



Obstetrics and Gynecology

STUDY ON MATERNAL NEAR MISS CASES DUE TO HAEMORRHAGIC SHOCK AFTER ABORTION AND ITS PREVENTION BY USING NEW CONTRACEPTIVE IN BUNDELKHAND REGION

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ABSTRACT **Background:** The identification of near-miss events and their reasons can serve to identify the actions that can be taken to avert preventable maternal deaths. Therefore, this present study has been planned to collect authentic data about maternal case in 1st and 2nd trimester abortion for termination of pregnancy and also to assess the complications arising, so as to decide policies for reducing maternal mortality. **Aim and Objectives:** To find out the complications following 1st and 2nd trimester abortion. To find out the prevalence of maternal near miss cases among abortion. To determine how these cases can be prevented and precaution of pregnancy by using new contraceptive like (Inj. DIMPA) in favor to birth spacing. **Materials and Methods:** The proposed study was carried out in the department of Obstetrics and Gynaecology of Maharani Laxmi Bai Medical College, Jhansi, Uttar Pradesh. We included the 150 patients selected from O.P.D. and labour room of abortion during 18 months (April 2019 to October 2020). **Result:** In our study mean age of the patients was 31.79 ± 5.75 years. Most of cases belongs to class 4, 118 (78.67%). 101 (67.33%) cases were illiterate. 92 (61.33%) cases were 2-4 gravida and 48 (32%) cases were >4 gravida. Most of the cases 69% were of 8-10 weeks gestational age. 116 (77.33%) cases were from Rural area. 118 (78.67%) cases were referred from different places and 94 (62.67%) cases were incomplete abortion, 8 (5.33%) were complete abortion. 9 (6%) cases were inevitable abortion and 39 (26%) cases were induced abortion. Patient came with haemorrhagic shock and most of cases (86 (57.33%) cases were with class III and 54 (36%) cases were class IV.) and 19 (12.6%) cases were with septic shock, and very severe anaemia found in 41 (27.33%) cases, severe anaemia found in 106 (70.67%) cases. 5 (3.33%) cases were with acute renal failure and perforation of uterus in 1 case. In 23.33% 4unit, in 28.67% 3unit and in 48% 2unit blood transfusion done. Evacuation of uterus was done in 135 (90.00%) cases. Inj. Noradrenaline drip were given 81 (54%) cases, Inj. Noradrenaline+ Inj. Dopamine drip given to 36.67% cases. 8 case required ventilator support and ICU admission. After counselling 128 (85.33%) cases accepted contraception. 58 (38.67%) cases were stay in hospital for <1 week and 48 (37.5%) cases stay in hospital for >1 week. 80 (62.50%) cases were followed after post abortal contraception. **Conclusion:** Unsafe abortion and delay in seeking care important contribution to maternal near miss. Abortifacient drug are openly advertised without highlighting the complication, it should be banned. Post abortion contraception should be provided, reproductive and other health related counselling are crucial to prevent unintended pregnancy and repeated abortion.

KEYWORDS : Unsafe abortion, Maternal morbidity, Maternal mortality

INTRODUCTION

Maternal health is one of the most important indicators determining the health status of the country. The maternal mortality ratio (MMR) determines the overall health status of the women in the country. Globally a high number of women die due to birth and pregnancy related complications and of the total nearly 99 percent maternal death occurs in the low- and middle income countries^[1]. The global maternal mortality decreased to 216 as of 2015 compared to 385 per 100,000 live births in 1990 but the rate is still high in low and middle-income countries 239 versus 12 per 100,000 live birth in the high-income countries^[2]. Of the 95 countries categorized with having high (MMR>100) MMR in 1990 only 10 countries had made a significant changes in MMR as of 2015 and the rest still have high MMR^[2]. Of the numerous causes of high maternal mortality, 14 abortion is one of the leading cause. The recent research has identified that 11 of the total maternal death occurred in 115 countries during the period of 2003 and 2009, 7.9% of the deaths occurred due to abortion^[3]. The deaths 11 / due to abortion might be higher than mentioned here as the deaths due to 11 abortions are highly underreported^[4]. One of the most important cause contributing to the maternal mortality and maternal death in low- and middle-income country is unsafe abortion^[1]. Therefore, abortion accounts directly and indirectly in the increase in maternal mortality in low- and middle- income countries.

