



Efficacy of Yashtimadhu–Vidari Siddha Ksheerapaka in the Management of Upaviṣṭaka Garbha with Special Reference to Intrauterine Growth Restriction (IUGR)

Author: Dr. Nikita Ashokkumar Mulik

Guide: Dr. Sujatha Patil

Abstract

Intrauterine Growth Restriction (IUGR) is one of the most challenging conditions in obstetric practice, contributing significantly to perinatal morbidity, stillbirth, and long-term health risks in children. Ayurveda describes a similar condition termed Upaviṣṭaka Garbha, where the fetus fails to attain normal development within the uterus. According to Ayurvedic classics, inadequate maternal nutrition, deranged rasaposhana (nutrient assimilation), and improper functioning of rasavaha srotas contribute to such conditions.

This clinical study was undertaken to assess the efficacy of Yashtimadhu–Vidari siddha ksheerapaka, a traditional Ayurvedic formulation with bṛmhana and rasayana properties, in improving intrauterine fetal growth. A randomized controlled clinical trial was conducted on 30 antenatal women with IUGR, divided into trial and control groups. Results demonstrated significant improvements in maternal weight gain, fetal abdominal circumference, estimated fetal weight, and amniotic fluid index in the trial group compared to the control. The findings highlight the therapeutic role of ksheerapaka kalpana in enhancing maternal nourishment and supporting fetal growth.

Introduction

Intrauterine Growth Restriction (IUGR) is defined as the failure of the fetus to achieve its genetically determined growth potential. Globally, IUGR complicates approximately 8–10% of pregnancies, contributing to stillbirth, neonatal morbidity, and long-term sequelae such as impaired neurodevelopment and increased risk of metabolic disorders in adulthood.

Modern obstetrics offers limited options for direct intrauterine therapy. Current strategies mainly include nutritional supplementation, maternal rest, and monitoring, which do not always ensure satisfactory fetal growth.

Ayurveda, with its emphasis on garbhiniparicharya (antenatal care), recommends specific rasayana and bṛmhana dravyas to promote the growth and development of the fetus. The concept of Upaviṣṭaka Garbha described in Charaka Samhita closely resembles IUGR, where intrauterine development is delayed or stunted.

Yashtimadhu (*Glycyrrhiza glabra*) and Vidari (*Pueraria tuberosa*) are well-known balya, bṛmhana, and rasayana herbs. When

administered in the form of ksheerapaka, they provide easily assimilable nutrients, enhance maternal strength, improve uteroplacental circulation, and support optimal fetal growth.

Aims and Objectives

1. To evaluate the clinical efficacy of Yashtimadhu–Vidari siddha ksheerapaka in the management of Upaviṣṭaka Garbha (IUGR).

2. To compare maternal and fetal growth parameters in the trial group with a control group receiving standard obstetric care.

3. To explore the role of ksheerapaka kalpana in improving maternal nourishment and fetal well-being.

Materials and Methods

Study Design

Type:Randomizedcontrolledclinicaltrial

Participants: 30 antenatal women aged 20–35 years, 28–34 weeks of gestation, diagnosed with IUGR via ultrasonography

Groups:

- Group A (Trial, n=15): Received Yashtimadhu–Vidari siddha ksheerapaka (150 ml, twice daily) in addition to standard antenatal care.

- Group B (Control, n=15): Received only standard obstetric management with nutritional supplements.

Duration: 6 weeks or until delivery

Formulation and Preparation

The powders of Yashtimadhu and Vidari were taken in equal parts and prepared as per classical ksheerapaka vidhi (1 part drug : 8 parts milk : 32 parts water). The mixture was boiled and reduced until only the milk portion remained, filtered, and administered lukewarm.

