

Ayurvedic Management of Garbha Chalana (Threatened Miscarriage) Using Mrinala (*Nelumbo nucifera*) and Nagakesara (*Mesua ferrea*) as an Adjunct to Conventional Therapy: A CARE - Compliant Case Study

Dr. Bhappil Sharma¹, Dr. Tanuja Bharti²

¹Associate Professor, Department of Prasuti Tantra Evam Stri Roga, Vaidya Yagya Dutt Sharma Ayurveda Mahavidyalaya and Hospital, Khurja, Email - drbhappilsharma@gmail.com

²Associate Professor, Department of Rasa Shastra and Bhaishajya Kalpana, Vaidya Yagya Dutt Sharma Ayurveda Mahavidyalaya and Hospital, Khurja.

ABSTRACT

Background: Threatened miscarriage, characterized by vaginal bleeding during early pregnancy with a viable intrauterine fetus and a closed cervical OS, remains a significant obstetric concern. In Ayurveda, this condition is comparable to Garbha Chalana or Garbhasrava, which is primarily attributed to vitiation of Vāta and Pitta Doṣa. Harita Saṃhitā recommends the administration of Mrinala (*Nelumbo nucifera*) and Nagakesara (*Mesua ferrea*) with cow's milk and cow's ghee for stabilization of pregnancy (Garbha Sthāpana). However, clinical evidence supporting this classical intervention is limited.

Aim: To evaluate the clinical efficacy of a classical Ayurvedic intervention comprising Mrinala Churna and Nagakesara Churna administered with cow's milk and cow's ghee as an adjunct to conventional management in a case of threatened miscarriage (Garbha Chalana), with the objective of promoting maternal and fetal well-being.

Case Presentation: A 27-year-old gravida 2 para 1 woman at 11 weeks and 5 days of gestation presented with intermittent painless vaginal bleeding of 15 days' duration. Ultrasonography confirmed a viable intrauterine pregnancy with a posterior low-lying placenta. Clinical evaluation and laboratory investigations ruled out major systemic abnormalities.

Intervention: The patient received conventional obstetric management with micronized progesterone along with Ayurvedic therapy consisting of Mrinala Churna (3 g) and Nagakesara Churna (3 g) twice daily, administered with 100 mL lukewarm cow's milk and 10 mL cow's ghee for 30 days. Routine antenatal care, including iron, folic acid, calcium supplementation, dietary advice, and regular follow-up, was continued.

Results: Vaginal bleeding subsided following treatment, and pregnancy progressed uneventfully to term. The patient delivered a healthy female infant by spontaneous vaginal delivery without maternal or fetal complications. The combined Ayurvedic formulation appeared to contribute to pregnancy stabilization through its Rakta-stambhana, Garbha-sthāpana, Vāta-Pitta Śamana, antioxidant, anti-inflammatory, and placental protective properties.

Conclusion: This case suggests that the classical Ayurvedic combination of Mrinala, Nagakesara, cow's milk, and cow's ghee may serve as a safe, non-invasive, cost-effective adjunctive therapy in the management of threatened miscarriage. The encouraging maternal and fetal outcomes warrant further validation through well-designed randomized controlled clinical trials.

Keywords: Garbha Chalana, Threatened miscarriage, Threatened abortion, Garbhasrava, Ayurveda, Harita Saṃhitā, Mrinala, *Nelumbo nucifera*, Nagakesara, *Mesua ferrea*, Garbha Sthāpana, Vaginal bleeding, Maternal well-being, Fetal well-being, Integrative obstetrics.

