

Evaluation of Retained Placenta: A Study in a District Hospital

Alam, S^{1*}, Chowdhury, A. H², Khan, S. A³, Saha, S⁴

¹Dr. Samiya Alam, Assistant Professor, Department of Gynecology and Obstetrics, Bangabandhu Sheikh Mujib Medical College, Faridpur, Bangladesh

²Dr. Afsana Haque Chowdhury, Registrar, Department of Gynecology and Obstetrics, Ibn Sina Medical College, Dhaka, Bangladesh

³Dr. Sadia Afrin Khan, Assistant Director, BRB Hospitals Limited, Dhaka, Bangladesh

⁴Dr Shilpi Saha, Associate Professor, Department of Gynecology and Obstetrics, Medical College for Women and Hospital, Dhaka, Bangladesh

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*Corresponding author: Alam, S

Assistant Professor, Department of Gynecology and Obstetrics, Bangabandhu Sheikh Mujib Medical College, Faridpur, Bangladesh

Abstract

Introduction: The placenta is an organ that is attached to the uterine wall and connects the fetus with the mother through the umbilical cord. The placenta is said to be retained when it is not expelled out even half an hour after the birth of the baby. The study aimed to evaluate the retention of the placenta. **Methods:** This was a cross-sectional study was conducted at the Department of Obstetrics & Gynecology, Faridpur Medical College Hospital, Faridpur from June 2016 to November 2016. The sample was taken purposively and the sample size was 110. Patients were diagnosed with a case of 'retained placenta' through proper history, and clinical examination. Written informed consent was taken from every patient or their relatives. The information was collected in a preformed data collection sheet. Observation and results of the study and statistical analysis were presented in tables. Data were analyzed by using the computer-based program Statistical Package for Social Science (SPSS) software for windows. **Result:** Out of 110 study subjects about 58.18% were found in the age group of 21-30 years and 20% were found in the age group of 20 years. The age of the patients ranges from 18 to 40 years. Among 110 study subjects, 64.55% were from lower socioeconomic status, 27.27% were from middle socioeconomic status and only 8.18% belonged to affluent socioeconomic status. The majority (74.54%) of cases were delivered at home and 25.46% of cases were delivered at different levels of hospitals (among them 1.82% of cases occurred in the institute where the study was done). Among them 20% were para- 1, 54.54% were para-2-4 and 25.46% of respondents were para \geq 5. The majority (60%) of study subjects were admitted between 3 to 8 hours after developing retained placenta, followed by 18.19% who came within 2 hours. Regarding the clinical presentation, 69.09% of study subjects presented with anemia of varying degrees, 24.53% presented with shock, 5.45% presented with sepsis, and only 0.93% (one patient) presented with acute renal failure. Concerning predisposing factors of retained placenta, 25.46% of study subjects were grand multipara, 11.82% had H/O MR or D & C, 10.90% with prolonged labor, 10.90% respondents had IUD, 10% with past H/O retained placenta, 8.20% had preterm labor, 2.72% had H/O LUCS/ other uterine surgery and 20% were without any predisposing factors. Among the respondents, 27.27% of study subjects presented with genital tract trauma, 5.45% with sepsis, 5.45% with acute renal failure, 0.91% with DIC, 0.91% with uterine prolapse 64.55% with no associated conditions/complications. Among the total study population, 58.18% of retained placenta cases required manual removal under G/A, and 41.82% were managed by manual removal of the placenta under deep sedation. Out of 110 respondents, 21.82% of cases of retained placenta did not require any blood transfusion, 58.18% received 1-2 units and 20% received 3 or more units of blood transfusion. During management, 13.63% of study subjects developed uterine atony, 0.91% developed uterine inversion, 2.73% were complicated by uterine perforation, 0.91% were complicated by anesthetic hazard; 81.82% had no complication during management. Out of 110, 18.18% of study subjects experienced various complications. Among them 9.10% were managed by intrauterine balloon tamponade, 2.73% required hysterectomy, and 6.37% were managed by other measures. 70% of respondents stayed in the hospital for 1-3 days, 26.36% for 4 to 7 days, and 3.64% stayed more than 7 days before discharge. Regarding the outcome of retained placenta among study subjects, 80.91% improved and discharged, 10% had severe anemia and required subsequent blood transfusion, 6.36% developed an infection, 0.91% developed acute renal failure and 2 patients died (one due to DIC and another patient due to irreversible shock). **Conclusion:** The retained placenta is an obstetric emergency. Rapid recognition and treatments are essential because heavy blood loss with coagulation

problems remains the lethal factor in this disease. Rapid control of hemorrhage should be the first initiative. Active management of the third stage of labor lowers the danger by a significant percentage.

