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INTRAUTERINE PACKING IS STILL WORKING IN PPH WITH ANEMIA IN OBSTETRICAL WOMEN

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Abstract

OBJECTIVE: *To determine the intrauterine packing in controlling PPH.*

STUDY DESIGN AND SETTING: *Retrospective descriptive study was carried out at Shaikh Zayad Women Hospital Larkana, which conducted for 5 years from JAUNARY 2020 to DECEMBER 2024.*

METHODS: - *It was a prospective interventional study, 832 OBSTETRICAL WOMEN aged 21-48 year, who were in pph, primary pph, 433 came through emergency , 240 were delivered in labour room and went in PPH. The patients presenting with PPH after vaginal or abdominal delivery who were included in the study. Patients who P/V bleeding due to genital tract cancer/DUB/ fibroid of uterue were excluded from this study. Each item of data was examined using SPSS version 19, a statistical analysis tool. An independent t-test was applied to compare continuous data on facility control pph women by medication and intrauterine packing , while a chi-squire test was applied to analyze categorical variables.*

RESULT: - *In 5 years, there were 15590 deliveries,7980were delivered by ceasearon section,and 7610were delivered spontaneously by vaginal births , patients with PPH were 873, intrauterine packing women were 673(None of these patients experienced major complications following gauze insertion). The mean age was 29.06 ± 5.7, the mean gravid was 4.85 ± 1.8 and the mean para was 3.12 ± 1.61. There were also 17405 admissions to the obstetrics ward emergency department or outdoor patients department of pregnant women. There were 873 women with PPH, 572 were with atonic uterus, 97 were with genital tract lacerations/ with uterine rupture/ and uterine inversion,94 retained placenta, 28 others with hepatic failure and other medical disorders .67 patients underwent laparotomy and conservative surgical management (B- LYNCH) was applied. Hysterectomy was required for 58 women , and 103 maternal deaths were recorded.*

INTRODUCTION

Postpartum hemorrhage (PPH), characterized by significant blood loss after childbirth, poses a major health risk for mothers. While uterine contractions and the coagulation process primarily regulate blood loss, untreated PPH can lead to severe complications. The traditional definition of PPH has been broadened to encompass more thorough criteria that indicate hypovolemia, based on specific thresholds of blood

loss. Conventional definitions of PPH include anticipated blood losses exceeding 500 milliliters following a vaginal delivery or surpassing 1000 milliliters during a cesarean section.[1]

Postpartum hemorrhage impacts approximately 3 to 5 percent of obstetric patients. These preventable cases represent 12% of maternal fatalities in the United States and account for one-fourth of maternal deaths worldwide each year. PPH is a leading cause of maternal morbidity and mortality on a global scale, occurring in an estimated 1% to 3% of all childbirths, and contributes to about 20% of maternal mortality in developed countries and 8% in underdeveloped nations.[2]

PPH arises from the four "T's": tissue (retained placenta or clots), trauma (lacerations or uterine rupture), tone (uterine atony), and thrombi (coagulation deficiencies). Uterine atony accounts for approximately 70% of PPH cases, making it the most prevalent cause. Several risk factors, including grand multiparity, nulliparity, and advanced maternal age, are associated with PPH. However, most risk factors relate to underlying causes. Secondary PPH is associated with inherited coagulopathies, viral infections, retained placentas, and subinvolution of placental sites.[3]

Regardless of how the delivery occurs, the American College of Obstetrics and Gynecology revised these criteria in 2017 to define excessive blood loss as being more than 1000 milliliters, accompanied by signs and symptoms of hypovolemia within 24 hours after birth. Although this change was implemented with the understanding that blood loss during delivery is often overestimated, any loss exceeding 500 milliliters during vaginal delivery should be considered abnormal and may necessitate intervention.[4]

Among the various differential diagnoses for early postpartum hemorrhage (PPH) are endometritis, chorioamnionitis, uterine rupture, retained placenta, uterine atony, lacerations, uterine inversion, and coagulopathy. Complications associated with the management of PPH include infection, pulmonary edema, hemolytic transfusion reactions, intrauterine synechiae, preterm delivery, infertility, and acute lung injury resulting from transfusions. In South America, it has been reported that approximately 11% of minor postpartum hemorrhages and 2% of major ones occur.[5]

