

THE USE OF MANUAL VACCUUM ASPIRATION FOR TREATMENT OF FIRST TRIMESTER ABORTION

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ABSTRACT

Objective: To assess the safety, efficacy and acceptability of manual vacuum aspiration (MVA) in first trimester abortions.

Material and Methods: This study was conducted in the Department of Obstetrics and Gynecology Naseer Teaching Hospital, Peshawar, between June and December 2011. Sixty patients of incomplete or missed abortions, with gestational age less than 12 weeks were included in this study. Main outcome measures were efficacy and safety of the procedure. Secondary outcome measure was acceptability of the method.

Results: Majority of the patients had complete uterine evacuation (96%), with no major complications. Higher satisfaction rate was observed, as 83% participants expressed desire to choose MVA again.

Conclusion: MVA is a highly effective and acceptable procedure. It has virtually eliminated some of the risks associated with conventional D&C and electrical vacuum aspiration, such as uterine perforation and infection.

Key Words: Incomplete, abortion, missed, uterine evacuation.

INTRODUCTION

Early pregnancy failure is a major health problem worldwide which occurs in 15-20% of pregnancies¹. South Asia (Bangladesh, Nepal, India, Sri Lanka and Pakistan) is home to 28% of world's population and almost one third (30%) of world's maternal deaths take place in this region². In countries like Pakistan, complications of miscarriages account for 10-12% of maternal deaths³⁻⁴.

The main methods for abortion include vacuum aspiration, sharp curettage and medical abortion. Vacuum aspiration is the most widely used method for terminating pregnancy early in first trimester is safer and less painful than sharp curettage⁵⁻⁶ and is more effective and less painful compared with some medical abortion⁷. The high efficacy of vacuum aspiration, with complete abortion rates between 95 and 100%, has been well reported in several trials⁸. Manual vacuum aspiration as a means of removing the uterine contents was pioneered in 1958 by Yuantai and Xianzhem in China that ultimately led to the technique becoming a common and safe obstetric procedure⁹. This technique was later on refined in United States with development of a soft, flexible Karman cannula. MVA is a safe method of evacuation and can easily be performed in any setting. It is highly portable, reusable and cost effective. The

aim of this study was to assess the safety, efficacy and acceptability of manual vacuum aspiration.

MATERIAL AND METHODS

This study was conducted from June 2011 to December 2011 at Department of Obstetrics and Gynaecology, Naseer Teaching Hospital, Peshawar. Sixty women with ultrasound scan confirmed incomplete or missed miscarriage, at 12 weeks or below gestation, were recruited for the study.

Exclusion criteria included, Gestational age more than 12 weeks, Septic abortion, Bleeding disorders, Molar pregnancies, uterine fibroids. Written informed consent was obtained by operating surgeon prior to the procedure. Data was collected on specially designed Performa. The main study outcome was efficacy in terms of uterine evacuation without the need of any type of further treatment and secondary outcome include prevalence of procedure related complications like infection, haemorrhage, perforation and assessing patient acceptability.

Preliminary investigations were hepatitis B, C screening, haemoglobin estimation, blood grouping and Rh typing. As the procedure was performed under local anesthesia (para cervical block), there was no need to fast before hand. As per protocol, all women were administered 800ug of vaginal misoprostol for cervical ripening at least 2-3 hours before the procedure. Pre procedure vaginal misoprostol was not administered in emergency cases. The size of the uterus was reevaluated by bimanual examination.

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Size of the cannula was selected varying from 4-12 mm to snugly fit the cervical canal. Charged syringe (Ipas MVA aspirator) was attached to the cannula, the pinched valves released allowing the vacuum to get transferred to the uterine cavity. Contents of the cavity were evacuated by using rotatory and back and forth movements of the cannula. Appearance of red pink foam or bubbles, absence of more products getting aspirated and a feeling of uterus contracting around the cannula were considered as signs of completion of procedure.

