

## COMPARATIVE STUDY OF MANUAL VACUUM ASPIRATION AND DILATATION & EVACUATION IN TERMS OF THEIRS ACCEPTABILITY AND COMPLICATIONS FOR THE SURGICAL MANAGEMENT OF EARLY PREGNANCY LOSS

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### Abstract

**Background:** To compare efficacy and complication of manual vacuum aspiration and dilatation and evacuation as the method for early pregnancy loss surgical management.

**Methods:** This study was conducted in the Department of Obstetrics and Gynaecology, SMS Medical College & Associated group of Hospitals, Jaipur during this study, 200 pregnant women with below 12 weeks gestational age having a confirmed diagnosis of incomplete miscarriage and missed abortion were included. All selected cases divided into MVA group and D&E group randomly.

**Results:** MVA group 98% cases were successful and failure was in 2% which required re-procedure. In D&E group 94% cases were successful and failure was in 6% cases which required re-procedure. Success rate was founded more in MVA group than D&E group.

**Conclusion:** On comparison of the two, in our study MVA was seen to be having an edge over D&E, regarding complication and success rate.

**Keywords:** MVA, D&E, Complication, Success rate.

### Introduction

Early pregnancy failure is a major health problem worldwide which occurs in 15–20% of pregnancies.<sup>1</sup> In developing countries like india complications of miscarriages account for 10–12% of maternal deaths.<sup>2,3</sup> The treatment options for early pregnancy failure include expectant management, medical termination with misoprostol and surgical evacuation.

Traditionally, first-line surgical management has been dilatation and curettage (DNC) which requires a trained personnel, operating room, presence of an anaesthetist and sometimes blood transfusion.<sup>4</sup> Despite careful and skilled intervention, even in best hands complications like haemorrhage, incomplete evacuation, perforation and infection can occur.<sup>5</sup>

MVA is effective as 98-99% and causes less blood loss, less time consuming, require short hospital stay and thus cost less<sup>6</sup>. It can be done using local anesthetic and a non-steroidal anti-inflammatory drug (NSAID), such as ibuprofen. This technique is used for last three decades. Initially for incomplete miscarriage but currently it is being used for missed miscarriage, molar pregnancy, medical termination of pregnancy and endometrial sampling. Complications are rare, less than 2%<sup>1</sup>. MVA has been

demonstrated to be effective and very safe through clinical studies over the last 30 years. A high success rate with no major complications with MVA provides evidence that the technique is safe and easy to learn. Majority of the studies published so far have used MVA for elective termination of pregnancy and incomplete miscarriage.<sup>6-8</sup>

### Material and Methods

#### Study setting

The study was conducted in the Department of Obstetrics and Gynaecology, SMS Medical College & Hospital, Jaipur.

#### Study Design

Hospital based prospective study.

#### Study Type

Randomized controlled study.

#### Study Population

The study population comprises of pregnant women with first trimester pregnancy loss attending Obstetrics and Gynaecology Department in SMS Medical College and Hospital, Jaipur who fulfill the inclusion criteria.

### Selection Criteria

#### Inclusion Criteria

- Pregnant women with gestational age less than 12 weeks and having a confirm diagnosis of early pregnancy loss was included in the study.
- Willing to participate in study.

#### Exclusion Criteria

Patients with molar pregnancy, septic abortion and other comorbidities like uterine anomalies; coagulation disorders etc. were excluded from the study.

- Non cooperative
- Severely ill

#### Sampling Methods

All eligible consecutive patients.

#### Data Collection

The diagnosis of early pregnancy loss was made on the basis of history, clinical examination, biochemical examination, pathological examination and pelvic ultrasound. These study population was randomly divided into two groups "A" and "B". The women in group A (100 pregnant women) was undergo MVA (Manual Vacuum Aspiration) and the others in group B (100 pregnant women) was undergo dilatation and evacuation for the management of early pregnancy loss. Patients was kept under observation for any complication for 24 hours. Efficacy of the procedure was confirmed by pelvic ultrasound and patients were called for follow up at two weeks.

