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Original Research Article

Study of post-partum complications in a tertiary care centre

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ABSTRACT

Background: The postpartum period, also known as the puerperium, begins immediately after delivery of the neonate and placenta and ends 6 weeks after delivery. It accounts for a number of complications seen and need a thorough assessment for maternal health management.

Methods: Collection of data from post-natal mothers admitted in Cama and Alibless hospital and arranging the data in excel sheets and studying the results through various tables and figures.

Results: In the study conducted it was seen that the complications were higher after caesarean deliveries with 54.2%. The most common complication seen being pregnancy induced hypertension, followed by post-partum hemorrhage. The need for blood and blood product transfusions due to causes like post-partum hemorrhages, or anemia were also seen more after caesarean sections accounting for 38.6% transfusions of all.

Conclusions: The rate of complication is higher in LSCS delivery compared to vaginal deliveries.

Keywords: Postnatal, Caesarean deliveries, Pregnancy induced hypertension, Wound gapes

INTRODUCTION

The postpartum period, also known as the puerperium, begins immediately after delivery of the neonate and placenta and ends 6 weeks after delivery. The spectrum of postpartum complications ranges from relatively self-limiting to life-threatening conditions that can be divided into six categories: infectious conditions (endometritis), thrombotic complications (e.g., deep vein thrombosis, ovarian vein thrombophlebitis, HELLP syndrome, or cerebral sinus thrombosis), hemorrhagic conditions (e.g., uterine atony, trauma of the lower portion of the genital tract, retained products of conception, uterine artery arteriovenous malformations, or uterine artery pseudoaneurysm), caesarean delivery related complications (e.g., bladder flap hematoma, subfascial hematoma, rectus sheath hematoma, abscess formation, uterine dehiscence, uterine rupture, vesicovaginal fistula,

or abdominal wall endometriosis), iatrogenic conditions (e.g., uterine perforation), and non-obstetric complications (e.g., acute cholecystitis, acute appendicitis, uterine fibroid degeneration, renal cortical necrosis, pyelonephritis, posterior reversible encephalopathy syndrome, or pituitary gland apoplexy).¹ PPH is defined as blood loss from the genital tract of 500 ml or more following a normal vaginal delivery (NVD) or 1,000 ml or more following a cesarean section within 24 hours of delivery. Globally, it is the leading cause of maternal deaths and is responsible for 25% of deaths annually.^{2,3} Postpartum hemorrhage is the third most common cause of maternal death in childbirth. It usually happens because the uterus fails to properly contract after the placenta has been delivered, or because of tears in the uterus, cervix or vagina and although some bleeding is normal immediately after delivery, heavy bleeding or hemorrhage occurs in just 2% of births.

Pregnancy has long been recognized as a prothrombotic state. The mechanism of this thrombophilia is thought to be due to increased levels of fibrin and the other coagulation factors, as well as systemic up-regulation of plasma prothrombotic mediators. This synergizes with the slowed lower extremity venous velocities that develop in the third trimester to predispose patients to deep vein thrombosis and pulmonary embolism. Complications of venous thromboembolism are the leading cause of mortality of pregnant and recently pregnant women within the developed world. Like other changes of pregnancy, the prothrombotic state of pregnancy does not immediately revert to normal after delivery. The rate of pulmonary embolism has been found to be highest in the postpartum period, and it requires 4 weeks for the risk of venous thromboembolism to return to normal population levels after delivery.⁴ Postpartum infection is a leading cause of maternal mortality worldwide. Approximately five million cases of pregnancy-related infection occur every year globally, and approximately 75,000 result in death.^{5,6} Infection incidence is higher in low-resource settings, and many infection-related maternal deaths are preventable.^{5,6} Postpartum infections are a subset of maternal infections occurring between delivery and the 42nd day postpartum. The most common postpartum infections include endometritis (puerperal sepsis), urinary tract infections, surgical site infections, blood stream infection and wound infections.^{7,8} Postpartum hypertension complicates approximately 2% of pregnancies and, similar to antepartum severe hypertension, can have devastating consequences including maternal death. Severe acute hypertension should be treated in a timely fashion to avoid morbidity and mortality. Women with persistent postpartum hypertension should be administered a long-acting antihypertensive agent.⁹

Objectives

The objectives of this study were to estimate the prevalence of postnatal complications, incidence of specific complications, duration of stay at the hospital and to compare complication rates in caesarean section with vaginal deliveries.

METHODS

The present study is a research article conducted in the Department of Obstetrics and Gynecology, Cama Hospital, Mumbai from the months of November to December 2021.

Selection criteria and study design

Women in post-partum period between days 1-42, delivered at Cama and Alless hospital. The study includes women who have encountered any post-partum complication, and are willing to participate in the study. Exclusion criteria were; women not willing to participate in the study and those lost to follow up as they wished to

continue treatment elsewhere. The study design adopted was retrospective.

