EFFECTIVENESS OF MANUAL VACUUM ASPIRATION FOR INCOMPLETE AND MISSED MISCARRIAGES AT CMH RAWALPINDI

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ABSTRACT

Objective: To study the efficacy of Manual Vacuum Aspiration for management of incomplete and missed miscarriages.

Study Design: Descriptive case series.

Place and Duration of Study: CMH Rawalpindi, from July 2012 to July 2014.

Material and Methods: Out of 32068 outdoor patients 312 with first trimester incomplete and missed miscarriages were included in this study on the basis of history, physical examination and ultrasound findings. Written informed consent was obtained from all patients. Data were obtained from hospital management system (HMS) computer record in case of morning OPD and from a separate register kept for patients reporting in gynaecology emergency after working hours i.e. from 2 pm till 8 am next morning. Patients not willing for msanual vacuum aspiration, twin pregnancy, molar pregnancy and those in second trimester of pregnancy were excluded. Manual vacuum aspiration was done under paracervical block/cervical infilteration with Lignocaine. Amount of blood loss was estimated on the basis of clinical experience and collection in kidney tray (one kidney tray having capacity of 800ml). Loss estimated as mild, moderate and severe. Severe blood loss approximately >500 ml. Infection was diagnosed when there was fever and/or foul vaginal discharge .Sample size calculated with the help of WHO sample size calculator by non-probability sampling technique. Data analysis was done with the help of SPSS version 10 and presented as percentages and frequencies.

Results: Blood loss during the procedure was mild in 99 (31.73%) patients, moderate in 208 (66.66%) patients and severe in 9 (2.88%), patients. Despite ensuring good analgesia 191 (61.21%) patients felt some degree of pain. Infection occurred in 6 (1.92%) patients. Cervical injury or uterine perforation occurred in none.

Conclusion: The use of Manual vacuum aspiration in patients with incomplete and missed miscarriages was effective and safe for uterine evacuation.

Keywords: Efficacy, Manual vacuum aspiration, Incomplete miscarriage.

INTRODUCTION

Incomplete and missed miscarriages form a major part of gynaecological work load. The traditional method of management of these conditions has been uterine evacuation and curettage both manual and electric. Although this is minor surgery several cases of severe morbidity and even mortality have followed this procedure especially the manual method. Manual vacuum aspiration and medical termination of pregnancy with Misoprostol have been introduced to replace this method. In a comparative study between curettage and MVA later was found to be superior[1]. The role of manual vacuum aspiration has generated great interest considering its significant advantages. It has been recommended by World Health Organisation, in its guidelines, as a replacement of uterine evacuation and curettage[2]. However it would require planning and concrete, consistent efforts to make this facility available to all women with these conditions.

Although the basic technique of this procedure is the same there are individual differences and preferences for local analgesia e.g. paracervical block or cervical infilteration with injection Lignocaine. Both are usually augmented by oral or parenteral analgesics. The rationale behind the use of different sites and

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selection of analgesia agent is the expertise of the doctor and the safety history of the dose and site of analgesic agent.

MATERIAL AND METHODS

This descriptive case series was conducted at Combined Military Hospital Rawalpindi from July 2012 to July 2014. Out of total 32068 outdoor patients 312 were included on the basis of history, examination and ultrasound findings. Written, informed consent was obtained from all patients. Approval obtained from hospital ethical committee. Non-probability sampling technique was used. Sample size was calculated with the help of WHO sample size calculator. Complete general, systemic and obstetrical history was taken and thorough examination carried out. Ultrasound examination was performed to confirm the diagnoses of incomplete/missed miscarriage. Whenever there was a doubt that the pregnancy may be viable more time was given to avoid iatrogenic termination of a viable pregnancy. Patients not willing to participate in this study twin pregnancy, molar pregnancy and those in second trimester of pregnancy were excluded. All patients were dealt as outpatient day-care cases. Record was collected from outpatient computer data during working hours i.e. from 8am till 2pm and from the gynaecology emergency register after working hours i.e. from 2 pm till 8 am next morning. Basic investigations including blood complete picture, group and Rh factor, hepatitis and clotting screen were done in all cases.

