WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 12, 1847-1854. Case Study ISSN 2277–7105

POOR GLYCEMIC CONTROL DURING PREGNANCY LEADING TO INTRAUTERINE FETAL DEMISE IN A HIGH-RISK PREGNANCY: A CASE REPORT

Dr. Preeti Mandre*[1], Dr. Reetu Pandey[2], Dr. Meenakshi Singh[3], Dr. Shivangi Singh Parihar[4]

[1]P.G. Scholar, [2]Associate Professor, [3,4]Assistant Professor

Department of Prasuti Tantra and Stri Roga, R.D. Memorial Ayurveda P.G. College and Hospital, Bhopal.

Article Received on 15 May 2026,
Article Revised on 05 June 2026,
Article Published on 16 June 2026,

https://doi.org/10.5281/zenodo.20731262

***Corresponding Author**
Dr. Preeti Mandre
P.G. Scholar Department of Prasuti Tantra and Stri Roga, R.D. Memorial Ayurveda P.G. College and Hospital, Bhopal.

How to cite this Article: Dr. Preeti Mandre*[1], Dr. Reetu Pandey[2], Dr. Meenakshi Singh[3], Dr. Shivangi Singh Parihar[4]. (2026). Poor Glycemic Control During Pregnancy Leading To Intrauterine Fetal Demise In A High-Risk Pregnancy: A Case Report. World Journal of Pharmaceutical Research, 15(12), 1847–1854.
This work is licensed under Creative Commons Attribution 4.0 International license.

ABSTRACT

Background: Intrauterine fetal demise (IUFD) remains an important contributor to perinatal morbidity and mortality. Maternal glucose dysregulation and inadequate glycemic control during pregnancy significantly increase the risk of adverse maternal and fetal outcomes. Early identification of high-risk pregnancies, strict glycemic monitoring, and timely obstetric intervention may reduce such complications. **Case Presentation:** A 38-year-old multigravida with history of recurrent pregnancy loss (three previous abortions) and Type 2 diabetes mellitus presented to the Prasuti Tantra and Stri Roga OPD on 06/05/2025 at 39 weeks of gestation with complaints of absent fetal movements for one day. The pregnancy was complicated by severe maternal hyperglycemia, irregular antenatal follow-up, advanced maternal age, and recurrent pregnancy losses. Preconception Ayurvedic fertility management included one cycle of Uttarbasti with Phalaghrita, following which conception occurred after two menstrual cycles. The patient had been receiving oral hypoglycemic medications prior to pregnancy and insulin therapy during pregnancy was initiated on physician advice and continued throughout antenatal care because of poor glycemic control. She had also been advised diabetic dietary modifications, regular monitoring, and supportive Ayurvedic management. Considering the high-risk nature of

pregnancy, elective lower segment cesarean section (LSCS) at 37 weeks had been advised; however, the patient did not undergo the recommended intervention. Ultrasonography confirmed intrauterine fetal demise. Laboratory investigations revealed severe hyperglycemia with random blood sugar of 284 mg/dL and HbA1c of 15.0%. **Conclusion:** This case highlights the importance of strict glycemic control, regular antenatal surveillance, dietary regulation, patient counseling, and timely obstetric intervention in preventing adverse fetal outcomes in high-risk pregnancies.

KEYWORDS: Intrauterine fetal demise, Maternal hyperglycemia, Poor glycemic control, High-risk pregnancy, Ayurveda, Pregnancy.

