e-ISSN 2795-3276
p-ISSN 2795-3270

GPH INTERNATIONAL JOURNAL
Research in
Biological Science
www.gphjournal.org || editor@gphjournal.org

10.5281/zenodo.8052484 Vol. 06 Issue 06 June - 2023 Manuscript ID: #0885

A 4-YEAR AUDIT OF RETAINED PLACENTA AT EKITI STATE UNIVERSITY TEACHING HOSPITAL, SOUTH WESTERN NIGERIA

OLOFINBIYI,Babatunde Ajayi[1],*
Depart. of Obstetrics and Gynaecology, Faculty of Clinical Sciences, College of Medicine, Ekiti State University, Ado-Ekiti, Nigeria
ADENIYI, Omotayo Oladele[2]
Bayly Family Practice and Walk in Clinic, Bayly Street, Toronto, Canada
AKINYEMI, Oluwasegun[3]
Senior Research Fellow, Howard University College of Medicine, Washington DC, United State of America
OLOFINBIYI, Rebecca Oluwafunke[4]
Depart. of Nursing Science, Faculty of Basic Medical Sciences, College of Medicine, Ekiti State University, Ado-Ekiti, Nigeria
OKUNOLA, TemitopeOmoladun[5]
Depart. of Obstetrics and Gynaecology, Faculty of Clinical Sciences, College of Medicine, Ekiti State University, Ado-Ekiti, Nigeria
OSHATIMI, Abayomi Michael[6]
Acting Director, Directorate of Integrated Healthcare Services and Training, Federal University, Oye-Ekiti, Ekiti State, Nigeria
ADEGOKE,Bosede Oluwasayo[7]
Department of Chemical Pathology, Ekiti State University, Ado-Ekiti, Nigeria
ELI,Sukarime F.[8]
Depart. of Obstetrics and Gynaecology, Faculty of Clinical Sciences, College of Medical Sciences, Rivers State University, Nigeria

Corresponding author : babatunde.olofinbiyi@eksu.edu.ng

ABSTRACT

Background: Retained placenta, with its attendant complications, remains a significant cause of maternal morbidity and mortality. **Objective:** To determine the incidence of predisposing factors to and complications of retained placenta at the institution of study. **Materials and Methods:** At the Obstetric unit of the Obstetrics and Gynaecology Department of Ekiti State University Teaching Hospital (EKSUTH), Ado Ekiti, a 4-year retrospective, descriptive study was conducted between 1st of January, 2014 and 31st of December 2018.Version 20 of the Statistical Packages for Social Sciences (SPSS) software was used to process the data. For data analysis, descriptive statistics was used; continuous variables were summarized with mean, while discrete variables were summarized with numbers and percentages. **Results:** Out of a total deliveries of 3,314 during the study period, there were 60 cases of retained placenta, giving an incidence of 1.8%. Majority of those that had retained placenta 66.7% (40) were within 30- 39 years age bracket; and with grand multiparous women carrying the largest percentage 33.3% (20). Among the various identifiable risk categories, the major identifiable risk factors were previous history of dilatation and curettage (61.7%) and previous history of retained placenta (16.7%). PPH was recorded in 46.7% (28) of the parturients; there was no maternal mortality. **Conclusion:** To reduce the prevalence of D&C complications, efforts should be geared towards increasing contraceptive prevalence and proficiency in post-abortal care. There is a pressing need for training and retraining of skilled birth attendants in the various health institutions running maternity care services; coupled with proficiency in handling retained placenta. There should also be a burning desire and political will to capture both the poor and the rich under the National Health Insurance program (NHIS) covering maternity care services.

KEYWORDS: Audit, Retained placenta, Southwest, Nigeria.

Introduction

Retained placenta is a significant contributor to postpartum hemorrhage (PPH) and puerperal sepsis-related maternal deaths. About 0.6% to 3.3% of women experience the condition and it is responsible for 15–20% of postpartum hemorrhage(John, Orazulike and Alegbeleye, 2015; Pujiyani, Putri and Pujiati, 2023). In the nations of Africa and Asia, hemorrhage during pregnancy, childbirth or postpartum period causes around 25% of maternal mortality; of this, retained placenta accounts for about15% to 20% (AbouZahr, 2003). When a placenta is not delivered within a predetermined window of time, often between 18 and 60 minutes, a diagnosis of retained placenta is made(Perlman and Carusi, 2019). After the fetus is delivered, the uterus continues to contract, and the relatively incompressible placenta is separated from the underlying endometrium (Perlman and Carusi, 2019); as the uterus contracts, the placental site's surface area decreases, leading to this separation.

