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Evaluation of Patient Satisfaction and Adverse Effects of Paracervical Block during Manual Vacuum Aspiration

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Abstract

Background*:** Manual vacuum aspiration (MVA) is a widely used procedure for the management of early pregnancy loss, primarily in low resource settings. A highly successful analgesic method with few side effects is paracervical block (PCB). This study aims to evaluate the patient's satisfaction and adverse effects associated with PCB during MVA for early pregnancy loss. ***Methods: This cross-sectional prospective observational study was conducted at Rajshahi Medical College Hospital, Bangladesh, from January to June 2019. Fifty-two women with early pregnancy loss were included through convenience sampling. PCB administered before MVA; pain, satisfaction, effects assessed systematically. ***Results:*** This study found that, 23.07% of patients had a just palpable uterus and tenderness in 88.5%. 73.10% patients presented with active bleeding. The cervical OS was open in 76.93% of patients and in 42.30%, the product of conception was felt. Regarding resuscitation, 73.07% required IV fluid infusion, all needed antibiotics and 23.1% required blood transfusions. Most patients (69.23%) had minimal per vaginal bleeding and the average procedure duration was 8-10 minutes (80.77%). The procedure was reported easy by 86.54% of patients, 7.7% reported discomfort and 88.46% would recommend it to others. Adverse effects included nausea in 1.92%, epigastric pain in 3.85%, and excessive bleeding in 5.77%, which was effectively controlled by pressure. ***Conclusions*:** Paracervical block is a safe, effective, and well-tolerated analgesic option for MVA in managing early pregnancy loss. Its minimal adverse effects and high patient satisfaction suggest its routine use in clinical practice.

Keywords: Paracervical block, Manual vacuum aspiration, Early pregnancy loss, Patient satisfaction.

INTRODUCTION

Manual vacuum aspiration (MVA) is a widely used, minimally invasive and low cost method of managing early pregnancy loss. In resource limited settings it provides a safer, more convenient method of intracavity elimination of tissue than dilation and curettage (D&C). Studies have demonstrated many advantages, including a reduction in procedure time, and a reduction in risk of complications and patient recovery time [1]. Paracervical block integration as an analgesic modality further enhances acceptability and comfort of MVA procedure by minimising pain and anxiety [2].

Paracervical block refers to locally administered anesthetic agents around the cervix to provide effective pain treatment during uterine interventions. It is simpler, less costly, has fewer empirically identified systemic side effects, and is at least as safe as systemic analgesics or general anesthesia [3, 4]. The effectiveness of its use for pain relief and enhancement of patients' satisfaction during MVA is

well documented, with most women reporting high levels of comfort and willingness to recommend this procedure [5]. It is feasible in outpatient settings, and studies have supported its wide spread adoption in low resource healthcare systems [6].

However, benefits from paracervical block however exist with some caveats. A small proportion of patients have been reported with mild adverse effects, such as nausea, epigastric pain, localized bleeding, or inadequate pain control. These side effects are usually self limiting and easy to treat, emphasizing the safety and practicability of this approach [7, 8]. It also supports paracervical block for pain control in cervical and uterine procedures and, the Cochrane review states that paracervical block can improve the quality of care without additional resource burden [9].

The use of MVA with a paracervical block is consistent with global trends in obstetrics and gynecology involving minimally invasive, patient-centered care. By also empowering women by providing safe and effective management of early pregnancy loss, this approach not only improves procedural outcomes [10]. Although data for its efficacy, especially in low resource settings, is limited, it has become trendy.

This study aims to determine the patient satisfaction and adverse effects from paracervical block for MVA women undergoing early pregnancy loss. This research bridges knowledge gaps and provides regional evidence to inform clinical practices and guide the development of optimal gynecological care pain management strategies.

Objective

The objective of this study was to evaluate the patient's satisfaction and adverse effect of paracervical block during manual vacuum aspiration.

METHODOLOGY & MATERIALS

This cross-sectional prospective observational study was conducted at the Department of Obstetrics and Gynaecology, Rajshahi Medical College Hospital, Rajshahi, Bangladesh from January 2019 to June 2019.A total of 52 women with early miscarriage undergoing MVA were included by following convenient sampling method. The procedure was done with a paracervical block given beforehand.

Inclusion Criteria:

1. Missed miscarriage of up to 12 weeks.
2. Incomplete miscarriage up to 12 weeks of gestation
3. Blighted ovum
4. Women aged between 18-45 years
5. Patients able to and capable of giving written informed consent

Exclusion Criteria:

1. Septic abortion
2. Molar pregnancy
3. Psychiatric or neurological disease
4. Hypovolemic or septic shock
5. Abdominal rebound pain or signs of peritonitis
6. Allergies to lidocaine
7. Any observable pelvic mass

Data collection: Data was collected through a pre structured questionnaire. A total 52 women aged 18–45 years of age, who had early pregnancy loss, undergoing manual vacuum aspiration (MVA) was included using convenience sampling. Data on patient satisfaction and adverse effects were using structured interviews and clinical observation after administration of paracervical block. Immediately post-procedure, responses regarding pain and ease of MVA and willingness to recommend MVA were recorded to ensure their accuracy and reliability.