Keywords: Placenta, Shock, AMTSL, Labor, Anemia.

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INTRODUCTION

The placenta is an organ that is attached to the uterine wall and connects the fetus with the mother through the umbilical cord. The expelled placenta is a flattened, discoidal mass with a diameter of 15-20 cm and a thickness of 2-4 cm at its center [1]. This organ needs to provide its function such as transport and secretion even during its development and thus all developmental changes need to be under its function [2]. The placenta is said to be retained when the placental remnants are retained in the uterus even after 30 minutes following abortions and deliveries [3]. There are several causes of placental retention. The simple adherent placenta is due to uterine atonicity in cases of grand multipara, distension of the uterus, prolonged labor, uterine malformations, or due to bigger placental surface area. Sometimes placenta is completely separated but retained due to poor voluntary expulsive effort of the patient following exhaustive and prolonged labor [4]. Another type is the constriction ring placenta in which the placenta is completely or partially separated but retained due to constriction or contraction ring at the junction of the upper and lower uterine segment. Again morbid adhesion placenta may be partial or complete whereas partial adhesion is more common than complete adhesion [5]. A morbidly adherent placenta can be of three types. Placental accreta: placental villi adherent to myometrium directly due to a partial or complete absence of the decidua basalis. Placenta increta: deep invasion of villi into the myometrium. Placenta percreta: penetration through the entire thickness of the uterine wall; Placenta accreta may involve all of the cotyledons (total placenta accreta), a few to several cotyledons (partial placenta accreta) or a single cotyledon (focal placenta accreta) [6]. The risks involved in prolonged retention of the placenta include hemorrhage, shock due to blood loss or due to frequent attempts of abdominal manipulation to express the placenta, and puerperal sepsis [7]. Placental retention can be prevented in many ways. During the antenatal checkup, careful history taking can identify the risk factors which may give rise to retained placenta or change of morbid adhesion of placenta, such as the previous history of placenta previa, dilatation, and curettage, cesarean section, manual removal of placenta or any surgery on uterus. Correction of anemia is very important because it can cause uterine inertia due to hypoxia of uterine muscles [8]. Moreover, antenatal diagnosis in a suspected case of morbid adhesion of the placenta nowadays is possible by using MRI or Color Doppler [9]. The retained placenta develops in many cases due to mismanagement of 3rd stage of labor [10]. Placental retention can be minimized in this stage by

Active management of the Third Stage of Labor (AMTSL) which should be implemented in all cases of labor. The placenta is usually delivered within 10-20 minutes but with active management, it takes 5-10 minutes [11]. Most cases of retained placenta present with hemorrhage. Even it may present without hemorrhage. So, the first initiative is to call for help, then urgently mobilize all available personnel, and rapid evaluation of the general condition of the women including vital signs [12]. When the placenta is completely separated but not expelled – inj. Oxytocin in the drip should be started. If the placenta is undelivered after 30 minutes of oxytocin stimulation and the uterus is contracted attempt should be taken for delivering the placenta by controlled cord traction [13]. 10 units of oxytocin in 20ml normal saline to be administered through the umbilical vein. Alternatively, it is shown that the most effective technique is to inject 30ml of normal saline with 10 units of oxytocin [14]. A hysterectomy may be done if all measures fail [13]. The study aimed to evaluate the retained placenta in the uterus.

OBJECTIVE

General Objective

- To evaluate retained placenta cases with a view to reduce the incidence of PPH

Specific Objectives

- To evaluate the clinical presentation of retained placenta cases.
- To assess and analyze the predisposing factors of retained placenta.
- To observe the maternal outcome of the offered treatment to retained placenta cases.

