

Surgical Management of PPH: A Study on Different Methods, Its Indications and Complications in Tertiary Care Hospital

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Abstract

Background: Postpartum haemorrhage (PPH) represents one of the main cause of maternal mortality worldwide, most of which occur in low- and middle- income countries. Easy use of uterotonics, uterine compression sutures, and arterial ligation may be used to control haemorrhage. The aim of the study was to evaluate different types of surgical methods of controlling post-partum haemorrhage in tertiary care hospital. **Methodology:** This is a retrospective cohort study. Total number of deliveries from past 5 years conducted in dept of OBGY, smt. Kashibai Navale Medical College and General hospital Pune, Maharashtra, India were included in this study. Patients records were retrieved. Data regarding type of delivery need of surgical management of PPH and method used were recorded. Data collected on proforma and the same was analysed using suitable statistical analysis. **Results:** Out of total conducted deliveries 19673, 163 cases needed surgical intervention to control PPH and achieve homeostasis.

Keywords: PPH, Surgical management.

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INTRODUCTION

Postpartum haemorrhage (PPH) is a major cause of maternal morbidity and one of the leading cause of maternal mortality worldwide. Developing countries with an estimate mortality rate of 140000/year. According to WHO 52, 9000 deaths occurring every year 136000 or 25.7% of deaths takes place in India, PPH being the most commonly reported. 75-90% are due to uterine atony.

Multidisciplinary teams must perform in systematic and coordinated strategies right from anticipating PPH in high risk pregnancies, timely diagnosis in golden hour of PPH and management by uterotonics and taking decisions regarding need of surgical intervention to control haemorrhage. It is well known that delayed control of bleeding is responsible for poor maternal outcome. lethality of PPH is directly proportional to time elapsed since diagnosis.

Initially the first thing to do is fluid replacement, identification of the cause and source of bleeding, taking into account the context of the 4Ts Tone, Trauma, Tissue, Thrombin. Followed by use of

uterotonics mechanical manoeuvres, surgical intervention like compression sutures and pelvic vascular ligatures. finally the non-conservative procedures like obstetric hysterectomy can be performed.

METHOD

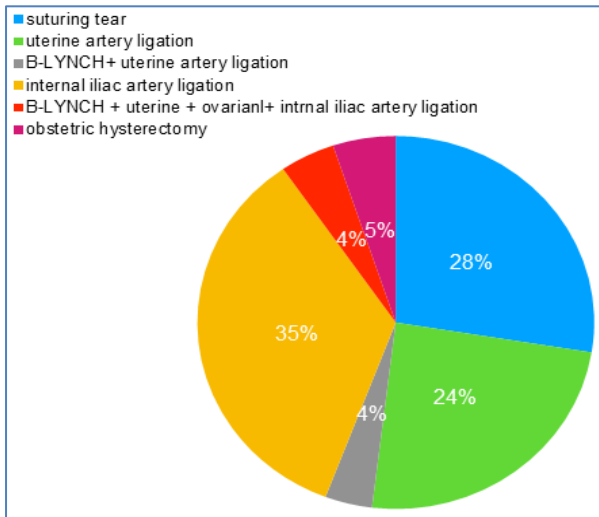
The study was approved by institutional Ethics and Research Committee of Smt Kashibai Navale Medical College and General Hospital, Pune, Maharashtra, India. A retrospective cohort study carried over period of 5 years in department of obstetrics and gynaecology SKNMCGH, Pune, India. Total number of deliveries carried out in this period is evaluated from the records, Post-partum haemorrhage cases with failed medical management and needed surgical intervention to stop bleeding and achieve hemostasis were included in this study.

Data regarding total number of deliveries, type of delivery, cases with PPH, failed medical management requiring surgical intervention, amount of blood loss, number of blood transfusions given, complications faced and post-operative recovery were recorded by medical records.

OBSERVATION AND RESULTS

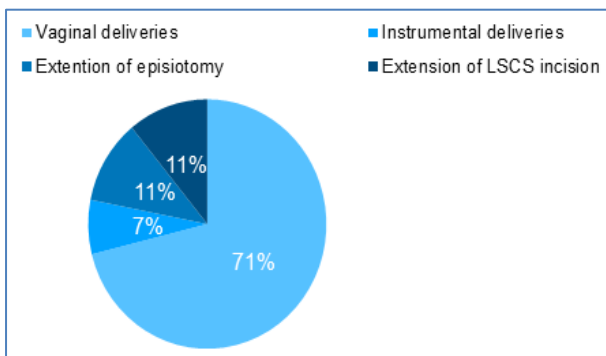
Retrospective data from past 5 years (jan 2015- dec 2019) collected states

Total deliveries conducted 19673
 Total vaginal deliveries 12663
 Total c-sections 5904
 Ventous assisted deliveries 473
 Forceps assisted deliveries 410
 Total 163 cases needed surgical intervention to control PPH.
 Out of 163, 23 were referred from outside.

