Misoprostol Use in Incomplete Abortion

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Abstract

Objective: The objective of the study was to assess the efficacy of two doses of oral misoprostol in cases of incomplete abortion.

Study Design: Cohort study design. Sampling technique used for patient selection was nonprobability (purposive sampling).

Settings: This study was conducted in Royal Bapco Hospital, Bahrain from 2008 – 2009.

Material and Methods: All women presenting in gynaecological clinic with incomplete abortion were selected. The diagnosis was made on history, examination and ultrasound. 100 women opted the offer of medical management with oral misoprostol .Baseline investigations (blood group, Rh factor and CBC) were done. Oral misoprostol 600 µg was given and repeated after 12 hours. The follow visit was scheduled after one week to assess the efficacy of treatment.

Results: Nearly all patients had complete abortion by one week as confirmed by Ultrasonography. The average bleeding lasted for one week and all patients were satisfied with the medical management and wan-ted to use it in future.

Conclusion: Misoprostol is very effective in management of incomplete abortion and obviates the need for surgical treatment which is not cost effective in busy obstetrical units. Two doses of misoprostol were used which according to our study reduces the duration of bleeding which on an average at least three weeks in most of the studies.

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Introduction

Spontaneous abortions are a common complication of first trimester, affecting 15 – 20% of pregnancies.[1] The standard treatment of incomplete abortion is surgical evacuation with suction curettage. Recently, however, more and more emphasis is placed on finding non-surgical options for management of incomplete miscarriages. There are a number of studies done to evaluate the efficacy of various treatment options like expectant management, mifepristone alone or with misoprostol, vaginal and/or oral misoprostol.[2-5] Misoprostol, a prostaglandin analogue is a very popular alternative due to its being inexpensive, easy to use and readily available. The efficacy is also reported to be 50 – 90% in women with early pregnancy loss.[6-11]

We conducted this study to assess the efficacy of oral misoprostol as an alternative to surgical evacuation in women presenting with incomplete abortion of less than 12 weeks duration. Our objective was to find out if it was a viable option for women not consenting for the surgical management.

Methods

The study was performed at Royal Bapco Hospital,

Bahrain which is a Tertiary Care Hospital. It was conducted from 2009 to 2010 on 100 women presenting with incomplete abortion in the emergency department.

Study Subjects

During this period around 165 women presented with spontaneous incomplete abortions. Women with heavy blood loss, anemia or prior handling were excluded. Only 100 women were recruited for the study. All of these women were in general good health and did not report any allergies to medication.

Ethical Considerations

Informed consent was taken from all the participating women. Different treatment options were discussed. The protocol of management, its side effects, consequences and risks and benefits were explained. All the women had access to emergency care facilities and were asked to report to emergency if soaked more than 3 pads in an hour, had severe abdominal pain or continuous spotting. Need for follow-up was also discussed prior to recruiting the patients and all the study participants agreed for a proper follow-up.

Data Collection and Statistical Analysis

All the participating women were evaluated with complete history and clinical examination. Diagnosis was based on clinical findings. Ultrasound was carried out on 6 women only, where diagnosis was in doubt. Baseline investigations including Blood grouping and CBC were carried out on all women. Misoprostol 600 micrograms orally was given and second dose repeated after 12 hours. Any signs of excessive bleeding, infection or retained products of conception were especially noted and ultrasound carried out to confirm complete evacuation. Misoprostol was considered failed if these signs were present and curettage was needed. Women were scheduled for a follow-up visit after one week to assess the efficacy of treatment. All data was entered in SPSS and analysed descriptively. Count and percentages were calculated for categorical variables and mean ± SD for quantitative variables.

Results

Of the 100 women included in the study, 99 (99%) had complete evacuation whereas 1 (1%) needed curettage due persistent bleeding. Emergency curettage was needed in that patient. None of the patients presented with persistent bleeding after one week or retained products of conception on ultrasound. The results are shown in the Table 1.

Table 1: Showing the outcome of management with oral misoprostol after one week follow-up.