METHODS

This cross-sectional study was conducted at the Department of Obstetrics & Gynecology, Faridpur Medical College Hospital, Faridpur from June 2016 to November 2016. The sample was taken purposively and the sample size was 110. Patients were diagnosed with a case of 'retained placenta' through proper history, and clinical examination. Written informed consent was taken from every patient or their relatives. The information was collected in a preformed data collection sheet. Observation and results of the study and statistical analysis were presented in tables. Data were analyzed by using the computer-based program Statistical Package for Social Science (SPSS) software for windows.

Inclusion Criteria

- Patients who presented with retained placenta following vaginal delivery
- Patients who developed retained placenta in the In-patient Department who had undergone vaginal delivery
- Patients who had a pregnancy duration of no less than 28 weeks (both stillbirths and live births, both singleton and multiple pregnancies).

Exclusion Criteria

- Patients who had a pregnancy period of fewer than 28 weeks.
- Patients who were unable to answer the criteria question.
- Patients who did not give consent.

RESULTS

Out of 110 study subjects, about 58.18% were found in the age group of 21-30 years and 20% were found in the age group of 20 years. The age of the patients ranged from 18 to 40 years (Table 1). Among 110 study subjects 64.55% were from lower socioeconomic status, 27.27% were from middle socioeconomic status and only 8.18% belonged to affluent socioeconomic status (Table 2). Majority (74.54%) of cases were delivered at home and 25.46% of cases were delivered at different levels of hospitals (among them 1.82% of cases occurred in the institute where the study was done) (Table 3). Among them 20% were para- 1, 54.54% were para-2-4 and 25.46% respondents were para \geq 5 (Table 4). Majority (60%) of study subjects were admitted between 3 to 8 hours after developing retained placenta, followed by 18.19% who came within 2 hours (Table 5). Regarding the clinical presentation, 69.09% of study subjects presented with anemia of varying degrees, 24.53% presented with shock, 5.45% presented with sepsis, and only 0.93%

(one patient) presented with acute renal failure (Table 6). Concerning predisposing factors of retained placenta, 25.46% of study subjects were grand multipara, 11.82% had H/O MR or D & C, 10.90% with prolonged labor, 10.90% respondents had IUD, 10% with past H/O retained placenta, 8.20% had preterm labor, 2.72% had H/O LUCS/ other uterine surgery and 20% were without any predisposing factors (Table 7). Among the respondents, 27.27% of study subjects presented with genital tract trauma, 5.45% with sepsis, 5.45% with acute renal failure, 0.91% with DIC, 0.91% with uterine prolapse 64.55% with no associated conditions/complications (Table 8). Among the total study population, 58.18% of retained placenta cases required manual removal under G/A, and 41.82% were managed by manual removal of the placenta under deep sedation (Table 9). Out of 110 respondents, 21.82% of cases of retained placenta did not require any blood transfusion, 58.18% received 1-2 units and 20% received 3 or more units of blood transfusion (Table 10). During management 13.63% of study subjects developed uterine atony, 0.91% developed uterine inversion, 2.73% were complicated by uterine perforation, 0.91% were complicated by anesthetic hazard; 81.82% had no complication during management (Table 11). Out of 110, 18.18% of study subjects experienced various complications. Among them 9.10% were managed by intrauterine balloon tamponade, 2.73% required hysterectomy, and 6.37% were managed by other measures (Table 12). 70% of respondents stayed in the hospital for 1-3 days, 26.36% for 4 to 7 days, and 3.64% stayed more than 7 days before discharge (Table 13). Regarding the outcome of retained placenta among study subjects, 80.91% improved and discharged, 10% had severe anemia and required subsequent blood transfusion, 6.36% developed the infection, 0.91% developed acute renal failure and 2 patients died (one due to DIC and another patient due to irreversible shock) (Table 14).

