International Journal of Medical and Pharmaceutical Research

Online ISSN-2958-3683 | Print ISSN-2958-3675
Frequency: Bi-Monthly
Available online on: https://ijmpr.in/

Original Article

Comparison of Mifepristone with Foley's Catheter for Induction of Labor in Post Dated Pregnancy

Dr. M. Dhivya[1], Dr. A. Yamunadevi[2], Dr. S. Ramya[3], Dr. N. Geetha[4]

[1] M.S. OG Assistant professor, GMCH, Tiruppur.
[2] M.S. OG -Assistant professor, GMCH, Tiruppur.
[3] DGO, DNB OG-Assistant professor, GMCH, Tiruppur.
[4] M.D OG, Associate professor, Coimbatore medical college, Coimbatore.

OPEN ACCESS

Corresponding Author:

Dr. M. Dhivya
M.S. OG Assistant professor, GMCH, Tiruppur.

Received: 15-01-2026
Accepted: 10-02-2026
Available online: 19-02-2026

ABSTRACT

Background: Induction of labor is the forced initiation of uterine contractions after fetal viability when the benefits of delivery outweigh the risks of continuing the pregnancy. It is indicated in conditions where maternal or fetal complications may have an adverse effect on outcomes, especially in postdated pregnancies, which are known to be associated with risks of perinatal morbidity, mortality, and maternal complications. Antenatal ultrasound for the accurate estimation of the expected date of delivery has been demonstrated to reduce unnecessary inductions. These methods were selected based on their cost-effectiveness, safety profile, and favorable results reported in previous studies, with the objective of improving future management strategies for postdated pregnant women planned for induction of labou In this study, the induction of labor in postdated pregnancies was particularly examined.

Objectives: To compare the safety and efficacy of mifepristone and foley's catheter for induction of labour in Post dated pregnancies.

Methodology: This randomized comparative study was carried out from January 2018 to December 2018 in the Department of Obstetrics and Gynaecology, Coimbatore Medical College Hospital. A total of 200 postdated pregnant women were selected according to the inclusion and exclusion criteria and written informed consent was taken. Detailed history, clinical examination, laboratory tests, and obstetric ultrasound were done in all the patients. Bishop's score was calculated before the induction procedure. The patients were randomly divided into two groups: one group received mifepristone, and the other group received Foley's catheter. After 24 hours, the results were analyzed on the basis of Bishop's score change, requirement of further induction or augmentation, induction to delivery interval, type of delivery, neonatal outcome, and incidence of postpartum hemorrhage (PPH), to compare the efficacy of mifepristone and Foley's catheter in postdated pregnancies.

Results: Among the 200 women included in the study, 100 received mifepristone and 100 underwent induction with Foley's catheter; 135 were primigravida and 65 were multigravida, with a mean age of 24–25 years. Vaginal delivery was significantly higher in the mifepristone group (84%) compared to the Foley's group (64%), while cesarean section rates were lower (16% vs. 33%). The mean induction–delivery interval was shorter with mifepristone (26 hours) than with Foley's catheter (36 hours). Neonatal respiratory distress was less frequent in the mifepristone group (3%) compared to the Foley's group (12%), and the incidence of postpartum hemorrhage was not statistically significant between the groups.

Conclusion: Thus, based on the results observed in our study, Tab. Mifepristone can be considered as effective in induction of labour in Post dated pregnancy.

***Keywords**: Induction of labor, Postdated, pregnancy, Mifepristone, Foley's catheter, Induction-delivery interval, neonatal outcome.*

INTRODUCTION

Induction of labour is the stimulation of uterine contractions to achieve delivery before the onset of spontaneous labour after fetal viability, when the benefits of delivery outweigh the risks of continuing pregnancy. It is indicated when maternal or fetal complications may adversely affect outcomes, especially in postdated pregnancies. Various methods are available; in this study, one group received mifepristone and the other underwent induction with Foley's catheter. Routine antenatal ultrasound for accurate confirmation of EDD has been shown to reduce unnecessary induction in postdated pregnancies by correcting gestational age [1,2].

AIM AND OBJECTIVE

The objective of this study is to compare the safety and efficacy of mifepristone and Foley's catheter for induction of labour in postdated pregnancies.