Retained placenta is one of the commonest complications of the third stage of labour and PPH is prevented in most cases if there is complete expulsion and removal of the placenta(Burke, 2010). Predisposing factors to retained placenta, as revealed by various studies, include previous history of retained placenta, previous uterine surgery, preterm delivery, maternal age greater than 35, placenta weight less than 600g,induction of labour, grand-multiparity, morbidly adherent placenta and poor management of the third stage of labour (Han and Kim, 2005; Owolabi *et al.*, 2008).

The study aimed at reviewing all the managed cases of retained placenta at Ekiti State University Teaching Hospital over a 4-year period. As effective preventive strategies for the prevention of retained placentapartly hinges on understudying the peculiar predisposing factors in a particular environment, it has become imperative to carry out this type of study in order to know the peculiarities of our relatively new teaching health facilityviz-a -viz retained placenta

Materials and methods

The study was essentially a retrospective and descriptive one carried out at the Obstetric unit of the department of Obstertrics and Gynaecology of Ekiti State University Teaching Hospital between 1st of January, 2014 and 31st of December 2018.The case files of patients with retained placenta were reviewed over the 4-year period. These patients included those attending the antenatal clinic of the department as well as all cases of retained placenta referred to the unit (i.e. unbooked patients from other healthcare facilities and those delivered at mission homes, faith clinics and herbal homes).Pieces of information about the parturient's age, parity, marital status, level of education, employment status ,booking status, previous and present obstetric and gynecological histories, events surrounding labour, and identified complications of retained placenta were extracted into a proforma designed for the study. The Health Information Management (HIM) Unit members of staff members assisted in retrieving the case files of the patients. The Ekiti State University Teaching Hospital's Research and Ethics Committee granted permission for the retrieval and use of the case notes.

In this study, a diagnosis of retained placenta was made if a placenta was not delivered within 30 minutes of the delivery of the baby. All women with retained placenta, whether booked or unbooked, were treated in accordance with departmental protocol. An urgent packed cell volume was performed on the patients, along with grouping and cross-matching of the relevant blood units for transfusion. Patients who were in shock received oxygen as well as appropriate intravenous fluids and plasma expanders as part of the resuscitative measures. Before resorting to manual placenta removal in the theatre, placenta removal by controlled cord traction (CCT) was first tried. Manual removal of placenta was carried out in the theatre under general anaesthesia and oxytocics (oxytocin

infusion and misoprostol) were given and maintained for a minimum period of at least 6 hours in all cases. Administration of appropriate intravenous antibiotics was also part of the management.

Results

Out of total deliveries 3,314 during the study period, there were 60 cases of retained placenta, giving an incidence of 1.8%. While about 80% (48) of the patients had manual removal of the placenta, 20% (12) still had the placenta removed by controlled cord traction. No mortality was recorded in the study.

Table 1: Sociodemo graphic characteristics of the study population

Variables	No of patients	Percentage
Age		
<20	3	5.0
20-29	10	16.7
30-39	40	66.7
≥40	7	11.7
Parity		
0	07	11.7
1	03	5.0
2	09	15.0
3	10	16.7
4	11	18.3
≥5	20	33.3
Marital status		
Married	56	93.3
Not married	4	6.7
Level of education		
None	07	11.7
Primary	20	33.3
Secondary	25	41.7
Tertiary	08	13.3
Employment status		
Unemployed	20	33.3
Employed	40	66.7
Antenatal booking		
Booked	11	18.3
Unbooked	49	81.7
Total	**60**	**100**

Table 1 shows the sociodemographic characteristics of the study population. Majority of those that had retained placenta 66.7% (40) were within 30- 39 years age bracket; and with grand multiparous

women carrying the largest percentage 33.3% (20). While 81.7% (49) of them were unbooked, only 18.3% (11) were booked.

