

# RETAINED PLACENTA AND POSTPARTUM HAEMORRHAGE

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## ABSTRACT

**Objective:** To determine the frequency of retained placenta and common factors leading to it among patients presenting with postpartum hemorrhage.

**Material and Methods:** This study was conducted at Obstetrics and Gynecology Unit, Kalsoom Maternity Hospital, Peshawar, Pakistan from January 2015 to December 2015. A total of 295 patients were observed by keeping 25.8% proportion of pre term labor as a factor leading to retained placenta, 95% confidence interval and 5% margin of error using WHO sample size calculations.

**Results:** This study was conducted among 295 patients in which mean age was 32 years  $\pm$  1.23 SD. Twenty percent patients had retained placenta in which 25% were unbooked, 30% had low placental weight, 30% were grand multiparity, 35% had preterm delivery, 22% had previous dilatation and curettage and 13% had previous caesarian section.

**Conclusion:** Retained placenta will continue to occur but the morbidities and even mortality could be reduced to the barest minimum with excellent antenatal care.

**Key Words:** Retained placenta, post partum haemorrhage.

## INTRODUCTION

About 25% of maternal deaths in Africa and Asian countries are due to hemorrhage during pregnancy birth or postpartum period. Of these 30% are contributed by postpartum hemorrhage. In developing countries postpartum hemorrhage accounts for 1/3rd of all maternal deaths<sup>1</sup>. Postpartum hemorrhage is the loss of blood more than 500ml in normal vaginal delivery and more than 1000ml in caesarian section in first 24 hours.<sup>2</sup> The most frequent cause of postpartum hemorrhage are uterine atony, genital tract trauma followed by retained placenta<sup>3</sup>. In a local study, 11.4% patients had retained placenta in overall postpartum hemorrhage patients<sup>4</sup>. In an international study, 33.3% patients had retained placenta in postpartum hemorrhage patients<sup>5</sup>.

Retained placenta is placenta or part of placenta which is retained within the uterus beyond 30 minutes after delivery of the baby<sup>6</sup>. After uterine atony retained placenta is the second major indicator of blood transfusions in the third stage of labour. Common risk factors associated with retained placenta include non booking for antenatal care, previous caesarean section, previous retained placenta, age > 35 years, previous dilatation and curettage, grand multiparity, preterm delivery, precipitate delivery and placental weight less than 500 gm. In a Nigerian study the percentages of independent

risk factors associated with retained placenta were non use of antenatal care 78.3%, placental weight less than 500gm 44.2%, previous Dilatation and Curettage 29.2%, preterm delivery 25.8%, grand multiparity 25.8%, previous retained placenta 13.3% and previous caesarian section 13.3%<sup>7</sup>.

Postpartum hemorrhage is very frequently found in our set up and one of the common risk factor is retained placenta. It can be prevented by active management of third stage of labour i.e. by giving uteronic agents, controlled cord traction and manual removal of placenta. Some authors have examined the potential of giving every woman a prophylactic intraumbilical oxytocin injection as a way of conducting an active management of the third stage of labour without the need of systemic drugs. Sequential administration of oxytocin and nitroglycerine seems to be as effective and safe procedure in the management of retained placenta<sup>8</sup>.

The objective of this study is to determine the frequency of retained placenta and common factors leading to it among patients presenting with postpartum hemorrhage. Post partum hemorrhage is a fatal post natal problem and if not managed in time can lead to fatal complications. Retained placenta is an important cause of post partum hemorrhage and this study will provide us with local statistics of the problem. The results of this study will also provide us with common factors leading to retained placenta and on the basis of results of this study we will be able to recommend certain modifications and suggestions to higher authorities regarding further research and control of such factors since the retained placenta should be prevented rather than treated and addressing such problems can help

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us in reducing the morbidity related to post partum hemorrhage due to retained placenta.

## MATERIAL AND METHODS

This study was conducted among 295 patients in which mean age was 32 years  $\pm$  1.23 SD. Twenty percent patients had retained placenta in which 25% were unbooked, 30% had low placental weight, 30% were grand multiparity, 35% had preterm delivery, 22% had previous dilatation and curettage and 13% had previous caesarian section. The inclusion criteria was, all patients of age 25-50 yrs with post partum hemorrhage, while the exclusion criteria was, Retained placenta due to congenital uterine anomalies as detected by ultrasound, Cervical or vaginal tears (on clinical examination), Bleeding disorders (past medical history), history of anticoagulants i.e. disprine, clopidogrel.

## RESULTS

Age distribution among 295 patients was analyzed as 15% patients were in age range 25-30 years, 34% patients were in age range 31-35 years, 51% patients were in age range 36-40 years. Mean age was 32 years  $\pm$  1.23 SD. Thirty patients were primi gravida and 65% patients were multi gravida. Thirty five patients were primi para and 192 (65%) patients were multi para. Frequency retained placenta in PPH among 295 patients was analyzed as 59 (20%) patients had retained placenta and 236 (80%) patients didn't had retained placenta. Common risk factors of retained placenta in PPH was analyzed among 95 patients with retained placenta, 15(25%) were un-booked, 18(30%) had low placental weight, 18(30%) were grand multiparity, 21(35%) had preterm delivery, 13(22%) had previous dilatation and curettage and 8(13%) had previous caesarian section. Stratification of retained placenta with age, gravida, parity among 59 patients was analyzed as 7 patients were in age range 25-30 years, 20 patients were in age range 31-35 years, 32 patients were in age range 36-40 years more over 20 patients were primi gravida and 39 patients were multi gravida. Similarly 24 patients were primi para and 35 patients were multi para. Stratification of common risk factors of retained placenta with age, gravida, parity among 59 patients was analyzed as in un-booked patients 3 patients were in age range 25-30 years, 6 patients were in age range 31-35 years, 6 patients were in age range 36-40 years. More over 6 patients were primi gravida and 9 patients were multi gravida. Similarly 5 patients were primi para and 10 patients were multi para. Frequency of parity is shown in Table 1.

