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ORIGINAL ARTICLE

Early Pregnancy Loss: Manual Vacuum Aspiration (MVA) Vs. Conventional Evacuation and Curettage

BASHARAT AHMAD[1], NAEEMA UTMAN[2], KAUSAR INAYAT[3], SABAH SAFDAR[4], SANODIA AFRIDI[5], HIRA SALEH[6]
[1]*Specialist registrar Gynea B ward Hayatabad medical complex Peshawar*
[2]*Professor and incharge gynae B unit Hayatabad medical complex Peshawar*
[3]*Associate professor Benazir Bhutto shared hospital Abbottabad*
[4]*Specialist registrar Gynae B ward Hayatabad medical complex Peshawar*
[5]*Assistant professor Gynae Northwest general hospital Peshawar*
[6]*Trainee medical officer gynae B ward Hayatabad medical complex Peshawar*
Corresponding author: Naeema Utman, Email: Naeemautman@Yahoo.Com

ABSTRACT

Objective: The purpose of this study is to assess the effectiveness of manual vacuum aspiration vs standard evacuation and curettage in the case of early pregnancy loss: HMC hospital, Peshawar, gynecologic and obstetrics department

Study Design: A Single-center study

Duration and place of study: From January 1st, 2017, to January 30th, 2020, the study was carried out in the gynecological and obstetrics unit B of the HMC hospital, Peshawar.

Patient Methodology: One thousand and sixty-three (603) patients were studied. According to the inclusion criteria, all patients who experienced an early miscarriage (18-42 years old) were recruited for the research. The lottery approach was used to split the patients into two groups. Those in Group A who had been treated by MVA Group B were individuals who had traditional surgical evacuation and curettage. Age and BMI were obtained after obtaining written consent from the patient. The patient's entire blood picture, blood group, hepatitis serology, and coagulation profile were analyzed as part of a baseline assessment. Ultrasound and the starting day of the last menstrual cycle were used to determine gestational age. Two hours before the surgery, misoprostol 400mcg was used to ripen the cervical lining. Aseptic procedures were followed during the process. Ultrasound was used to verify that both methods had successfully evacuated the uterus.

Results Group A had a mean age of 27 years, while Group B had a mean age of 29 years, both with a standard deviation of 7.55 years in Group A. Approximately 40% of the patients in Group A were mono para, and 60% of the patients in Group B were multipara. Forty-two percent of patients in Group B were first-time paras, whereas 58 percent of patients in Group B were second-time paras. In Group A, 40% of the patients were first-time mothers, whereas 60% were multiple mothers. There were 42 percent primi gravida and 58 percent multi gravida in Group B. Aspiration using manual vacuum and conventional evacuation and curettage were equally successful for 92% and 82% percent of patients, respectively.

Keywords: Early Pregnancy Loss, M .V. A, Conventional Evacuation And Curettage

INTRODUCTION

Pregnancy misdiagnosis is the most common complication of therapy, accounting for between 12 and 22 percent of clinically confirmed pregnancies. [1]. One out of every four women will experience this kind of failure at some point in her life. [2]. A annual miscarriage rate of 31 per 1,000 women between 18 and 51 is calculated for Pakistan's 990,000 women with missing or incomplete data. [3] 188,000 women are screened yearly for post-abortion complications in the public health system[4]. Miscarriage-related complications are responsible for between 12 and 15 percent of maternal deaths in developing countries, despite advances in medical technology[5]. People in the early stages of pregnancy may choose from a variety of options, including expectant, pharmacological (Misoprostol), and surgical options (sharp curettage and vacuum aspiration). Medical care is seldom sought out by women, according to new research[6]. Dilation and evacuation or suction evacuation are two surgical options available to women. It has a 96 percent success rate for dilation and expulsion. However, problems such as uterine perforation, infection, cervical injury, and blood loss above 100ml occur in 24% of patients. An alternative to the standard surgical approach is manual vacuum aspiration. Vacuum aspiration is used to remove the uterus from the body manually. Simple, safe, effective, portable, and economical are just some of the advantages of the MVA system 98% of MVA is used effectively[7,8].

It also has less blood loss, a shorter hospital stay, and a lower cost than other procedures. In a clinical or physician's office, anesthetics and non-steroidal anti-inflammatory medicines (NSAIDs) like ibuprofen are safe. For the previous three decades, this technique has been employed[9,10]. Pregnancy terminations, such as medical abortions and endometrial sampling, were first employed for incomplete miscarriage. Fewer than 2% of the time, complications are seen[11]. Clinical studies conducted over the past three decades have shown the effectiveness and safety of MVA. An MVA procedure is recommended by the World Health Organization (WHO) for uterine evacuation[12]. Studies show that MVA is as successful as EVA in controlling early-choice abortion and early pregnancy loss, with an overall success rate of 96%. More than 98% of suction surgeries are complicated compared to the alternative D&C procedure, which might result in severe blood loss, pelvic infection and cervical damage[13]. Clinical studies conducted over the past three decades have shown the effectiveness and safety of MVA. An MVA procedure is recommended by the World Health Organization (WHO). For early voluntary abortion and early pregnancy loss, MVA is as effective as or even more effective than EVA. Loss management is included in around 96% of the cases[14]. In contrast to the D&C technique, which has the potential to cause severe blood loss, pelvic infections, cervical injuries, and uterine perforation, data shows that 93% of vacuum aspiration procedures go well[15]. Doctors are unfamiliar with its use, even though it is easy, economical, and straightforward at most institutions. Safe and easy to learn, the approach has a high success rate and no severe MVA issues. Pregnancy termination and partial miscarriage have been shown in published research with MVA.'[16].