INTRODUCTION

Intrauterine fetal demise (IUFD) is a devastating obstetric complication associated with substantial maternal morbidity and psychological burden. Multiple maternal, placental, fetal, and metabolic factors contribute to fetal demise, among which maternal hyperglycemia is an important modifiable risk factor. Maternal glucose dysregulation during pregnancy contributes to placental insufficiency, endothelial dysfunction, oxidative stress, and fetal metabolic disturbances that may adversely affect fetal growth and survival. Women with advanced maternal age, recurrent pregnancy loss, and poor glycemic control require intensive antenatal surveillance due to their increased obstetric risk profile. From an Ayurvedic perspective, healthy pregnancy depends upon proper functioning of Garbha Sambhava Samagri including Ritu, Kshetra, Ambu, and Beeja.[1] Disturbances in maternal metabolism may be interpreted through concepts involving Agnimandya, Rasavaha Srotodushti and impaired Garbha Poshana resulting in compromised fetal nourishment.[5] The present case report describes intrauterine fetal demise occurring in a high-risk pregnancy complicated by severe maternal hyperglycemia, poor antenatal compliance, and delayed obstetric intervention.

CASE PRESENTATION

A 38-year-old multigravida with a history of recurrent pregnancy loss (three previous abortions) and Type 2 diabetes mellitus presented to the Department of Prasuti Tantra and Stri Roga, R.D. Memorial Ayurveda Hospital, on 06/05/2025 at 39 weeks of gestation with complaints of absent fetal movements for one day. The pregnancy was categorized as high risk because of advanced maternal age, abnormal glucose regulation, recurrent pregnancy losses, and poor glycemic control. Considering the history of recurrent pregnancy loss, the

patient underwent fertility-focused Ayurvedic management prior to conception, including one cycle of Uttarbasti with Phalaghrita. Conception occurred after two menstrual cycles following treatment. The patient had a history of Type 2 diabetes mellitus and was receiving oral hypoglycemic medications prior to conception. Her last menstrual period was 06/08/2024, and the estimated date of delivery was 13/05/2025.

The patient had a history of oral hypoglycemic medication use prior to pregnancy. Owing to inadequate glycemic control during pregnancy, insulin therapy was initiated and continued during antenatal care. She was advised diabetic dietary modifications, regular glucose monitoring, antenatal follow-up, and supportive Ayurvedic management along with lifestyle modifications. However, antenatal follow-up remained irregular. Clinical Examination: Blood Pressure: 110/70 mmHg Pulse Rate: 108/minute Temperature: 97.2°F Obstetric examination revealed uterine size corresponding to gestational age with absent fetal heart sounds.

INVESTIGATIONS

Hemoglobin: 13.5 g/dL Blood Group: O Positive HIV: Non-reactive HBsAg: Non-reactive HCV: Non-reactive VDRL: Non-reactive

Random Blood Sugar: 284 mg/dL HbA1c: 15.0%

Estimated Average Glucose: 383.8 mg/dL

Urine Examination: Glycosuria positive (+), albumin absent TSH: 1.79 µIU/mL

Ultrasonography performed on 06/05/2025 demonstrated absent fetal cardiac activity confirming intrauterine fetal demise.

Additional findings included

Gestational age by LMP: 39 weeks Gestational age by ultrasonography: 34 weeks 6 days

Placenta: Anterior upper and mid uterine segment, Grade II maturity Amniotic Fluid Index: 8.1 cm Estimated Fetal Weight: 2630 ± 384 g Considering the cumulative obstetric risk profile and poor glycemic control, elective lower segment cesarean section at 37 weeks of gestation had been advised. However, the patient did not undergo the recommended intervention and subsequently presented with absent fetal movements.

MANAGEMENT AND OUTCOME

Following confirmation of intrauterine fetal demise, detailed counseling regarding diagnosis, prognosis, and management options was provided. Delivery was conducted according to institutional protocol, and the patient delivered an intrauterine dead fetus weighing 3.1

kilograms through LSCS on 07/05/25.

Postpartum management included

- Maternal monitoring
- Glycemic reassessment
- Psychological counseling
- Dietary advice
- Counseling regarding future pregnancy planning and glycemic optimization

DISCUSSION

Poor glycemic control during pregnancy significantly increases the risk of maternal and fetal complications. Persistent hyperglycemia contributes to endothelial dysfunction, placental vascular compromise, oxidative stress, and chronic fetal hypoxia.

