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Research Article

**ANALYSIS BETWEEN MEDICAL MANAGEMENT AND
MANUAL VACUUM ASPIRATION IN CASES OF FIRST
TRIMESTER MISSED MISCARRIAGE AMONG LOCAL
FEMALE POPULATION OF PAKISTAN**¹Dr. Mahwish Munir, ²Dr. Maria Afzal, ²Dr. Maryam Saeed¹Women Medical Officer at RHC Narnag Mandi, Sheikhpura²Women Medical Officer at DHQ Hospital, Muzaffargarh**Abstract:**

Introduction: Missed abortion is a relatively common event, occurring in up to 10-20% of recognized pregnancies. Missed abortion is in utero death of the embryo or fetus before the 20th week of gestation with retained products of conception. **Aims and objectives:** The basic aim of the study is to find analysis between medical management and manual vacuum aspiration in cases of first trimester missed miscarriage among local female population of Pakistan. **Material and methods:** This study was conducted at RHC Narnag Mandi, Sheikhpura and DHQ Hospital, Muzaffargarh during Dec 2017 to March 2018. Patients of age 18 to 40 years with first trimester missed miscarriage of less than 12 weeks gestation diagnosed by ultrasound showing gestational sac of less than 25 mm in diameter with no fetal cardiac activity primary para, multi para and grand multi para were included in the study. **Results:** The mean number of gestational age of the 125 patients studied was 8 weeks, the mean age being 33 years old. Mean intra-procedural comfort scores (Table 1) Mean comfort scores recorded for MMM, MVA and SMM) were 2.6 for MVA (SD 0.1.22) and 3.9 for MMM. There was demonstrable significance difference between these two scores ($p = 0.0025$). **Conclusion:** It is concluded that MVA is better treatment modality as compared to medical management. Efficacy rate was significantly higher in MVA group as compared to medical treatment group.

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INTRODUCTION:

Missed abortion is a relatively common event, occurring in up to 10-20% of recognized pregnancies. Missed abortion is in utero death of the embryo or fetus before the 20th week of gestation with retained products of conception. Missed abortions also may be referred to as blighted ovum, an embryonic pregnancy, or fetal demise [1]. For the past 50 years, surgical evacuation by dilatation and curettage (D&C) has been the primary treatment of missed abortion. This procedure is generally considered safe, but complications such as infection, bleeding, uterine perforation and decreased fertility occur in up to 10 percent of women³. Recent studies have questioned the need for routine D&C, suggesting that expectant or medical management might be more appropriate [2].

Harvey Karman, in 1972, designed the vacuum syringe and described the principles of MVA for surgical uterine evacuation. The principle of MVA is exactly the same as routine surgical management of miscarriage except that it involves the use of a handheld syringe as a source of suction instead of an electric suction machine [3]. It has been used for first-trimester termination of pregnancy, incomplete miscarriage, missed miscarriage, endometrial biopsy and following failed medical termination of pregnancy. In particular, in areas with limited resources it has gained wide popularity as a reliable, safe, cost-effective and ambulatory method for managing miscarriage. Slowly but steadily, this method is also gaining acceptance in the NHS setting as an option for the surgical management of miscarriage [4].

MVA is carried out in an out-patient setting and thus does not require hospital admission or a theatre team for management. The procedure is straightforward and can be carried out by doctors and appropriately trained EPAU advanced nurse practitioners⁵. The procedure is performed under local anaesthesia using a self-locking syringe that creates a defined amount of vacuum in order to evacuate the products of conception [5].

Aims and objectives

The basic aim of the study is to find analysis between medical management and manual vacuum aspiration in cases of first trimester missed miscarriage among local female population of Pakistan

MATERIAL AND METHODS:

This study was conducted at RHC Narnag Mandi, Sheikhpura and DHQ Hospital, Muzaffargarh during Dec 2017 to March 2018. Patients of age 18 to

40 years with first trimester missed miscarriage of less than 12 weeks gestation diagnosed by ultrasound showing gestational sac of less than 25 mm in diameter with no fetal cardiac activity primary para, multi para and grand multi para were included in the study.

Exclusion Criteria

Following exclusion criteria were followed:

1. Patients with known hyper sensitivity to misoprostol.
2. Patients having ectopic pregnancy or molar pregnancy.
3. Patients with septic abortion.
4. Patients with previous c-section.

Patient satisfaction questionnaire

Each of these patients was given a feedback questionnaire at the point of discharge following their procedure that assessed the patient's level of comfort during MVA and MMM and after the procedure for MVA, SMM and MMM. This comfort assessment was a simple scoring system between 1 and 5, where 1 is "very uncomfortable," 2 is "moderately uncomfortable," 3 is "some discomfort," 4 is "little discomfort" and 5 is "no discomfort." Comfort scores between procedures were then analyzed for significance using a simple *t*-test calculation.

Ethical consideration

This research project was approved by "Departmental Ethics and Research committee" of the hospital. The purpose of the study was explained to the study participants accordingly. Permission was obtained from hospitals research center and nephrology clinic.