#### Data Analysis

- Continuous variables was presented has been as S.D. and was analyzed by using unpaired 't' test.
- Nominal / categorical variables was expressed as proportion and will be analysed by using chi-square test/fisher exact test.
- P value <0.05 was taken as significant Medcalc 16.4 versions software was used for all statistical analysis.

#### Results

**Table 1:** Distribution of Patients according to socio-demographic variable

Variable	MVA (GROUP A)	D & E (GROUP B)	p-value
Age (Mean ± SD)	24.00±4.0	24.06±3.5	0.91
Gravida (Mean ± SD)	2.4±1.01	2.6±1.4	0.245

This table shows distribution of case in both groups according to age maximum number of patients are 20-25 years in both groups.

**Table 2:** Distribution of patients according to success rate

	MVA (GROUP A)		D&E (GROUP B)	
	No.	Percentage (%)	No.	Percentage (%)
Successful	98	98	94	94
Failure requiring re-procedure	2	2	6	6
Total	100		100	
p value 0.148				

This table shows that in MVA group 98% cases were successful and failure was in 2% which required re-procedure. In D&E group 94% cases were successful and failures were in 6% cases which required re-procedure. Success rate was founded more in MVA group than D&E group.

**Table 3:** Distribution of patients according to complain on follow up

Follow Up	MVA (GROUP A)		D&E (GROUP B)		p value
	Yes	No	Yes	No	
	No. %	No. %	No. %	No. %	
Pain Abdomen	3 3	97 97	25 25	75 75	0.027
Sepsis	1 1	99 99	24 24	76 76	0.000
Vaginal Bleeding	5 5	95 95	21 21	79 79	0.002
RPOCS on USG	2 2	98 98	6 6	94 94	0.279

This table shows that in MVA group during follow up complaints like pain abdomen, sepsis, vaginal bleeding and RPOCs on USG were present in 3%, 1%, 5%, and 2% cases respectively. Similarly in D&E group during follow up complaints like pain abdomen, sepsis, vaginal bleeding and RPOCs on USG were present in 25%, 24%, 21% and 6% cases respectively. On follow up complications were found more in D&E group than MVA group.

#### Discussion

MVA is a method of uterine evacuation that enables women with early pregnancy loss to be treated safely in the office or emergency department rather than the operating room. Today women are diagnosed by ultrasound prior to haemorrhage or infection and can be safely managed by office based MVA. Use of MVA includes endometrial biopsy, uterine evacuation in case of pregnancy failure and pregnancy termination. The instrument set includes the Ipas aspirator used for an office based MVA is reusable after appropriate processing. The present study was conducted to evaluate the safety and efficacy of MVA compared to dilatation and evacuation (D&E) in the management of first trimester abortion. It is also to evaluate MVA that can be practiced

in rural area where the access to the medical facilities are limited<sup>9</sup>.

In our study MVA group patients during follow up were presented with complaints of pain abdomen, sepsis, vaginal bleeding and RPOCs on USG in 3%, 1%, 5% and 2% respectively. While, in D&E group patients during follow up were presented with complaints of pain abdomen, fever, vaginal bleeding and RPOCs on USG were presented in 25%, 24%, 21% and 6% respectively requiring repeat procedure.

Our study is concordance with the study done by Jayshree et al<sup>10</sup> who found that the presence of retained products and the need for repeat procedure was observed in 2.5% of MVA cases versus 10% in D&C group. Result was also comparable to Yin 2005<sup>11</sup>, Suwan A *et al*, 2009<sup>12</sup>. In our study the success rate of MVA group was 98% cases. While D&E group success rate was 94%.

In a study by Rohana Salam<sup>13</sup> found that MVA was effective in 301 (98.6%) cases whereas D&E was effective in 270 (88.5%) cases. The efficacy was regarded as positive when pelvic ultrasound revealed complete evacuation with no evidence of retained products of conception. MVA failed to evacuate the uterus completely in only 4 (1.4%) cases while D&E failed to do so in 35 (11.5%) cases

### Conclusion

On comparison of the two, in our study MVA was seen to be having an edge over D&E, regarding complication and success rate.

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