Intrauterine packing

In the 19th century, the initial method for uterine tamponade involved using plain gauze for uterine packing. This practice ceased in the 1950s because of concerns regarding infection risks and inadequate tamponade, even though there were reports claiming complete hemorrhage control. With the introduction of modern materials, uterine packing has regained popularity, showing outcomes and complications similar to balloon tamponade. Besides providing tamponade, gauze treated with hemostatic agents has been shown in limited studies to possibly have local procoagulant effects. In one retrospective cohort study, 47 (60.3%) of the 78 patients with refractory postpartum hemorrhage were treated with chitosan-coated gauze for tamponade, while 31 (39.7%) were given a uterine balloon tamponade at the clinician's discretion.[6] The average estimated blood loss (EBL) was similar between the two groups, with values of 2017 ml for gauze and 1756 ml for UBT (P=.225), along with an average of 1.9 units for RBC transfusion in the gauze group compared to 1.5 units in UBT (P=.66). The rates of intensive care unit admissions were 44.5% for gauze and 61.3% for UBT, while hysterectomy rates were 0% for gauze and 9% for UBT, showing no significant differences between the groups. Nonetheless, the limitations of this study included a small sample size and a nonrandomized, retrospective design. An alternative to impregnated gauze, a mini-sponge tamponade device made from a trauma dressing, has been proposed. A preliminary feasibility study involving nine patients indicated that all participants achieved successful placement and effective management of bleeding. More data are needed to assess the effectiveness and safety of these methods.[7]

The cause influences the risk factors associated with primary postpartum hemorrhage (PPH). Among the risk factors linked to uterine atony, which is the most common cause of primary PPH, are conditions such as placenta previa, multiple births, previous instances of PPH, excessive amniotic fluid (polyhydramnios), large babies (neonates weighing over 4,000 g), rapid labor, labor that exceeds 12 hours, induced labor, extended use of oxytocin, and high parity.[8]

METHODOLOGY:

This retrospective descriptive study conducted at shaikhzayad women hospital larkana over course of 5 years, from jaunuary 2020 to December 2024. The study received ethical approval from the institutional review board of shaikh Zayad hospital larkana, ensuring compliance with international guidelines. This study's ethical review was authorized with reference number ERC No. ----------. The study identified 832 PPH postpartum hemorrhage in women using non-probability consecutive sampling, including all recorded in hospital registers, pph audit files, case sheets,and emergency reports, ensuring completeness and accessibility of data. The study involved pph women, but prior consent was obtained through hospital admission protocols and patients registration forms. Confidentiality and dignity were respected, and data was ananymized. The study adherent to ethical principles in the Decleration of Helsiniki and national guidelines. The research team was trained in ethical data handling practices with the goal of improving maternal health outcomes in tertiary care setting. This retrospective study used a single population formula to determine the sample size for a descriptive retrospective study on pph and benefits of intrauterine packing to control pph. The expected proportion was 30%, but due to limited data and retrospective nature, 832 PPH with 673 IUP were included. This sample reflects the complete population of pph during the study period, making it suitable for descriptive statistical analysis in a tertiary care setting.

INCLUSIVE & EXCLUSIVE CRITERIA:

pregnant women with labor or prenatal who were between the ages of 22 and 49 were admitted , delivered, and developed PPH. Term (third trimester, 37–42 weeks), multigravida, preterm (20 weeks to 36 weeks + 6 days), and prim gravida. 632 patients who diagnosed as PPH were included in this study. Informed consent was obtained from each pregnant participant in this study. We did not include any woman who developed per vaginal bleeding from ovarian cancer, RTA, cervical carcinoma or cervical polyp, or other illnesses. .

All information was gathered through patient interviews who met the study's eligibility requirements. Informed consent was obtained from each pregnant participant in this study. biographical details, a comprehensive medical history, a head-to-toe examination, and laboratory tests such urea creatinine, PT, APTT, hemoglobin level, bleeding time, clotting time, and u; ultrasonography and ECG with echo. All serious women are managed medically and surgically

The study did receive permission from an institutional review board. This study's analysis contains the following variations: obstetric labor, protracted labor, antepartum hemorrhage, postpartum hemorrhage, instrumental delivery, normal delivery or via cesarean section, and mother and fetal problems (APH). Intrauterine growth restriction (IUGR), fetal death (FSB, MSB, NND), and infant preterm birth.

