intrauterine adhesions[2]
- Endocrine disorders: Polycystic ovarian syndrome, luteal phase defect, thyroid disorders, diabetes mellitus[1]
- Immunological causes: Antiphospholipid antibody syndrome and alloimmune factors[1]
- Infections: TORCH infections and bacterial vaginosis[2]
- Unexplained causes**:** Approximately 40–50% of cases[1]

1.2 Ayurvedic Pathogenesis

Recurrent Pregnancy Loss (RPL) may be correlated in Ayurveda with repeated *Garbhasrava* or *Garbha-pāta*, resulting from *Doṣic* imbalance, *Dhātu-kṣaya*, and impairment of the fundamental factors required for conception and fetal stability. Classical Ayurvedic texts emphasize that successful conception depends upon the harmonious interaction of four essential elements—*Ritu* (proper timing), *Kṣetra* (healthy uterine environment), *Ambu* (adequate nourishment), and *Beeja* (healthy reproductive elements). [3,5] Disturbance in any of these factors predisposes to defective implantation or early fetal loss.

***Ritu* (Fertile Period)**

Ritu Kāla denotes the physiologically fertile window of the menstrual cycle, typically extending from the fifth to the sixteenth day. This period is characterized by *Kapha* predominance, imparting *Sneha* (unctuousness), *Mṛdutā* (softness), and stability to the reproductive tissues, thereby facilitating optimal uterine receptivity,and correlates with follicular growth in the ovary and proliferative phase of the endometrium in modern physiology. Conception occurring outside *Ritu Kāla* or during *Doṣic* imbalance may result in inadequate implantation and compromised embryonic stability, contributing to recurrent pregnancy loss.[5]

***Kṣetra* (Uterine Environment)**

Kṣetra refers to the anatomical and functional integrity of the uterus and reproductive tract. Vitiation of *Vāta* may cause uterine instability, *Pitta* imbalance may induce inflammatory changes, and *Kapha* disturbance may lead to obstruction or excessive secretions. Structural abnormalities, endometrial insufficiency, or chronic inflammatory states may be interpreted as *Kṣetra Doṣa*, which adversely affects implantation and fetal retention.[3]

***Ambu* (Nutritional Support)**

Ambu signifies the nourishing and sustaining fluids essential for embryonic growth. It is primarily derived from properly formed *Rasa Dhātu*. In cases of *Mandāgni*, improper *Rasa* formation results in deficient *Ambu*, leading to inadequate nourishment of the developing embryo and increasing the risk of early pregnancy loss.[6]

***Beeja* (Quality of Reproductive Elements)**

Beeja encompasses *Śukra* and *Ārtava*, representing the male and female reproductive components. Their quality depends upon balanced *Doṣas* and proper *Dhātu* nourishment. *Beejadoṣa* or *Dhātu-kṣaya* may lead to defective gametes, non-viable conception, or repeated miscarriage.[5]

Importance of *Agni*

Agni is the foundational determinant of reproductive competence. *Samyak Jāṭharāgni* ensures effective digestion and assimilation, while *Dhātvagni* governs proper tissue transformation. *Mandāgni* leads to *Āma* formation and defective *Dhātu* production, ultimately compromising *Rasa*, *Ārtava*, and fetal nourishment. Thus, impaired *Agni* plays a central role in the pathogenesis of RPL.[6]

Role of *Rasa Dhātu* and *Upadhātu* (*Ārtava*)

Rasa Dhātu is the primary nutritive tissue responsible for sustaining all subsequent *Dhātus*. From well-nourished *Rasa* arises its *Upadhātu*, *Ārtava*, which forms the essential female reproductive element. Defective *Rasa* leads to compromised *Ārtava* quality, thereby impairing implantation and pregnancy maintenance.

Copulation During *Ritu Kāla*

Conception during *Ritu Kāla* ensures the meeting of healthy *Bīja* within a *Kapha*-dominant, receptive uterine milieu. Balanced *Doṣas* during this phase promote stable implantation and proper *Garbha* formation. Failure to observe *Ritu Kāla* or presence of *Doṣic* imbalance at the time of conception may predispose to recurrent fetal loss.