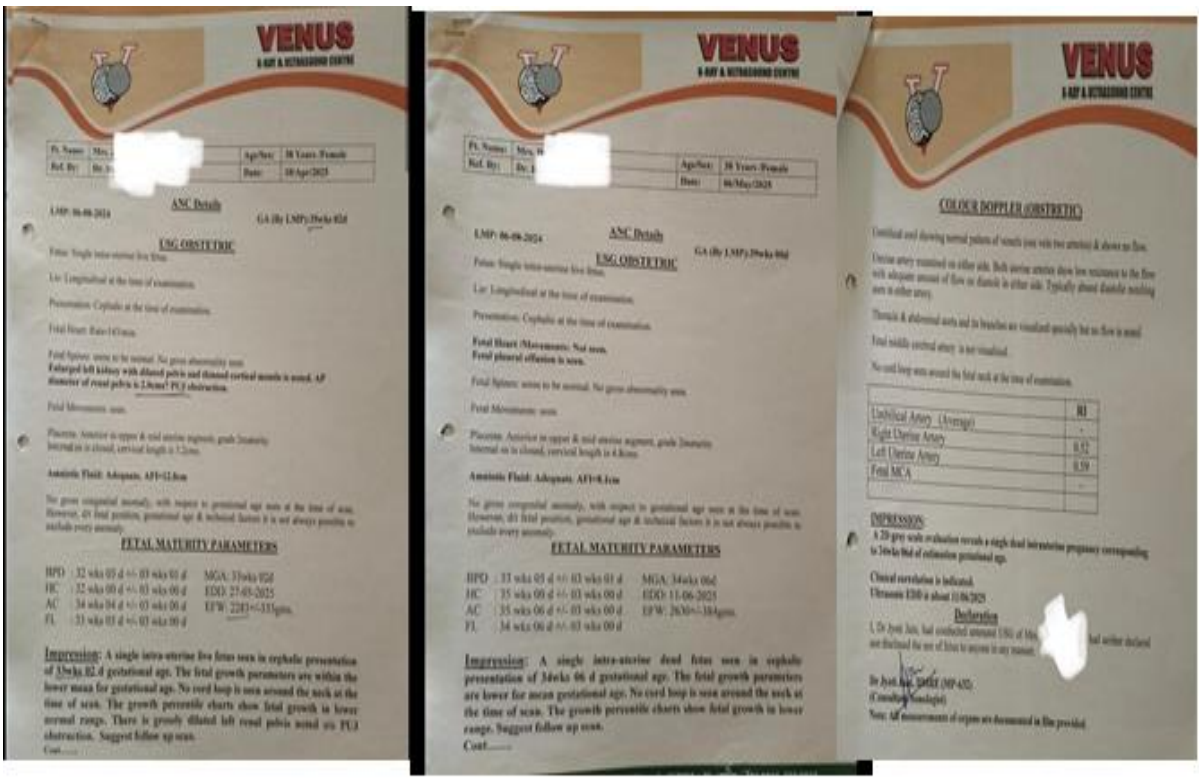
Possible mechanisms contributing to fetal demise in this case include:

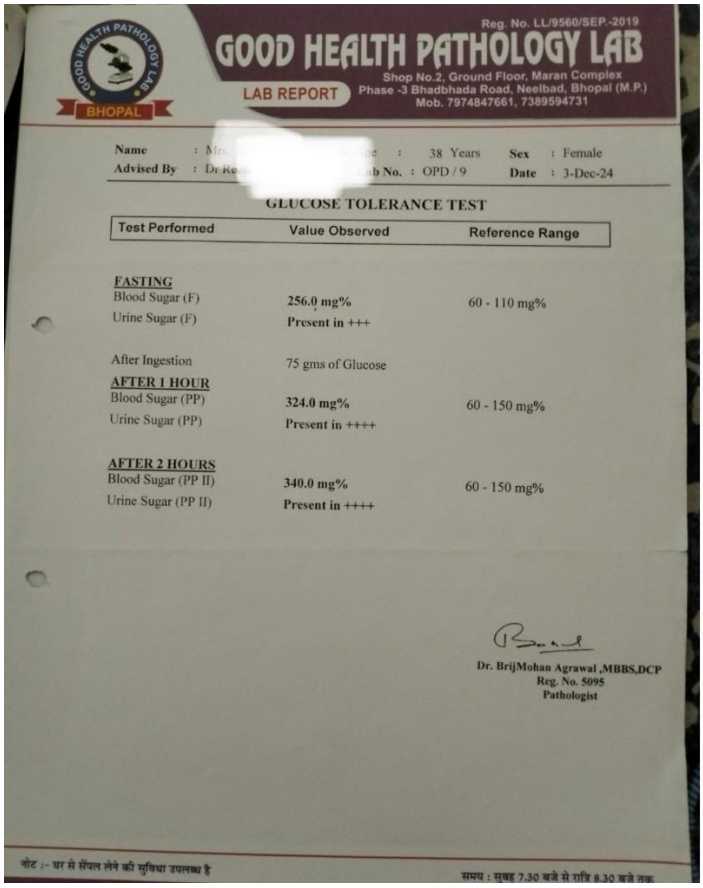
- Placental insufficiency secondary to metabolic dysfunction
- Chronic fetal hypoxia associated with maternal hyperglycemia
- Endothelial dysfunction and oxidative stress
- Delayed obstetric intervention
- Irregular antenatal surveillance

This patient had multiple overlapping risk factors including advanced maternal age, Type 2 diabetes mellitus, recurrent pregnancy loss, severe maternal hyperglycemia, irregular antenatal follow-up, and delayed intervention. Elective delivery at 37 weeks had been advised because of cumulative obstetric risk factors. Delayed presentation beyond the advised period may have contributed to progression toward fetal demise. From an Ayurvedic perspective, maternal and fetal well-being depends upon proper *Garbha Poshana* facilitated through healthy *Agni*, balanced *Doshas*, and unobstructed functioning of *Rasavaha Srotas*. Disturbance in maternal metabolism may lead to impaired nourishment of the fetus and unfavorable pregnancy outcomes. Ayurvedic management in such high-risk pregnancies may act as a supportive approach through principles of *Garbhini Paricharya*, dietary regulation, lifestyle modifications, and individualized therapeutic interventions aimed at maintaining maternal metabolic balance and optimizing fetal nourishment. Dietary advice emphasizing *Pathya Ahara*, avoidance of excessive *Madhura Ahara*, maintenance of proper sleep patterns, stress reduction, and regular antenatal monitoring may contribute to improved maternal

health. Supportive *Ayurvedic* interventions, when integrated with standard obstetric management, may assist in improving compliance, maternal well-being, and pregnancy surveillance.[2,3]

According to Ayurvedic principles, Ojas plays an important role in maintaining fetal vitality and sustaining pregnancy.[4] Classical texts describe the instability of Ojas during the eighth month (Ashtama Maas), making fetal well-being particularly dependent on adequate maternal nourishment and physiological balance. Inadequate Garbha Poshana, impaired maternal metabolism, and disturbances in Rasavaha Srotas may adversely affect fetal nourishment and vitality. In the present case, longstanding metabolic imbalance and poor glycemic control may be conceptually correlated with impaired maternal-fetal nourishment and Ojakshaya-like states contributing to unfavorable fetal outcomes.[5] Evidence from obstetric literature suggests that pregnancies complicated by poorly controlled diabetes have an increased risk of stillbirth in late gestation, emphasizing the importance of strict glycemic control and timely obstetric intervention, particularly during the final weeks of pregnancy.[6-8] The present case supports existing evidence that delayed intervention and persistent hyperglycemia in a high-risk pregnancy may contribute to unfavorable fetal outcomes. Although direct causality cannot be conclusively established from a single case, the coexistence of multiple metabolic and obstetric risk factors likely contributed to the adverse fetal outcome.