Statistical analysis

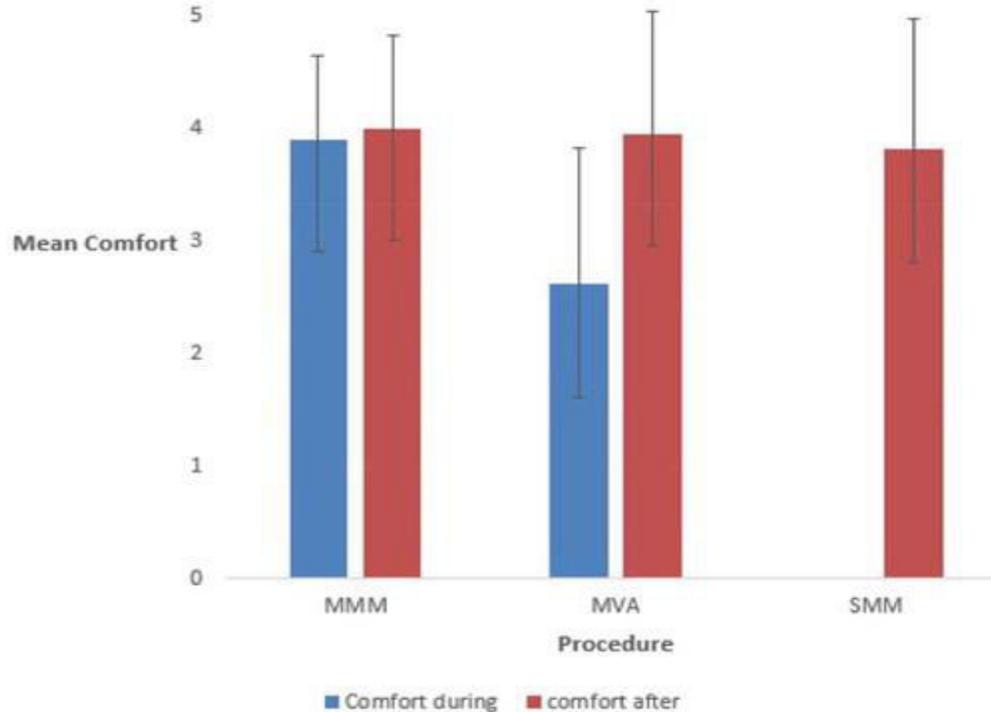
The data of respiratory function were compared between the smoker and non-smoker groups using the independent t-test for normally distributed data or the Mann-Whitney U test for other distributions. Differences were considered statistically significant at $p < 0.05$.

RESULTS:

The mean number of gestational age of the 125 patients studied was 8 weeks, the mean age being 33 years old. Mean intra-procedural comfort scores (Table 1) Mean comfort scores recorded for MMM, MVA and SMM were 2.6 for MVA (SD 0.1.22) and 3.9 for MMM (SD 0.74). There was demonstrable significance difference between these two scores ($p = 0.0025$). Mean comfort scores post-procedure (Figure 01) were 3.95 for MVA (SD 1.09), 3.81 for SMM (SD 1.16) and 4.0 for MMM (SD 0.82).

Table 01: Mean score of medical management and manual vacuum aspiration

Procedure	No of Patients	Mean Comfort (during)	Mean Comfort (post)	Failed Procedures (%)	Delayed Discharges (%)
MVA	40	2.6	3.95	2.5	0
MMM	25	3.9	4.0	57.9	69
SMM	60	N/A	3.81	10	14

Figure 01: Mean score of medical management and manual vacuum aspiration**DISCUSSION:**

It is highly important to prioritize the options for management of early pregnancy losses because high prevalence of miscarriage and related complications has substantial health and economic cost. Manual vacuum aspiration (MVA) is an alternative to the standard surgical curettage, performed under local anesthesia⁶. Manual vacuum aspiration can be performed without the need for a fully equipped operation theatre as it does not need electricity and can be carried out under Para-cervical block. In countries with a small number of physicians, manual vacuum aspiration can be safely and effectively used by mid-level health care providers such as midwives. World health organization (WHO) recommends as the manual vacuum, aspiration preferred methods for the first trimester abortion [7].

Approximately 10–20% of pregnancies end in miscarriage and early pregnancy loss accounts for over 50 000 admissions in the UK each year.

Treatment options for miscarriage include expectant management, surgical and medical management. Each has its own advantages and disadvantages and is selected according to clinical indication and the woman's preferences [8]. Clinical indications for offering surgical evacuation include persistent excessive bleeding, hemodynamic instability, evidence of infected retained tissue and suspected gestational trophoblastic disease. In the National Health Service (NHS) setting, standard surgical management of miscarriage involves suction evacuation under general anaesthesia using electric vacuum aspiration (EVA) [9]. However, over the last few decades, manual vacuum aspiration (MVA) has emerged as an effective and safe alternative for surgical management of miscarriage [10]. MVA can be carried out in the outpatient setting under local anaesthesia as an alternative method for surgical management of miscarriage [11].

CONCLUSION:

It is concluded that MVA is better treatment modality as compared to medical management. Efficacy rate was significantly higher in MVA group as compared to medical treatment group

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