Research Article

Manual vacuum aspiration in first trimester induced abortion: A randomized comparative prospective studies of 100 cases

Prakash H Parmar, Ketan I Gosai, Kavita M Dudhrejia, Kamal D Goswami, Shetal S Prajapati, Rushikesh R Mane

Department of Obstetrics and Gynecology, PDU Medical College, Rajkot, Gujarat, India.
Correspondence to: Prakash H Parmar, E-mail: drparmarobgy@gmail.com

Received October 17, 2014. Accepted November 23, 2014

Abstract

Background: Induced abortion is one of the safest procedures for unwanted pregnancies in medical practice. Vacuum aspiration is the preferred method for uterine evacuation before 12 weeks of pregnancy.

Objectives: To study the efficacy of manual vacuum aspiration (MVA) in <8 wk versus 8–12 wk of pregnancy.

Materials and Methods: A randomized comparative prospective study was performed at the Department of Obstetrics and Gynaecology, P D U Medical College, Rajkot, over a period of January 2012 to June 2013. Totally, 100 subjects were enrolled in the study, which were further divided into two groups (<8 wk and 8–12 wk of pregnancy, 50 in each). MVA was performed in both the groups, and comparison was done in view to evaluate completeness of procedure, requirement of add-on procedure, and complications.

Results: Of 50 subjects in each group, perforation was found in two cases in group A and one case in group B. Requirement of oxytocics noted in only one case in group B, whereas incomplete abortion noted in two cases in group A and three in group B. All complications were found statistically insignificant ($P = 1$) between both the groups.

Conclusion: This study focused on the efficacy of MVA in higher weeks of gestations, which was equal in both the groups. Thus, MVA is a safe and an acceptable procedure up to 12 wk of pregnancy.

KEY WORDS: Manual vacuum aspiration, complications, efficacy

Introduction

Early pregnancy loss, also known as miscarriage or abortion, is a common experience for women and responsible for the maximum number of pregnancy losses.[1] Miscarriage of an early pregnancy is the commonest medical complication, affecting 10–20% of clinically recognized pregnancies.[2] Of the estimated 211 million pregnancies worldwide that occur each year, about 46 million are terminated by induced abortion.[3] According to WHO, each day, 192 women die because of complications arising from unsafe abortions.[4] Despite advancement in the medical technology, unsafe abortion-related complications contribute to 10–13% of maternal deaths in the developing countries.[5]

Induced abortion is one of the safest procedures in medical practice. Hence, India legalized this induced abortions through Medical Termination of Pregnancy (MTP) act. National population policy 2000 of India has made goal to decentralize abortion services and adoption of new technology for MTP.[6]

Vacuum aspiration involves the evacuation of the contents of the uterus through a plastic or metal cannula, attached to a vacuum source. Electric vacuum aspiration (EVA) employs an electric vacuum pump. In manual vacuum aspiration (MVA), the vacuum is created using a handheld, hand-activated, plastic syringe. MVA has been in use for more than 30 years with varying opinions on its safety from different experts.[7]

Vacuum aspiration is safer than sharp curettage, and the WHO recommends vacuum aspiration as the preferred method for uterine evacuation before 12 weeks of pregnancy.[8] This method is faster, safer, more comfortable, and associated with shorter hospital stay for induced abortion than sharp curettage.[9,10] Additional advantages compared with sharp curettage are its ease of use as an outpatient procedure, the need for less analgesia and anesthesia,[10] and its lower cost

Access this article online

Website: http://www.ijmsph.com

DOI: 10.5455/ijmsph.2015.1710201440

Quick Response Code:

per procedure especially if performed on an outpatient basis.[12] It is also included under National Rural Health Mission and safe abortion services.[6] MVA, with its advantages of simplicity, nondependence on power supply, and comparable or even low complication rates, is emerging as the preferred method for first trimester pregnancy termination.[13] MVA can be done up to 12 wk of pregnancy, but certain studies recommend up to only 10 wk and more incompleteness in higher weeks of pregnancy. Hence, we carried out this study to evaluate its efficacy up to 12 wk.

Materials and Methods

We conducted a randomized comparative prospective study at the Department of Obstetrics and Gynaecology, P. D. U. Medical College, Rajkot, over a period of January 2012 to June 2013. Totally, 100 subjects were enrolled in our study, which were divided into two groups (group A, <8 wk of pregnancy and group B, 8–12 wk of pregnancy; 50 in each).

Patients who visited OPD for induced abortion were selected according to the weeks of gestation after detailed history and examination. Written and informed consent was taken. Routine investigations were performed in all subjects.

Cervical ripening was achieved with 400 μg misoprostol tablet before 2 hours. In both the groups, Ipas MVA syringe was used for the MTP. Completeness of procedure, requirement of add-on procedure (EVA or curettage), and complications were noted. Patients were discharged on the same day after 4–6 hours of procedure if no complication occurred. Patients were called for follow up in OPD on 7th and 15th day. The follow up was compiled and documented.

Results

Totally, 100 subjects were included in the study. In both the groups, patients of different age, parity, and area of residence were included (Table 1). Perforation of uterus was noted in two cases in group A, whereas in one case in group B ($P = 1$, insignificant). All patients with perforation were treated conservatively. Only one case in group B required oxytocics drug during the procedure, whereas no such case noted in group A ($P = 1$, insignificant). Incomplete abortion was found in two cases in group A, whereas in three cases in group B ($P = 1$, insignificant). All cases of incomplete abortion were treated by simple curettage.