The study used IBM SPSS Statistics to analyze data on maternal deaths. Descriptive statistics were used to summarize findings, with categorical variables like age group and hospital stay expressed as means and standard deviations. The analysis aimed to identify trends, identify contributing factors, and support evidence-based recommendations.

The following demographic data was recorded: name, age, parity, gestational age, education, economic status, contact number, hemodynamic status, and amount of blood loss. The lottery method was used to divide all of the females into two groups at random. While group B females received utero-vaginal packing using roll gauze, group A females received balloon tamponade using condoms. Both were taken out 24 hours after being inserted. Every patient was monitored and treated with antibiotics to avoid infection. Efficacy was labeled (according to the operational definition) if bleeding was stopped within 15 minutes of tamponade or packing, and safety was labeled if no infection, fever, perforation, or laparotomy was seen.

Data entry and analysis were conducted using SPSS version 20. Quantitative measures like age, gestational age, and blood loss are presented through the mean and standard deviation. Qualitative variables such as efficacy and parity are shown using frequencies and percentages. The chi-square test was employed to compare the effectiveness of the two groups. P-value.

RESULT: -

In 5 years, there were 15590 deliveries, 7980 were delivered by ceasearon section,and 7610were delivered spontaneously by vaginal births , patients with PPH were 873, intrauterine packing women were 673(None of these patients experienced major complications following gauze insertion). The mean age was 29.06 ± 5.7, the mean gravid was 4.85 ± 1.8 and the mean para was 3.12 ± 1.61. There were also 17405 admissions to the obstetrics ward emergency department or outdoor patients department of pregnant women. There were 873 women with PPH, 572 were with atonic uterus, 97 were with genital tract lacerations/ with uterine rupture/ and uterine inversion,94 retained placenta, 28 others with hepatic failure and other medical disorders. 67 patients underwent laparotomy and conservative surgical management (B- LYNCH) was applied. Hysterectomy was required for 58 (8.61%) women . In 5 years, there were 873 who developed PPH, there were 673 women who controlled PPH by intrauterine packing. Maternal death were One hundred three (10.08%) died from hypovolemic shock from PPH.

TABLE .1. STASTISTICS OF PPH AND INTRAUTERIN PACKING

YEAR	TOTAL OBSTETICAL ADMISSIONS	TOTAL PPH	TOTA L(IUP) INTRAUTERINE PACKING	PERCENTAGE %
1. 2020	3400	188	143	76.06%
2. 2021	3450	179	139	77.65%
3. 2022	3555	127	91	71.6%
4.2023	3200	159	131	82.38%
4. 2024	3800	220	169	76.81%
TOTAL	17405	873	673	77.09%

The Bibliographic features of PPH with maternal age is 4.67+33.8, gestational age 1.66+36.4, parity 1.63+6.07, in this study. In 5 years, 15590 deliveries, 7980 ceaseron section, and 7610 by vaginal births occurred , with 17405 pregnant women admitted and 832 went in PPH , intrauterine packing in 673 women.

TABLE. 2. DEMOGHRAPHIC FEATURE OF PATIENTS WITH PPH

VARIBLES	MEAN/SD
MATERNAL AGE	4.67 +33.8
GASTATIONAL AGE	1.66+36.4
PARITY	1.63+6.07
EMERGENCY ADMISSION/ OPD	79/21
MOODE OF DELIVERY (SVD AND C/S)	7610/7980

Total PPH women in this 5 years retrospective observational study were 873, among them main and leading cause of PPH was atonic uterus 572 (67.5%), 2nd most common cause was genital tract lacerations including cervical tears,vaginal tears, 3rd and 4th degree perineal tears,haematoma 97 (11.11%), RPOCS WERE 87 (9.96%), WMEN with retained placenta home deliveries 94 (10.76%), Coagulopathy 28 (3.20%).

TABLE.3. NO OF PATIENTS COMING WITH PPH (n= 873)

Causes of pph	Number of patients	frequencies	
Atonic uterus	572	65.5%	
Genital tract truma (lacerations,hematomas, Inversion, rupture)	97	11.11%	
RPOCS (retained tissue)	87	9.96%	
RATAINED PLACENTA	94	10.76%	
COAGULOPATH	28	3.20%	

The surgical management done after failure of medical management were 673 (77.09%) women for intra-uterine packing, after IUP failure uterine compressing sutures applied (B-lynch sutures) were 67 (9.95%) women, 58 (8.61%) were selected for obstetrical hysterectomy in case of IUP failure.

