Original Article

Comparison of The Efficacy & Safety Of Misoprostol For Termination Of Pregnancy In Second Trimester In Scarred Versus Unscarred Uterus

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ABSTRACT

Objectives: To compare the efficacy & safety of Misoprostol for termination of pregnancy in second trimester in scarred versus unscarred uterus. **Study Design:** Quasi-experimental study. **Setting:** Obstetrics & Gynaecology unit of Allied / DHQ Hospitals affiliated with Punjab Medical College, Faisalabad. **Subjects & Method:** During 6 months period from 22nd March, 2007 to 22nd September, 2007. 60 patients (30 with scarred and 30 with unscarred uterus) were admitted for second trimester termination of pregnancy for maternal reason, fetal congenital anomalies and intrauterine fetal demise and induced with vaginal misoprostol. Loading dose of 400 mcg followed by maintenance dose of 200 mcg at 4 hourly interval to a maximum of 4 doses.

Main Outcome Measures: Efficacy included induction to delivery interval & safety included maternal complications and side effects like uterine rupture, hysterectomy, severe haemorrhage, pyrexia, nausea & vomiting. **Results:** Success rate of T.O.P. was 96.7% in group A (scarred uterus) VS 93.3% in group B (unscarred uterus) Maternal complications were nausea & vomiting 3.3% in group A VS 0% in group B, Pyrexia 3.3% in each group, no case of uterine rupture was recorded.

Conclusion: Misoprostol is safe and effective drug for Midtrimester T.O.P. in scarred as well as unscarred uterus.

Key Words: Midtrimester termination, Prostaglandin E, Misoprostol.

INTRODUCTION

Termination of pregnancy is defined as medical or surgical removal of pregnancy before the time of fetal viability.[1] Midtrimester termination constitutes 10 – 15 % of all induced abortions. It is done for fetal demise in utero, (IUFD), fetal congenital anomalies and medical disorders associated with pregnancy.[2] Early detection of lethal structural & chromosomal abnormalities and IUFD has increased the demand of rapid 2nd trimester termination[3] TOP in 2nd trimester is a significant problem in the presence of unfavourable cervix & is often prolonged & tedious.[4] There is uncertainty as to the most appropriate mode of T.O.P. in 2nd trimester with previous caesarean birth. Although various methods of termination have shown to be effective but there are risks to the patient i.e. hyperosmolar crisis, heart failure, water intoxication, septic shock, myometrial necrosis & consumptive coagulopathy with intra-amniotic hypertonic saline solution & urea, while bleeding, infection, uterine perforation and cervical trauma are associated with evacuation and curettage.[5] The introduction of prostaglandin analogues and mifepristone has changed the management of second trimester TOP in the last two decades. Mifepristone is expensive and is not available in many countries including Pakistan.[6] Previously PGE_2 & PGF_2 were widely used for TOP but there high cost and need for refrigeration limits their use in developing countries like Pakistan.[7] Recently an ulcer healing drug misoprostol (a synthetic E I methyl analogue of prostaglandin) is receiving attention for medical T.O.P. in second trimester.[8] It is inexpensive stable at room temperature does

not require refrigeration for storage and has shorter induction to expulsion interval.[9] It is produced in tablets and can be given vaginally, orally, sublingually & rectally.[10] The vaginal route is more effective than the oral route.[11] From review of trials it is found that there is not enough evidence about safety & effectiveness of misoprostol in T.O.P. during second trimester with and without scarred uterus. Therefore more research is needed in this aspect. The rationale of the current study was to compare the efficacy & safety of misoprostol in scarred versus unscarred uterus for T.O.P in second trimester. This would help establish confidence on a drug that is effective, safe, well tolerated and highly economical for midtrimester T.O.P. in scarred and unscarred uterus.

