ORIGINAL ARTICLE

MISOPROSTOL IS SAFE FOR LABOUR INDUCTION IN TERM PREGNANCIES

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ABSTRACT

Objectives: To know about the success of labour induction with the use of 50ug oral misoprostol for induction of labour at term.

Material and Methods: This is an observational study, which has been conducted in Gynae A unit of Mardan medical complex hospital Mardan. One hunderd women with full term gestation including primigravidas and multigravidas ,who required induction had been included in this study. Fifty micro gram misoprostol has been given by oral rout. The dose was repeated 4hourly and maximum 4 doses had been used.

Results: Doses which had been required by these patients are given in the results. 40% of patients required single dose of oral 50 ug misoprostol, however 60% had required more than 2 doses for start of labour.Labour started within 12 hours in 55% of patients after start of induction. Seventyfive percent had normal vaginal delivery, while 25% had caesarean section. The indications for ceasarean section were meconium staining of liquor and abnormal CTG in 16 patients, failure to progress in 6 patients, chorioamnionitis in 2 and failed induction in 1 patient. Maternal adverse effects were very minimal. The neonatal out come was also better and no neonatal death had occured.

Conclusion: Low doses misoprostol is very much effective for inductions of labour at term.

Key Words: Prostaglandins, misoprostol,induction, intra uterine death, caesarean section.

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INTRODUCTION

Misoprostol is PG-E1 analogue. Previuosly it has been used for peptic ulcer treatment and gastric problems, while its use for these conditions, it has been noticed that it is abortifacient. Due to its abortifacient property gyneacologists tried its use for termination of pregnancies at diffferent gestations. It is now used very successfully and safely especially in developing countries. The reason for its increasing use in developing countries is that misoprostol it do not need any special storage enviorment, it is heat resistant as well cheap and freely avaiable. It can be given orally, vaginaly and sublingually as well as it can be given by rectal route[1-3]. The most preferable route by the patients is oral route, however studies have shown that vaginal route is more effective than the oral route. In full term pregnancies about 100 ug dose can be given safely but low dose has been noticed to be more effective and safe as compared to the high doses[4].

Like other prostaglandins adverse effects like hyperstimulation (more than 5 contractions per 10 minutes) and hypertonus (one contraction lasting more than 2 minutes) are also associated with misoprostol[5,6]. However with reducing the dose all these side effects can be reduced. The disadvantage associated with low dose is longer induction to delivery time interval[5,6].

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MATERIAL AND METHODS

This obsevational study has been conducted at the Gynae and Obstetric unit A of Mardan medical complex hospital Mardan. We recruited 100 patients in our study. Primigravida as well as multigravida's up to 5th parity with singleton pregnancy, having gestation from 37 weeks to 41 weeks, who required labour induction have been included in our study. Women with uterine scar, more than one fetuses, parity of more than 5 and any woman with any contra indication to vaginal delivery were excluded. We included live as well as IUD fetuses in our study. Any women having history of hypersensitivities to misoprostol has also been excluded from

our study. Patients has been admited in labour room after counseling about the aim of study. She had been informed about the drug used in the study ,its route of administration and its side effects. A written informed consent had been signed by the patients. History had been taken, and systemic as well as obstetric examination had been performed. A biophysical scan performed to confirm about the status of the fetus. Before starting induction all patients had Bishop's scoring.

Routine investigations like haemoglobin and blood grouping performed in all patients. Any patient who had haemoglobin less than 10gm had to arrange blood for transfusion. All patients were given 50ug of misoprostrol orally and the dose had been repeated after 4 hours if needed. Maximum of 4 doses were given in patients who had not responded to 3 doses. The time from the start of induction to the delivery had been recorded. In all patients regular monitoring of Vital signs one hourly and regular cardiotocography (CTG) monitoring performed. Partogram has also been maintained. All the patients had also been observed for Uterine hypertonus and uterine hyperstimulation. Infusion of syntocinon only given to patients where augmentation was necessary, using 5 units in 1000ml of ringer lactate at the rate of 1-2mili u/ml. Induction of labour was diagnosed to be failed in patients who had not delivered with in 24hrs, since start of induction with mosoprostol. In our study we kept record of the parameters which include, induction to delivery interval, patients mode of delivery, drug related side effects and maternal neonatal out comes.