TABLE 4. PPH 2020-2024 SUCCESS RATE OF INTRAUTERIN PACKING (673)

PROCEDURE	NO OF PATIENTS	FREQUENCY
INTRAUTERINE PACKING	673	77.09%
SURGICAL INTERVENTION B-LYNCH AFTER IUP FAILURE	67	9.95%
HYSTRECTOMY AFTER FAILED IUP	58	8.61%
MATERNAL DEATHS	103	10.08%

DISCUSSION:

During the five-year period from 2020 to 2024, a total of 873 individuals experiencing postpartum hemorrhage (PPH) were analyzed in this retrospective descriptive study. PPH is a significant contributor to maternal illness and death. Out of the total participants, 673 had undergone intrauterine packing using gauze rolls. Our findings indicate that slightly over 10% of women who delivered in a hospital during the study timeframe developed PPH. The average age of participants was 4.67 +33.8 years, aligning with age ranges observed in other relevant research. This technique is particularly effective in minimizing bleeding when the atonic uterus does not respond to medical interventions and in cases of placenta previa and accreta. When medicinal therapy had failed to control uterine atony, intrauterine packing was used as a treatment option for severe PPH. According to the cases, intrauterine packing was reported to take 12 to 24 hours. In our research, we kept the pack for 12 hours while keeping an eye on the uterine fundus's height and vital signs. The current study's success rate in stopping the bleeding was 77.08%, which was similar to research by Bagga R, Pradhan B et al. (84.7%), Haq et al. (86%), Bhatti K et al. (86%), and Singh P et al. (91.8%). [10] In the study done by Ali et al. [9] As an alternative to parenteral prostaglandin, misoprostol administered sublingually or rectalally had shown to be a successful medicinal management of PPH that could have reduced the need for invasive treatment. While intrauterine packing is a straightforward, easily

accessible, safe, and successful method of managing PPH, it does not preclude the use of additional treatment modalities if necessary. Even if it didn't work, it might offer an alternative to hysterectomy and other procedures. In this study, intrauterine packing was more successful in stopping blood loss (89.61%). [10]

The placement of intrauterine packing carries the potential for serious side effects, such as infection, pelvic inflammatory disease (PID), fever, perforation, and in some cases, hysterectomy. Our findings indicate that the rates of fever, infection PID, hysterectomy, and perforation are 5.0%, 33.0%, 9.0%, and 14.0%, respectively.Our results are consistent with those seen in Sri Lanka (12.3%) and Tanzania (11.9%). These numbers, however, fall short of those found in Southern Ethiopia (16.6%), Pakistan (21.3%), and Cameroon (23.6%). We discovered that slightly more than 10% of women who gave birth in a hospital throughout the research period experienced postpartum hemorrhage. Women who had a prior history of PPH, those over 35, those who did not receive prenatal care, and grand multigravida women were more likely to have PPH.[11]

It was determined that the overall safety rating was 89.0%. In contrast to other studies, we found that the risk of infection and fever were 7.0% and 19.0%, respectively, and that 9.0% of patients needed a hysterectomy. The study's findings show that intrauterine packing is a feasible, safe, economical, and efficient way to stop bleeding.[12]

In emergency obstetrics, IUP is essential for addressing acute or hypovolemic shock due to the high patient load and resource constraints. This straightforward method works well for trainee residents and junior obstetricians, who are frequently the first responders in such emergency situations, because it is readily available, quick, economical, simple to learn, and takes little time. IUP is a quick process that is simple to understand and use.

This research has constraints, including a limited sample size and a focus on a single center. More extensive studies are required to contrast pelvic devasculization and intrauterine packing with balloon and B-Lynch tamponade. [13]

CONCLUSION:

Pph is most leading cause of maternal death, identified risk factors, proper diagnosis and management can save women. IUP is easy, cheap , convenient,easy to learn and effective to control PP . ,In our study PPH were effectively controlled (77.09%) by INTRA-UTERINE PACKING.

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