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FIRST TRIMESTER MISCARRIAGE;
MANUAL VACUUM ASPIRATION VERSUS MISOPROSTOL FOR THE MANAGEMENT

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ABSTRACT … Objectives: This study was conducted to access the efficacy of misoprostol and manual vacuum aspiration for the management of first trimester miscarriage. **Study Design:** Descriptive case series. **Setting:** This study was conducted in obstetrics and gynecology department of Nishtar hospital Multan. **Duration of Study:** This study was conducted from May, 2015 to October 2015. **Material and Methods:** Sample including 652 women having gestational age less than 12 weeks with open os of cervix were taken in the study. Females with previous cesarean section, multiple gestation or with history of asthma, ischemic heart disease, hepatitis, glaucoma, or known allergy to prostaglandins were excluded. Total women were divided into two groups. i.e. 326 in misoprostol while 326 in manual vacuum aspiration group. Misoprostol group received misoprostol tablet 400μg vaginally at intervals of four hours depending on the degree of cervical dilatation and frequency of uterine contractions. A total of 3 doses of misoprostol were given. Six hours after the first dose of misoprostol syntocinon infusion was started. Infusion rate was 2mIU/min. Dose was increased after every 30 minutes at the rate of 1mIU/min to maximum of 8mIU/min. Manual vacuum aspiration group did not receive any uterotonics and directly underwent manual vacuum aspiration. Patients were asked to revisit 7 days after the procedure. Transvaginal ultrasound was done to access endometrial thickness in the longitudinal view of the uterus at the maximal AP diameter. Efficacy was measured in the form of complete abortion. **Results:** In the study, misoprostol group mean age was 31.79±4.86 years while age range was 18-40 years. In manual vacuum aspiration group mean age was 32.38±4.86 years. Majority of patients were between 31-35 years in both groups. Mean gestational age was 9.89±1.38 weeks in misoprostol group and 9.871±1.22 weeks in manual vacuum aspiration group, while mean dose in misoprostol group was 2.358±0.65. **Conclusion:** Regarding management of first trimester miscarriage both options including manual vacuum aspiration and 400μg intra vaginal misoprostol can be considered. Both methods are affective treatment options, decision that which method be opted should be based on, availability of two methods and wishes of the patient.

Key words: Manual vacuum aspiration, misoprostol, first trimester.

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INTRODUCTION

Unwanted pregnancy is one of the major contributor of health problems. Worldwide approx. 53 million abortions are performed every year accounting for hundred thousand maternal deaths.[1] The majority of abortions are performed before 12 weeks of pregnancy (90%) and by surgical methods (65%).[2] Before 14 weeks of gestation vacuum aspiration can be used for surgical termination of pregnancy.[3] It is used in 89% of the miscarriage between 10-12 weeks and in 57% of cases before 10 week gestation.[4]

Vacuum aspiration is safe and effective treatment option, major complications like uterine perforation, pelvic infection and massive blood loss occur in 0.2-0.9 percent of cases.[4-6] With increasing gestation complications associated with aspiration increase. Incomplete abortions occurs in 12% of cases ≥ 12 weeks gestation.[6] Success rate for medical termination using a combination of mifepristone (200mg orally) and gemeprost (1mg vaginally) or misoprostol (80μg vaginally) given 36-48 hours later is 94-97%, when this combination is used up to 63 days of gestation.[7-9] Misoprostol is generally

preferred over gemeprost because of low cost. Miscarriage rate with single dose mifepristone/ misoprostol decrease with increasing gestation. i.e. 98.5% at ≤ 49 days gestation and 96.7% at 50-63 days gestation and is further decreased after 63 days.[10-12] Between 64-91 days gestation effectiveness of medical treatment is enhanced if further doses of 400μg are given after the initial dose of misoprostol.

Most women prefer medical termination of pregnancy because there is no need for surgery and anesthesia.[12-16] Surgical termination is preferred at later gestation[13-14] because at earlier gestation women consider medical termination to be more natural and easy.

Termination of pregnancy though commonly performed in Pakistan, little work is done to compare preferences for two types of procedures hence the study is conducted to determine effectiveness of manual vacuum aspiration and misoprostol in first trimester termination of pregnancy in our local population.