1. INTRODUCTION

Pregnancy is the only time when two hearts beat together as one. It is a time of excitement, anticipation, and deep emotional connection. Every kick is a reminder that a little miracle is growing with love and care. The journey to motherhood transforms a woman in the most beautiful way and fills her heart with everlasting joy. In today's world, healthy conception and continuation of pregnancy without any complication is a challenge faced by couples. 10-20% of pregnancy ends in miscarriage. The incidence of miscarriages^[1]. The definition of a threatened abortion defined by the World Health Organization (WHO) is pregnancy-related bloody vaginal discharge or frank bleeding during the first half of pregnancy without cervical dilatation. In Ayurveda, bleeding up to four months of pregnancy is termed as

Garbasrava.^[2] Garbasthapaka dravyas gives stability to fetus, it helps in maintenance of pregnancy and used in treatment as well as prevention of garbasrava.^[3] Nagakesara is having kashaya, tikta rasa, alpa ushna, grahi, raktastambana, garbasthapaka properties. It is having anti-inflammatory, hemostatic and antioxidant properties. Kashaya rasa, grahi and rakta stambana property of nagakesara helps in controlling bleeding^[4]. Pregnancy in Ayurveda is considered as a divine physiological process and Garbha has to be properly nourished and stable during gestation. Garbha Chalana is any disturbance causing instability of the fetus in pregnancy. In Harita Samhita Chikitsa Sthana Adhyaya 50 (Chalita Garbha Chikitsa) Acharya Harita has elaborately dealt with Garbha Chalana and its management.

Meaning: Garbha = Fetus, Chalana = Movement or displacement

Garbha Chalana refers to an unstable fetus showing signs of downward movement before full term.

The second month of pregnancy is very important because organogenesis and attachment of the placenta are going on very actively. Vaginal bleeding and abdominal pain during this time indicate instability of pregnancy and may progress to spontaneous abortion if not managed properly.

In modern obstetrics, such a condition is related to Threatened Abortion which is defined as vaginal bleeding before 20 weeks of gestation with a closed cervical os and a viable fetus.

In Harita Samhita, pregnancy stabilization is suggested with Mrunala (*Nelumbo nucifera*) & Nagakeshara (*Mesua ferrea*) with Dugdha & Ghrita. These drugs possess Rakta-stambhaka, Pittashamaka, Garbasthapaka and Rasayana properties which can prevent the loss of pregnancy. *Nymphaea nelumbo*, *Nelumbium nelumbo* or *Nelumbium speciosum*, even these are correct as they were the old names referring to the plant, but *Nelumbo nucifera* is the latest official name given^{[5][6]}

This classical formulation needs to be scientifically evaluated for its efficacy to establish evidence-based Ayurvedic management of threatened abortion.

2.1 CASE PRESENTATION

2.1 PATIENT INFORMATION

A 27-year-old married woman, gravida 2 para 1 (G2P1), presented with a history of amenorrhoea for 3 months and 6 days. She has been married for the past 5 years. Her last menstrual period (LMP) was on 29 January 2024. The patient has a height of 164 cm and a weight of 63 kg. Based on her obstetric history and the period of amenorrhoea, she is suspected to have an early intrauterine pregnancy and presented for antenatal evaluation and further management.

2.2 CHIEF COMPLAINTS

The patient is a 27-year-old married female with a history of multiparity who presents with intermittent vaginal bleeding described as approximately one pad per day for 15 days. She reports intermittent nausea and vomiting over the past three months and accompanying generalized weakness.

2.3 HISTORY OF PRESENT ILLNESS

The patient reports a 15-day history of vaginal bleeding, described as painless and intermittent. Bleeding was fresh initially and then darker in color, with minimal clots and a small amount of bleeding corresponding to a few drops per pad. She has been using whisper choice regular sanitary pads, approximately one pad per day. On presentation, she also reports intermittent nausea and vomiting for the past three months and generalized weakness. No history of trauma, uterine contractions, or cramps was noted.

2.4 HISTORY OF PAST ILLNESS

There were no complaints of vaginal bleeding or any symptoms suggestive of obstetric complications in the patient's previous pregnancy. No significant history of systemic illnesses, including diabetes mellitus, hypertension, thyroid disorders, or other endocrine/metabolic diseases. No prior gastrointestinal ulcers, piles (hemorrhoids), fistula, or other anorectal conditions reported. The patient has not taken any medications prior to presenting to the hospital for this pregnancy. No family history of similar illnesses or related obstetric/gynecologic conditions reported. The patient was not on any chronic medications prior to this admission. There is no history of tobacco use, alcohol consumption, or other addictive substances. Obstetric history: Gravida 2, Para 1. Last pregnancy occurred five years ago and culminated in a full-term, normal vaginal delivery of a live female infant weighing 2.94 kg.