Table 1: Distribution of respondents according to their age, (N=110)

Age in years	N	%
\leq 20	22	20
21-25	31	28.19
26-30	33	30
>35	06	5.45
Total	110	100

Table 2: Distribution of respondents according to their socioeconomic status, (N=110)

Monthly family income (BDT)	N	%
<5000 (low socioeconomic status)	71	64.55
5000-10000 (middle socioeconomic status)	30	27.27
>10000 (affluent status)	09	8.18
Total	110	100

Table 3: Distribution of study subjects according to the place of delivery, (N=110)

Place of delivery	N	%
Home	82	74.54
Thana health complex	10	9.09
MCH	07	6.37
Private clinic	06	5.45
District hospital	03	2.73
Faridpur Medical College Hospital	02	1.82
Total	110	100

Table 4: Distribution of respondents according to parity, (N=110)

Para	N	%
1	22	20
2-4	60	54.54
≥5	28	25.46
Total	110	100

Table 5: Time interval between the retained placenta and hospital admission, (N=110)

Time (in an hour)	N	%
0-2	20	18.19
3-8	66	60
9-24	18	16.36
>24	06	5.45
Total	110	100

Table 6: Distribution of study subjects according to the clinical presentation of retained placenta, (N=110)

Clinical presentation	N	%
Anemia	76	69.09
Shock	27	24.53
Sepsis	06	5.45
Acute renal failure	01	0.93
Total	110	100

Table 7: Distribution of patients according to predisposing factors of retained placenta, (N=110)

Predisposing factors	N	%
Grand multiparity	28	25.46
H/O MR or D&C	13	11.82
Prolonged labor	12	10.90
IUD	12	10.90
Past H/O retained placenta	11	10
Preterm labor	9	8.20
H/O LUCS/ other uterine surgery	3	2.72
Absence of any predisposing factors	22	20
Total	110	100

Table 8: Conditions/complications associated with retained placenta (N=110)

Complication/Associated condition	N	%
Genital tract trauma	30	27.27
Sepsis	6	5.45
Acute renal failure	1	0.91
DIC	1	0.91
Uterine prolapse	1	0.91
No complication	71	64.55
Total	110	100

Table 9: Distribution of respondents by mode of management of retained placenta (N=110)

Mode of management	N	%
Manual removal under G/A	64	58.18
Manual removal under deep sedation	46	41.82
Total	110	100

Table 10: Distribution of study subjects according to the necessity of blood transfusion (N=110)

Blood transfusion	N	%
Not required	24	21.82
Required	86	78.18
1-2 unit	64	58.18
≥3 unit	22	20

Table 11: Distribution of respondents by a complication during the management of retained placenta (N=110)

Complication during management	N	%
Uterine atony	15	13.63
Uterine perforation	3	2.73
Uterine inversion	1	0.91
Anesthetic hazard	1	0.91
No complications	90	81.82
Total	110	100

Table 12: Distribution of respondents by management of complications of treatment of retained placenta (N=110)

Management of complications	N	%
Intrauterine balloon tamponade	10	9.10
Hysterectomy	3	2.73
Others	7	6.37
No management required	90	81.82
Total	110	100

Table 13: Distribution of subjects according to the length of hospital stay for retention of the placenta, (N=110)

Duration of hospital stay	N	%
24 hours to 3 days	77	70
4 days to 7 days	29	26.36
>7 days	4	3.64
Total	110	100

Table 14: Outcome of the study respondents (N=110)

Outcome	N	%
Complete recovery	89	80.91
Severe anemia	11	10
Infection	07	6.36
Renal failure	01	0.91
Maternal death	02	1.82
Total	110	100

DISCUSSION

Regarding the age of the patients out of 110 study subjects, 28.18% were found in the age group of 21-25 years, 30% were of 26-30 years, 20% in the age group of at or below 20 years, 16.37% at the age group of 31-35 years. The age of the patient ranged from 18-40 years which was found consistent with other studies [15-17]. Regarding the socioeconomic condition of the families it was seen that out of 110 cases 91.82% of families had a monthly income below 10000 BDT. The low-income group delays to decide between seeking care and transferring the patient to the hospital due to a

lack of money and awareness. So timely interference is deferred and the risk to the patients is increased. Another study also showed the same scenario [17]. Regarding the place of delivery out of 110 study subjects, 74.54% of delivery was conducted at home by untrained Dai, 23.64% were done by the medical person at a clinic or hospitals outside and 1.82% were conducted by doctors at Faridpur Medical College Hospital. The incidence of delivery at different levels was quite similar to the other two studies [16, 18]. Two other studies also showed that the incidence of home deliveries was 92.87% and 68.75% [17, 12]. Findings