Discussion

In our study, the mean age was 26.3 yr in group A and 25.8 yr in group B. The efficacy of the procedure was 96% in group A (<8 wk) and 94% in group B (8–12 wk) in our study. The complication rates were 8% in group A and 10% in group B; add-on procedure (check curettage) was required in 4% in group A and 6% in group B.

Table 1: General observations

	Group A	Group B
Age (yr)		
<20	1	2
20–30	40	35
>30	9	13
Parity		
1	8	10
2	22	23
3	18	10
$\geqslant 4$	2	7
Area		
Urban	38	39
Rural	12	11

Table 2: Complications

Complications	Group A	Group B
Perforation	2	1
Required oxytocics	0	1
Incomplete abortion (add-on procedure required)	2	3

Many studies have been published about the efficacy and complications of MVA. Samal et al.[14] evaluated MVA and EVA in first trimester and found 97% effectiveness of MVA, similar to our study. Paul et al.[15] showed 98% efficacy for MVA, also almost similar to our study. Begum et al.[16] studied the management of incomplete abortion by MVA and found effectiveness of the procedure to be about 98% with very low postprocedure complication rate (2%).

MVA requires marginally more time compared to EVA, especially at higher weeks of gestation. In this study, we tried to find out the effectiveness of MVA in higher gestations and evidences of retained products. Yet, this is a smaller study; more studies should be performed on larger grounds.

Nine of 100 maternal deaths are because of unsafe abortions. Hence, comprehensive abortion care has been started under National Rural Health Mission. Introduction of the MVA technique is useful to expand safe abortion services in remote areas. The MVA technique is a safe and simple for MTP, which makes it feasible even at Primary Health Centre or Community Health Center levels.[6] Thus, we concluded that procedure is equally efficacious in <8 wk and 8–12 wk of pregnancy. So, MVA is a safe and an acceptable procedure up to 12 wk of pregnancy.

Conclusion

This study focused on efficacy of MVA in higher weeks of gestations. All noted complications were found statistically insignificant between both the groups. The efficacy of the

procedure was 96% in group A and 94% in group B. Thus, we conclude that procedure is equally efficacious in <8 wk and 8–12 wk of pregnancy. Hence, MVA is a safe and an acceptable procedure up to 12 wk of pregnancy.

References

1. Khaskheli M. Evaluation of early pregnancy loss. Pak J Med Res. 2002;41:70–2.
2. Khan FM, Amina A, Ahmed FL, Naeem NK. Medical termination of first trimester miscarriages. Annals. 2007;13:154–7.
3. World Health Organization. *The World Health Report 2005: Make Every Mother and Child Count*. Geneva, Switzerland: WHO, 2005.
4. Shah I, Ahman E. Unsafe abortion: global and regional incidence, trends, consequences, and challenges. J Obstet Gynaecol Can. 2009;31(12):1149–58.
5. Ahsan A, Jafarey SN. Unsafe abortion: global picture and situation in Pakistan. J Pak Med Assoc. 2008;58(12):660–1.
6. Ministry of Health and Family Welfare (MOHFW). *National Population Policy, 2000*. New Delhi: Government of India, 2000.
7. Westfall JM, O'Brien-Gonzales A, Barley G. Update on early medical and surgical abortion. J Womens Health. 1998;7(8): 991–5.
8. World Health Organization. *Safe Abortion: Technical and Policy Guidance for Health Systems*. Geneva, Switzerland: World Health Organization, 2003.
9. Cates W Jr. Legal abortion: the public health record. Science. 1982;215(4540):1586–90.
10. Rogo K. Improving technologies to reduce abortion-related morbidity and mortality. Int J Gynaecol Obstet. 2004;85(Suppl 1): S73–82.
11. Iyengar K, Iyengar SD. Elective abortion as a primary health service in rural India: experience with manual vacuum aspiration. Reprod Health Matters. 2002;10(19):54–63.
12. Jowett M. Safe Motherhood interventions in low-income countries: an economic justification and evidence of cost effectiveness. Health Policy. 2000;53(3):201–28.
13. Yin FY, Zhong XM, Xu YF. Clinical effect of terminating early pregnancy by three methods. Chin J Matern Child Health Care. 2004;19:68–9.
14. Samal SK, Rathod S, Padhi M. A comparative study between manual vacuum aspiration and electrical vacuum aspiration for the first trimester medical termination of pregnancy. Int J Reprod Contracept Obstet Gynecol. 2014;3(1):139–43.
15. Paul ME, Mitchell CM, Rogers AJ, Fox MC, Lackie EG. Early surgical abortion: efficacy and safety. Am J Obstet Gynaecol. 2002;187(2):407–11.
16. Begum S, Rashid M, Jahan A. A clinical study on management of incomplete abortion by manual vacuum aspiration (MVA). J Enam Med College. 2012;2(1):24–8.

How to cite this article: Parmar PH, Gosai KI, Dudhrejia KM, Goswami KD, Prajapati SS, Mane RR. Manual vacuum aspiration in first trimester induced abortion: A randomized comparative prospective studies of 100 cases. Int J Med Sci Public Health 2015;4:211-213

Source of Support: Nil, **Conflict of Interest:** None declared.