Procedure

The data was collected from patients delivered at Cama and Alless hospital, admitted in postnatal ward and followed up in OPD after discharge for any complications that may have occurred.

Statistical analysis

All the data collected was compiled in Microsoft excel sheets. Results were displayed in tabular and graphic format. Appropriate statistical tests were applied wherever necessary.

RESULTS

The total number of confinements for 2 months were 279, of which 59 patients had some form of complications, which account for around 29.9% of cases. Of this maximum number of complications are seen with LSCS with 54.2% of all complications. These include complications like abdominal distensions, hemorrhage, wound gapes, post spinal headaches (Table 1).

Table 1: Mode of delivery and percentage of complications.

Mode of delivery	N	Patients with complications	%
LSCS	142	32	54.2
FTND	127	21	35.5
Others	10	3	5.7
Total	279	59	29.9

The percentage of patients that required blood transfusion were 12.1%. The study concluded that the maximum transfusions were seen in multigravida patients who underwent caesarean section. Of the total transfusions, 64.7% transfusions were in multigravida, rest 35.29% in primigravida (Table 2). According to the study, pregnancy induced hypertensive disorders with 35.5% accounted for the maximum number of complications followed by post-partum hemorrhage being 25.4%, with wound gapes and wound discharges with 6.7% though less encountered due to improved aseptic precautions, turns out to be the complication which requires extended stay at the hospitals (Table 3).

DISCUSSION

According to this study, the rate of LSCS at CAH was found to be 50.8% and that of vaginal delivery being 49.2%. The study done in women with post-partum complications concluded the rate of complications was higher after caesarean deliveries with 54.2%.

Table 2: Mode of delivery and need for blood and blood product transfusion.

Mode of delivery	Primigravida	Multigravida
LSCS	5	12
FTND	6	8
others	1	2
Total	12	22
%	35.29	64.7

The most common complication seen being pregnancy induced hypertension, followed by post-partum hemorrhage. The need for blood and blood product transfusions due to causes like post-partum hemorrhages, or anemia were also seen more after caesarean sections accounting for 38.6% transfusions of all. The rate of wound gapes was 6.7%. According to a study conducted in two selected hospitals of Rupandehi district, Nepal of 550 mothers, 408 (74.2%) had vaginal delivery and 142 (25.8%) had caesarean delivery.

Table 3: Common complications and average duration of stay at hospital.

Complications	Number of points	Average duration of stay (days)
Post-partum hemorrhage	15	7-10
Pregnancy induced hypertensions	21	5-8
Wound gapes and discharges	4	14-30
Anemia	12	4-7
Gestational diabetes mellitus	5	-
Amniotic fluid embolism	1	20
Acute tubular necrosis	1	30
Psychotic illnesses	-	-

The common maternal complications were postpartum hemorrhage 116 (21.1%), prolonged labor 47 (8.5%) and wound infection 42 (7.6%).¹⁰ According to a study conducted by Priyanka Singh and et al the prevalence of cesarean births were 13.7% and 37.9% in the public and private sectors, respectively.¹¹ World-wide large disparity is observed in caesarean sections rates, highest rates being reported in Latin America and the Caribbean region (40.5), followed by Northern America (32.3), Oceania (31.1), Europe (25), Asia (19.2) and Africa (7.3)^{11, 12}. In India as per District level household survey 3 (DLHS) caesarean section rate is 28.1% in private sector and 12% in public sector health facilities.¹³ According to study conducted by Patterson et al the rates of obstetric blood product transfusion have increased by 33% since 2001, with the majority of this associated with hemorrhage. Women with bleeding or platelet disorders and placenta

previa are at increased risk of transfusion and should be treated accordingly.¹⁴

Limitations

Limitations of current study were; as the study is conducted in a tertiary care centre with referral of high-risk patients from primary and secondary health centres, the actual rate of vaginal deliveries and caesarean sections in a normal population cannot be evaluated, hence the complication rate in this study might be higher for caesarean deliveries, as the rate of caesarean deliveries itself is higher. Hence, the results of study might actually differ based on the tier of health centres and certain other factors, including infrastructures, funds, manpower etc.

CONCLUSION

Post-partum period accounts for a number of complications seen and need a thorough assessment for maternal health management. This requires thorough vigilance from patients side and the health practitioner to catch on the warning signs. In this study, it was seen that the rates of caesarean deliveries are on the rise, and so the complications associated with it. The most common complication in the study seen was pregnancy induced hypertension, this remains independent of the mode of delivery. According to this study, the rate of blood transfusions is seen more with caesarean section deliveries.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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