2.5 CLINICAL FINDINGS

Clinical Presentation and History. The patient's detailed history was obtained.

She is well oriented to time, place, and person. On the day of the first visit, vitals were stable with blood pressure 100/70 mmHg in the sitting position.

General and Systemic Examination

General examination: Cardiorespiratory system within normal limits.

Abdominal examination: Soft and non-tender; no abnormal findings detected.

Bleeding Evaluation: Sanitary pad, Observed minimal bleeding described as spotting, with a few drops of dark red color.

Speculum examination: Cervix noted with dark red bleeding originating from the cervical os.

Vaginal examination: Deferred to avoid undue manipulation of the uterus given the current bleeding.

3. DIFFERENTIAL DIAGNOSIS

First-trimester bleeding can arise from obstetric or gynecologic etiologies, as well as non-gynecologic sources. A thorough history, targeted examination, transvaginal ultrasound (USG), and laboratory testing are essential to refine the differential.

First trimester vaginal bleeding is one of the major risk factors for preterm birth of which the severity, duration, and period of vaginal bleeding play an important role in pregnancy outcome^[7]. In Ayurveda, abortion up to the fourth month of pregnancy is termed as garbhasrava^[8]. This could be correlated with threatened abortion. This is characterized by raktadarshana and pain in uterus, lower back, inguinal region and pelvic region^[9].

Faulty diet, behavior (excessive physical exercise, jerking, suppression of natural urges, etc.), and psychological factors (anger, fear, grief) are responsible for abortion.^{[10][11]}

1) Early pregnancy-related causes

Implantation-related bleeding: Light, usually short-lived bleeding occurring around the time of expected menses or shortly after conception.

Spontaneous abortion (miscarriage): Bleeding with cramping and potential passage of tissue; history and serial beta-hCG trends assist in distinction.

Ectopic pregnancy: Bleeding with abdominal or pelvic pain; discordant pregnancy test and imaging findings with abnormal beta-hCG rise patterns.

Gestational trophoblastic disease (including hydatidiform mole): Abnormal beta-hCG elevation; vaginal bleeding with or without passage of tissue; ultrasound may show characteristic placental morphology.^[9]

2) Non-pregnancy gynecologic sources

Cervical polyp or cervical erosion: Intermittent spotting or light bleeding; often visible on speculum exam.

Cervical or vaginal trauma: Bleeding associated with recent intercourse, instrumentation, or trauma.

Coagulation disorders or bleeding diatheses: Unexplained heavy or disproportionate bleeding with otherwise benign local exam; consider hematology referral if suspected.

Endometrial or uterine pathology: Endometrial polyps, submucosal fibroids, or endometritis presenting with bleeding; evaluation aided by ultrasound and endometrial sampling if indicated.

3) Pelvic pathology and miscellaneous considerations

Ovarian cyst rupture or hemorrhagic corpus luteum: Acute bleeding with pelvic discomfort; timing related to ovulation or early pregnancy.

Vaginal or cervical neoplasia: Less common but considered if bleeding persists or is heavy despite normal cervical findings.

Imaging and laboratory approach

History-driven assessment to identify pregnancy-related features (amenorrhea, prior pregnancy tests, onset and pattern of bleeding).

Primary imaging: Transvaginal USG to assess intrauterine pregnancy status, adnexal structures, and cervical/vaginal pathology.

Laboratory tests:

Quantitative beta-hCG to determine pregnancy presence and progression.

Complete blood count to assess for anemia or active bleeding.

Blood type and Rh status as indicated.

Coagulation profile if there is concern for a bleeding disorder or heavy bleeding.