Pathogenetic Sequence

Mandāgni → Defective *Rasa Dhātu* → Impaired *Ārtava* and *Ambu* → *Kṣetra Doṣa* → Faulty *Beeja* interaction during *Ritu Kāla* → Recurrent Pregnancy Loss.

Daiva* and *Karma

Unexplained pregnancy losses may be attributed to psychosomatic factors or past *Karma*, as described in Ayurveda.[5]

Modern Correlation of Ayurvedic Concepts:

Conceptual mapping supported by integrative Ayurvedic and modern literature.[7,8]

Ayurvedic Concept	Modern Physiological Correlation
Weak *Shukra*/*Artava* (Poor Gamete Quality)	Sperm DNA fragmentation, poor ocyte quality leading to aneuploidy, advanced parental age.
Weak or Vitiated *Garbhashaya* (Uterus)	Congenital uterine anomalies (septate uterus), fibroids, intrauterine adhesions (Asherman's), thin endometrium.

Vata Aggravation & *Shaithilya* (Laxity)	Cervical insufficiency, uterine natural killer (uNK) cell activity, impaired uterine blood flow.
Ama (Toxins) & Impaired *Agni*	Chronic low-grade inflammation, immune dysregulation (e.g., elevated cytokines), thyroid disorders, insulin resistance (PCOS).
Pitta Aggravation	Autoimmune factors (Antiphospholipid Syndrome - APS), hypercoagulable states, infections causing inflammation.

2. MANAGEMENT STRATEGIES

Ayurvedic management of reproductive disorders, including recurrent pregnancy loss, emphasizes comprehensive *pūrvakarma* and *śamana* measures aimed at optimizing *Kṣetra*, *Ambu*, *Beeja*, and *Doṣa* balance.

2.1Preconceptional Care (*Garbhasamskara*)

Ayurveda emphasizes preparing the "soil" before sowing the "seed." This includes:

* *Shodhana* (Purification): Utilizing Panchakarma to detoxify the body.[5,7]

* *Rasayana*: Administration of rejuvenative herbs to enhance *Dhatu* and enhance reproductive vitality.*Rasāyana Cikitsā* plays a vital role in improving tissue strength, immunity, endocrine balance, and reproductive vitality.Important *Rasāyana* Drugs:*Amalakī*, *Gudūcī, Aśvagandhā, Śatāvarī, Brahmī*, and *Maṇḍūkaparṇī*.[7,8] These drugs nourish *Rasa*, *Śukra*, and *Ojas*, thereby supporting conception and continuation of pregnancy.[5,7]

* *Rajasvala Paricharya*: Following specific dietary and lifestyle regimens during menstruation to maintain *Dosha* equilibrium and *Agni*.[5,7]

* Dietary and lifestyle measures**:** focus on the intake of *sātmya āhāra*, along with regulation of *vihāra,* stress reduction, adequate rest, and the practice of yoga and meditation to maintain *Agni* and psychological well-being.[5,7]

*Specific therapeutic interventions**:*** include the use of *Garbhasthāpaka dravyas* such as *Lodhra, Aśoka*, and *Śatāvarī*, which promote uterine stability and support fetal sustenance, along with local therapies like *Yoni Picchu* and *Uttarabasti* for correction of *Yoni* and *Garbhaśaya duṣṭi*.

**Garbhasaṃskāra:* encompasses physical, mental, and *spiritual* preparation before and during pregnancy through *Pañcakarma*, dietary regulation, yogic practices, and positive mental conditioning, ultimately contributing to healthy progeny and the prevention of recurrent pregnancy loss.

2.2 *Śamana Cikitsā* (Conservative Ayurvedic Management)

Śamana Cikitsā constitutes an essential component in the management of Recurrent Pregnancy Loss (RPL), particularly in patients unsuitable for *Pañcakarma*, during inter-conceptional periods, and as supportive therapy before and after *Śodhana.* It aims to stabilize pregnancy by correcting functional derangements rather than eliminating *Doṣas* aggressively.[5,6]

Objectives of *Śamana Cikitsā* in RPL

Śamana therapy in RPL is directed toward *Doṣa śamana,Agni dīpana* and *āma pācana,Dhātu puṣṭi* (especially *Rasa* and *Rakta*),*Beeja śuddhi,Garbha sthāpana*,Enhancement of *Ojas* and *Vyādhikṣamatva*.

