Is Use of Misoprostol Considered Safe for Second Trimester Pregnancy Termination with a Prior CS Scar?

DINA LATIF, M.Sc.; ALI ABDELHAFEZ, M.D. and WALAA A. MOSTAFA, M.D.

The Department of Obstetrics and Gynecology, Kast Aini Hospital, Cairo University

Abstract

Objective: To evaluate the safety of misoprostol for pregnancy termination in women with prior scar of Cesarean section.

Design: Prospective controlled trial.

Participants and Methods: 210 women classified into 2 groups: Group I (cases) included 80 women with uterine scar and group II (controls) included 130 women without uterine scar. Misoprostol (50µg) and vaginost (25µg) was administered vaginally every 4 hours for a maximum of 72 hours. Before the next dose, the patient was examined and if the patient was having adequate contractions (≥3 in 10 min) or cervix was dilated 34 cm or dilated the next dose was deferred. Side effects were recorded. Induction to abortion interval and doses needed were reported.

Results: Only one case had rupture uterus in Group I while no cases of rupture uterus were encountered in Group II. There was no significant difference between both groups regarding rate of side effects. There was a fair yet statistically significant positive correlation between both parameters (r=0.12; p<0.001). demonstrating need for more doses of misoprostol with increasing gestational age.

Conclusions: It seems that the use of misoprostol for second trimester pregnancy termination is safe and applicable.

Key Words: Misoprostol – Abortion – CS – Rupture uterus.

Introduction

With the expanding subpopulation of women with prior cesarean births, second trimester pregnancy termination in the scenario of a prior cesarean delivery has become an increasingly common circumstance facing obstetricians [1]. There is limited information on the safety profile of any termination technique in the setting of a prior uterine surgery, and no method is risk free. The technique used for second trimester termination is probably influenced more by physician’s opinion and expertise than objective outcome data [2].

Uterine rupture is the most serious complication in cases with a previous uterine scar and may occur either in the mid-trimester or in the third trimester. The risk of rupture has been reported to be higher when oxytocin is associated with prostaglandins. The question of a possible increased risk of complications following pregnancy termination with misoprostol in such cases remains to be answered [3]. The aim of the present study is to evaluate the safety of misoprostol for pregnancy termination in women with prior scar of Cesarean section.

Material and Methods

The present study was a prospective controlled trial performed on women who came to Kast El-Aini Hospital during the period between February 2010 and April 2012. The study was approved by local ethics committee and informed consents were obtained from 210 women.

Patient counseling:

The nature of the drug, route of administration, health benefits, side effects and the possibility of uterine rupture were clearly explained to each patient. An informed written consent was taken from each patient.

The 210 women included in this study were 19-41 years of age with singleton pregnancy of GA 13-26 weeks according to dates and first trimester ultrasound indicated for termination of pregnancy. Exclusion criteria included cases with more than one uterine scar, cases with history of blood transfusion during the operation, cases with bleeding tendency, cases with preexisting medical...
disorder affecting wound healing as Diabetes and collagen disorders and twins or higher disorder multigestation and cases with polyhydramnios. These women were classified into 2 groups: Group 1 (cases) included 80 women with previous uterine scar and group II (control) included 130 women without any previous uterine surgery causing scar.

A detailed history including age, parity and gestational age were noted and detailed clinical examination including general examination for contraindications for prostaglandins and vaginal examination for cervical dilatation, effacement and position. Ultrasound was done to confirm gestational age, IUF, congenital malformation, liquor and placental localization.

Misoprostol (50μg) (2 vagiprost 25μg) was administered vaginally every 4 hours for a maximum of 72 hours. Before the next dose, the patient was examined and if the patient was having adequate contractions (≥3 in 10min) or cervix was dilated ≥4cm dilated, the next dose was deferred. Side effects were recorded. Induction to abortion interval and doses needed were reported.

Each patient was closely attended in labor unit with extreme precaution for: Vital signs (Blood pressure, Pulse, Temperature), complications of misoprostol (Fever, Diarrhea, Chills, Nausea, Vomiting). Uterine rupture (Persistent acute abdominal pain, maternal tachycardia, hypotension, vaginal bleeding). Each patient was closely monitored in the labor ward for adverse effects of misoprostol, namely: Fever, chills and diarrhea.

Data management:

Data were collected in the especially designed forms, revised, verified and then edited on computer software. Data were then statistically analyzed, using the SPSS (Statistical Package for Social sciences) statistical package, version 15.0).

Results

Following expulsion of the fetus, some patients had remnants of products of conception still present. Oxytocin infusion was given for 1 hour, following expulsion of the fetus, after which the patient was assessed whether surgical evacuation of the remnants was needed or not. 31 (68.89%) out of the 45 patients needed surgical evacuation of the remnants. Only one case had rupture uterus in Group I while no cases of rupture uterus were encountered in Group II. Other side effects are illustrated in Table (1).

