

## ORIGINAL ARTICLE

## Treatment Outcome of Retained Placenta at The University of Port Harcourt Teaching Hospital: A Five-Year Review

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**DISCLOSURE**

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**ABSTRACT**

**Background:** Retained placenta is one of the major causes of primary and secondary post-partum haemorrhage and is associated with increased risk of maternal morbidity and mortality.

**Objective:** To determine the prevalence, evaluate the risk factor, clinical presentation and treatment outcome of retained placenta in the University of Port Harcourt Teaching Hospital (UPTH).

**Methodology:** This was a retrospective study from January 1<sup>st</sup>, 2014 to December 31<sup>st</sup>, 2018. Relevant information were retrieved from patients' clinical records and analysed using statistical package for social science (SPSS) version 25.

**Result:** The prevalence of retained placenta was 0.98%. forty-six out of 50 patients (92.0%) with retained placenta had unsupervised home deliveries which accounted for majority of the risk factors. Thirty-nine (78.0%) patients presented with snapped umbilical cord, 24 (48.0%) patients with active vaginal bleeding and seven (14.0%) patients were in circulatory shock at presentation. Manual removal of placenta was carried out for all patients as the major mode of management while 21 (42.0%) patients had concomitant oxytocin administration. Thirty (60%) patients had primary postpartum haemorrhage. Twenty-six (52%) patients had anaemia at presentation while 6 (12%) and 2 (4%) patients had puerperal sepsis and genital tract lacerations, respectively. No maternal mortality from retained placenta was recorded within the study period.

**Conclusion:** Retained placenta is essentially a disease of the unbooked patient and can lead to dire consequences. The utilization of antenatal care, skilled birth attendance and the provision of emergency obstetric care services can reduce the adverse effects of retained placenta.

**Keywords:** Retained placenta, Complications, Treatment outcome, Port Harcourt

**INTRODUCTION**

Retained placenta is one of the major causes of primary and secondary post-partum haemorrhage, associated with increased risk of

maternal morbidity and mortality.<sup>1</sup> The placenta is said to be retained when it is not expelled within 30 minutes after birth of the baby.<sup>2</sup> In general, 90% of placenta are delivered

within 15 minutes, 96% within 30 minutes and 98% within 60 minutes.<sup>3</sup> There is a 10-fold increase in the risk of haemorrhage and the chance of spontaneous delivery of the placenta decreases if the third stage exceeds 30 minutes.<sup>3,4</sup> However, with active management of the third stage, no time limit needs to be exceeded before arriving at the diagnosis.<sup>4</sup>

About 25% of maternal death are due to haemorrhage and up to 10 - 15% of these maternal deaths due to haemorrhage are linked to retained placenta especially in the rural and semi-urban settings.<sup>5</sup> The incidence of retained placenta globally is about 0.6-3.3% of normal deliveries with a case fatality rate of 10% in the developing regions.<sup>5,6</sup> In a large Northern Nigerian hospital, the mortality was 3% amongst 894 women treated for retained placenta over a three and half year period.<sup>5</sup> According to a previous study in The University of Port Harcourt Teaching Hospital (UPTH), the incidence of retained placenta was reported as 0.59%.<sup>4</sup>

There are three main types of retained placenta following vaginal delivery; placenta adherence (when there is failed contraction of the myometrium behind the placenta), trapped placenta (a detached placenta trapped behind a closed cervix) and placenta accrete.<sup>3,6</sup>

The predisposing factors of retained placenta include mismanagement of the third stage of labour, atonic uterus, abnormal or morbid implantation of placenta, uterine abnormalities, and failure of the retroplacental myometrium to contract during the third stage of labour.<sup>2,3,6</sup>

Patients usually present clinically with either primary and secondary post-partum haemorrhage or their sequelae.<sup>2,4</sup> Usually, patients give a history of prolonged labour, oxytocin injection, intrauterine manipulation

or previous history of retained placenta.<sup>1</sup> In most cases of retained placenta, management consist of manual removal with the timing of this procedure depending on the availability of safe anesthesia and the presence or absence of haemorrhage.<sup>1,3</sup>