Classical texts emphasize that appropriately selected internal medications, diet, and lifestyle measures are effective when *Doṣas* are moderately aggravated or after purification.[7]

Principles of *Śamana Cikitsā* in RPL

The therapeutic principles focus on restoration of *Doṣa–Dhātu–Agni sāmya* and stabilization of the reproductive system.

Correction of *Agnimāndya*, the primary contributor to *Dhātu duṣṭi*,Elimination of *Ama* to restore metabolic integrity,Pacification of *Apāna Vāta* to maintain uterine stability,Nourishment of *Rasa–Rakta Dhātu* and their *Upadhātu* (*Ārtava*),Strengthening of *Ojas* to prevent recurrent pathology,Optimization of uterine milieu (*Kṣetra*) for implantation and fetal retention. Therapy is individualized according to *Doṣa* predominance.

***Doṣa*-Wise *Śamana Cikitsā* in Recurrent Pregnancy Loss**

***Vāta*-Predominant RPL**

Vitiation of *Vāta Doṣa*, particularly *Apāna Vāta*, is regarded as the principal pathogenic factor in *Garbhasrāva* and *Garbha-pāta*. Aggravated *Vāta* leads to defective implantation, uterine instability, impaired placental attachment, and early expulsion of the fetus.

Therapeutic Approach: Management focuses on *Vāta Śamana* through *Snigdha, Bṛṃhaṇa,* and *Balya* therapies aimed at stabilizing uterine function and enhancing fetal retention.

Commonly Used Drugs/Formulations: *Aśvagandhā, Śatāvarī, Bala, Phala Ghṛta, Kalyānaka Ghṛta, Sukumāra Ghṛta, Daśamūla Kwātha, Lasuna Ghrta, Yogaraja guggulu* tablet, *Maharasnadi Decoction.*

Oil consumption – *Shatavari* oil, *Satpusha* oil, *Narayana* Oil, *Paniyakalyanaka Ghrta*. These formulations strengthen the uterus, improve endometrial receptivity, and promote maintenance of pregnancy.

***Pitta*-Predominant RPL**

Aggravation of *Pitta Doṣa* may result in defective ovulation, luteal phase insufficiency, inflammatory changes in the endometrium, and early pregnancy loss due to excessive heat and tissue depletion.

Therapeutic Approach: Treatment emphasizes *Pitta Śamana* and *Rakta Prasādana* using cooling, nourishing, and stabilizing measures to protect the endometrium and support implantation.

Commonly Used Drugs and Formulations: *Śatāvarī, Gudūcī, Amṛtā, Yaṣṭimadhu, Durvā, Śīta Kalyāṇaka Ghṛita, Kashmaryadi Ghrita, Laghuphala Ghrita, Mahatikta Ghrita, Maha Panchgavya Ghrita.*

Oil consumption – *Chandanbala lakshadi* oil, *Shatavari* oil, *Mahatikta Ghrita*, *Jivaniya Ghrita* These drugs reduce uterine inflammation, balance hormonal activity, and facilitate successful implantation.

***Kapha*-Predominant RPL**

Kapha Duṣṭi is commonly associated with *Āma* accumulation, obesity, polycystic ovarian syndrome (PCOS), anovulation, and impaired follicular development, leading to conception failure or early pregnancy loss.

Therapeutic Approach: Management involves *Kapha Śamana, Āma Pācana*, and *Agnidīpana* to correct metabolic dysfunction and improve ovarian and uterine function.

Commonly Used Drugs and Formulations: *Trikaṭu, Citraka, Musta, Lodhra, Aśoka*, and *Kañcanāra Guggulu* (in selected cases).These medicines regulate ovulation, improve metabolic health, and enhance uterine receptivity.