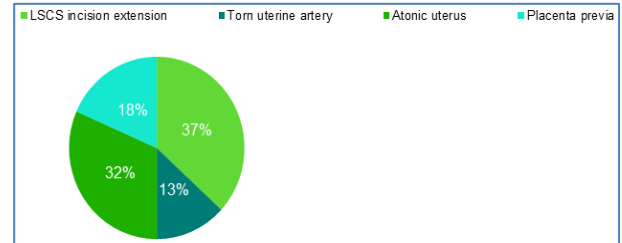


SUTURINTEAR 43
UTERINE ARTERY LIGATION 38
B-LYNCH+ UTERINE ARTERY LIGATION 6
INTERNAL ILIAC ARTERY LIGATION 54
B-LYNCH+ UTERINE+ OVARIAN+INTERNAL ILIAC ARTERY LIGATION 7
OBSTETRIC HYSTERECTOMY 8

Tear suturing
TEAR SUTURING (TOTAL) 43
VAGINAL DELIVERY 6
INSTRUMENTAL DELIVERY 9
(IN ABOVE 40% INCLUDES LIGATION OF DESCENDING CERVICAL ARTERY)
EXTENSION OF EPISIOTOMY 14
LSCS INCISION EXTENSION 14



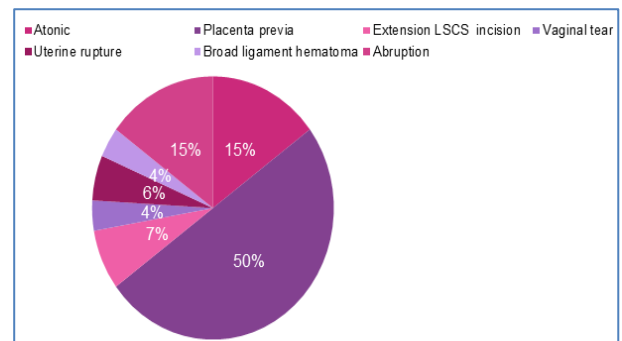
Uterine artery ligation
UTERINE ARTERY LIGATION (TOTAL) 38
LSCS EXTENSION OF INCISION 14
TORN UTERINE ARTERY 5
ATONIC UTERUS 12
PLACENTA PREVIA 7



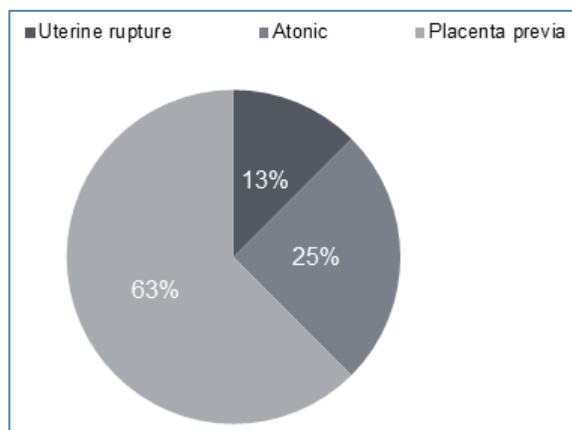
B-LYNCH compression sutures
B-LYNCH (TOTAL 13)
VAGINAL DELIVERY 1
LSCS 12



Internal iliac artery ligation
TOTAL 54
ATONIC 8
PLACENTA PREVIA 27
UTERINE INCISION EXTENSION 4
VAGINAL TEARS 2
UTERINE RUPTURE 3
ABRUPTION 8
BROAD LIGAMENT HEMATOMA 2



Obstetric hysterectomy
TOTAL 8
UTERINE RUPTURE 1
ATONIC 2
PLACENTA PREVIA 4
VESICULAR MOLE 1



Average age: 20-35 yrs

Total	163	
Gravida 1	46	28,22 %
Gravida 2	72	44,17 %
Gravida 3	22	13,49 %
Gravida 4 and +	23	14,11 %

Average parity.

Average blood loss:

In vaginal Deliveries:~ 600CC and in LSCS:~ 1200CC.

Blood Transfusion Required: Depending on the previous blood counts, blood loss and vital status of patient.

ICU stay: min 2 days.

Complications

Dialysis	13
Re-open	2
Infection	16
Ventilatory support	14
DIC	2

DISCUSSION

In this study internal iliac artery ligation found to be the best used method for controlling intractable haemorrhage. Similarly in Sri Devaraj Urs, medical college and research centre SDUAHER Kolar Karnataka, India, internal iliac artery ligation was found to be best treatment modality to achieve hemostasis and to retain future fertility.

In other recent studies, Y. M. Kabadi *et al.* reported effectiveness of internal iliac artery ligation as 86.7%. Similarly, Unal *et al.* reported 87.9% success rate. With the support of within the frame of literature review, and results of our study, we think that internal

iliac artery ligation is lifesaving method in intractable haemorrhage.

PPH can cause exsanguination rapid enough to be fatal in spite of availability of blood products. Internal iliac artery ligation not only prevents obstetric hysterectomy but also in cases where hysterectomy cannot be prevented, it facilitates hysterectomy as in cases of trauma. It decreases the bleeding into the operative field.

CONCLUSION

In this study all cases of PPH were managed successfully. Internal iliac artery ligation found to have highest success rate. Traumatic PPH was mostly managed with internal iliac artery ligation.

Atonic PPH was managed with B-LYNCH sutures. Placenta previa related bleeding was managed with internal iliac artery ligation and in failed cases with obstetric hysterectomy.

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