Oxytocin infusion and injection of Oxytocin as 50IU in 30ml of saline into the umbilical vein (Papingas method) appears to be effective in the management of retained placenta.<sup>1,3,4</sup> Sequential administrations of oxytocin and nitroglycerine seems effective and a safe procedure in the management of retained Placenta.<sup>1,3,4</sup>

Immediate and long term complications of retained placenta include post-partum haemorrhage, genital sepsis, uterine inversion, uterine perforation, secondary infertility, Asherman's syndrome and maternal mortality.<sup>2,3</sup>

The aim of the study is to determine the prevalence, evaluate the risk factors, mode of presentation and method of treatment of patients who presented with retained placenta in UPTH and to recommend ways of improving outcome.

#### METHODOLOGY

This was a retrospective study covering a period of 5years from January 1<sup>st</sup>, 2014 to December 31<sup>st</sup>, 2018. The study population consisted of women who were managed for retained placenta from 28 weeks of gestation during the period of study at the University of Port-Harcourt Teaching Hospital (UPTH), Port-Harcourt, Nigeria. Permission was obtained from the heads of the department of Obstetrics and medical records for the use of patient's clinical records for the conduct of this study. The case file numbers of patients with retained placenta were obtained from the

labour ward admission records and these were used to obtain the files from medical records. Information extracted from the case files include socio-demographic characteristics (age, parity, educational status, occupation), gestational age at delivery, booking status, associated risk factors, clinical features at presentations, mode of management and complications. Data were analysed using statistical package for social science (SPSS) version 25 and the result expressed in simple percentages and frequency tables.

## RESULTS

There were 63 cases of retained placenta out of 6382 total deliveries during the period of the study giving a prevalence of 0.9%. Fifty (79.4%) case files were however available for analysis. The age, parity, occupation, educational status and gestational age at delivery are as shown in table 1. The mean age  $\pm$  SD was  $27.46 \pm 4.91$  with age range of 16 to 37 years, with 36% aged 30 years and above. The mean parity was  $2.64 \pm 1.27$  with a range of 1 to 5, and only 8% of them were grand multiparous. Majority of the patients (64.0%) had Secondary level of education and 44.0% were traders.

The gestational age at delivery in 33 (66.0%) patients was  $\geq 37$  weeks (term), while 9 (18.0%) patients had preterm deliveries ( $<37$  completed weeks). However, the gestational age at delivery of 8 (16%) patients were unknown. Unbooked (those who did not benefit from antenatal care) patients constituted 47 (94.0%) while booked (those that benefited from antenatal care) patients accounted for 6.0% (3 cases). Forty-six (92.0%) of the patients had unsupervised home delivery.

Previous history of uterine surgery was noted in 8 (16.0%) patients while 6 (12.0%) patients had previous history of retained placenta (Table 2).

**Table 1.** Sociodemographic distribution (n=50)

Variables	Freq	%
<b>Age group</b>		
$\leq 19$	3.0	6.0
20-29	29.0	58.0
30-39	18.0	36.0
<b>Parity</b>		
1-2	28.0	56.0
3-4	18.0	36.0
$\geq 5$	4.0	8.0
<b>Educational status</b>		
Primary	12.0	24.0
Secondary	34.0	68.0
Tertiary	4.0	8.0
<b>Occupation</b>		
Trader	22.0	44.0
House Wife	13.0	26.0
Student	5.0	10.0
Civil Servant	5.0	10.0
Artisan	5.0	10.0
<b>Gestational age</b>		
Preterm ( $<37$ weeks)	9.0	18.0
Term ( $\geq 37$ weeks)	33.0	66.0
Unknown	8.0	16.0

**Table 2.** Risk factors

Risk factors	Freq	%
Home delivery	46.0	92.0
Preterm deliveries	9.0	18.0
Previous uterine surgery	8.0	16.0
Uterine atony	8.0	16.0
Previous dilatation and curettage	7.0	14.0
Previous history of retained placenta	6.0	12.0

Thirty-nine (78.0%) presented with snapped umbilical cord while 24 (48.0%) patients presented with active vaginal bleeding. Seven (14.0%) patients were in circulatory shock at presentation (Table 3).

