Misoprostol for induction of labour at term

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Abstract:
Objectives: The purpose of this study is to assess the effectiveness of 50mg vaginal Misoprostol for induction of labour at term.
Design: Retrospective observational study.
Setting: Department of Obstetrics & Gynaecology, Liaquat National Hospital, Karachi, Pakistan from 1st January 2008 to December 2009.
Methods: Two hundred and twenty one patients were analyzed; who were induced at 37 weeks gestation and onwards by using 50mg vaginal misoprostol repeated every 6 hourly for a maximum of 3 doses or initiation of active labour, to assess the efficacy of the drug.
Results: The results were analyzed by using SPSS version 13.0. Among 221 patients 161 (73%) delivered by vaginal route & 60 (27.1%) patient had caesarean deliveries. Out of these 91 (57%) patient, delivered within 8 – 12 hours. 22 (9.95%) patients had Meconium stained liquor. No case of uterine hyperstimulation and perinatal mortality observed.
Conclusion: Vaginal Misoprostol was found to be safe and effective drug to use for induction of labour with least complications.

Keywords: Misoprostol, Induction of Labour, Term
Material and Methods:
This is a retrospective observational study conducted at the department of obstetrics & gynaecology, Liaquat National Hospital, Karachi, Pakistan over a period of 2 years from 1st January, 2008 to 31st December, 2009. 221 patients, were included in the study, who were induced at 37 weeks of gestation & onwards by using 50mg vaginal misoprostol to assess the efficacy of the drug.

Inclusion Criteria:
- Singleton viable pregnancy
- Cephalic presentation
- Duration of gestation > 37 weeks
- Reactive CTG

Exclusion Criteria:
- Any contraindication to vaginal birth
- Previous caesarean section
- Placenta previa
- Moderate to severe abruptio

Women were induced with 50mg misoprostol placed in the posterior vaginal fornix every 6 hours till 3 doses. Women were monitored with intermittent Cardiotocography and partogram was plotted. More than 4 uterine contractions of 40 seconds in 10 minutes were taken as hyperstimulation.

Results:
The results were analyzed by using SPSS Version 13. The data represent as percentage as well as mean, mode and standard deviation as being appropriate. Two hundreds and twenty-one patients were induced with different indications of IOL most common indication was post dates (28%). Age range of women were 18 – 38 years with mean Age of 27.8, 131 patients were of parity between P0-2 (58.82%) as shown in Table 1. Vaginal delivery occurred in 161 (73%) patient’s & 60 (27%) ended up in caesarean section, Meconium stained liquor was found in 22 patients (9.95%) & 20 patients had abnormal CTG (9.04%) as shown in Table 2.

When low apgar score was analyzed 28 (12.6%) babies had apgar score less than 7 in 1 min & 4 had less than 7 in 5 min (1.8%) Table 3.

No case of uterine hyperstimulation and perinatal mortality observed.

Discussion:
Induction of labour is a common procedure in the labour ward. It is performed for several fetal & maternal indications. With an unripe cervix IOL may be difficult and unsuccessful. IOL before the cervix is ripe often results in prolonged labour or failed induction with increased risk of operative delivery & morbidity.

The use of agents to ripen the cervix prior to conventional methods of induction is the standard practice. Vaginal prostaglandin preparation have proved to be beneficial and are now the most widely used agents in developed countries.

Misoprostol is a synthetic analogue of naturally occurring prostaglandin E1 & it is an effective drug for cervical ripening & labor induction. Although it is not approved by FDA for this indication, the American College of Obstetrics & Gynaecologist advocates misoprostol & it is on WHO essential drug list for labour induction. It is now licensed for labour induction in Egypt & Brazil, & a licensed induction product was expected in UK some time in 2008. Misoprostol has been safe in IOL in resource constrained hospital settings in developing countries like ours, using basic clinical tools for monitoring.

In this study 221 patients were induced with 50mg vaginal misoprostol. The most common indication of IOL was postdate 28%. Majority of the patient 161 (73%) delivered by vaginal route. The results are comparable to the study conducted by Aqeela et al. in which 77% patients delivered by vaginal route. A study conducted by Z. Tabasi et al. also supported the result in which 72.7% patients delivered by vaginal route. Similar results were seen in study by Shetty et al.

Caesarean Section rate was found to be 27% which is comparable to the study by Z. Tasasiet al. in which 27.3% delivered by caesarean section.
The patients delivered within 6 – 8 hours were 9% & 57% were within 8 – 12 hours with mean induction to delivery interval was 12.45. Many studies have been found same results Z. Tabasiet al.16, Ferzuson et al. 18, Sahin et al. 19, Ramsey et al.21

Meconium Stained Liquor (MSL) was observed in 9.95% of patients & 9.04 % patients had abnormal Cardiotocography. The other studies supported the results were of Majid N et al 200922 in which 12% patients had MSL.

Most of the babies born with good Apgar score 85%, only 13% baby had Apgar score <7 in 1 min an 2% had <7 in 5 min. the result supported by the study conducted by Chander et al.23 in which 1 minute apgar score < 7 was found 3.3% babies. The study conducted by Abbasi N et al.24 showed that 1.85% babies born with Apgar score <7 in 5 min.

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Conclusion:
50mg vaginal misoprostol was found to be a safe and effective drug to use for induction of labour with least complications.

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