Table 2: Identified predisposing factors to retained placenta

Characteristics	No of patients	Percentage
Previous gynaecological/obstetric history		
Previous retained placenta	10	16.7
Previous dilatation & curettage	37	61.7
Previous Caesarean section	08	13.3
Previous Myomectomy	05	8.3
Gestational age at delivery		
Preterm delivery (<37 weeks)	12	20.0
Term delivery (≥37 weeks)	48	80.0
Patients with inappropriate management of their third stage of labour		
Mismanagement of third stage of labour	12	20.0
Well managed third stage of labour	48	80.0

Table 2 reveals the identified predisposing factors to retained placenta. Among the various identifiable risk categories, the major identifiable risk factors were previous history of dilatation and curettage (61.7%) and previous history of retained placenta (16.7%). Majority of the patients 80% (48) delivered at term; 20% (12) had preterm delivery. About 12% (20) of the patients also had poorly managed third stage of labour.

Table 3: Complications associated with retained placenta

Complications	No of patients	Percentage (%)
Incidence of primary post- partum haemorrhage (≥500ml)		
Post-partum haemorrhage	28	46.7
No post-partum haemorrhage	32	53.3
Incidence of anaemia on admission (% PCV)		
<14	1	1.7
14-19	2	3.3
20-25	19	31.7
26-29	12	20.0
30-38	26	43.3
Condition of patients with retained placenta on admission		
In shock	08	13.3
Stable	52	86.7
Incidence of blood transfusion in patients with retained placenta		
Transfused	11	18.3
Not transfused	49	81.7

Table 3 shows complications recorded in the patients studied. PPH was recorded in 46.7% (28); and with 43.3% (26) having a packed cell volume of 30% and above at presentation. About 13.3% (8) of

the patients were received in shock; 86.7% (52) were stable. About 18.3% (11) of the patients also had blood transfusion.

Discussion

Retained placenta, with its attendant complications, remains a significant cause of maternal morbidity and mortality globally(Weeks, 2001; Chhabra and Dhorey, 2002). An incidence of 1.8% was recorded in this study, which still falls within the range of 0.6 and 3.3% quoted in most studies(Combs and Laros Jr, 1991; John, Orazulike and Alegbeleye, 2015; Perlman and Carusi, 2019). Majority (80%) of the patients studied had manual removal of placenta under general anaesthesia, controlled cord traction was successful in some and none had exploratory laparotomy or hysterectomy and no mortality was recorded. A similar study conducted by John et al in another geopolitical zone of the country reported that 87.1% of the study population had manual removal of the placenta, which is a bit higher than our value(John, Orazulike and Alegbeleye, 2015). Trial of controlled cord traction was also successful in 10.6% of the patients in the above-mentioned study(John, Orazulike and Alegbeleye, 2015), which is a bit lower than what our study recorded. However, unlike John et al findings, none of our patients had exploratory laparotomy and no mortality was recorded in our study. Studies in Nigeria have revealed case fatalities in retained placenta.

Majority of the patients that had retained placenta in this study were in the 30-39 years age bracket. This is at variance with John etal's findings in which most of their patients were between 20-29 years(John, Orazulike and Alegbeleye, 2015). This difference may be as a result of the fact that John et al's study was carried out at a much larger youth-dominated economic centre where hospital/maternity setting's population would be dominated by young people. In this study, the highest percentage of retrained placenta was recorded among grand multiparous women, this may not be unconnected with the fact that grand multiparous women in our environment were more likely to have had repeated dilatation and curettage and other previous uterine surgeries predisposing to retained placenta(Owolabi *et al.*, 2008).

In addition, 81.7% of the study population were unbooked, this is in consonance with the results of other studies(Owolabi *et al.*, 2008; John, Orazulike and Alegbeleye, 2015). This supports the assertion that appreciable percentage of pregnant women in Nigeria still patronize traditional birth attendants/ mission homes where delivery is poorly supervised(Nwankwo, 2023; Ossai *et al.*, 2023). Unsupervised or poorly supervised delivery is strongly associated to poorly managed third stage of labour with its attendant complications like retained placenta(Alam *et al.*, 2022).

The identifiable predisposing factors to retained placenta in this study included previous dilatation and curettage, previous retained placenta, preterm delivery and perceived poor management of the third stage of labour. These findings are in congruence within the reports of other studies(Owolabi *et al.*, 2008; John, Orazulike and Alegbeleye, 2015; Alam *et al.*, 2022). Postpartum haemorrhage was recorded in appreciable percentage of our patient, and with majority admitted is an anaemic state (not less than 30%). These findings are conjurable with the results obtained in similar studies from different parts of the country, especially in the Northern part(Yusuf, Panti and Nnadi, 2013; John, Orazulike and Alegbeleye, 2015; Alam *et al.*, 2022).