## DISCUSSION

The incidence of retained placenta in this study was 1.8% and it is within the reported incidence of 0.5-

**Table 1: Frequency of Parity**

Parity	Freqeucny & Percentage
Primi para	103(35%)
Multi para	192(65%)
Total	295(100%)

3.0% by authors in Nigeria and elsewhere,<sup>9</sup> 51% of the patients were not booked for antenatal care. This was lower than studies done by other authors<sup>10</sup> but higher than that reported by Romero R et al<sup>11</sup>. This may reflect different sociocultural and educational backgrounds of the patients. In most sub Saharan countries, antenatal care utilization is still low and un-booked patients also are more likely to be supervised by unskilled attendants or delivered in inadequately staffed health care facilities which may lead to delay or poor management of 3rd stage of labour. This may contribute to the quoted higher incidence of retained placenta among the un-booked patients in this study. Another study has also demonstrated that non booking for antenatal care can constitute an approximate 23 fold increase in the risk of retained placenta.<sup>12</sup>

Although this study is not a case-control study but the incidence of retained placenta appears to occur in patients of higher parity and previous uterine surgery. This is consistent with studies done elsewhere.<sup>13</sup> It has been suggested that the factors which caused injuries that led to deficient or damaged endometrium, predispose the implanted ovum's chorionic villi to penetrate into the uterine muscles. This penetration of the endometrium and the uterine muscles predispose to placenta retention.

Soltan MH et al investigated the risk of retained placenta using a multi variate approach and found association of previous retained placenta, previous injury to the uterus, preterm delivery, induced labour and multiparity with retained placenta.<sup>14</sup> In this study, the finding of previous history of retained placenta was 1(1.56%). It should be noted that with a previous episode of retained placenta there is a recurrence rate of 6.25% and it is more with many episodes.

High parity as a risk factor for retained placenta has been demonstrated by different authors from controlled studies<sup>15</sup> and so the finding of the high incidence of retained placenta among highly parous women in this study was not surprising. This is coupled with the finding of highly parous women in our environment who are also un-booked. The combined factors may have led to the higher incidence of retained placenta. Antibiotics were given to all women in this study because manual removal of placenta carried an increased risk of endometritis, caused by a variety of organisms. However, there is no consensus of opinion on whether antibiotic prophylaxis should routinely be advocated.

In this study, the major complication was primary postpartum haemorrhage. Fifty-one (79.7%) patients had haemorrhage of  $\geq$ 500ml at presentation and during management of the condition. Retained placenta and manual removal of placenta (MROP) are associated with haemorrhage and was severe enough in this study to warrant blood transfusion in 47(73.4%) of patients while 16 (25.0%) of cases were admitted with haemorrhagic shock. This is consistent with the findings of other studies.<sup>13,14</sup>

The most common treatment for retained placenta in this study was by manual removal of placenta (MROP) under anaesthesia in 41 (75.0%) cases. In the absence of

active bleeding, time is usually allowed to lapse before MROP is done. This is because the risk of bleeding is usually low in the first 30 minutes postpartum further 40% of placenta will spontaneously deliver with the loss of about 300ml of blood. This may also eliminate the risk of infection and genital tract laceration if the placenta is delivered by MROP besides the risk of anaesthesia.

Placentas were removed as a whole piece in 24 (37.5%), often in our centre, when partial removal is achieved manually, curettage is used to remove the remaining placental tissues as much as possible so long as haemorrhage is controlled and uterus is well contracted. The use of umbilical vein injection of normal saline with or without oxytocin was not used in the management of patients despite the beneficial effects documented in the Cochrane library because of no experience with the technique<sup>17</sup>.

With the degree of haemorrhage and the associated high blood transfusion rate in this study with other complications seen, the umbilical vein injection could be useful to obviate these complications in rural settings where general infrastructures such as operation theatre facilities and anaesthesiologists are not available. Two cases of maternal mortalities were recorded in this study resulting in a case fatality of more than 3%. They were un-booked patients who presented in a state of irreversible shock following massive haemorrhage. This occurred following unsupervised delivery at home without prophylactic oxytocin administered. One of them was a grand multipara with low socioeconomic status, but lived not far from our facility. This illustrates the tragedy of the un-booked patients.

## CONCLUSION

Antenatal utilization, delivery in health care facilities with skilled attendants, availability of blood transfusion services, effective and safe anaesthesia could reduce the morbidities associated with retained placenta.

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## AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

**Abrar S:** Contributed to the conception, design, acquisition of data and drafting the script.

**Abrar T:** Helped in analysis and interpretation of data collection.

**Sayyed E:** Bibliography

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.