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To Compare The Efficacy of Oral Misoprostol Solution And Vaginal Misoprostol Tablet For Induction of Labour At Term In The Department of Obstetrics & Gynaecology, SMS Medical College, Jaipur

[1]Dr. B S Meena, Senior professor &HOD, Department of Obstetrics & Gynaecology, SMS Medical College, Jaipur, Rajasthan, India.

[2]Dr. Parveen, Resident doctor, Department of Obstetrics & Gynaecology, SMS Medical College, Jaipur, Rajasthan, India.

[3]Dr. Neeta meena, Resident doctor, Department of Obstetrics & Gynaecology, SMS Medical College, Jaipur, Rajasthan, India.

[4]Dr. Prem, Resident doctor, Department of Obstetrics & Gynaecology, SMS Medical College, Jaipur, Rajasthan, India.

[5]Dr.Prerna, Resident doctor, Department of Obstetrics & Gynaecology, SMS Medical College, Jaipur, Rajasthan, India.

Corresponding Author: Dr. Parveen, Resident Doctor, Department of Obstetrics & Gynaecology, SMS Medical College, Jaipur, Rajasthan, India.

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Abstract

Background: Induction of labour at term is a common obstetric intervention. Induction of labour is the artificial initiation of labour before its spontaneous onset for the purpose of delivery of the fetoplacental unit using mechanical or pharmacological methods.

Methods: Randomized controlled trial was conducted at Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur.

Results: In Group-A (oral group) had a shorter induction to delivery interval of 8.83 hours as compared to 13.98 hours in Group-B (vaginal group). But, there was no significant difference between the two.

Conclusion: The oral misoprostol regimen for Induction of Labor described in the present study is safe, effective and logistically feasible to administer in a resource-limited setting.

Keywords: Misoprostol, Labor, Induction.

Introduction

Induction of labour at term is a common obstetric intervention.[1] Induction of labour is the artificial initiation of labour before its spontaneous onset for the purpose of delivery of the fetoplacental unit using mechanical or pharmacological methods.[2] The goal of labour induction is to stimulate uterine contractions before spontaneous onset of labour, resulting in vaginal delivery.[3]

Taking the advantage of short half life of misoprostol, we planned to use small doses at frequent intervals of misoprostol to find out the induction-delivery interval, rate of vaginal delivery, and the neonatal outcome. Overall, misoprostol may be the best prostaglandin for

labour induction, as titrated low-dose oral solution seems to be the safest in terms of caesarean section risk, while vaginal misoprostol tablets (C50 lg) are the most effective in achieving vaginal delivery within 24 h of induction.[4]

To be successful, induction of labour must fulfill these aims. First it should result in labour namely adequate and progressive dilatation of cervix. Second this labour should result in vaginal delivery, as there is little purpose in bringing about labour as a mere preparation for caesarean section. Third, in viable pregnancies, there aims must be achieved with minimum discomfort and risk to both mother and foetus.

Material & Methods

- Place of study:- Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur.
- Duration of study:- May 2018 to Aug 2019.
- Type of study:- Randomized controlled trial
- Study Design:- Prospective study

Inclusion Criteria

- Primigravida
- Pregnancy at term
- Pregnancy with due date without labour pain
- Postdated pregnancy
- A live singleton foetus in cephalic presentation
- No history of uterine surgery
- Normal biophysical profile

Exclusion Criteria

Women with any medical problem: -

- Coagulation disorders and thromboembolic disorders
- Abnormal placentation like placenta previa, abruptio placentae
- Uterine surgery like myoma
- Known hypersensitivity or contraindications to oral
- Patient's refusal to give consent
- Any antenatal medical complications
- A situation requiring LSCS

Statistical Analysis

Continuous variable was expressed as Mean and Standard deviation and compared by unpaired 't' test. Nominal / Categorial variables were summarized as Proportion and compared by chi-square test. p-value < 0.05 was taken as significant. Medcalc 16.4 version software was used for all statistical calculation

Observations

Table 1: Distribution of Patients According to Age Group

Age Group (in yrs)	Group-A		Group-B	
	No.	%	No.	%
21 - 25	34	68.00	20	40.00
26 - 30	10	20.00	18	36.00
31 - 35	6	12.00	12	24.00
Total	50	100.00	50	100.00

Above table shows that maximum number of patients in both the groups were in the age group of 21-25 years while the least number presented to the hospital belong to 31-35 years age group in both the study group

Table 2: Distribution of Patients According to Bishop's Score

	Group-A	Group-B	p-value
	Mean ± SD	Mean ± SD	
Cervical Length (in cm)	3.14 ± 0.67	3.52 ± 0.51	0.002
Station	(-2)2.82 ± 0.39	(-)2.58 ± 0.50	0.009
Total Bishop's Score	3.72 ± 0.73	3.22 ± 0.89	0.003

According to above table total Bishop's score in both the group hold the same value so there is not much difference in significant in both the groups.

Table 3: No. of Doses Required for Induction Both Orally and Vaginally

	Group-A	Group-B	p-value
	Mean ± SD	Mean ± SD	
No. of Doses of Misoprostol	3.94 ± 1.24	2.16 ± 0.62	<0.001

No of doses of misoprostol required for the induction are almost same in both the groups i.e. Oral Misoprostol and Vaginal Misoprostol group.

Table 4: Bishop's Score of Patients in Both Groups

	Group-A	Group-B	p-value
	Mean ± SD	Mean ± SD	
Cervical Length (in cm)	1.37 ± 0.51	1.52 ± 0.50	0.144
Station	(-)1.80 ± 0.61	(-)2.14 ± 0.50	0.003
Total Bishop's Score	8.40 ± 0.76	7.88 ± 0.75	0.001

Above table shows that there is significant difference in Bishop's score of both the groups as the p-value of the groups is less that 0.005 which is making this data significant.

Table 5: Mean Value of Time of Induction Taken in Both Groups

	Group-A	Group-B	p-value
	Mean ± SD	Mean ± SD	
Induction to Delivery Interval (in hrs)	8.83 ± 2.81	13.98 ± 3.51	<0.001

Above table shows that in Group-A (oral group) had a shorter induction to delivery interval of 8.83 hours as compared to 13.98 hours in Group-B (vaginal group). But, there was no significant difference between the two.

Discussion

The present study was intended to compare the efficacy of oral misoprostol solution and vaginal misoprostol tablet for the induction of labor at term. The study was useful for the comparison of fetomaternal outcome after using oral misoprostol solution and vaginal misoprostol tablet.

In my study, number of doses of misoprostol required for the induction are almost same in both the groups i.e. oral misoprostol and vaginal misoprostol group. So by this statistics one can conclude that the number of doses does not alter effect of misoprostol.

In my study, no of doses of misoprostol required for the induction are almost same in both the groups i.e. oral misoprostol and vaginal misoprostol group. So the doses for the induction required are not altered in different routes.

In my study it is shown that, in Group-A (Oral group) had a shorter induction to delivery interval of 8.83 hours as compared to 13.98 hours in Group-B (vaginal group). But, there was no significant difference between the two. The results of the present study done on oral misprostol were comparable with those of the following studies: -

Induction Delivery Interval

Rasheed R et al (2007)[5]	20.64 hrs
Sultana N et al (2003)[6]	8.3 hrs
Bano K et al (2009)[7]	9.81 hrs
Khatri R et al (2007)[8]	15.5 hrs
Chander S et al (2009)[9]	15.05 hrs
Present Study	12.92 hrs

Conclusion

The oral misoprostol regimen for Induction of Labor described in the present study is safe, effective and

logistically feasible to administer in a resource-limited setting.

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