MATERIAL AND METHOD

During the period from 22 March 2007 to 22 September 2007 a total of 60 patients requiring termination of pregnancy in second trimester (14-26 wks) due to maternal reasons, fetal congenital anomalies & intrauterine demise were recruited for the study through outdoor or emergency department of Allied/DHQ hospitals. 30 of those with a scarred uterus were grouped A & 30 with unscarred uterus were grouped as B. Patients with acute asthma, cardiac disease, previous 3 or 4 caesarean sections and low lying placenta were excluded from the study. Risk i.e. occasionally pyrexia > 38 ^{o}C, nausea, vomiting & diarrhea, rarely uterine rupture and need for hysterectomy and benefits i.e. less cost, shorter induction to expulsion interval and decreased need for surgical evacuation of uterus were explained to the patients and informed consent was taken. At admission, patient's detailed history was taken and thorough general physical and obstetric examination carried out. Each patient received 400 micrograms misoprostol vaginally as loading dose followed by 200 ug at 4 hourly interval. Maximum of 4 doses were given and state of cervix assessed by vaginal examination before insertion of next dose or at the onset of uterine contraction. After 4 doses patients were kept under observation and were watched for uterine contractions & expulsion of products of conception Syntocinon infusion was started to augment expulsion where product of conception failed to expel despite of open cervical OS. Maternal pulse & uterine contractility were monitored to identify scar dehiscence or rupture in patients with scarred uterus. Maternal complications and side effects like excessive bleeding requiring blood transfusion, pyrexia > 38 ^{o}C, nausea, vomiting & diarrhoea were recorded. Termination was considered successful if cervical OS was dilating progressively and both the fetus and placenta were expelled within 48 hours of insertion of first dose of misoprostol. Completion of termination was assessed clinically by examination of abortus, bleeding & pain and vaginal examination to see the status of cervical OS. Patients failing to achieve termination with this method were shifted to an alternate method of TOP. Observation regarding efficacy, induction to expulsion interval within 48 hours were recorded on a especially designed proforma.

RESULTS

The results of the current study show that Misoprostol was successful in termination of pregnancy in about 97% cases with no significant difference in the two groups (96.7% from group A & 93.3% in group B). As depicted in table 1. Regarding the safety of the drug table 2 shows maternal side effects & complications. There was no case of uterine rupture in either groups & none of the patients had any need for an emergency hysterectomy regarding blood loss, there was no significant difference in both groups 3 patients (10%) in group A & 2 patients (6.7%) in group B had blood loss more than 500 ml. Minor symptoms like nausea & vomiting were seen in 1

patient (3.3%) in group A & none (0%) in group B. Only one patient (3.3%) in each group had pyrexia.

Table-1
Induction to Expulsion Interval N=60

Time (Hours)	Frequency of Group A	% of Group A	Frequency of Group B	% of Group B
<48 Hr	29	96.7%	28	93.3%
> 48 Hr	1	3.3%	2	6.67%

Chi-square value = .351
P-value = .55

Table-2
Maternal Complications N=60

Side Effects	Frequency of Group A	% of Group A	Frequency of Group B	% of Group B	P-Value
Nausea& Vomiting	1	3.3	0	0	.31
Pyrexia > 38 °C	1	3.3	1	3.3	1
Uterine Hyper stimulation	0	0	0	0	-
Uterine Rupture	0	0	0	0	-
Haemorrhage more than 500 ml	3	10	2	6.7	.64
Any Other (Shivering, Abdominal pain, Rigors)	0	0	0	0	-

Chi-Square Value
Nausea and Vomiting = 1
Pyrexia = .000
PPH = .22

DISCUSSION

The result of the current study show that misoprostol is about 97% effective in termination of pregnancy in second trimester in patients with or without a scarred uterus. The findings are supported by a number of national & international studies. [5,13,14] Regarding the safety of the drug in scarred versus unscarred uterus no case of uterine rupture was recorded which is in agreement to what was found by Jan E. Dickinson[15] & also by Bhatta charjee & colleagues. [16] Mazooni C and associates[12] however reported one case of uterine rupture & one case of dehiscence in his study. This is probably due to the shorter interval of 3 hours between the doses of Misoprostol. Also in his series the duration of pregnancy ranged from 15-35 weeks and this inclusion of patients in 3rd trimester might explain the difference. Present study revealed that 3 (10%) cases had blood loss more than 500 ml in group A verses 2 (6.7%) in group B. The results are comparable to 8% in women with scarred versus 5.6% in cases with unscarred uterus by Jan E Dickenson. Bhatta charjee and associates noted similar finding that there was no significant difference in rate of blood loss between scarred & unscarred uterus. Minor side effects of pyrexia (3.3%) in each group & nausea & vomiting in group A in current study, which is comparable to 4% by Lubna Javed and associates and 0% noted by Jan. E. Dickinson. [17]

CONCLUSION

Vaginal misoprostol is safe and effective method of termination of pregnancy during second trimester in scarred as well as unscarred uterus. It is associated with a very low frequency of side effects. Further larger studies should be carried out to confirm the efficacy & safety of a drug which is cheap, has no storage issues especially for developing tropical countries like Pakistan where its other alternatives Mifepristone an antiprogestational agent is not available and PGE_2 is very expensive and has serious storage issues as it needs maintenance of cold chain.

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