Results at Follow-up visit	Number of Women = n	Percentage of Women = %
Complete evacuation	99	99
Heavy bleeding	1	1
Retained Products of conception	0	0
Persistent bleeding	0	0
Total	100	100

Based on the bleeding pattern, most of the women reported decline in vaginal bleeding, with all soaking less than 3 pads in an hour. Maximum bleeding occurred within first three days after misoprostol administration. One woman reported heavy bleeding within first three days. She was admitted to the hospital and emergency curettage was done. Some spotting was noted at one week follow-up in 49 (49%) women. These women were asked for another follow-up at 2 weeks. On an average, bleeding lasted for one week.

Table 2: Showing bleeding pattern of participating.

Bleeding Pattern	Number of Women = n
Heavy bleeding within first week	1
Mild to moderate bleeding within first week	99
No bleeding at first week follow-up	49
No bleeding at second week follow-up	30

All the study participants admitted had some abdominal discomfort. However, no one reported dissatisfaction with the treatment. All were happy with the outcome and wanted to use it in the future.

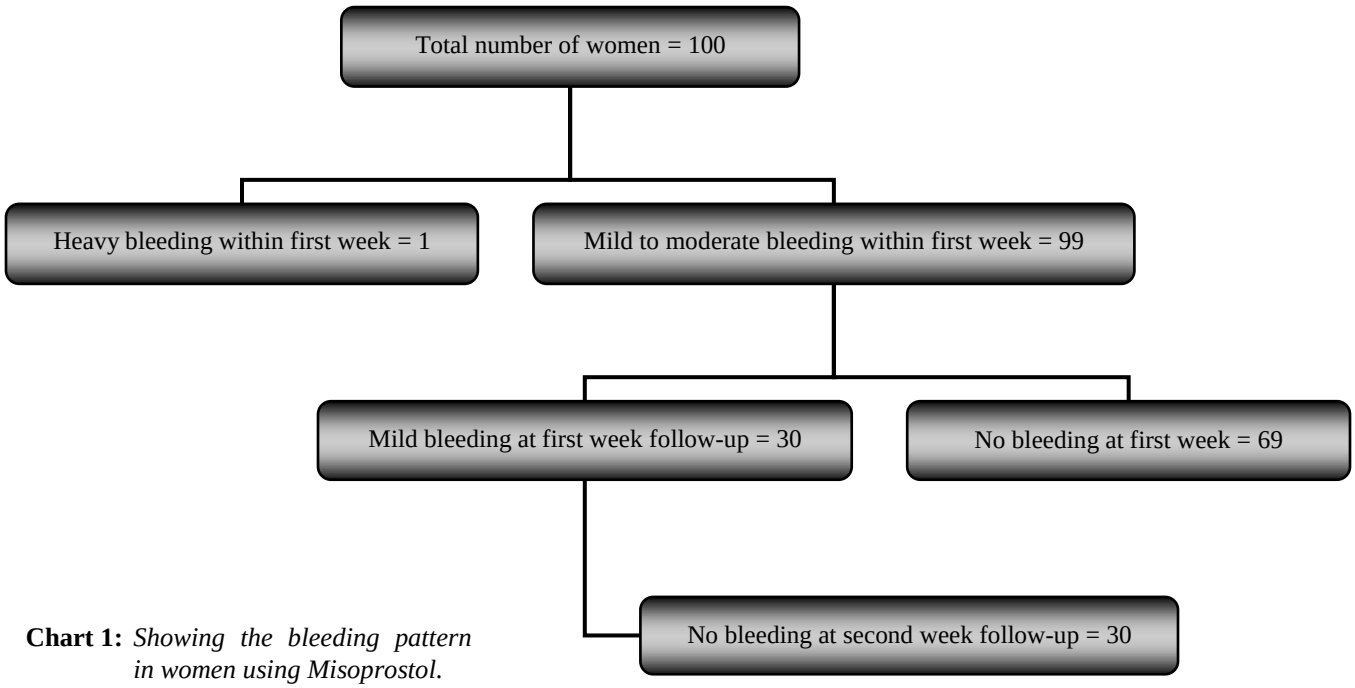

Chart 1: *Showing the bleeding pattern in women using Misoprostol.*

Table 3: Showing patient satisfaction with the recovery including the side effects.

Satisfaction with Recovery	Total Women (%)	Successful Treatment (%)	Failed Treatment (%=)
1 – dissatisfied	1	0	1
2 – somewhat satisfied	2	2	
3 – satisfied	14	14	
4 – fully satisfied	83	83	

Table 4: Showing patient preference regarding the treatment options.