Integrated Role of *Śamana Cikitsā* in RPL

Primary therapy in mild to moderate RPL.
Supportive management before and after *Pañcakarma.*
Maintenance therapy during inter-conceptional periods.
Pregnancy-supportive care after conception.

By restoring physiological equilibrium, strengthening *Bīja* and *Ojas*, and stabilizing the uterine environment, *Śamana Cikitsā* plays a decisive role in the prevention and long-term management of recurrent pregnancy loss.

Role of *Pathya–Apathya* in *Śamana Cikitsā*

Strict adherence to *Pathya* significantly augments the efficacy of *Śamana* therapy. ***Pathya***: Warm, freshly prepared food; milk, ghee, rice, green gram (*Mudga*); seasonal fruits and cooked vegetables.

Apathya: Cold, stale, heavy food; excessive spicy, sour, or fried items; excessive physical exertion and psychological stress.

3. *SHODHANA CHIKITSA* IN RPL

Pañcakarma plays a pivotal role in the comprehensive management of Recurrent Pregnancy Loss (RPL) by addressing the underlying *Doṣic* imbalance, metabolic dysfunction, and uterine instability. These therapies are primarily employed in the pre-conceptional and inter-conceptional periods.[5,7]

Objectives of *Pañcakarma* in RPL

Restoration of *Agni* and elimination of *Āma*,Clearance of *Srotorodha* to improve tissue nutrition,Pacification of *Kapha*, *Pitta*, and *Apāna Vāta*,Enhancement of *Rasa–Rakta Dhātu* and *Bīja* quality,Stabilization of the uterine environment (*Kṣetra*),Improvement of ovulation, implantation, and fetal retention

Therapeutic Principles

Pañcakarma therapies in RPL are administered sequentially, beginning with metabolic correction and followed by *Doṣa* elimination and functional restoration of the reproductive system. Emphasis is placed on *Apāna Vāta* regulation and endocrine harmony.

***Pañcakarma* Modalities in RPL**

Dīpana–Pācana

Principle: *Agni dīpana* and *Āma nirharaṇa*
Therapeutic Role: Enhances digestion, clears metabolic toxins, relieves *Srotorodha*, and supports healthy *Rasa Dhātu* formation.[7,8]
Indications: *Agnimāndya, Āma*-associated infertility, *Kapha*-dominant pathology.
Drug Used :*Agni tundi vati, Chitrakadi vati, Sanjeevani vati,Shankh vati, Hingvastak vati.*

Snehapāna, Abhyanga*, and *Svedana

Principle: *Srotas śodhana* and *Doṣa utkleshana.*
Therapeutic Role: Prepares the body for purification, improves tissue pliability, and restores *Dhātu* balance.[7,8]
Sneha Used*: Chandanbala Lakṣādi Taila, Mahānārāyaṇa Taila, Dhanvantaram Taila, Bala Taila, Sahacarādi Taila, Udumbarādi Taila, Bilva Taila, Śatapūṣpā Taila.*

Svedana

Principle: *Vāta Anulomana*, *Srotoshodhana*, Improved uterine perfusion, Reduction of uterine irritability, Preparation for *Garbhasthāpaka* therapy.[7,8]
Drug used: *Daśamūlādi Kwātha, Triphalā Kwātha*.
Indications: *Vāta* stiffness, poor uterine tone, *Dhātu kṣaya.*

Vamana and Virecana

Principle: *Doṣa nirharaṇa*.
Therapeutic Role: Eliminates vitiated *Kapha* and *Pitta*, improves ovum quality, enhances endometrial receptivity, and supports hormonal equilibrium.[7,8]
Indications: *Kapha–Pitta* dominance, obesity, PCOS, inflammatory endometrial conditions.