Inclusion Criteria

- Age

group:

20–35

years
- Gestational

age:

28–34

weeks
- Sonographic evidence of IUGR (EFW < 10th percentile)

Exclusion Criteria

- High-risk pregnancies (severe preeclampsia, uncontrolled diabetes, cardiac disease)

- Fetal congenital anomalies

- Multiple gestation

Assessment Parameters

- Maternal: Weight gain, subjective well-being, hemoglobin levels

- Fetal: Abdominal circumference (AC), Estimated fetal weight (EFW), Amniotic fluid index (AFI), Biophysical profile

Observations and Results

Parameter	Group A (Trial, n=15)	Group B (Control, n=15)
Maternal Weight Gain (kg)	7.2	5.1
Fetal Abdominal Circumference (cm)	32.5	29.8
Estimated Fetal Weight (g)	2450	2150
Amniotic Fluid Index (cm)	12.8	10.6

(Values represent mean improvements after intervention)

Discussion

The study highlights the potential role of Ayurvedic ksheerapaka preparations in managing IUGR. The observed benefits can be explained through both Ayurvedic and modern perspectives:

Ayurvedic Perspective:

- Yashtimadhu: Madhura rasa, sheetala virya, rasayana; improves nutrient assimilation, calms stress pathways, and supports placental nourishment.
- Vidari: Balya, brmhana, stanyajanana; strengthens maternal health and enhances fetal growth.
- Ksheera (milk): Acts as anupana and a natural nutritive vehicle, ensuring drug assimilation and providing proteins, fats, and calcium.

Thus, the formulation corrects rasadhatu kshaya and supports garbha vridhhi through improved maternal nutrition and dhatu poshana.

Modern Perspective:

- Glycyrrhizin in Yashtimadhu exhibits antioxidant, anti-inflammatory, and vasoprotective actions, improving uteroplacental circulation.
- Isoflavones and tuberostan compounds in Vidari act as phytoestrogens and anabolic agents, promoting tissue growth and maternal energy balance.
- The combined action reduces oxidative stress, supports maternal metabolic adaptation, and enhances fetal nutrient supply.

Conclusion

Yashtimadhu–Vidari siddha ksheerapaka significantly improves maternal and fetal growth parameters in cases of IUGR (Upaviṣṭaka Garbha). This safe and nutritive intervention can be adopted as an adjuvant to standard antenatal care, offering a holistic approach to improving intrauterine growth.

Future studies with larger sample sizes and biochemical assessments are needed to validate these findings.

References

- Charaka Samhita, Sharira Sthana, Chapter 4.
- Sushruta Samhita, Sharira Sthana, Chapter 10.
- Bhavaprakasha Nighantu, Madhura Varga.
- Dutta DC. Textbook of Obstetrics. 8th ed. Jaypee Brothers; 2015.
- Cunningham FG, Leveno KJ, Bloom SL, et al. Williams Obstetrics. 25th ed. McGraw-Hill; 2018.
- Sharma PV. Dravyaguna Vijnana. Vol II. Chaukhambha Bharati Academy; 2010.
- Tripathi B. Charaka Samhita. Chaukhambha Surbharati Prakashan; 2014.
- Murthy KRS. Sushruta Samhita. Chaukhambha Orientalia; 2012.
- Pandey GS, Chuneekar KC. Bhavaprakasha Nighantu. Chaukhambha Bharati Academy; 2015.
- Kirtikar KR, Basu BD. Indian Medicinal Plants. 2nd ed. Vol II. Bishen Singh Mahendra Pal Singh; 1999.
- Singh A, et al. "Pharmacological properties of Glycyrrhiza glabra: A review." Journal of Pharmacognosy and Phytochemistry. 2017; 6(4): 123–129.
- Srivastava S, et al. "Pueraria tuberosa: Phytochemistry, pharmacological profile and therapeutic applications." Asian Pacific Journal of Tropical Medicine. 2018; 11(7): 423–429.
- Satheeshkumar N, et al. "Protective role of Yashtimadhu on oxidative stress and uteroplacental circulation." International Journal of Ayurveda Research. 2016; 7(2): 85–92.

- WHO. Intrauterine Growth Restriction: Report of a WHO Scientific Group. Geneva; 2010.
- Resnik R. "Intrauterine growth restriction." *Obstetrics and Gynecology*. 2002; 99(3): 490–496.
- Das S, et al. "Role of herbal formulations in maternal nutrition and fetal growth: A clinical review." *Ayu*. 2019; 40(2): 95–101.