Abortion is the expulsion or extraction from its mother of an embryo or fetus weighing 500gm or less when it is not capable of independent survival. Sometimes abortion occurs spontaneously where as sometimes it occurs intentionally, also known as induced abortion. Induced abortion generally is performed both safely and in an unsafe manner. Abortion performed in an unsafe manner may lead to various consequences related to economy, society and health^[4]. Major health hazards are caused due to abortion such as haemorrhage, sepsis, infection, perforation and even deaths^[5]. Most of the maternal deaths due to abortions are caused due to haemorrhage, infection and poisoning from infection^[6].

The term "near-miss" describes a serious adverse event that only failed to occur by luck or by chance or by adequate management. This concept was defined by the World Health Organization (WHO) as "a woman who, being close to death, survives a complication that occurred during pregnancy, delivery or up to 42 days after the end of her pregnancy^[7]. Maternal near-miss (MNM) cases occur more often than maternal deaths and may give more information because the woman herself can be a source of data.

AIM AND OBJECTIVES

- To find out the complications following 1st and 2nd trimester abortion.
- To find out the prevalence of maternal near miss cases among abortion.
- To determine how these cases can be prevented and precaution of pregnancy by using new contraceptive like (Inj. DIMPA) in favor to birth spacing.

MATERIAL AND METHODS

The proposed study was carried out in the department of Obstetrics and Gynaecology of Maharani Laxmi Bai Medical College, Jhansi, Uttar Pradesh.

Study design:

A cross-sectional study

Study location:

Department of Obstetrics and Gynaecology of Maharani Laxmi Bai Medical College, Jhansi, Uttar Pradesh.

Study duration:

We included the 150 patients selected from O.P.D. and labour room of abortion during 18 months (April 2019 to October 2020).

Patients selection:

Patients were included in the study under the following inclusion and

exclusion criteria:

Inclusion Criteria:

- Patients of reproductive age (19-45 yrs)
- Gestational age 1st or 2nd trimester.
- Patients consent

Exclusion criteria:

- Patients with known case of coagulopathy/ bleeding history.
- History of medical illness during pregnancy.
- Underlying cardiac disorders
- Ectopic pregnancy

After confirming ethical committee of Maharani Laxmi Bai Medical College, Jhansi.

Methodology:

All women admitted with diagnosis of incomplete, complete, inevitable, induced abortion who was hospitalized for greater than 24 hours or had complication lead to near miss morbidity.

Patients were admitted with haemorrhagic shock, patients identified as maternal near miss case by WHO definition. Persisted secure hypotensive with systolic blood pressure <90 mm of Hg and >60 mm of Hg with pulse rate at least 120/min despite a aggressive fluid replacement (>2L) and use of vasoactive drug.

Patients detailed history was taken of patient requiring age, education, socioeconomic status, parity, gestational age were recorded in predesigned performa and informed consent was taken by patients.

General examination were done to record blood pressure, pulse rate, respiratory rate and temperature. Per vaginal examination was done to find out the cervix and size of uterus. Routine investigation were sent CBC, Blood group, RBS, urine pregnancy test, liver function test, kidney function test, S. electrolytes, ultrasound was done for know about retained product of conception. ABG was done. Initially patient stabilized by initial management. Patient kept on Inj. Noradrenaline, Inj. Dopamine, blood transfusion were done. Evacuation of uterus done and retained product of conception removed to stop heavy bleeding. After patients condition became better patient were counselled for post abortion contraception.

All women were given choice of contractive options and explained well about benefits and side effect. Contraceptive method provided before women leave the hospital and they were ask to come for follow and ask about problem occurring.

RESULT

Table 1: Age distribution

Age (in years)	Number of patient	Percentage (%)
<20	0	0.00%
21-30	68	45.33%
31-40	67	44.67%
More than 40 years	15	10.00%
Total	150	100%
Mean±SD	31.79±5.575	

Table 2: Socioeconomic status

Socioeconomic status	Number of patient	Percentage (%)
III	05	3.33%
IV	118	78.67%
V	27	18.00%
Total	150	100%

Table 3: Literacy

Literacy	Number of patient	Percentage (%)
Illiterate	101	67.33%
Literate	49	32.67%
Total	150	100%

Table 4: Parity

Parity	Number of patient	Percentage (%)
Primi	10	6.67%
2 th -4 th	92	61.33%
>4 th gravid	48	32.00%
Total	150	100%

Table 5: Gestational age (in weeks)

Gestational age (in weeks)	Number of patient	Percentage (%)
6-7 week	37	25.67%
8-10 weeks	65	43.33%
11-12 weeks	29	19.33%
>12 weeks	19	12.67%
Total	150	100%