4. DIAGNOSTIC ASSESMENT

Currently at 11 weeks 5 days of gestation.

Transvaginal/abdominal ultrasound performed with findings documented below.

Laboratory investigations indicate no notable abnormalities in the specified parameters.

Imaging findings

Gestational age: Consistent with 11 weeks 5 days.

Placental position: Low-lying placenta located posteriorly.

Fetal assessment: no fetal anomalies reported;

Additional ultrasound observations: Presence of a yolk sac.

Positive fetal cardiac activity.

Adequate amniotic fluid volume for gestational age. Posterior low-lying placenta. Normal umbilical cord morphology

Laboratory investigations

Hemoglobin : 10 g/dL

Platelet count: Within normal limits.

Thyroid function tests: Within normal limits.

5. DIAGNOSIS

Predicted on the history and comprehensive clinical examination, the diagnosis is first-trimester vaginal bleeding secondary to a posterior placental position .

6. THERAPEUTIC INTERVENTION

The therapeutic regimen was planned in accordance with the fundamental principles of Ayurvedic management of Garbha Chyuti/Chalita Garbha, with the primary objective of preserving pregnancy, promoting fetal stability (Garbha Sthapana), and restoring the equilibrium of Vāta and Pitta Doṣa, which are considered the principal pathogenic factors in threatened pregnancy. The selected intervention was based on classical Ayurvedic references advocating the use of Garbha Sthāpana drugs during the second month of gestation.

The formulation was selected in accordance with the classical reference:

"द्वितीये मासि चलिते मृणालं नागकेशरम्।"^[12]

Accordingly, Mrinala Churna (powder of lotus rhizome) and Nagkesar Churna (Mesua ferrea) were administered as adjuvant Ayurvedic therapy along with standard obstetric management. Both drugs are traditionally described as possessing Pitta-śāmaka, Vāta-śāmaka, Rakta-stambhaka, and Garbha Sthāpana properties, thereby contributing to the stabilization of the intrauterine fetus and supporting normal continuation of pregnancy.

TREATMENT PROTOCOL	
Intervention	Regimen
Conventional Therapy	Micronized Progesterone
Ayurvedic Intervention	Mrinala Churna – 3 g + Nagkesar Churna – 3 g
Anupāna	100 mL lukewarm cow's milk mixed with 10 mL cow's ghee
Duration	30 days

In addition to the above intervention, the patient received routine antenatal care according to standard obstetric protocols. This included supplementation with folic acid, iron, and calcium, along with regular antenatal monitoring, dietary counselling, and advice regarding adequate rest and lifestyle modifications appropriate for pregnancy.

The patient was followed clinically throughout the treatment period to assess maternal well-being, fetal viability, and response to the combined Ayurvedic and conventional therapeutic regimen.

7. OUTCOME AND FOLLOW UPS

The patient progress to term and delivered a healthy female infant via spontaneous vaginal delivery. the delivery occurred in private setting. perinatal management and follow up were conducted in accordance with standard antenatal protocols

8. DISCUSSION

8.1. PHARMACEUTICAL PREPARATIONS AND PROBABLE MODE OF ACTION

Garbha Chalana is a common obstetric problem corresponding to threatened abortion. Harita Samhita has described a unique treatment using Mrinala and Nagakeshara with Dugdha and Ghrita. This study aims to scientifically evaluate the efficacy of this formulation and establish evidence-based Ayurvedic management for second-month Garbha Chalana # Pharmaceutical Preparations and Probable Mode of Action

Pharmaceutical Preparations

The present clinical study utilized a classical Ayurvedic formulation based on the therapeutic principles described in Harita Samhitā (Cikitsāsthāna, Chapter 50) for the management of Calita Garbha (Threatened Miscarriage). The formulation consisted of Mrinala Churna (Nelumbo nucifera), Nagkesar Churna (Mesua ferrea), Go-Dugdha (Cow's Milk), and Go-Ghṛta (Cow's Ghee).

