



INDICATIONS FOR IATROGENIC PRETERM BIRTH: A DESCRIPTIVE ANALYSIS

Dr Ketaki Choudhari

Junior resident, Department of Obstetrics and Gynecology, KAHER'S Jawaharlal Nehru Medical College Belagavi, Karnataka, INDIA.

ABSTRACT Iatrogenic preterm birth remains a critical intervention in obstetrics, often necessitated by maternal or fetal complications. This study examines the distribution of indications for iatrogenic preterm delivery in a tertiary care setting. The findings highlight preeclampsia and fetal growth restriction as leading causes, emphasizing the importance of timely detection and risk stratification.

KEYWORDS :**INTRODUCTION**

Preterm birth, defined as delivery before 37 weeks of gestation, is a major determinant of neonatal morbidity and mortality. While some cases occur spontaneously, a significant proportion are iatrogenic-initiated medically due to maternal or fetal compromise. Iatrogenic preterm births are often necessitated by conditions such as preeclampsia, fetal growth restriction (FGR), oligohydramnios, and other obstetric emergencies.¹ These interventions aim to prevent further deterioration of maternal or fetal health, but they also increase the risk of prematurity-related complications.

Understanding the patterns and causes leading to iatrogenic preterm delivery is essential for effective clinical decision-making and preventive strategies. The maternal-fetal interface, particularly the role of placental insufficiency, has been implicated in many such cases. Uteroplacental Doppler studies, including uterine and ophthalmic artery Doppler, have emerged as useful non-invasive tools to assess the risk of hypertensive disorders and FGR.² This study aims to analyze the leading indications for iatrogenic preterm birth and contextualize them within the broader spectrum of maternal and fetal risk assessment.

METHODS

This retrospective observational study analyzed cases of iatrogenic preterm births in a tertiary care hospital. Indications were classified into obstetric, fetal, and maternal medical categories. Frequencies and percentages were calculated for each indication. For this analysis, the total number of iatrogenic preterm births was 185.

RESULTS

Table 1. Summarizes The Distribution Of Indications For Iatrogenic Preterm Births.

Category	Indication	Percentage (%)
Obstetric	Preeclampsia	16.22
	Gestational Hypertension	1.62
	Eclampsia	2.16
	HELLP Syndrome	3.24
	Oligohydramnios	8.11
Fetal	Fetal Growth Restriction	17.30
	Non-reassuring Fetal Status	5.41
	Absent End-Diastolic Flow	2.16
	Fetal Distress	11.17
	Macrosomia	5.85
	Decreased Fetal Movements	1.06
Maternal	Anemia	0.54
	Cardiac Disease	1.6

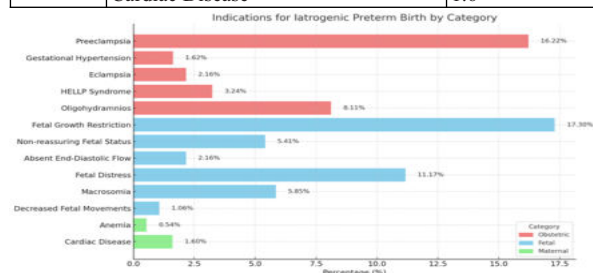


Fig 1. Bar diagram for Iatrogenic Preterm Birth Indications.

DISCUSSION

The findings of this study highlight fetal growth restriction (17.3%) and preeclampsia (16.22%) as the leading indications for iatrogenic preterm delivery, aligning with previous literature. These conditions are strongly associated with placental insufficiency, a key pathophysiological mechanism underlying both maternal and fetal compromise. As noted by Ness and Sibai², shared vascular pathology in FGR and PE underscores the importance of early identification of at-risk pregnancies.

The relatively high rates of oligohydramnios (8.11%) and HELLP syndrome (3.24%) further support the role of severe placental dysfunction in prompting early delivery. Though gestational hypertension and anemia contributed to a smaller percentage of cases, they remain clinically relevant and may signal impending deterioration. These findings reinforce the need for multidisciplinary management, particularly in resource-limited settings where early referral and monitoring are essential.

Integration of Doppler velocimetry, including uterine and ophthalmic artery Doppler, offers potential for non-invasive prediction of adverse outcomes. Studies by Sarno et al.³ and Sapantzoglu et al.⁴ have demonstrated the effectiveness of combining maternal and Doppler parameters for enhanced prediction of preeclampsia and related complications. The use of such tools in mid-trimester screening may enable timely intervention and reduce the burden of iatrogenic prematurity.

While this study focused on clinical indications leading to preterm delivery, further research should aim to evaluate long-term neonatal outcomes and the role of combined screening strategies in diverse populations. Broader implementation of predictive models like the PIRS tool⁵ could also improve clinical decision-making.

CONCLUSION

Preeclampsia and fetal growth restriction are the predominant drivers of iatrogenic preterm birth. Enhanced prenatal screening using Doppler studies and maternal biomarkers can improve early detection and guide intervention. These findings support a risk-based approach to managing high-risk pregnancies and underscore the need for strengthening antenatal surveillance protocols.⁶

REFERENCES

1. Melchiorre K, Widschwendter M, Rubattu S, Valensise H, Lees C. Uterine artery Doppler in the second trimester for the prediction of adverse pregnancy outcomes. *Am J Obstet Gynecol*. 2008;198(6):e1-8.
2. Ness RB, Sibai BM. Shared pathophysiology of preeclampsia and fetal growth restriction: a review. *Am J Obstet Gynecol*. 2006;194(5):1234-42.
3. Sarno L, et al. Ophthalmic artery Doppler combined with maternal and biochemical markers improves prediction of imminent pre-eclampsia. *Ultrasound Obstet Gynecol*. 2021;57(4):478-85.
4. Sapantzoglu M, et al. Predictive accuracy of combined ophthalmic artery Doppler and biochemical markers in early-onset preeclampsia. *Hypertens Pregnancy*. 2021;40(1):15-23.
5. O'Gorman N, et al. Multivariable screening for pre-eclampsia and small-for-gestational-age pregnancy in the first trimester: prospective study. *Ultrasound Obstet Gynecol*. 2017;49(4):464-70.
6. WHO. WHO recommendations on interventions to improve preterm birth outcomes. World Health Organization. 2015.