Reg. No. LL/9560/SEP.-2019

GOOD HEALTH PATHOLOGY LAB

BHOPAL

LAB REPORT

Shop No.2, Ground Floor, Maran Complex
Phase -3 Bhadbhada Road, Neelbad, Bhopal (M.P.)
Mob. 7974847661, 7389594731

Name : [redacted] Age : 38 Years Sex : Female
Advised By : Dr.Ke[redacted] Lab No. : OPD / 9 Date : 3-Dec-24

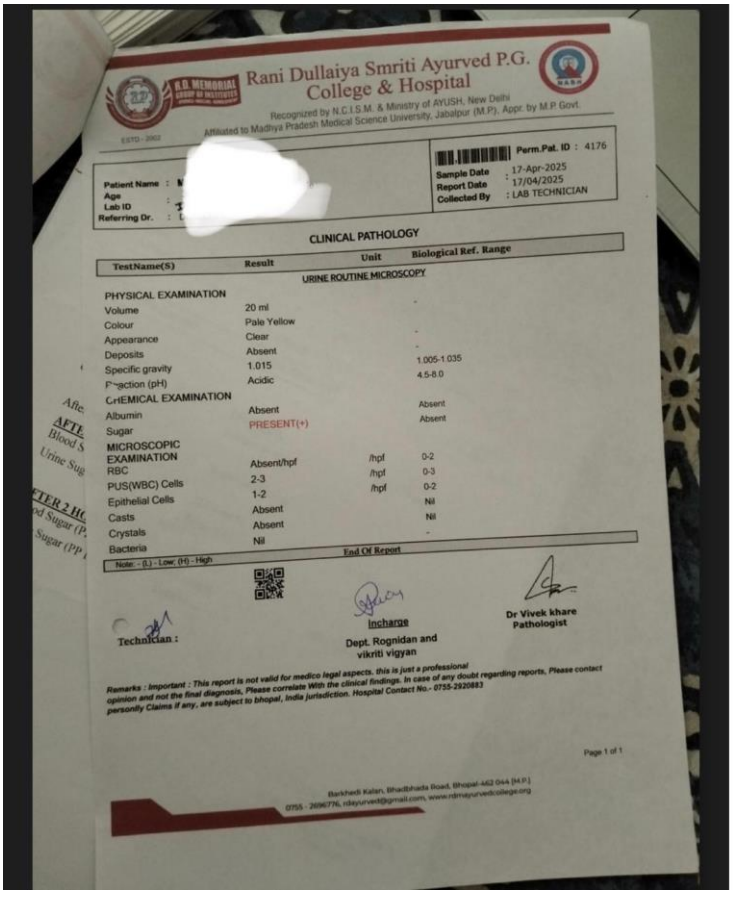
GLUCOSE TOLERANCE TEST

Test Performed	Value Observed	Reference Range
FASTING		
Blood Sugar (F)	256.0 mg%	60 - 110 mg%
Urine Sugar (F)	Present in +++	
After Ingestion	75 gms of Glucose	
AFTER 1 HOUR		
Blood Sugar (PP)	324.0 mg%	60 - 150 mg%
Urine Sugar (PP)	Present in ++++	
AFTER 2 HOURS		
Blood Sugar (PP II)	340.0 mg%	60 - 150 mg%
Urine Sugar (PP II)	Present in ++++	

Dr. BrijMohan Agrawal ,MBBS,DCP
Reg. No. 5095
Pathologist

नोट :- घर से सैंपल लेने की सुविधा उपलब्ध है

समय : सुबह 7.30 बजे से रात्रि 8.30 बजे तक



Rani Dullaiya Smriti Ayurved P.G. College & Hospital

Recognized by N.C.I.S.M. & Ministry of AYUSH, New Delhi
Affiliated to Madhya Pradesh Medical Science University, Jabalpur (M.P). Appr. by M.P Govt.