Composition of the Formulation

Ingredient	Botanical Name	Part Used	Pharmaceutical Form	Dose
Mrinala	<i>Nelumbo nucifera</i> Gaertn.	Rhizome	Fine Powder (Cūrṇa)	3 g
Nāgakeśara	<i>Mesua ferrea</i> Linn.	Stamens	Fine Powder (Cūrṇa)	3 g
Go-Dugdha	Cow's Milk	Milk	Anupāna	100 ml
Go-Ghṛta	Cow's Ghee	Clarified Butter	Vehicle	10 ml

Method of Preparation

The rhizomes of Mrinala and dried stamens of Nāgakeśara were authenticated, cleaned, shade-dried, and pulverized separately into fine powders (80-mesh sieve). Equal quantities of both powders were mixed thoroughly to obtain a homogeneous formulation. At the time of administration, 3 g of Mrinala Churna and 3 g of Nagkesar Churna were mixed with 100 ml of lukewarm cow's milk containing 10 ml of cow's ghee and administered orally twice daily after meals.

The formulation was prepared under hygienic conditions following the standard pharmaceutical procedures described in the Ayurvedic Pharmacopoeia of India (API) and Good Manufacturing Practices (GMP).

Probable Mode of Action

The probable mode of action of the trial drug can be understood through both Ayurvedic principles and modern pharmacological perspectives.

1. Ayurvedic Perspective

Mrinala (*Nelumbo nucifera*)

Mrinala possesses Madhura and Kaṣāya Rasa, Guru and Śīta Guṇa, Śīta Vīrya, and Madhura Vipāka, making it highly suitable for the management of threatened miscarriage.

Its principal actions include:

Garbhasthāpana (stabilization of pregnancy)

Rakta-stambhana (hemostatic action)

Pitta-śamana

Rakta-prasādana

Balya and Bṛṃhaṇa

The predominance of Madhura Rasa nourishes Rasa Dhātu and Garbha, promoting fetal growth and maternal strength. The Kaṣāya Rasa exhibits astringent activity,

Helping to arrest uterine bleeding by promoting tissue contraction. The Śīta Vīrya pacifies aggravated Pitta, thereby reducing excessive uterine heat, inflammation, and vascular congestion that may precipitate hemorrhage. These combined actions stabilize the uterine environment and help prevent Garbha Calana.

Nāgakeśara (*Mesua ferrea*)

Nāgakeśara possesses Kaṣāya and Tikta Rasa, Laghu and Rūkṣa Guṇa, and Uṣṇa Vīrya.

Its therapeutic actions include:

Rakta-stambhana
Garbha-sthāpana
Vedanāsthāpana
Kapha-Pitta Śamana
Śothahara

The potent Kaṣāya Rasa promotes vasoconstriction and enhances coagulation, effectively controlling uterine bleeding. The Tikta Rasa reduces inflammatory changes, while its mild Uṣṇa Vīrya improves uterine circulation without aggravating bleeding. Classical texts repeatedly recommend Nāgakeśara as one of the best Rakta-saṅgrahaṇa Dravyas, making it especially useful in threatened abortion associated with vaginal bleeding.

Go-Dugdha (Cow's Milk)

Cow's milk is considered one of the foremost Jīvanīya and Garbha-poṣaka substances.

Its Ayurvedic actions include:

Jīvanīya ,Balya, Br̥ṃhaṇa, Rasāyana, Ojas-kara & Garbha-poṣaka.

Milk nourishes Rasa Dhātu, supports placental nutrition, enhances fetal development, and replenishes maternal nutritional reserves. It also pacifies Vāta and Pitta, thereby reducing uterine irritability.

Go-Ghṛta (Cow's Ghee)

Go-Ghṛta is described as;

Yogavāhī, Rasāyana ,Medhya, Vāta-Pitta Śāmaka ,Garbha-Sthapak.

Being Yogavāhī, Ghṛta facilitates deeper tissue penetration and enhances the bioavailability of the active principles of Mrinala and Nagkesar. It nourishes maternal tissues, lubricates body channels, pacifies aggravated Vāta, and supports placental perfusion.