Immediately, post procedure 50-100mg diclofenac was given for pain relief. Anti D prophylaxis was administered to all Rh -ve women. The patient's experience was evaluated by asking questions on acceptability and satisfaction. Patients were discharged after 2-3 hours. All the patients were asked to come for follow up after 10 days.

RESULTS

A total of sixty patients were included in the study. Majority of the patients were in the age group 20-30 yrs (53%). Nineteen (31.6%) were multipara and 11(18%) were grandmultipara, as shown in Table 1. The main indication for MVA was missed abortion (48%). Table 2 shows that there were no cases of uterine perforations however 2 (3%) patients had incomplete evacuation. One patient was readmitted due to infection, which was treated accordingly.

The data showed high acceptability for MVA among patients. Majority of the patients were satisfied

Table 1: Distribution of study subjects according to age and parity

Age	MVA percentage
<20 in years	12 (20%)
20-30	32 (53.3%)
31-40	10 (17%)
>40	6 (10%)
Parity	MVA percentage
<5	30 (50%)
5-7	19 (32%)
>7	11 (18.3%)

Table 2: Efficacy and complications

Efficacy & Complications	Number and percentage
Success (Complete evacuation)	58 (96%)
Incomplete evacuation	2 (3%)
Infection	1 (1%)
Perforation of uterus	0 (0%)

Table 3: Satisfaction and acceptability of patients

Variable	MVA
Overall satisfaction	
Very satisfied	46 (77%)
Satisfied	13 (21.6%)
Unsatisfied	1 (1.6 %)
Acceptability (would choose the method again)	
Yes	50 (83.3%)
No	3 (5%)
Not done	7 (11.6%)

with their treatment. When asked about future selection for MVA, 83.3% users opted for it, as shown in Table 3. Most of procedures were done by consultants and the average post procedure hospital stay of patients was 2-3 hour.

DISCUSSION

MVA has been used internationally for more than 30 years and has been shown to be safe and effective for early abortion¹⁰. It is simple, portable, reusable and available at a low cost¹¹. Despite of all these benefits it is not being commonly used in hospitals because of the unfamiliarity of the doctors with its use. There is only a sparse local data on MVA. It is being used in our department for the last two and half years, and we have found it highly effective and free of any major complications. World Health Organization recommends use of MVA as an effective method of uterine evacuation in the first trimester and encourages it in developing countries¹².

Efficacy of MVA in our study is 96%, various other trials, conducted locally and internationally, reported 95-100% efficacy with MVA^{4,7,13,16}. These results correlate with the finding of our study. Rate of incomplete evacuation after MVA is reported to be 2-3%^{14,15}. Data from our study shows minimal complications; incomplete evacuation (3%), post procedure infection (1%) and no case of uterine perforation. A Meta analysis based on the results of 10 studies involving 1660 women has compared MVA with electrical vacuum aspiration (EVA) & has shown 97.9% success rate with MVA vs 97.5% with EVA¹⁷.

Fonseca et al conducted a study comparing conventional D&C with MVA, their study concluded that patients treated with MVA needed 77% less hospital stay and consumed 4% less hospital resources than patients treated with D&C¹⁸. Hence MVA has virtually eliminated some of the risks associated with traditional D&C such as infection and uterine perforation. As manual vacuum aspiration is an effective and safe procedure so midwives and nurses can easily be trained and this

can be very useful for developing countries like Pakistan where majority of the population is in rural areas. In rural areas access to medical facilities are limited, high tech equipments are not available, power supply is erratic and maintenance of instruments is not upto the mark. Despite the proven benefits, MVA under local anaesthetic is still under used.

This study shows that the women undergoing MVA were highly satisfied with the result and were willing to opt for MVA in future. Similar findings were seen by Wen J et al, in a study comparing electric vacuum aspiration to MVA¹⁷.

CONCLUSION

MVA is a safe and effective procedure. It is an attractive alternative to conventional surgical procedures like curettage and electrical vacuum aspiration. To patients it's cheap, with short hospital stay, no need for general anesthesia and early return to home; while for health care provider, it is easy to manage.

RECOMMENDATIONS

There is a need to emphasise health care providers to increase its use in rural areas.

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