**Table 3.** Clinical features at presentation

Clinical features	Frequency	%
Cord snapped	39.0	78.0
Active bleeding	24.0	48.0
Atonic uterus	13.0	26.0
Shock	7.0	14.0

Manual removal of retained placenta was done in all the patients, of which 22 (44.0%) had it under general anaesthesia while 28 (56.0%) had it without general anaesthesia but under conscious sedation. Twenty-one (42.0%) had concomitant oxytocin administration while 29 (58.0%) did not receive oxytocin. All the patients received prophylactic antibiotic therapy. Twenty-four (48.0%) were transfused with blood of which 20 (40.0%) of them received 1 or 2 units while 4 (8.0%) received more than 2 units of blood (Table 4).

Thirty (60.0%) patients had primary postpartum haemorrhage. Twenty-six (52.0%) patients had anaemia at presentation while 6 (12.0%) and 2 (4.0%) had puerperal sepsis and genital tract lacerations respectively. Six (12.0%) patients had prolonged hospital stay of more than 5 days (Table 5).

## DISCUSSION

Retained placenta remains a potentially life-threatening condition because of the associated haemorrhage and infection that may develop as well as complications related to its removal.

The prevalence of retained placenta in this study was 0.98%, which is similar to the 1.02% reported in Calabar (South-south Nigeria) but lower than the 2.13%, 1.9%, and 1.7% reported in Ibadan, Ile-Ife (South-west Nigeria) and Sokoto (Northern Nigeria) respectively.<sup>5,7,8,9</sup> The incidence is higher than the 0.59% previously reported in this center.<sup>4</sup> The variation in this prevalence might be due to the

**Table 4.** Mode of management

Variables	Freq	%
<b>Manual removal of placenta</b>		
With anaesthesia	22.0	44.0
Without anaesthesia	28.0	56.0
<b>State of Placenta</b>		
Whole placenta without anaesthesia	18.0	36.0
Whole placenta with anaesthesia	14.0	28.0
Piece-meal without anaesthesia	10.0	20.0
Piece-meal with anaesthesia	8.0	16.0
<b>Oxytocin Administration</b>		
No	29.0	58.0
Yes	21.0	42.0
<b>Prophylactic antibiotic therapy</b>		
No	0.0	0.0
Yes	50.0	100.0
<b>Blood Transfusion</b>		
None	26.0	52.0
1-2 units	20.0	40.0
>2 units	4.0	8.0

**Table 5.** Complications

Complications	Freq	%
Primary PPH	30.0	60.0
Anaemia	26.0	52.0
Prolong hospital stay >5 days	6.0	12.0
Sepsis	6.0	12.0
Hypovolemic shock	3.0	6.0
Genital tract lacerations	2.0	4.0

PPH- Post-partum haemorrhage

differences in the population studied and the differing period of the studies.

The mean age at presentation was  $27.46 \pm 4.91$  years with majority of the patients within 20 to 29 years range which is comparable to a previous study in our centre, Calabar and Sokoto.<sup>4,5,9</sup> Comparative demographic result showed that 64% of the patients were in paid employment compared to Sokoto (northern Nigeria) and Ile -Ife (South-west Nigeria) at 10% and 90% respectively.<sup>8,9</sup> This may illustrate

that the socio-economic pattern of the country and theories suggestive of low socio-economic status as an identifiable risk factor.<sup>4</sup>