This study was strengthened by the fact that it would be the first review of retained placenta at the emerging institution. Therefore, it will serve as a template for larger similar studies in the

environment of study. The study is also limited by the fact that it was an institution-based study. The incidence of this condition might have been under reported as many pregnant women patronize private health institutions in the state, and specialist maternity centres constitute appreciable percentage of the health institutions. Therefore, women with retained placenta would also be patronizing all these private institutions, especially those that have aversion for public health institutions. An important variable that the study did not explore as a predisposing factor to retained placenta was previous Caesarean section. The Caesarean section rate at the study centre was 35.5%(Olofinbiyi et al., 2020).Thus previous Caesarean section could have ranked high in the ladder of the identifiable predisposing factors if it had been included. Further studies should explore the gravity of Caesarean section in the causation of retained placenta.

Conclusion

Retained placenta remains a significant cause of maternal morbidity and mortality. Efforts should be geared towards increasing contraceptive prevalence and proficiency in post-abortal care. There is a pressing need for training and retraining of skilled birth attendants in the various health institutions running maternity care services. There should also be a burning desire and political will to capture both the poor and the rich under the National Health Insurance program (NHIS) covering maternity care services for better quality of maternity care.

References

AbouZahr, C. (2003) 'Global burden of maternal death and disability', *British medical bulletin*, 67(1), pp. 1–11.

Alam, S. *et al.* (2022) 'Evaluation of Retained Placenta: A Study in a District Hospital', *Sch Int J Obstet Gynec*, 5(10), pp. 455–461.

Burke, C. (2010) 'Active versus expectant management of the third stage of labor and implementation of a protocol', *The journal of perinatal & neonatal nursing*, 24(3), pp. 215–228.

Chhabra, S. and Dhorey, M. (2002) 'Retained placenta continues to be fatal but frequency can be reduced', *Journal of Obstetrics and Gynaecology*, 22(6), pp. 630–633.

Combs, C.A. and Laros Jr, R.K. (1991) 'Prolonged third stage of labor: morbidity and risk factors.', *Obstetrics and gynecology*, 77(6), pp. 863–867.

Han, Y.K. and Kim, I.H. (2005) 'Risk factors for retained placenta and the effect of retained placenta on the occurrence of postpartum diseases and subsequent reproductive performance in dairy cows', *Journal of veterinary Science*, 6(1), pp. 53–59.

John, C.O., Orazulike, N. and Alegbeleye, J. (2015) 'An appraisal of retained placenta at the university of port harcourt teaching hospital: A five-year review.', *Nigerian Journal of Medicine*, 24(2), pp. 99–102.

Nwankwo, F.C. (2023) 'SOCIOLOGICAL REVIEW OF THE FORMS, MERITS AND CHALLENGES OF THE TRADITIONAL HEALTH CARE DELIVERY SYSTEM IN NIGERIA', *THE NIGERIAN JOURNAL OF MEDICAL SOCIOLOGY*, 4(1).

Olofinbiyi, B.A. *et al.* (2020) 'Caesarean Section Audit: The Use of the Robson's Criteria in a Teaching Hospital with Limited Advanced Fetal Surveillance', *International Journal of Innovative Research in Medical Science*, 5(7), pp. 217–221. Available at: https://doi.org/10.23958/ijirms/vol05-i07/907.

Ossai, E.N. *et al.* (2023) 'Where, why and who delivers our babies? Examining the perspectives of women on utilization of antenatal and delivery services in a developing country', *BMC Pregnancy and Childbirth*, 23(1), p. 1.

Owolabi, A.T. *et al.* (2008) 'Risk factors for retained placenta in southwestern Nigeria', *Singapore medical journal*, 49(7), p. 532.

Perlman, N.C. and Carusi, D.A. (2019) 'Retained placenta after vaginal delivery: risk factors and management', *International journal of women's health*, pp. 527–534.

Pujiyani, H., Putri, N.P.V. and Pujiati, E. (2023) 'Risk Factors Analysis of Retained Placenta at Regional Public Hospital of Muntilan', *Jurnal Kesehatan Komunitas Indonesia*, 3(1), pp. 49–58.

Weeks, A.D. (2001) 'The retained placenta', *African health sciences*, 1(1), pp. 36–41.

Yusuf, S.T., Panti, A.A. and Nnadi, D.C. (2013) 'An Appraisal of Retained Placenta in Sokoto: a five-year review', *Orient Journal of Medicine*, 25(1–2), pp. 50–54.