ESTD - 2002

Perm.Pat. ID : 4176
Sample Date : 17-Apr-2025
Report Date : 17/04/2025
Collected By : LAB TECHNICIAN

Patient Name : [redacted]
Age :
Lab ID :
Referring Dr. :

CLINICAL PATHOLOGY

TestName(S)	Result	Unit	Biological Ref. Range
URINE ROUTINE MICROSCOPY			
PHYSICAL EXAMINATION			
Volume	20 ml		-
Colour	Pale Yellow		-
Appearance	Clear		-
Deposits	Absent		-
Specific gravity	1.015		1.005-1.035
Reaction (pH)	Acidic		4.5-8.0
CHEMICAL EXAMINATION			
Albumin	Absent		Absent
Sugar	PRESENT(+)		Absent
MICROSCOPIC EXAMINATION			
RBC	Absent/hpf	/hpf	0-2
PUS(WBC) Cells	2-3	/hpf	0-3
Epithelial Cells	1-2	/hpf	0-2
Casts	Absent		Nil
Crystals	Absent		Nil
Bacteria	Nil		-

Note: - (L) - Low; (H) - High

End Of Report

Technician :

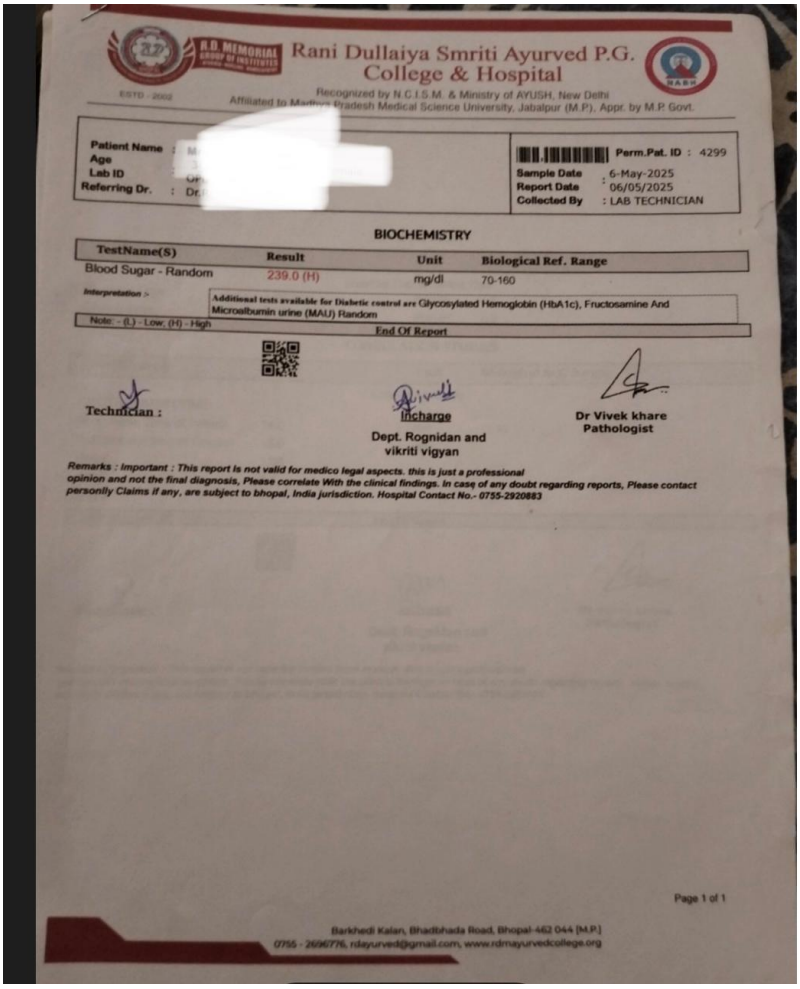
Incharge
Dept. Rognidan and vikriti vigyan

Dr Vivek khare
Pathologist

Remarks : Important : This report is not valid for medico legal aspects. this is just a professional opinion and not the final diagnosis, Please correlate With the clinical findings. In case of any doubt regarding reports, Please contact personlly Claims if any, are subject to bhopal, India jurisdiction. Hospital Contact No.- 0755-2920883

Page 1 of 1

Barkhedi Kalan, Bhadbhada Road, Bhopal-462 044 (M.P.)
0755 - 2696776, rdayurved@gmail.com, www.rdmayurvedcollege.org



Rani Dullaiya Smriti Ayurved P.G. College & Hospital

Recognized by N.C.I.S.M. & Ministry of AYUSH, New Delhi

Affiliated to Madhya Pradesh Medical Science University, Jabalpur (M.P.), Appr. by M.P. Govt.