Four hundred micrograms tablet Misoprostol was placed high up in posterior fornix of vagina three hours before the procedure for cervical ripening. MVA was done with adequate analgesia (paracervical block/local infilteration of cervix with Lignocaine) under antibiotic cover (Injection Ceftriaxone 1 gram intravenous after test dose and injection Metronidazole 500 mg intravenous after test dose) using aseptic measures. Table two shows percentage distribution of type of analgesia used during the procedure. Total dose was calculated by giving 4.5 mg per kilogram body weight of patient. Maximum dose did not exceed 200 mg and/or 30 ml. We employed the following four-point technique of paracervical block 25 ml of 1% Lignocaine without Epinephrine was used. Five ml was injected at 3 o'clock, 5 o'clock, 7 o'clock and 9 o'clock positions, upto an approximate depth of cervical tissue not more than 3cm. 5 ml was also injected at 12 o'clock position before holding the anterior cervical lip with tenaculum. Before injecting the analgesic, syringe piston was withdrawn to ensure no inadvertent entry into any blood vessel has occurred. For simple cervical localinfilteration, 20 ml of 1% Lignacaine without Epinephrine was injected at 12 o'clock position. The selection of type of analgesia method was done on the basis of cervical dilatation and softness. Ipas MVA cannula was used to aspirate uterine contents after introduction through the cervical os Contents were placed in a formalin bottle and sent to laboratory for histopathological analysis.

Post-procedure all patients were kept in hospital under observation for 6 to 12 hours with advice to visit the postabortion (PAC) clinic after a week and to have balanced iron rich diet e.g. spinach, liver, apple, carrot, minced meat, peach, pomegranate and meat according to affordability. Patients were also encouraged to continue with light routine daily activities. They were advised oral broad spectrum antibiotics (capsule Cefixime {400 mg} twelve hourly, tablet Metronidazole {400 mg} twelve hourly both for seven days) and pain-killers (tablet Mefanamic acid {500 mg} eight houly for three days and then according to requirement). Patients were also counselled to report immediately in case of fever, excessive bleeding per vaginum, foul smelling vaginal discharge or severe low abdominal pain/severe low backache. On followup in the post abortion clinic (PAC) visit after a week, general health of patient was assessed and completion of the procedur was confirmed by pelvic examination and ultrasound. Patients were advised iron and calcium tablets, daily dose being 20 mg and 1000 mg respectively, for a month. All patients were

given follow-up proforma and advised to visit OPD after a month.

Data analysis was done with the help of SPSS version 10 and entered on a specially designed proforma. Qualitative variables were presented as frequencies and percentages.

RESULTS

Out of total 32068 outdoor patients 312 were included in this study. Table-I reveals the numbers and percentages of complete and incomplete MVAs. Blood loss associated with the procedure was mild in 99 (31.73%), moderate in 208 (66.66%) and severe in 9 (2.88%) cases. Despite good analgesia 191(61.21%) patients felt some degree of pain mostly mild. Infection occurred in 6 (1.92%) patients. No case of cervical injury or uterine perforation was encountered. Table-II shows the percentage distribution of analgesia during the procedure. Figure shows number and percentages of patients having missed miscarriage and those with incomplete miscarriage.

Table-I: Frequency and percentages of complete and incomplete manual vacuum aspiration (n=312).

Post MVA uterine ultrasound	Frequency	Percentage (%)
Completely empty uterus	299	95.83
Retained POCs	13	4.16

Table-II: Percentage distribution of analgesia during manual vacuum aspiration (n=312).