Fig. (1) shows a scatter plot demonstrating the correlation between gestational age and total dose of misoprostol. There was a fair, yet statistically significant positive correlation between both parameters (r=0.112, p=0.03), denoting need for more doses of misoprostol with increasing gestational age.

<table>
<thead>
<tr>
<th>Table (1): Complications and side effects among study groups.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Urinary retention</td>
</tr>
<tr>
<td>E:</td>
</tr>
<tr>
<td>For placenta</td>
</tr>
<tr>
<td>For remnants</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Excess blood loss</td>
</tr>
<tr>
<td>Blood transfusion</td>
</tr>
<tr>
<td>Need analgesia</td>
</tr>
<tr>
<td>Side effects:</td>
</tr>
<tr>
<td>Fever</td>
</tr>
<tr>
<td>Chills</td>
</tr>
<tr>
<td>Nausea</td>
</tr>
<tr>
<td>Vomiting</td>
</tr>
<tr>
<td>Diarrhea</td>
</tr>
</tbody>
</table>

Discussion

Although case reports of uterine rupture have been published with both scarred [4] and unscarred uteri, [8] several other studies have shown misoprostol to be a safe agent [k,7] for use in post-Caesarean pregnancies. The aim of our study was to evaluate the safety of misoprostol for the termination of mid-trimester pregnancies in women with previous Caesarean sections. Our results clearly indicate that women with such a history can safely terminate their pregnancy in the second trimester.

Fig. (1): Scatter plot showing correlation between gest age and total dose of misoprostol.

Din by vag of a doe plie term of l Unieation one had was 3dc occe genem Hos j om 7 and men 6h i regi cesa mis term uses 1.2k 1.10 cesa rep | case at th asin for 800- ager excl d curt abor asin 200g of b C be g. The the with situ cells temp
by inducing vaginal birth. We achieved a 90% vaginal delivery rate. Another important finding of our study was that a previous caesarean delivery does not appear to increase the incidence of complications in women who undergo a pregnancy termination in the second trimester by induction of labour.

A study was conducted in King Abdul-Aziz University Hospital, 59 consecutive pregnant women underwent second-trimester pregnancy termination with vaginal misoprostol. Six women had had one low transverse cesarean section and five women had had two cesarean sections. The regimen used was 200 µg vaginally every 6h for a maximum of 3 doses. No uterine rupture or other complications occurred and the women were discharged in good general condition 2-3 days after admission to the Hospital [6].

Dickinson, in his retrospective study, reported on 78 women with one previous cesarean section and compared their outcome using multiple regimens of vaginally introduced misoprostol (400µg/6h in 71.3% of the cases) and supplementing the regimen with oxytocin when needed, with a non cesarean section control group. The total dose of misoprostol administered to achieve pregnancy termination, regardless of the specific regimen used, was not different between the 2 groups (1,200µg [interquartile range 800-1,600] versus 1,100µg [800-1,600], no prior cesarean birth versus cesarean birth. No cases of uterine rupture were reported [2].

In their study, Herabuty et al observed no cases of uterine rupture among 56 women pregnant at their 14th-20th week with prior cesarean delivery using 600 µg misoprostol vaginally every 6 or 12 hours with median dose of 1200 µg (range 800-1800 µg). Women who had other uterotonetic agents added before the expulsion of fetus were excluded [8].

Daponte et al had no cases of uterine ruptures during their study of 85 cases of second trimester abortion in the presence of a prior cesarean delivery using an initial dose of 400µg and either 200 or 400µg every 6 hours thereafter up to a maximum of 1000µg [9].

One big advantage of misoprostol is that it can be given orally, sublingually, vaginally or rectally. The route of administration is decided in accordance with the preference of the patient and the clinical situation. The tablet, however, is coated with a cellulose matrix to give the drug stability at room temperature [10], and this may result in a delayed [10] or varying absorption [11] and a cumulative effect [11,12] when placed directly in the vagina. Also misoprostol tablet is a quite small one that can fall off the examiner’s finger specially when divided into pieces, or may be pulled out accidentally during subsequent vaginal examinations. Misoprostol has been widely studied in different dosages and routes for the second-trimester TOP. Various studies have used doses ranging from 200 to 800µg at intervals ranging from 3 to 12h. Doses of 600 and 800µg have shown comparable successful abortion rates but are associated with high rates of fever, diarrhea, nausea and vomiting [13,14].

In conclusion it seems that the use of misoprostol for second trimester pregnancy termination is safe and applicable. However, much larger study would be needed to provide accurate assessment of the risk of uterine rupture.

References
10. WING D.A., JONES M.M., RAHALL A. and GOODWIN T.M.: A comparison of misoprostol and...
In Use of Misoprostol Considered Safe for Second Trimester