Table 6: Residence

Residence	Number of patient	Percentage (%)
Urban	34	22.67%
Rural	116	77.33%
Total	150	100%

Table 7: Type of abortion

Type of abortion	Number of patient	Percentage (%)
Incomplete abortion	94	62.67%
Complete abortion	8	5.33%
Inevitable abortion	9	6.00%
Induced abortion	39	26.00%
Total	150	100%

Table 8: Type of Haemorrhagic shock in patient

Grading of shock	Number of patient	Percentage (%)
Class I	3	2.00%
Class II	7	4.67%
Class III	86	57.33%
Class IV	54	36.00%

Table 9: Patient associated with other complication

Complication	Number of patient	Percentage (%)	
Septic shock	19	12.6%	
Anaemia	<4 gm	41	27.33%
	4-7 gm	106	70.67%
	8-10 gm	3	2.00%
	>10 gm	0	0.00%
Acute renal failure	5	3.33%	
Perforation of uterus	1	0.67%	

Table 10: Management mode

Management mode	Number of patient	Percentage (%)
Blood transfusion (n=150)		
• 2 unit	72	48.00%
• 3 unit	43	28.67%
• 4 unit	35	23.33%
Evacuation of uterus (n=150)	135	90.00%
Laparotomy (n=150)	1	0.67%

Table 11: Patients requiring vasoactive drug

Patients requiring vasoactive drug	Number of patient	Percentage (%)
Inj. Noradrenaline	81	54.00%
Inj. Noradrenaline + Inj. Dopamine	55	36.67%
None	14	9.33%

Table 12: Patient requiring ventilator support (N=150)

Parameters	Number of patients	Percent
Patient on ventilator	8	5.33%

Table 13: Patients postabortal contraception

Post abortal contraception	Number of patient	Percentage (%)
Contraception accept	128	85.33%
Contraception not accept	22	14.67%

Table 14: Method of contraception in postabortal period

Method of contraception	Number of patient	Percentage (%)
OCp	21	16.40%
Injectable DMPA	79	61.71%
Chhaya	15	11.71%
Sterilization	13	10.15%

Table 15: Follow up

Patient come for follow up	Number of patient	Percentage (%)
Yes	80	62.5%
No	48	37.5%

DISCUSSION**Age:**

In our study, it was found that 0 (0%) cases were less than 20 years, 68 (45.33%) cases were 21-30 years, 67 (44.67%) cases were 31-40 years and 15 (10%) cases were >40 years. The mean age of the participants was 31.79 ± 5.75 years.

Our study result was in correlation with Tyagi Smita et al^[8], which observed that 0 (0%) cases were less than 20 years, 11 (55%) cases were 21-30 years, 7 (35%) cases were 31-40 years and 2 (10%) cases were >40 years.

Socioeconomic status:

In our study, it was found that 15 (3.33%) cases belong to Class 3, 118 (78.67%) cases belong to Class 4 and 27 (18.00%) cases belong to Class 5. Majority of patient in present study were from low socioeconomic status. 78.67% cases belonged to class 4 of modified Prasad classification.

Literacy:

In our study, it was found that 101 (67.33%) cases were Illiterate and 49 (32.67%) were Literate.

Parity:

In our study, it was found that 10 (6.67%) cases were Primi, 92 (61.33%) cases were 2-4 gravida and 48 (32%) cases were >4 gravida.

Our study result was similar with Tyagi Smita et al^[8] which observed that 12 (60%) cases were 2-4 gravida and Owolabi et al^[9] which observed that mean parity of >2.

Gestational age:

In our study, it was found that 37 (25.67%) cases were 6-7 week, 65 (43.33%) cases were 8-10 weeks, 29 (19.33%) cases were 11-12 weeks and 19 (12.67%) cases were >12 weeks.

Our study result was in correlation with Owolabi et al^[9] which observed that most women presented in the first trimester of pregnancy (41%, 95% CI 39-43).

Residence:

In our study, it was found that 34 (22.67%) cases were Urban and 116 (77.33%) were Rural. Our study 116 (77.33%) near miss case belongs to rural area.

Referral status:

In our study, it was found that 118 (78.67%) cases were referred from different places and 32 (21.33%) were self. Most of case were sent to us with incomplete information and too late in moribund state.

Type of abortion:

In our study, it was found that 94 (62.67%) cases were incomplete abortion, 8 (5.33%) were complete abortion. 9 (6%) cases were inevitable abortion and 39 (26%) cases were induced abortion.