Ethical consideration: Permission for the study will be taken from the concerned departments. All the study subjects will be thoroughly appraised about the nature, purpose and implications of the study, as well as spectrum of benefits and risk of the study. All study subjects will be assured of adequate treatment of any risk in relation to study purpose. Subjects will also be assured about their confidentiality and freedom to withdraw themselves from the study any time. Finally informed written consent of all study subjects will be taken free of duress and without exploring any weakness of subjects.

Statistical analysis of data: Collected data were analyzed using SPSS version 25. Descriptive statistics (frequency, percentage, mean, and standard deviation) were utilized to summarize demographic information, patient satisfaction, and adverse effects. The relationship between patient characteristics and satisfaction levels was assessed using inferential statistics, such as chi-square tests. A p-value <0.05 was considered statistically significant.

RESULTS

Table 1: General examination finding of the study patients (n = 52)

General examination		Frequency (n)	Percentage (%)
Appearance	Anxious	32	61.5
	Ill looking	10	19.2
	Pale	12	23.07
Anemia	Mild	36	69.2

	Moderate	12	23.07
	Severe	4	7.7
Pulse (mmHg)	Tachycardia (>90)	48	92.3
	Mean systolic (90-120)	42	80.7
	Mean diastolic (60-90)	44	84.6

Table 1 shows 61.5% patients were anxious, 7.7% patients had severe anemia. Average systolic blood pressure was 90-120 in 80.7% patients & average diastolic blood pressure was 60-90 in 84.6% patients.

Table 2: Per abdominal examination of the study patients (n = 52)

Per abdominal examination		**Frequency (n)**	**Percentage (%)**
Tenderness	Present	46	88.5
	Absent	6	11.5
Height of the uterus	Just palpable	12	23.07
	Not palpable	40	76.92
Scar mark	Present	16	30.7
	Absent	36	69.2

Table 2 shows 23.07% patients had just palpable uterus & tenderness was found in 88.5% of patients.

Table 3: Per vaginal examination of the study patients (n = 52)

Per vaginal examination		**Frequency (n)**	**Percentage (%)**
Active bleeding	Present	38	73.1
	Absent	14	26.9
Status of OS	Closed	12	23.07
	Open	40	76.93
Position of uterus	Anteverted	50	96.1
	Retroverted	2	3.9
Tenderness	Present	22	42.3
	Absent	30	57.7
Product of conception	Felt	22	42.3
	Hanging	18	34.62
	Not felt	12	23.07

Table 3 shows significantly higher proportion of patients 73.10% presented with active bleeding. Cervical OS was found open in 76.93% patients & in 42.30% patient's product of conception was felt.

Table 4: Resuscitation required in study patients (n = 52)

Resuscitation required		**Frequency (n)**	**Percentage (%)**
I/V fluid	Needed	38	73.07
	Not needed	14	26.93
Antibiotic	Given	52	100
	Not given	0	0
Blood transfusion	Needed	12	23.1
	Not needed	40	76.9

Table 4 shows resuscitation requirement of the study patients, IV fluid infusion was required for 73.07% patients. Antibiotic was given to all patients. Blood transfusion was given to 23.1% patients.

Table 5: Use of oxytocic for the study patients (n = 52)

Oxytocicdrugs used		**Frequency (n)**	**Percentage (%)**
Injection Oxytocin	Used	52	100
	Not used	-	-
Injection Ergometrine	Used	8	15.4
	Not used	44	84.6
Tab Misoprostol	Used	48	90.3
	Not used	4	7.7

Table 5 shows use of oxytocic drugs for the patients. Among the oxytocic drugs Tab Misoprostol was used in majority of the patients (90.3%) followed by Inj. Oxytocin (100%). Injection ergometrine was used in only 15.4% of patients.

Table 6: Patients satisfaction of the study population (n = 52)

Parameter		Frequency (n)	Percentage (%)
Was the process easy?	Agree	45	86.54
	Uncertain	5	9.6
	Disagree	2	3.86
Did you feel any discomfort or pain during procedure?	Agree	4	7.7
	Uncertain	5	9.6
	Disagree	43	82.7
Did you face any dissatisfaction?	Agree	4	7.7
	Uncertain	5	9.6
	Disagree	40	76.93
	Strongly disagree	3	5.77
Did you recommend this procedure to other relatives?	Strongly agree	46	88.46
	Disagree	3	5.77
	Uncertain	3	5.77

Table 6 shows most of the patients 86.54% agree that the process was easy, 7.7% patients agreed to feel discomfort or pain during the procedure and 88.46% patients agree that they will recommend this procedure to other relatives.