Combined Ayurvedic Mechanism

The combination acts synergistically through the following mechanisms, Stabilization of the fetus (Garbha-sthāpana), Arrest of uterine bleeding (Rakta-stambhana), Pacification of aggravated Pitta responsible for bleeding, Pacification of Vāta, which is the principal causative factor in Garbha Calana, Nourishment of Rasa Dhātu and enhancement of placental nutrition, Improvement of maternal strength (Balya) and fetal growth, Promotion of healthy uterine tone without excessive contractions

Modern Pharmacological Perspective

Mrinala (Nelumbo nucifera)

Phytochemical studies reveal that lotus rhizome contains; Flavonoids, Polyphenols, Alkaloids, Tannins, Polysaccharides, Vitamin C, These constituents exhibit, Hemostatic activity, Antioxidant effects, Anti-inflammatory activity, Tissue regenerative properties, Microvascular stabilization, The tannins present in Mrinala exert local astringent action, helping reduce capillary bleeding from the decidual bed.

Nāgakeśara (Mesua ferrea)

Nāgakeśara contains; Mesuol, Xanthones, Coumarins, Flavonoids, Essential oils

Phenolic compounds, Documented pharmacological actions include:

Hemostatic activity

1. Anti-inflammatory action
2. Antioxidant activity

Analgesic effect, Antimicrobial activity, Uterine tissue protective action

Experimental studies suggest that flavonoids enhance capillary resistance and reduce vascular permeability, thereby minimizing bleeding.

Cow's Milk

Milk provides several essential nutrients necessary during pregnancy:

Calcium, Phosphorus, Magnesium, Potassium, High-quality proteins, Vitamin D, Vitamin B12

These nutrients support;

Fetal skeletal development, Placental function, Maternal nutritional status , Electrolyte balance, Prevention of maternal deficiency states

Gaughrita

Gaughrita contains; Essential fatty acids, Short-chain fatty acids, Fat-soluble vitamins (A, D, E, K)

Conjugated linoleic acid (CLA), Butyric acid.

These components contribute to:

- Anti-inflammatory activity
- Improved nutrient absorption
- Antioxidant protection
- Enhanced cellular membrane integrity
- Better placental circulation

Proposed Integrated Mechanism of Action

The combined formulation of Mrinala, Nāgakeśara, Go-Dugdha, and Go-Ghṛta acts through multiple complementary mechanisms:

Arrests uterine bleeding through potent hemostatic and astringent actions., Stabilizes the gestational sac and promotes Garbha-sthāpana, Pacifies aggravated Vāta and Pitta, the principal Doṣas involved in threatened miscarriage , Reduces oxidative stress and inflammatory changes at the maternal-fetal interface, Enhances uteroplacental circulation and placental nourishment, Improves maternal nutritional status and supports fetal growth, Provides antioxidant, anti-inflammatory, tissue-protective, and regenerative effects that help maintain pregnancy to term, The Yogavāhī property of Go-Ghṛta enhances the delivery and therapeutic efficacy of the herbal constituents .

8.2 STRENGTH AND LIMITATIONS

Early pregnancy loss is defined as a nonviable, intrauterine pregnancy with either an empty gestational sac or a gestational sac containing an embryo or fetus without fetal heart activity within the first 12 weeks of gestation.^[13] There are several causes of pregnancy loss which include genetic factors, endocrine disorders (lutealphase defect and thyroid abnormalities), immunological disorders, infection, or unexplained.^[14]

The present study explores a relatively under-researched area by evaluating the efficacy of classical Ayurvedic interventions in controlling vaginal bleeding of placental origin. The intervention is **non-invasive, cost-effective, easily available, and based on authentic Ayurvedic principles**, making it a practical and patient-friendly therapeutic option. This study may contribute valuable evidence for integrating Ayurveda into the management of threatened miscarriage and improving maternal and fetal well-being.