Patient Name : M
Age
Lab ID
Referring Dr. : Dr.

Perm.Pat. ID : 4299
Sample Date : 6-May-2025
Report Date : 06/05/2025
Collected By : LAB TECHNICIAN

BIOCHEMISTRY

TestName(S)	Result	Unit	Biological Ref. Range
Blood Sugar - Random	239.0 (H)	mg/dl	70-160

Interpretation :- Additional tests available for Diabetic control are Glycosylated Hemoglobin (HbA1c), Fructosamine And Microalbumin urine (MAU) Random

Note: - (L) - Low, (H) - High

End Of Report

Technician :

Incharge
Dept. Rognidan and vikriti vigyan

Dr Vivek khare
Pathologist

Remarks : Important : This report is not valid for medico legal aspects. this is just a professional opinion and not the final diagnosis, Please correlate With the clinical findings. In case of any doubt regarding reports, Please contact personlly Claims if any, are subject to bhopal, India jurisdiction. Hospital Contact No.- 0755-2920883

Page 1 of 1

Barkhedi Kalan, Bhadbhada Road, Bhopal-462 044 (M.P.)
0755 - 2696776, rdayurved@gmail.com, www.rdmayurvedcollege.org

CONCLUSION

Poor glycemic control during pregnancy may substantially increase the risk of severe fetal complications including intrauterine fetal demise. Women with high-risk pregnancies require individualized antenatal care, strict glycemic monitoring, dietary regulation, improved counseling, and timely obstetric intervention. Integrative approaches combining evidence-based obstetric care with supportive *Ayurvedic* principles may improve pregnancy outcomes.

DECLARATIONS

Patient Consent: Written informed consent was obtained from the patient while maintaining confidentiality. Conflict of Interest: None declared. Funding: No funding received.

Ethical Approval: Institutional ethical guidelines were followed and patient confidentiality was maintained.

REFERENCE

1. Sharma RK, Bhagwan Dash. Charaka Samhita. Sharira Sthana, Chapter 2, Verse 33. Varanasi: Chowkhamba Sanskrit Series Office, Reprint Edition.
2. Sharma RK, Bhagwan Dash. Charaka Samhita. Sharira Sthana, Chapter 8 (Jatisutriya Sharira) – Garbhini Paricharya. Varanasi: Chowkhamba Sanskrit Series Office.
3. Tewari PV. Kashyapa Samhita. Khila Sthana, Garbhini Adhyaya. Varanasi: Chaukhambha Vishvabharati.
4. Sharma PV. Charaka Samhita. Sutra Sthana, Chapter 17 (Kiyanta Shiraseeya Adhyaya). Varanasi: Chaukhambha Orientalia; Reprint Edition.
5. Sharma RK, Bhagwan Dash. Charaka Samhita. Sharira Sthana, Chapter 4 (Garbhavakranti Sharira). Varanasi: Chowkhamba Sanskrit Series Office; Reprint Edition.
6. Cunningham FG, Leveno KJ, Bloom SL, Dashe JS, Hoffman BL, Casey BM, Spong CY. Diabetes Mellitus. In: Williams Obstetrics. 26th ed. New York: McGraw-Hill Education, 2022.
7. American College of Obstetricians and Gynecologists. Indications for Outpatient Antenatal Fetal Surveillance. Committee Opinion No. 828. Obstet Gynecol., 2021; 137(6): e177–e197.
8. American Diabetes Association Professional Practice Committee. Management of Diabetes in Pregnancy: Standards of Care in Diabetes—2024; Diabetes Care, 2024; 47(Suppl 1): S254–S266.