Our study result was in correlation with Tadele Melese et al^[10] which observed 66.4% were incomplete abortion and 3.7% cases were complete abortion and 16.8% cases were inevitable abortion.

Type of Haemorrhagic shock in patient:

In our study, it was found that 3 (2%) cases were class I, 7 (4.67%) cases were class II, 86 (57.33%) cases were class III and 54 (36%) cases were class IV.

Our study result match with AI Adanikin et al^[18] which observed that 68% cases abortion related to haemorrhagic.

Complication:

Haemorrhage was the most common cause of abortion related complication, sequel of haemorrhage were the most frequently occurring complication in near miss case. Many near miss care presented with severe anemia.

In our study, it was found that 19 (12.6%) cases were septic shock, 41 (27.33%) cases were <4gm severe anemia, 106 (70.67%) cases were 4-7gm anemia, 3 (2%) cases were 8-10gm anemia, 5 (3.33%) cases were acute renal failure and 1 (0.675) cases were perforation of uterus.

Our study result match with Owolabi et al^[9] which observed that 44%

cases presented with severe anemia and 10% had septic shock.

Management Mode:**Blood transfusion:**

In our study, it was found that 72 (48.00%) cases were 2 unit blood transfusion, 43 (28.67%) cases were 3 unit blood transfusion and 35 (23.33%) cases were 4 unit blood transfusion.

All 150 cases received blood transfusion ranging from 2 to 4 unit. We faced tremendous difficulty in motivating the relatives for blood donation and mostly we had to arrange from our hospital blood bank. This reflects the education status of rural India.

Our study result was similar with Owolabi et al^[9] which observed that 24% cases had massive blood transfusion.

Evacuation of uterus:

In our study, it was found that evacuation of uterus was done in 135 (90.00%) cases.

Laparotomy:

In our study, it was found that done in 1 (0.67%) case.

Patients requiring vasoactive drug:

In our study all 150 cases were in haemorrhagic shock with blood pressure not recordable. Inj. Noradrenaline drip were given 81 (54%) cases, Inj. Noradrenaline+ Inj. Dopamine drip given to 36.67% cases and 14 (9.33%) cases were not requiring vasoactive drug.

Patient requiring ventilator support and ICU admission:

In our study out of 150 cases, 8 case required ventilator support and ICU admission. In ventilator patient's management done properly patient out from ventilator within 1 week.

Postabortal contraception:

In our study, it was found that 128 (85.33%) cases accepted Contraception and 22 (14.675%) did not accept. Proper contraceptive advice and counseling can motivate the woman towards healthy contraceptive practices.

Our study result was in correlation with S Khurram et al^[11] which observed that 72.9% cases accept post abortal contraception, Vibeke Rasch et al^[12] which observed 90% cases accept post abortal contraception and Ayele Mamo Abebe et al^[13] which observed 84% cases accept post abortal contraception.

Method of contraception:

In our study, it was found that out of 128 patients who excepted contraception, 21 (16.40%) cases accepted oral contraceptive pills, 79 (61.71%) cases accepted injectable DMPA, 15 (11.71%) cases accepted, Chhaya sterilization done in 13 (10.15%) cases. Our study most of cases accepted Injectable DMPA.

Follow up:

In our study, it was found that 80 (62.50%) cases were followed after post abortal contraception and 48 (37.5%) cases could not be followed up. Discontinuation rate may be due to various factor like side effect, socioeconomic factor, family myth or women coming from remote area and unable to come again for follow up.

Our study result match with Vibeke Rasch et al^[12] which observed 65% cases follow after post abortal contraception.

CONCLUSION

- Abortion becomes a major health problem in our country. Unsafe abortion and delay in seeking care important contribution to maternal near miss.
- Abortifacient drugs are being openly advertised without highlighting the complication and is availability on counter. It should banned.
- Comprehensive post abortion care includes treatments of incomplete and unsafe abortion, contraceptive advice, reproductive and other health related counseling are crucial to prevent unintended pregnancy and repeated abortion.
- Post abortion contraception should be provided before women leaves the health care facility. Preference should be given to long acting reversible contraceptive patients be counseled about side effect which will further improve acceptance and satisfaction.

- Program to prevent unsafe abortion and delay is seeking post abortal care are urgently needed to reduce abortion related near miss.
- It is important to improve the socioeconomic status, educational status and health care services in India.
- By implementing these steps it could be more help in prevention of maternal near miss.

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