***Basti* Therapy**
Principle: *Apāna Vāta niyantraṇa*
Therapeutic Role: Regulates ovulation, implantation, fetal retention, and uterine stability. *Basti* also influences the gut–brain–ovarian axis, thereby improving endocrine function.[7,8]

1. *Nirūha Basti*
Drug used: *Daśamūla Kwātha, Eraṇḍamūlādi Kwātha*

2. *Anuvāsana Basti*
Drug used: *Sahacara Taila, Daśamūla Taila, Laśuna Taila, Śatapāka Taila, Trivṛt Taila, Śatāvarīyādi Taila, Guḍūcyādi Rasāyana*.

3. *Yāpana Basti*
Drug used:*Sahacarādi* formulations
Indications: *Vāta*-predominant RPL, uterine instability, recurrent early pregnancy loss.

4. *Uttarabasti*
Principle: Local *Kṣetra śodhana a*nd *Garbhasthāpana*
Therapeutic Role: Enhances endometrial receptivity, pacifies *Apāna Vāta*, and improves tubal and ovarian function through direct uterine action.[7,8]

Drugs Used: *Bala Taila, Phala Ghṛta, Kṣāra Taila, Kāśīsādi Taila, Sukumāra Ghṛta, Jīvantyādi Ghṛta, Triphalā Ghṛta, Dūrvādi Ghṛta, Amṛtādi Taila*

Indications: Endometrial inadequacy, tubal factors, implantation failure.

Nasya
Principle: *Śiro-dvāra mārga sevanam*
Therapeutic Role: Acts on the hypothalamo–pituitary–ovarian axis, facilitating hormonal regulation and endometrial stabilization.[7,8]
Drugs Used: *Dāḍima Puṣpa Nasya, Lakṣmaṇa Siddha Ghṛta Nasya, Śatapūṣpā Nasya*
Indications: Hormonal imbalance, stress-related RPL, neuroendocrine dysfunction.
Clinical Significance: *Pañcakarma* therapies, when judiciously applied, provide a comprehensive approach to RPL by correcting metabolic dysfunction, regulating reproductive physiology, and strengthening uterine receptivity. Their role is most effective in pre-conceptional planning, inter-conceptional care, and recurrence prevention.

5. *GARBHASTHAPAKA & MASANUMASIKA CHIKITSA*
Herbs and formulations possessing *Rasāyana*, *Bṛṃhaṇa*, and *Prajasthāpana* properties stabilize pregnancy, enhance uterine strength (*Gharbhashaya)* and support implantation and promotes proper fetal nourishment (*GarbhaPoshana*).[5,3]

Māsānumāsika Garbhasrāvahara Cikitsā, as described in classical Ayurvedic literature, refers to a structured, month-wise therapeutic regimen designed to support and strengthen a weak or unstable pregnancy (*Daruna Garbha*), with the aim at strengthening the uterus (*Garbhashaya*)and ensuring proper fetal nourishment (*GarbhaPoshana)* and pacifying aggravated *Vata Dosha*. This *chikitsa* focuses on stabilizing pregnancy in women with a history of threatened abortions (*Garbhasrava*), recurrent miscarriages, or uterine debility.

6. MENTAL HEALTH (*SATVAVAJAYA CHIKITSA*)
Psychological stress, anxiety, and emotional trauma significantly influence reproductive outcomes. Ayurveda emphasizes *Satvavajaya Cikitsā* to maintain mental equilibrium and support neuroendocrine regulation. Therapeutic Measures Include: Counseling and reassurance, meditation and *Prāṇāyāma,* mantra chanting and *spiritual* practices, and cultivation of a positive mental state (*Prasanna Manas*). Balanced mental health enhances implantation success and pregnancy maintenance.[8]

SUMMARY AND CONCLUSION

Recurrent pregnancy loss is a multifactorial condition with significant physical and psychological implications. While modern medicine provides advanced diagnostic and therapeutic modalities,[1] Ayurveda offers a comprehensive preventive and supportive framework by correcting *Doṣa–Dhātu* imbalances, strengthening reproductive tissues, and promoting maternal well-being.[5,7] An integrative approach combining modern diagnostics with Ayurvedic principles such as *Garbhasaṃskāra*, *Rasāyana*, lifestyle regulation, and *Pañcakarma* may provide improved outcomes for couples experiencing recurrent pregnancy loss.

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