showed that 74.54% of study subjects were para 1 to 4. The percentage of grand multipara women (25.46%) in this study is higher than that seen in the other two studies [19, 17] but similar to that reported by another author [20]. Regarding the interval between hospital admission and development of the retained placenta, it was found that most of the study subjects (60%) were admitted between 3-8 hours after developing retained placenta which is consistent with the findings of other studies [16-18]. Concerning the clinical presentation 69.09% of study subjects presented with varying degrees of anemia. Most of them were severely anemic, 24.53% presented with shock, 5.45% presented with sepsis, and only 1 patient presented with acute renal failure which was quite similar to a study [15]. A study showed that 26 (36.61%) women had come in a state of severe shock [17]. Moreover, the same picture was seen in a study in another medical college hospital where 71.65% of patients were anemic, which was quite understandable in the present study [21]. Regarding the predisposing factors of retained placenta among the respondents of this study, 25.46% were grand multipara, 10.90% had H/O prolonged labor, 11.82% were giving H/O MR/D&C, and 10% of respondents with a history of retained placenta in the past, and 10.90% with IUD. The results were nearly consistent with another study [15]. It was found in a study that the previous history of retained placenta and prolonged delivery in current pregnancy were significantly related to retention of placenta. MR or Post delivery curettage itself is not a cause of retained placenta, rather curettage and infections after MR or puerperal endometritis can be probable predisposing factors of retained placenta [22]. A retrospective study showed that the recurrence of retained placenta was 32% while there was placenta accreta and a H/O multiple retained placentas [23]. Another study showed that 10% had a retained placenta in the past which was consistent with the present study [17]. A study by another author also showed that 16% of patients had retained placenta before [24]. Regarding the management of retained placenta, 58.18% of patients were managed by manual removal under general anesthesia and 41.82% by manual removal under deep sedation. The use of umbilical vein injection of oxytocin with normal saline was not used in the management of patients despite some beneficial effects documented in the Cochrane library because of no experience with the technique [25]. The requirement for transfusion was more among the patients managed by manual removal under general anesthesia. In this study, 86 (78.18%) patients received blood transfusion which greatly differs from the findings of the other two studies, where the percentage was 40% and 10% respectively [22, 24]. This may be because pregnant women in this country suffer more from anemia. Need for blood was more than the amount transfused but the patient could not afford it due to a lack of money, donors, and also blood in the blood bank. Regarding the length of hospital stay by study subjects, it showed that 70% stayed in the hospital for 1-3 days, 26.36% for 4 to

7 days, and only 3.64% had to stay more than 7 days. The result is consistent with the study done by other two authors [15, 16]. Findings also showed that 80.91% of the study subjects recovered more or less completely (including mild to moderately anemic patients); 10% suffered from severe anemia; 6.36% developed sepsis, and 0.91% developed acute renal failure. Unfortunately, 2 patients died, one due to Disseminated Intravascular Coagulation (DIC) and one due to irreversible shock. The result was also relatable to another study [15].

Limitations of The Study

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

CONCLUSION

The retained placenta is an obstetric emergency. Rapid recognition and treatments are essential because heavy blood loss with coagulation problems remains the lethal factor in this disease. Mismanagement of 3rd stage of labor is one of the major causes of uterine inertia leading to postpartum hemorrhage and retained placenta. Identification of the risk factors for developing retained placenta during antenatal care and properly conducted delivery with active management of the third stage of labor can reduce the frequency of retained placenta. All the resources should be utilized for the proper training of birth attendants so that the high-risk cases can be identified at the right time and should be referred to a well-equipped institution where blood transfusion and operative facilities are available. The evaluation of retained placenta cases is necessary, as PPH is the most common cause of maternal mortality in our country. The maternal outcome in retained placenta cases is inversely proportional to the time required for treatment.

RECOMMENDATION

For prevention and proper management of retained placenta cases, all deliveries must be conducted by skilled birth attendants preferably in an institution. All pregnant mothers having predisposing factors for retained placenta must deliver in a hospital equipped with skilled manpower and facilities to deal with obstetrical emergencies including surgery and blood transfusion. A multi-center large-scale study may be done for a better understanding of the incidence, predisposing factors, and management options of retained placenta. Price of the retained placenta can be extremely devastating if not managed early. Besides other required measures, patient and patient party motivation is also important, as the decisions are made by the family members in our society.

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