Table 7: Incidence of adverse effects experience during the procedure (n = 52)

Adverse effects	Frequency (n)	Percentage (%)
Nausea	1	1.92
Epigastric pain	2	3.85
Excessive bleeding during injection	3	5.77

Table 7 shows adverse effects experienced during the procedure, 1(1.92%) patient had nausea, 2 (3.85%) patents had epigastric pain and 3 (5.77%) patients had excessive bleeding during injection.

DISCUSSION

This cross sectional prospective observational study was carried out with an aim to assess the safety and efficacy of paracervical block during MVA, pain relief as well as to asses any side effects of paracervical block and to evaluate patient satisfaction in terms of less pain, less duration of procedure.

This study found that, 23.07% patients had just palpable uterus and tenderness in 88.5 % of patients.

Significantly higher proportion of patients 73.10% presented with active bleeding. Cervical os was found open in 76.93% patients & in 42.30% patient's product of conception was felt. Regarding resuscitation requirement of the study patients, IV fluid infusion was required for 73.07% patients, antibiotic was given to all patients. Blood transfusion was needed for 23.1% patients. Regarding the oxytocic drug used in this current study it was observed that injectable oxytocin was used in 100% patients and Misoprostol was used in 90.3% patients.

In present study most of the patients 86.54% agree that the process was easy, 7.7% patients agreed to feel discomfort or pain during the procedure and 88.46% patients agree that they will recommend this procedure to other relatives. So it can be said that patients were highly satisfied with paracervical block procedure.

In present study adverse effects experienced during the procedure, 1.92% patient had nausea, 3.85% patents had epigastric pain and 5.77% patients had excessive bleeding during injection and it was effectively controlled by pressure alone. None of the patient develops any life threatening complications like convulsion, intravasation of lignocaine into general circulation, respiratory arrest.

The findings presented here are aligned with those from Jesmin *et al*., which also showed high levels of satisfaction and satisfactory pain management during MVA in resource limited settings [5]. Like Egziabher *et al*., who observed substantial pain relief with few side effects in outpatient gynecological procedures, utilisation of PCB as adjunct to local general block in the outpatient clinic is both practical and valuable [11].

The low rate of adverse effects reported in this study (such as nausea, epigastric pain; mild bleeding) had similar findings with those of Tangsiriwatthana *et al*., which showed that general anesthesia and systemic

analgesics tend to be associated with more systemic side effects than those with PCB [9]. Our results also correlate with the observations of Farooq *et al*., who observed a low complication rate with PCB suggesting that PCB is safe and feasible in resource limited settings [12].

We found that the patient reported ease of the procedure and minimal discomfort are in line with findings by Kumar *et al*., who described PCB as a practical strategy to enhance the acceptability of MVA in the management of early pregnancy loss [3]. Mansoor *et al*., have also advocated for global trends that encourage the minimally invasive, patient centered care, and MVA with PCB as an outpatient is a procedure that will align with those current trends [6]. The simplicity and cost-effectiveness of PCB, combined with limited healthcare resources, makes PCB choice useful in settings as reported by Tasnim *et al*., [13].

Similarly, this study's findings reinforce the observations from Natalia *et al*., that local anesthetics, including PCB, are efficacious in decreasing procedure related pain and anxiety during uterine evacuation [2]. This high patient satisfaction rate (86.54%) in the study, mirrors similar satisfaction levels by Mohamed and Bedewi on MVA's acceptability by women [14]. Additionally, these results advance the growing literature supporting the role of PCB in increasing procedural outcomes and patient experiences.

Furthermore, our study's emphasis on post procedure follow up to assess satisfaction is consistent with Gomez *et al*., who called for comprehensive patient centered care during uterine interventions [15].

In summary, our findings support the use of PCB as a safe, effective and well tolerated drug for the analgesia during MVA pending early pregnancy loss. This is consistent with previous research and suggests that RML may lead to better patient experiences in resource constrained settings.

LIMITATIONS AND RECOMMENDATIONS

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community. Further studies with larger populations and diverse settings are warranted to validate and expand upon these findings.

CONCLUSION

This study demonstrates that paracervical block is a safe, effective and well tolerated analgesic for women undergoing manual vacuum aspiration for early pregnancy loss. There are high levels of patient satisfaction, minimal discomfort during the procedure and a low incidence of adverse effects favoring routine use of this technique in clinical practice. These findings emphasize that paracervical block should be included in our standard protocols especially in resource limited settings to improve care quality and patient experience.

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Conflicts of interest: There are no conflicts of interest.

Ethical approval: The study was approved by the Institutional Ethics Committee.

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