

EFFICACY OF MANUAL VACUUM ASPIRATION IN FIRST TRIMESTER MISCARRIAGES

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ABSTRACT

Background: First trimester miscarriages are commonly encountered by gynecologists. **Objective:** To determine efficacy of manual vacuum aspiration in first trimester miscarriages. **Methodology:** This cross sectional study was carried out in Department of Obstetrics and Gynaecology, Lady Willingdon Hospital Lahore from 1st May to 30th October 2010. 150 patient were enrolled in study fulfilling inclusion criteria and manual vacuum aspiration (MVA) was performed under local anesthesia. Post evacuation ultrasonography was performed in all patients. The data was entered and analyzed by using SPSS version 15. **Results:** Efficacy of MVA was 89.3% and 16% patients has incomplete uterine evacuation. No major complication was noted, except one patient out of 150, has moderate to severe bleeding and 6 has infection. **Conclusion:** MVA has high efficacy and is associated with less complications.

Keywords: Manual vacuum aspiration, Miscarriage, Efficacy, Uterine evacuation

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INTRODUCTION

Almost 19% pregnancies end up in miscarriages, and are responsible for significant pregnancy related mortality.¹ Pakistan has high Annual abortion rate.² Annually almost 89 thousand women suffered from problem of early pregnancy failure.³ Surgical evacuation under anesthesia is carried out in eighty eight percent women with miscarriages as medical treatment had unpredictable results.⁴ Complications like heavy bleeding, retained products of conception, uterine trauma and infection can occur.^{5,6}

Manual vacuum aspiration (MVA) is in use since 1970³ and initially it was used for treatment of miscarriages but now endometrial sampling being performed by this technique it.⁶

MVA is, easily reuseable, associated with less complications and also available at low cost.^{7,8}

Standard technique of MVA require only stabilization of cervix by tenaculum, local anesthesia and suction cannula attached with manual vacuum aspirator which is used to evacuate contents from uterine cavity. Many studies are showing promising results with MVA usage and its efficacy is ranging from 95-96%.^{9,10} The main purpose of our study was to assess efficacy and safety of manual vacuum aspiration in first trimester miscarriages.

METHODOLOGY

This cross sectional study was conducted in the Obstetrics and Gynaecology, department of Lady Willingdon Hospital, Lahore. 150 women fulfilling inclusion criteria were enrolled in study. On all patients procedure of MVA was performed. The base line characteristics were noted and informed consent was taken from all patients. Efficacy in terms of complete uterine evacuation was the main study outcome to be measured. Secondly safety of procedure and complications rate was also measured. The data was analyzed by using SPSS version 15.

Inclusion Criteria: All first trimester miscarriages including incomplete, missed and following failed medical treatment. **Exclusion Criteria:** Second trimester miscarriages, septic induced abortion, patients with heavy vaginal bleeding and vitally unstable. Gestational age was calculated from Last menstrual period and Ultrasound report. The procedure of MVA was under taken on all women according to standard protocol and after full counseling regarding procedure. Four hours before procedure 400ug misoprostol given sublingually for cervical ripening except those patients having dilated cervix and for better analgesia oral NSAID was also given. Procedure was performed by senior registrar and senior PGRs. Before procedure of MVA paracervical block of local anesthesia was administered by dental syringe and 20ml of 0.5% xylocaine injected at 2,4,8,10 o'clock position in

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cervix. IPAS suction curette of 6 to 8 mm was attached with 60 ml self locking syringe used to create negative pressure. Uterine contents were aspirated and sample was made for histopathology. Complete emptying of uterus was assessed by ultrasound. Patients remained stable having no complications were sent home after 3 hour and were advised oral antibiotic for 5 days.

RESULTS

During study period 150 patients under went MVA aspiration. Mean age of patient was 32 ± 2 years and mean parity was 5 ± 0.6 . The mean gestational age was 49 ± 13 days (Table I).

Table I : Patients Characteristics

Characteristics	No.
Mean age(years)	32 ± 2
Parity	5 ± 0.6
Mean gestational age by ultrasound (days)	$49. \pm 13.$
Previous miscarriage	60%
Previous history of termination of pregnancy	30%
Indication of mva	
Early fetal demise	99 (65.2%)
Incomplete miscarriage	46(30.6%)
Failed medical treatment	8(5%)

It was noted that 99 (65%) has early fetal demise, 46 (30.2%) patient has incomplete miscarriage and 8 (5%) has failed medical treatment.

Cervical ripening was performed in 133(88%) patients. 17(11.3%) patients has no need of priming due to already dilated cervix. No major complication occurred during procedure except one patient (0.6%) who was already anemic due to moderate to severe blood loss, MVA was stopped standard curettage was proceeded and she was transfused one pint of blood after procedure. 4 (2.6%) patients has moderate bleeding requiring syntometrine. 6 (4%) patients required short general anesthesia due to severe pain during procedure. Over all efficacy of the MVA was (89.3%). 16 (11%) patients have retained products of conception 11 patients were treated by standard and curettage 5 patients were managed expectantly.(Table II) 6 (4%) patients has infection and treated successfully by third generation oral cephalosporin antibiotics. Post MVA hospital stay was 6.5 ± 4 hours except those patients who has RPOCs and under went

standard surgical curettage under general anesthesia they were remain admitted for 24 hours.

Table II: Efficacy and complications (n=150)

Efficacy and Complications	No (%)
Success (complete evacuation)	134 (89.3%)
Retained products of conception	16 (10.6%)
Severe blood loss need for blood transfusion	1 (0.6%)
Moderate blood loss (>100ml)	4 (2.6%)
Endometritis	6 (4%)

DISCUSSION

Results of our study showed that MVA is associated with high efficacy less complications for managing all types of first trimester miscarriage, similar to WHO report guidelines.¹¹ That efficacy of MVA in our study turned out to be 89.3% but other studies showed a high efficacy i-e: 95% and 97%.^{12,13} The 16 patients has incomplete evacuation the reason for this is that MVA is new technique in our hospital and junior staff is not expert. Although in many studies no gross difference was recorded in incomplete evacuation rate after standard surgical curettage and MVA (2-3%).¹³

Current study results regarding complications are encouraging. No perforation of uterus occurred but one patient who is already anemic has severe bleeding during MVA. Infection was present only in 6 patients.¹⁴ During study it was noted that more than 90% patients were satisfied with this new technique. MVA although a new technique but best alternative option for surgical treatment of first trimester miscarriages in low resource settings as there is no need of sophisticated theater, equipment and anesthetist.¹⁴ As for as patients are concerned it also reduces waiting time, hospital cost and stay and anesthetic complications.

CONCLUSION

Results of our study showed that for surgical management of first trimester miscarriages standard surgical curettage may be replaced by manual vacuum aspiration in all low resource settings where there is lack of operation theater, electricity and anesthetic facilities, as MVA has high efficacy and safety and very simple equipment so it is beneficial for both patients and health care provider.

Conflict of interest

The authors have declared no conflict of interest.

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