	Number	Percentage (%)
Paracervical block	59	18.91%
Local infilteration of anterior cervical lip with Lignocaine	253	81.08%

DISCUSSION

Manual vacuum aspiration is mainly used for management of incomplete and missed miscarriages figure is significant because it reflects that maximum miscarriages in first trimester are of missed type as compared to incomplete variety. It gives number of missed and incomplete miscarriages at a glance which are the major objects of our study. MVA can also be used for obtaining endometrial biopsy[3], retrieval of an intrauterine device with missing strings in a desired early pregnancy[4], assistance in exclusion of ectopic pregnancy and assistance in management of women with pregnancy of unknown location[5]. MVA is safer and effective than electric vacuum aspiration[6]. It is practical safe, cost effective, time-saving, and needs short hospital stay[7]. It is effective and free from need of general anaesthesia[8]. Patient has a better physical and emotional quality of life postprocedure[9]. The paracervical block technique alongwith psychological support is effective for pain control during the procedure[10]. LA pez et al, however, in a study of 113 patients, documented that most of the patients, regardless of the analgesic used, reported moderate pain[11]. In a study conducted in Mozambique MVA was found superior to Misoprostol for treatment of incomplete miscarriage[12]. MVA is increasingly being used as an outpatient procedure with minimal human and material resources[13].

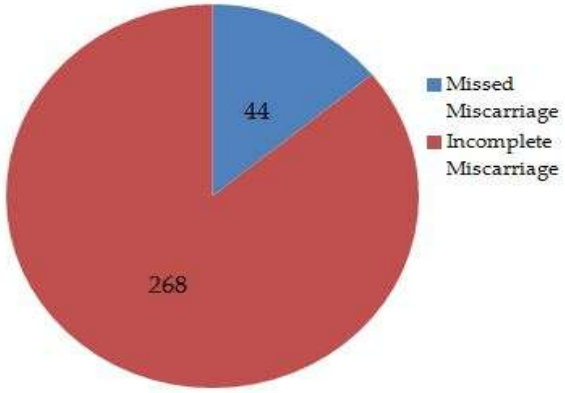

Figure: Types of miscarriage (n=312). 14.10% = 44, 85.89% = 268.

There were minimal complications in our study. Nine (2.88%) patients had approximate blood loss more than 500 ml, 13 (4.16%) patients exhibited retained products of conception and

in 6 (1.92%) patients there was mild post-procedure infection revealed by malaise, loss of appetite and fever upto 380C. Fever rapidly settled with broad-spectrum antibiotics (injection Metronidazole intravenous 500 mg eight hourly after test dose, injection Sulbactam 1.5 grams intravenous six hourly after test dose and injection Amikacin eighty mg twelve hourly after test dose: all for seven days) and tablet Paracetamol 500 mg eight hourly orally for three to five days according to temperature record. High vaginal and cervical swabs in all six cases revealed normal vaginal flora. There were no hospital admissions. In a study published in British journal of obstetrics and gynaecology, incomplete uterine evacuation was seen in 5.3% cases which is higher than in our study[14]. In a multicenter study in four cities of Pakistan, introduction of MVA in Pakistan has been comprehensively discussed by Zaidi et al. This study discussed the replacement of dilation and curettage/evacuation for incomplete abortion by Manual vacuum aspiration and medical abortion. Same study shows that after the international federation of gynaecology and obstetrics (FIGO) and UNFPA (united nations population fund) provided MVA kits its use increased dramatically to upto 90%[15].

CONCLUSION

The use of Manual vacuum aspiration in patients with incomplete and missed miscarriages was effective and safe for uterine evacuation.

RECOMMENDATION

Manual vacuum aspiration is a simple procedure needing little surgical expertise with good results. Cervical ripening must be done before MVA for ease of procedure resulting in better chances of completion of uterine evacuation. MVA is a cheap, safe, easily available and effective method for management of early pregnancy loss. More studies need to be done to endorse and even improve upon the already well-established uses of this excellent procedure. More comparisons of MVA with other treatment options should be done.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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