MATERIALS AND METHODS

This randomized controlled study was conducted in the Department of Obstetrics and Gynaecology at Coimbatore Medical College Hospital from January 2018 to December 2018, with a sample size of 200 postdated pregnant women. Inclusion criteria were singleton pregnancy with cephalic presentation, while women with hypertension, diabetes mellitus, multiple pregnancy, renal or heart disease complicating pregnancy, oligohydramnios, fetal growth restriction, macrosomia, or contracted pelvis were excluded. After obtaining informed written consent, detailed history and complete general, systemic, and obstetric examinations were performed. Routine investigations including complete blood count, urine analysis, blood grouping, HIV, HBsAg, VDRL, blood sugar, and obstetric ultrasound were carried out. The study population was randomized into two groups: one group received 200 mg oral mifepristone, and the other underwent induction with Foley's catheter. Outcomes assessed after 24 hours included change in Bishop's score, mode of delivery, induction–delivery interval, neonatal outcome, and incidence of Post Partum Hemorrhage (PPH). Based on the response, further augmentation with prostaglandin gel, amniotomy, or oxytocin was considered to ensure safe delivery.

RESULTS

A total of 200 women were included in the study, with 100 in the mifepristone group and 100 in the Foley's catheter group. The mean age was comparable between groups (24.54 ± 3.94 years in the mifepristone group and 25.01 ± 3.21 years in the Foley's group; $p = 0.356$), indicating no significant difference.

Regarding parity, in the mifepristone group, 63% were primigravida and 37% were multigravida, while in the Foley's group, 72% were primigravida and 28% were multigravida. There was no statistically significant association between parity and type of induction ($p = 0.174$).(Figure 1)

In mifepristone group,84 % of patients deliver by labour natural compared to 67% in foley catheter group. The rate of caesarean section rate was only 16% in mifepristone group than compared to foley group which was 33%. This reduction in the rate of caesarean section among the two groups were found to be significant (p value<0.05). (Table 1). The mean induction to delivery interval was 26 hours as compared to 36 hours in foley's induction group. This decrease in interval between the two groups was found to be significant (p value: <0.05) (Table 2)

The incidence of meconium stained liquor was 9% in mifepristone group when compared to 13% in the foley's group. All the babies born with meconium stained liquor are vigorous only. This decline in the incidence of respiratory distress in newborn was found to be statistically significant (p value: < 0.05%). In this study the incidence of PPH was compared between the two groups which was found to be insignificant as the P value >0.05.

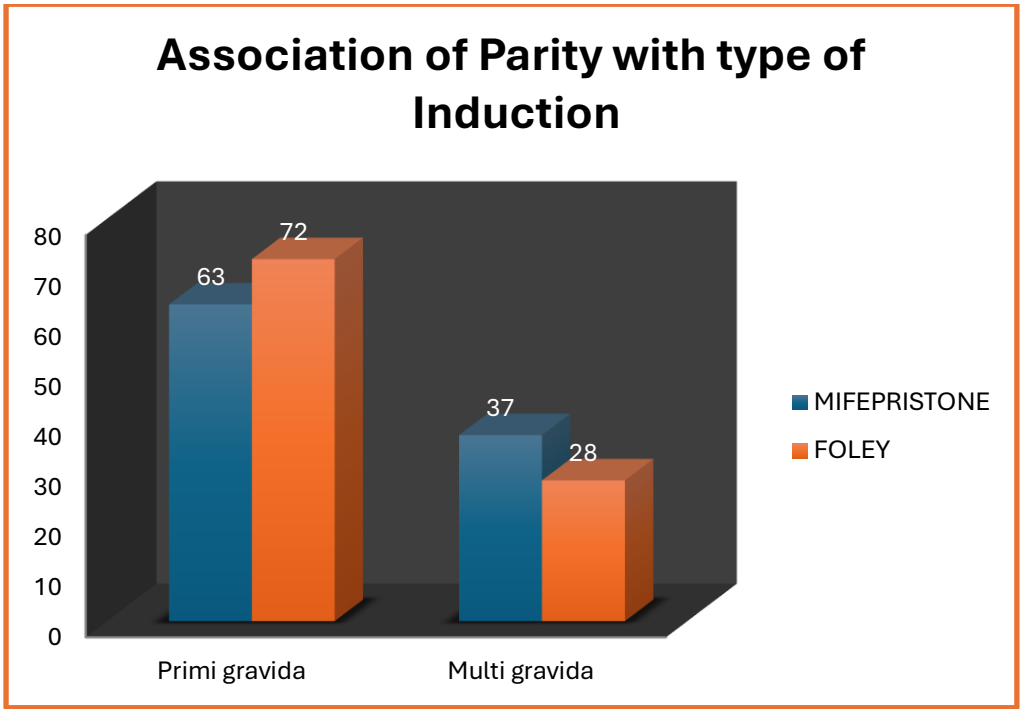

Figure 1: Parity With Type of Induction

Table 1: Association Between Type of Induction and Mode of Delivery:

Type of Induction	Mode of Delivery		P value
	Labour Natural n(%)	LSCS n(%)	
Mifepristone	84(84.0%)	16(16.0%)	0.005*
Foley	67(67.0%)	33(33.0%)	

Chi-square test *P is <0.05

Table 2: Association between Induction delivery interval and Induction Types:

	Induction Types	N	MEAN	SD	P value
Induction -Delivery Interval (Hrs)		100	26.85	8.169	**0.**000*
	Foley	100	36.01	6.118	

DISCUSSION

This observational randomized study was conducted at Coimbatore Medical College Hospital among 200 postdated pregnant women, comparing mifepristone and Foley's catheter for induction of labour. Of the participants, 100 received mifepristone and 100 underwent Foley's catheter induction; 135 were primigravida and 65 were multigravida, with a mean age of 24–25 years. A significant improvement in Bishop's score was observed in both groups, similar to the findings of Atawale et al.[3] and Fathima et al.,[4] who also reported better cervical ripening with mifepristone compared to mechanical methods.

Vaginal delivery was higher in the mifepristone group (84%) compared to the Foley's group (64%), while cesarean section rates were lower (16% vs. 33%). Comparable results were reported by Lata G et al.[5] and Rutuja Atawale [6] et al., where vaginal delivery rates with mifepristone ranged around 75–85%, with reduced cesarean rates compared to Foley's catheter. The mean induction–delivery interval in this study was shorter with mifepristone (26 hours) compared to Foley's catheter (36 hours), which is in accordance with the study by Kannan Yelikar et al.,[7] who also demonstrated a significantly reduced induction–delivery interval with mifepristone.

Neonatal respiratory distress was lower in the mifepristone group (3%) compared to the Foley's group (12%), with no significant difference in overall perinatal outcomes or incidence of postpartum hemorrhage, similar to observations by Hapangama and Byrne et al.[8] Overall, the findings support that mifepristone is more effective than Foley's catheter in reducing cesarean section rates, shortening induction–delivery interval, and improving neonatal outcomes in postdated pregnancies.

CONCLUSION

Mifepristone is a safe and effective method for induction of labour in postdated pregnancies when compared to Foley's catheter. Mifepristone was associated with a shorter induction–delivery interval, higher rates of vaginal delivery, lower cesarean section rates, and reduced incidence of neonatal respiratory distress, with no significant difference in postpartum hemorrhage. Therefore, mifepristone can be considered a better alternative for cervical ripening and induction in postdated pregnancies, although further large-scale studies are recommended to confirm its safety profile and long-term outcomes.

BIBLIOGRAPHY

1. Delaney M, Roggensack A, Leduc DC, et al. Clinical Practice Obstetrics Committee; Maternal Fetal Medicine Committee. Guidelines for the management of pregnancy at 41+0 to 42+0 weeks. J Obstet Gynaecol Can. 2008;30(9):800–823.
2. 2.. Nielson JP. Ultrasound for fetal assessment in early pregnancy Neilson 2000. Neilson JP. Mifepristone for induction of labour. Cochrane Database of Systematic Reviews. 2000;(4) DOI: 10.1002/14651858.CD002865. [PubMed] [Google Scholar]
3. Athawale R, Acharya N, Samal S, et al. Effect of mifepristone in cervical ripening for induction of labour. Int J Reprod Contracept Obstet Gynecol. 2013;2(1):35–38. doi: 10.5455/2320-1770.ijrcog20130206. [CrossRef] [Google Scholar]
4. Fathima S, Nayak SR, Rao B, et al. Mifepristone in induction of labour at term. Int J of Pham Biomed Res. 2013;4(3):164–166. [Google Scholar]
5. Lata G.*, Rana N., Mittal R., Kumar S.mifepristone for cervical ripening and induction of labour Int J Reprod contracept obstet gynecol 2018;7:5041-4.
6. Rutuja Athawale, Neema Acharya, S. Samal, C. Hariharan Effect of mifepristone in cervical ripening for induction of labour Int JRC OG Home.vol 2 no 1(2013)
7. Kanan Yelikar, Son. Yelikar, S. Deshpande, R. Deshpande, D. LoneSafety and efficacy of oral mifepristone in pre-induction cervical ripening and induction of labour in prolonged pregnancyJ Obstet Gynaecol India, 65 (July (4)) (2015), pp. 221-225 CrossRefView Record in ScopusGoogle Scholar
8. D. Hapangama, J.P. NeilsonMifepristone for induction of labour Cochrane Database Syst Rev (3) (2009), 10.1002/14651858.CD002865.pub2 Art. No.: CD002865 Google Scholar