9. CONCLUSION

The classical combination of Mrinala Nagkesar Churna, Go-Dugdha, and Go-Ghṛta, as advocated in Harita Saṃhitā, represents a rational and scientifically plausible therapeutic intervention for Calita Garbha (Threatened Miscarriage). The formulation integrates Rakta-stambhana, Garbha-sthāpana, Balya, Rasāyana, and Vāta-Pitta Śamana properties with documented modern pharmacological activities including hemostatic, antioxidant, anti-inflammatory, and placental protective effects, thereby promoting successful continuation of pregnancy and improving maternal and fetal well-being.

Acknowledgment

The author acknowledges the Director, Vaidya Gopal Dutt Sharma for providing all facilities for conducting conducting research.

10. Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for clinical information to be reported in the journal. The patient understands that name and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

11.Financial support and sponsorship

Nil.

12. Conflicts of interest

There are no conflicts of interest

REFERENCES

1. Dutta DC. *Textbook of Gynecology*. Konar H, editor. 7th ed. New Delhi: Jaypee Brothers Medical Publishers; 2016. p. 151.
2. Tiwari P. *Ayurvediya Prasuti Tantra Evam Stri Roga*. 2nd ed. Varanasi: Chaukhambha Orientalia; 2016. p. 240.

3. Tiwari P. *Ayurvediya Prasuti Tantra Evam Stri Roga*. 2nd ed. Varanasi: Chaukhambha Orientalia; 2016. p. 320.
4. Pandey GS, editor. *Bhavaprakasha Nighantu*. Nagakesara. Varanasi: Chaukhambha Bharati Academy; 2018. p. 220.
5. Government of India, Ministry of Health and Family Welfare, Department of AYUSH. *The Ayurvedic Pharmacopoeia of India*. Part I. Vol. II. New Delhi: Government of India; 1999. Kamala (Flower). p. 109-111.
6. Government of India, Ministry of Health and Family Welfare, Department of ISM & H. *The Ayurvedic Pharmacopoeia of India*. Part I. Vol. III. Ghaziabad: Government of India; 2001. Kamala (Rhizome). p. 126-128.
7. Liu S, Yu L, Wu Q, Cui H, Lin X, Wang W. Study on the correlation between vaginal bleeding in the first trimester and preterm birth: a birth cohort study in Lanzhou, China. *J Obstet Gynaecol Res*. 2021;47(6):1997-2004.
8. Vardhan S, Bhattacharyya TK, Kochar SP, Sodhi B. Bleeding in early pregnancy. *Med J Armed Forces India*. 2007;63(1):64-67.
9. Acharya JT, Acharya NR, editors. *Sushruta Samhita* of Sushruta with *Nibandhasangraha* commentary by Dalhana. Nidana Sthana. Mudhagarbha Nidana. Chapter 8, Verse 10. 1st reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2003. p. 300.
10. Acharya JT, Acharya NR, editors. *Sushruta Samhita* of Sushruta with *Nibandhasangraha* commentary by Dalhana. Sharira Sthana. Garbhiniyakarana Shariram. Chapter 10, Verse 57. 1st reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2003. p. 393.
11. Acharya YT, editor. *Charaka Samhita* of Agnivesha with *Ayurveda Dipika* commentary by Chakrapanidatta. Sharira Sthana. Jatisutriya Shariram. Chapter 8, Verse 24. 1st reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2000. p. 344.
12. Harita. *Harita Samhita*. Khemraj Shri Krishnadas, editor. Reprint ed. Mumbai: Shri Venkateshwar Press; 1962. Tritiya Sthana. Chapter 50. p. 445.
13. Jauniaux E, Farquharson RG, Christiansen OB, Exalto N. Evidence-based guidelines for the investigation and medical treatment of recurrent miscarriage. *Hum Reprod*. 2006;21(9):2216-2222.
14. Kaur R, Gupta K. Endocrine dysfunction and recurrent spontaneous abortion: an overview. *Int J Appl Basic Med Res*. 2016;6(2):79-83.