MATERIAL AND METHODS

Sample including 652 women having gestational age less than 12 weeks with open os of cervix were taken in the study. Females with previous cesarean section, multiple gestation or with history of asthma, ischemic heart disease, hepatitis, glaucoma, or known allergy to prostaglandins were excluded. Total women were divided into two groups. i.e. 326 in misoprostol while 326 in manual vacuum aspiration group. Misoprostol group received misoprostol tablet 400μg vaginally at intervals of four hours depending on the degree of cervical dilatation and frequency of uterine contractions. A total of 3 doses of misoprostol were given. Six hours after the first dose of misoprostol syntocinon infusion was started. Infusion rate was 2mIU/min. Dose was increased after every 30 minutes at the rate of 1mIU/min to maximum of 8mIU/min. Manual vacuum aspiration group did not receive any uterotonics and directly underwent manual vacuum aspiration. Patients were asked to revisit 7 days after the procedure. Transvaginal ultrasound was done to access endometrial thickness in the longitudinal view of the uterus at the maximal AP diameter. Efficacy was measured in the form of complete abortion. Data was analyzed by using SPSS version 18, chi – square test was applied to compare efficacy in both groups at level of significance of 0.05.

RESULTS

Age range in this study was from 18-40 years with mean age of 31.791±4.86 years in misoprostol group while 32.386±4.83 years in manual vacuum aspiration group. Majority of patients were with parity>2 in both groups as shown in Table-III and Table-IV. Mean gestational age was 9.892±1.38 weeks in misoprostol group and 9.871±1.22 weeks in manual vacuum aspiration group, while mean doses in misoprostol group was 2.358±0.65. Mean weight was 58.791±9.59 kg in misoprostol group and 58.377±9.78 kg in manual vacuum aspiration group. Efficiency was seen in 94.2% patients in misoprostol group as compare to 92% in manual vacuum aspiration group (P=0.148) as shown in Table-V.

Age Groups (years)	No. of Patients	Percentage.
18-25	38	11.7%
26-30	50	15.3%
31-35	160	49.1%
36-40	78	23.9%

Table-I: Age Distribution in misoprostol group (n=326) Mean ± SD = 31.791 ± 4.86 years

Age Groups (years)	No. of Patients	Percentage.
18-25	32	9.8%
26-30	31	9.5%
31-35	174	53.4%
36-40	89	27.3%

Table-II. Age Distribution in manual vacuum aspiration group. (n=326) Mean ± SD = 32.386 ± 4.83 years

Parity Group	No. of Patients	Percentage.
<1	15	4.6%
1-2	121	37.1%
>2	190	58.3%

Table-III: Distribution of parity in misoprostol group (n=326)

Parity Group	No. of Patients	Percentage.
<1	7	2.1%
1-2	106	32.5%
>2	213	65.3%

Table-IV: Distribution of parity in manual vacuum aspiration (n=326)

Outcome	Misoprostol Group	manual vacuum aspiration	P value
Efficacy	94.2%	92%	0.148

Table-V. Comparison of efficacy in both groups (n=652)

DISCUSSION

Regarding management of first trimester miscarriage both options including manual vacuum aspiration and intravaginal misoprostol can be considered. Both methods are effective treatment options. For less developed countries medical termination is a feasible and successful option. In our study success rate observed with medical termination is similar to results seen in European studies.[17,18]

In our study efficacy of misoprostol was comparable to that of manual vacuum, aspiration similar results are observed in previous studies.[19,20] The success rate with misoprostol was 94.2% which is comparable with results of other studies. Similarly rate of efficacy with MVA was 92%, a result similar to previous studies and reviews.[19,23,25]

Tasnim and her associates have also found the efficacy with MVA was 89.6% in a study in Pakistan.[26] In a study by Ghora misoprostol showed a success rate of 85-90%.[27] In a study conducted by Sirimai success rate was 74.1%.[28]

In less developed countries, misoprostol has got certain benefits over manual vacuum aspiration as it is a flexible treatment and is easy to use while for manual vacuum aspiration definite diagnosis of miscarriage, specific equipment and trained operator is required.

CONCLUSION

For the treatment of the first trimester termination both manual vacuum aspiration and 400μg intravaginal misoprostol are effective treatments. Based on availability of each method and the wishes of individual women either option may be presented to women for the treatment of the first trimester termination.

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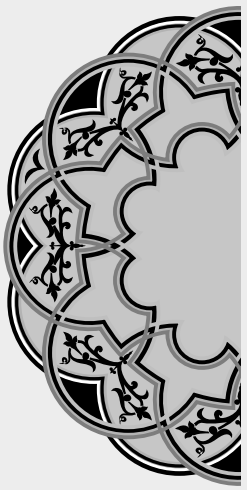

"When the going gets tough, the tough get going."

Unknown

AUTHORSHIP AND CONTRIBUTION DECLARATION

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