Unbooked patient constituted majority of the patients in all local studies with 94% of the patient seen in this study. This buttress the facts that in developing countries like Nigeria, many pregnant women do not attend antenatal care and deliver at home or outside health facility where the practice of active management of third stage of labour is instituted.<sup>1</sup> About 92% of the patients in this study had home deliveries as the major risk factor and this is comparable to the 78.6% reported from the previous study in this centre and 85.6% and, 69% reported in Sokoto and Calabar respectively.<sup>4,5,9</sup> Preterm deliveries accounted for 18% associated risk factor in this study; this is comparable to the 17.7% reported in Abakaliki (South-eastern Nigeria), but lower than the 25.9% reported from earlier study in this center.<sup>4,10</sup>

Grand multiparity, a risk factor implicated in retained placenta predisposes to increased abnormalities of placenta implantation.<sup>11</sup> Fibrous tissues reduces the contractile power of the uterus and this may lead to uterine atony and therefore placenta retention.<sup>11,12</sup> However, only 16% of the patient had uterine atony as the risk factor while 8% of the studied population were grand multiparous.

Seventy-eight percent of the patients presented with snapped umbilical cord, which is higher than the 28.12% reported in Abakailiki.<sup>10</sup> Considering the high prevalence of snapped umbilical cord in this study, it is imperative that care givers should exercise caution when pulling on the umbilical cord especially in preterm deliveries and cases of intrauterine fetal demise due to necrosis of the cord. This study also showed that 48% of the patient presented with active vaginal bleeding; this is

lower than the 64% from earlier study in this centre.<sup>4</sup> Fourteen percent of the patients were in shock at presentation; this is lower than the 52.2%, 16% and 25.9% reported in Sokoto, Calabar and earlier study in this center respectively.<sup>4,5,9</sup> The reason for this variation may be due to various "delays" (in seeking and receiving professional help) peculiar with various regions of the country.

Manual removal of placenta was the effective choice of management in all (100%) the studied population. This is higher than the 90% reported in Ile-Ife and 87.1% from earlier study in this center, but lower than 77.1% reported in Sokoto.<sup>4,8,9</sup> Majority of the patients (56%) in this study had manual removal without anaesthesia but under sedation. This leads to a reduction in the cost of treatment when compared to the use of general anaesthesia but the major drawback with this is pain. This is important in our environment where the majority of these patients live below the poverty line and eliminates the risk from complications of general anaesthesia. However, manual removal of the placenta using sedation should be carried out in carefully selected patients. Concomitant administration of oxytocin as was carried out in forty-two percent of the patients was essentially to achieve uterine contraction in patients with post-partum haemorrhage from uterine atony.

Antibiotics were given to all women in this study because manual removal of placenta carries an increased risk of endometritis caused by a variety of organisms. However, there is no consensus of opinion whether antibiotics prophylaxis should routinely be advocated.<sup>13</sup>

The use of umbilical vein injection of normal saline with or without oxytocics was not used in the management of patients in this study

despite the beneficial effects documented in Cochrane library because of low experience with the technique.<sup>14</sup> The benefits of this simple technique is worth trying especially in low resource setting like ours as it eliminates the need for anaesthesia.

In this study, the major complication was primary post-partum haemorrhage; 60% of the patients had haemorrhage  $\geq$  500mls at and during the management of the condition. Retained placenta and manual removal of placenta were associated with haemorrhage which was severe enough in this study to warrant blood transfusion in 48% of patients. Fourteen percent of the subjects were admitted in haemorrhagic shock, and 6% of the patients had hypovolemic shock after manual removal of placenta. The 48% of patients that were transfused is comparable to the 40% reported in Ile -Ife but lower than the 73.4% reported in Calabar.<sup>5,8</sup> Other complications noted from this study were puerperal sepsis in 12% of patients and genital tract lacerations in 4% of patients. No mortality was reported from this study and this may be due to timely intervention, expertise and readily available blood transfusion services.

### Limitations

This was a hospital-based study and therefore findings from this study may not reflect findings in the general population. The case files of some patients with retained placenta were excluded due to insufficient information for analysis.

### CONCLUSION

Retained placenta mainly affects the unbooked mother and may have grave consequences. The utilization of antenatal care and the provision of emergency obstetric care services may mitigate the harmful effects of retained placenta amongst the studied population.

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