RESULTS

We selected 100 patients for induction. In these 100 patients 45% required only one dose for start of labour , 35% needed 2 doses however in 20% of patients up to 3 doses has been required for the start of labour. Augmentation with syntocinon was needed in 16%. twelve hours has been needed in 55% for the start of labour since the time of induction. Out of these 100 patients 70% had deliverd by normal vaginal delivery, 5% end up in instrumental delivery, however 25% had delivered by emergency lower segment cesariean section. Out of these 25% patients, 16% had fetal distress as indication for cs, failure to progress had been noticed in 6%, chorioamnionotis was an indication in 2% and failed induction in only 1%. Apgar score of 7 or less noted in 4 babies otherwise 92 babies delivered with 7 or more than 7 apgar score. only 5 babies required admission in to NICU. Four of the patients included in the study had already IUFD as an indication for induction so it was not the complications of the drug. Maternal complication which we recorded in our study were vomiting in 8 and fever in 4 patients, 5 patients had hyperstimulation however no case of uterine rupture, or postpartum haemorhage had been faced while doing our study. No one of the patients had IUFD and neonatal death as complication to misoprostol induction.

Table 1: Out come of the Study

Mode of Deliveries	No of Patients
Normal Vaginal Deliveries	70
Instrumental Deliveries	5
C/Section	25

Table 2: Indication for C/S Deliveries

Indications	Patients No
Fetal Distress	16
Failure to Progress	6
Chorioamnionitis	2
Failed Induction	1

Table 3: Reasons for induction of Labour

Indications	No of Patients
Post dates	40
PIH	30
PROM	12
IUD	4
GDM	4
PET	8

Table 4: Bishop Scoring of Patients

Bishop Scores	No of Patients
3-5	60
5-7	40

Table 5: Labour onset interval

Time Duration	No of Patients
5-10 Hrs	55
10-15 Hrs	20
15-50 Hrs	20
More then 20 Hrs	4

DISCUSSION

World wide labour induction is perfomed daily in obstetrics department. Induction should be done by a method which should be easily available in hospitals and which should be acceptible as well as safe for mother and safe for the baby too. Metanalysis of many studies has shown misoprostol be an ideal drug

for labour induction because of its low price and heat stability as well as its use by different routes, which is suitable for the patients as well[6,7]. However like other prostaglandines, use of misoprostol also needs admission to hospital and both maternal and fetal monitoring. Studies conducted both nationaly and internationaly using misoprostol, to come to know about its safest dosage and best route of administration. In different studies, different doses like 100 ug, 50 ug and 25 ug and as well as different routes has been used[7-10]. According to all these studies by decreasing the dose we can minimise side effects and improve safety of both mother and baby[11,12,13].

In Saleemullah Medical College and Mitfort Hospital Dhaka in 2014[14] a well designed prospective study was conducted in obstetrics and gyneacology department. They gave 50 mcg misoprostol vaginaly. In their study 72% of patients delivered vaginaly and 28% had c/s[14]. A very low dose of[25] ug vaginaly every 4 hourly has been used in a study by Maricia and they got good results by decreasing the dose[15].

Similarly Jodi also used misoprostol for labour induction and in their results they also found it to be as effective as other prostaglandines. According to them misoprostol is associated with low cs rate[16]. In department of gynecology and obstetrics, Jinnah Postgraduate medical centre Karachi in 2004 and 2005 a cross sectional study was performed by Khadija and Mahjabeen. It has been published in journal of surgery pakistan[16]. In their study, they gave 50mcg misoprostol both orally and vaginaly. According to their results total duration from induction to delivery was same in both vaginal and oral routes. They also found the cs rate to be similar in both groups. According to them maternal complications and neonatal out come were also similar in both oral and vaginal routes[18].

Similar to Khadeeja and Mehjabeen, in our study we used oral route[18]. According to our results single dose has resulted in start of labour in 45% of the patients , this is in accordance of the other studies. 75% of the patients had labour within 12 hours of the start of induction. 70% of patients had normal deliveries while instrumental deliveries occured in 5%. This showes that 75% delivered through the vaginal route.

Our results are comprable to the other national and international studies. Nausea and vomiting has been founded in only 8% in our study and 5 patients had hyper stimulation. There was no uterine rupture which means its safe especially in low doses. Fetal distress was recorded in 16% cases which is comparable to Aftabun Nihar[19]. The rate of fetal distress can be reduced by reducing the dose of misoprostol[27].

CONCLUSION

Misoprostol has been found to be very effective and safe drug for labour induction when used in low doses at term pregnancies. It is associated with shorter induction to delivery interval, and a low C/S rate. It is as effective as all the other protaglandins used for induction, however its cheaper than the other prostaglandines and do not need any storage condition and is heat stable. Due to these properties it is becoming popular in developing world.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

Amin N: Contributed to concept ,design, acquisition of data ,final approval.

Gul H: Drafting of manuscript.

Nisar S: Bibliography & Proof Reading

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.