MATERIALS AND METHODS

From January 1st, 2017, to January 1st, 2020, the gynecology and obstetrics department at HMC hospital in Peshawar, Pakistan, performed single-center research that included 603 patients. After obtaining a written agreement, the demographics of each patient were recorded. Pregnant women with ectopic pregnancies, fibroids, septic abortions, and uncooperative participants were excluded from the research. Patients were divided into two groups, A and B, according to their age and gender. Three hundred three patients in Group I received DNC, and 300 in Group B underwent MVA. Patients whose pregnancies ended in miscarriage were included in the study. Complication rates and effectiveness were compared across groups. Percentage and frequency were used to calculate categorical variables. The standard deviation was used to

compute numerical variables. Chi-square and T-test were used. SPSS 22.0 was used to analyze all of the data.

RESULTS

Patients in groups I and II ranged from 18 to 42 years old, with mean BMIs of 22.21+8.1 kg/m2 and 24.48+8.1 kg/m2, respectively. The DNC group I operation took 10.11+2.04 minutes, whereas the MVA group II treatment took 4.04+3.77 minutes. Group II had a shorter hospital stay (5.00+3.0 hours) than Group I (8.72+2.1 hours), at 5.00+3.0 hours. Patients had an average gestational age of 9.88+ 4.0 weeks. Table 1

Table 1: Shows The Basic Demographics Of The Patients That Have Been Registered.

Variables	Group A (DNC)	Group B (MVA)
Mean age (years)	18-42 100.96%)	100.96%)
Mean BMI (k g/m²)	22.24+8.1	24.48 +8.1
Mean duration (minutes)	10.11+2.04	4.04+3.77
Mean hospital stay (hours)	10.11+2.04	5.00+3.00
Gestational age(weeks)	9.88+	9.88+
Mean and SD	24 years ± 6.82	32 year ± 7.22

Table 2: Shows The Results Of A Comparison Of The Two Groups' Performance And Problems.

Variables	Group A (n=303)	Group B (n=300)
Effectiveness		
Yes	45 (80.2%)	55 (96.1%)
No	13 (22.2%)	7 (4.6%)
Mean pain Vas	8.38+1.88	5.20+2.10
Complications		
Bleeding	16 (9.14%)	12 (3.8%)
Cervical trauma	3(1.2%)	2 (2.11%)
Uterine perforation	1 (1.2%)	1 (1.3%)
RPOC	12 (1.2%)	2 (2.31%)
Chest Infection	2 (2.4%)	2(2.11%)

Table 3: The Gravida Efficacy Group A And B P Values Are Shown In Table 3.

GRAVIDA	EFFICACY	GROUP A	GROUP B	P-value
01-08 weeks	Effective			72
	Not effective	2	6	0.3216
Total		69	78	
9-16 weeks	Effective	232	212	
	Not effective			10
Total		303	300	0.1216

DISCUSSION

There was a statistically significant difference (p = 0.002) between dilatation and curettage (D&C) and MVA (MVA) in terms of the prevalence of complications, including infections, blood loss or cervical laceration, as well as incomplete evacuation, in patients with MVA[17]. It has been discovered that the MVA's efficiency is 83.8%, which is compatible with the findings of previous studies, such as Gazvani 2014 [18]. Galvani's research also compares our results to theirs regarding the study group's average age and gestational age, which was 9.88+4.0 weeks, respectively (2014) [19]. ACCORDING TO THE RESULTS OF ANOTHER STUDY, the MVA was found to be used in 96% of intentional and spontaneous abortions. EVA 17 has the same vacuum efficiency[20]. Research by Bique and colleagues has evaluated the effectiveness of MVA and misoprostol for treating incomplete abortion. Misoprostol was 92% effective, while the MVA was 98% effective one week later (100 percent vs. 92 percent, p 0.003) Hand-sucked vacuums were preferable for uterine evacuation throughout the first three months of GRAVIDA EFFICACY GROUP A and GROUP B. P-value Weeks 01-08 are effective for 72 weeks[21]. Not a good strategy. 2 6 0.3216 Total 69 78 9-16 weeks Effective 232 212 Failed 2 6 Pregnancy terminations using a misoprostol-induced abortion are speedier and more successful than a 9-12-week medical termination. 19 There is no record of the report[22].

Pregnant women experiencing early pregnancy loss may also undergo dilatation and curettage. A general anesthetic is required for this procedure, which is time-consuming, complex and expensive[21]. The choice of surgeon is also a factor. As a result, more research is needed to determine the safety and effectiveness of this treatment method[22]. Furthermore, the treatment was carried out by a licenced gynecologist in our case. The superiority of MVA may be due to this. Gynecologists in remote areas may be hard to come by because of the shortage of educated medical personnel[23,24].

CONCLUSION

According to the findings of this study, manual vacuum aspiration was shown to be more successful than dilatation and curettage in the early stages of pregnancy without compromising safety or reliability (DNC). In the early stages of miscarriage, we found that manual vacuum aspiration was superior to standard evacuation and curettage.

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