	Total women (%)	Successful treatment (%)	Failed treatment (%)
Will choose the same treatment	90	90	
Might choose the same treatment	8	8	
Will not choose the same treatment	2	1	1

Discussion

Misoprostol, a prostaglandin analogue, is approved by FDA for abortions. However, it has been used successfully in the medical treatment of incomplete and missed abortions lately. Various trials have been conducted to study its efficacy versus surgical evacuation. Review of literature shows sufficient evidence to support its use as an alternative to surgical evacuation.[9]

A single dose of oral misporostol 600 µg is usually recommended for incomplete abortion. We used a repeat dose after 12 hours to increase the efficacy of drug. The results are comparable to other studies using oral misoprostol. Coughlin et al also looked at

effectiveness of 400 µg of misoprostol in women with incomplete abortion. Successful evacuation was achieved in 77.7% of women after 10 days. The rest opted to have further misoprostol or surgical evacuation. Overall 92.4% completed their miscarriage without surgical evacuation.[12] Their results are comparable to ours although we studied the outcome after one week only. The similarity in results despite the difference in outcome interval (7 days versus 2 weeks) can be explained by the double dose regimen that we used (repeat dose at 12 hours versus 10 days). Bleeding was mild, lasting on an average of 6.4 days in their study whereas it was 7 days in ours. Blanchard et al compared efficacy of single and double dose regimens of 600 µg misoprostol and found 70 percent evacuation rate with double dose as compared to 66 percent with single dose administration. They did not find it a significant difference between both the regimens. We did not use single dose, however we did not experience any problems with patient compliance with double dose either. Our patient satisfaction rate (88%) was also comparable with their study (77.8%) with double dose and (87.7%) with single dose.

Various routes of administration of misoprostol have been reported. Vaginal administration is also favored by many due to a better side effects profile. However, Pang et al reported a better success rate with 800µg of misporostol administered orally (64.4%) as compared to vaginally (61.1%).[13] Sahin et al reported a 93.3% success rate with 200 µg of vaginal misporostol followed by 5 days of 400 µg oral misoprostol 4 times a day.[14] They also evaluated final outcome after 10 days whereas in our study outcome assessed after one week only. We offered surgical evacuation after 7 days if medical treatment failed and may be waiting another 3 days would have resulted in an even better outcome. Zhang et al compared misoprostol 800 µg administered virginally with surgical evacuation among 652 women with early pregnancy failure.[10] They reported 84 percent success rate on day 8 with misoprostol whereas 3 percent had treatment failure with vacuum aspiration on day 8.

Another randomized controlled trial conducted in Africa studied women with incomplete abortion to compare efficacy of sublingual and oral routes of administration. Three hundred women were randomized to take misoprostol 600 µg orally or 400 µg sublingually. The results showed complete evacuation in more than 80% women at 1 week follow-up.[6] Mean pain scores were 2.95 and 3.04, respectively, for oral and sublingual groups. We achieved a better success rate with double dose administration and similar patient satisfaction. In our study we did include study pain scales or side effects profile and cannot report them for comparison.

Misoprostol has also been used in combination with other drugs, most popularly with mifepristone. Akin et al studied 207 women in Turkey seeking medical abortion given mifepristone 200 mg oral followed by misoprostol 400 µg orally or sublingually[2]. The success rate was higher, though in significantly, in oral group (96.3%) versus sublingual group (91.3%). They also found oral misoprostol to have less side effects. The combination is also popular for second trimester termination of pregnancy. A retrospective study of 68 patients with second trimester termination of pregnancy was carried out to test the efficacy of gaemeprost against mifepristone / misoprostol.[15] The mifepristone / misoprostol group had a lower induction to abortion interval compared to gameprost group (8.9 hours versus 19.8 hours). It was also more successful than gameprost group, 94% versus 68%. We did not compare oral misoprostol to mifepristone or gameprost in second trimester of pregnancy. Other larger randomized controlled trials are needed to study the results.

Conclusion

Oral misoprostol 600 µg is a very effective alternative to surgical curettage as treatment of incomplete abortions. It should be employed more often in compliant patients, due to a high patient satisfaction and fewer side effects. Single dose oral misoprostol regimen should also be studied for comparison.

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