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Original Research Article

Atonic postpartum haemorrhage among 10962 deliveries at a tertiary care centre

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Abstract

Objectives: To find incidence of Atonic PPH in our tertiary care centre. Study preference of methods of management of Atonic PPH among various modes of delivery and to assess the need of blood transfusion among various modalities of treatment.

Materials and Methods: Study is a retrospective study conducted at a tertiary care centre. Data was retrieved from our MRD regarding patients who laboured and delivered here in 2 years. Results were analyzed by chi square and Z test.

Results: The incidence of Atonic PPH was 3.7% in our study. 12.46% of cases delivered by Caesarean section needed surgical intervention as compared to 0.24% in vaginally delivered group. 11.3% of cases delivered by Caesarean section needed blood transfusion as compared to 0.24% in vaginally delivered group

Conclusion: The incidence of Atonic PPH in our centre is low. The incidence of Atonic PPH among Caesarean delivered patients was higher as compared to vaginal delivered patients. Medical modality was used more for vaginal delivered patients compared to LSCS. No difference in blood transfusion rates were seen among medically managed vs. surgically managed cases. However increased need of blood transfusion was seen in LSCS patients.

Keywords: Atonic PPH, management of blood transfusion, need for blood transfusion

1.Introduction

Globally about 11% of women have severe PPH. In the developing countries like India, PPH affects 9.2% of all deliveries[1]. WHO statistics suggest that PPH is one of the leading cause of maternal morbidity and mortality worldwide[2]. The Maternal Mortality Rate (MMR) in India currently is estimated at 200/100,000 live births, with PPH being responsible for 30% of the deaths[3].

Postpartum haemorrhage (PPH) is defined as loss of 500 ml of blood or more from the genital tract after delivery of baby. Clinically, PPH is defined as bleeding sufficient to cause symptoms and/or signs of hypovolemia. The clinical presentation is important because many women can tolerate the loss of more than 500 mL of blood

following vaginal delivery without evidence of hypovolemia.

The MMR due to Atonic PPH can be reduced by antenatal care, identification of high risk, active management of IIIrd stage of labour and appropriate management of patients who goes into PPH. Medical management is the first line of treatment for atonic PPH which involves use of oxytocic drugs like Oxytocin, Ergometrine, Prostaglandin F_{2α} and Misoprostol. If Medical management fails, surgical intervention is the only life saving option[4]. Different ways to intervene surgically are Uterine artery ligation, Ovarian Artery Ligation, Internal Iliac Ligation, Uterine Packing,

Compression sutures like B-Lynch sutures or Hysterectomy.

Along with medical and surgical management of Atonic PPH, replacement of blood and blood products may be needed. Blood transfusion is aimed at reducing morbidity and improving health related quality of life. In clinical obstetrics exact blood loss is difficult to estimate. In the past few years, increasing concern has arisen about this treatment.

Despite the introduction of several new guidelines, transfusion criteria still vary widely from clinician to clinician[5]. It is considered appropriate to transfuse, if the blood loss is between 1.5-2 L[6]. The rate of transfusion of blood and blood component therapy is different in different sets of population[7][8].

Hence our study is an effort to find preference of methods for management of Atonic Postpartum haemorrhage among various modes of delivery and also assess the need for blood transfusion along with various treatment modalities.

2. Materials and Methods

This was a retrospective study conducted at Lady Goshen Hospital, Mangalore, which is a tertiary care hospital providing services to the district of Dakshina Kannada and seven other neighbouring districts in the state of Karnataka and Kerala. The study population consisted of all patients who laboured and delivered at our tertiary care centre between January 2010 to December 2011 (n=10962) among whom cases having Atonic PPH (n=406) were included in the study. After the approval of the Institutional authorities, data was retrieved from case sheets of all delivered patients from our Medical Records Department. The demographic profile of the patients like age, parity, and gestational age were noted. The modality of treatment of PPH along with blood transfusion details for the management of PPH were noted. A note of various indications for LSCS in patients with atonic PPH was made. Patients having atonic PPH concurrent with traumatic PPH, placenta accreta or placenta percreta were excluded from the study.

2.1 Statistical Analysis

The collected data was analysed using SPSS version- 17 and chi square and Z test was applied to obtain statistical significance.

2.2 Ethical Approval

Approved by the institutional ethics committee of Kasturba Medical College, Mangalore, Manipal University. Reference number- KMC/STU/CONF/2/19/2014. Dated- 10/5/2014

3. Results

Among the 10962 cases studied, the incidence of atonic PPH was found to be 3.7% (406 cases). On studying the cases of atonic PPH with different modes of delivery, it was found that 29% of cases were among vaginal delivery group and 71% among caesarean section.

Table 1: Incidence of atonic PPH among different modes of delivery

Mode of delivery	Incidence of atonic PPH (%)
Vaginally	16.4
Caesarean	75.2

N=100%

On analysing the preferred modality for management of atonic PPH, it was found that 87% cases were managed medically and only 13% of the cases needed surgical intervention. It was observed that majority of surgical interventions followed caesarean delivery and medical management was seen more often during a vaginal delivery.

Table 2: Mode of management among Vaginal and Caesarean delivered patients who had atonic PPH

Mode of Management Mode of delivery	Medical (%)	Surgical (%)
Vaginal	116 (28.5)	1 (0.24)
Caesarean	239 (58.8)	50 (12.46)

N=406

Out of the 117 cases that developed atonic PPH on vaginal delivery, 116 received medical management.

A total of 39 (9%) patients in our study required blood transfusion. Among these patients, 53.8% were among medically managed PPH and 46.2% were among those with surgical intervention.

Table 3: Need of blood transfusion among different modalities of management

Medical		Surgical	
Vaginal (%)	Caesarean (%)	Vaginal (%)	Caesarean (%)
5 (12.8)	16 (41)	1 (2.6)	17 (43.6)

N=39

54% of transfusions were in patients who received medical management for atonic PPH and 46% were those in whom surgical modalities were used to control PPH. There was no statistical significance in rates of blood transfusion among different modalities of management.

It was analysed in this study that women undergoing caesarean section receive a higher incidence of blood transfusion when associated with PPH as compared to women who had a vaginal delivery associated with PPH. There was no

difference in demographic data between the vaginal and caesarean delivered group.

4. Discussion

Atonic PPH is present in 3.7 % of our patients, which is quite low as compared to the nationwide incidence rate of 9.2%[9]. A study conducted In USA showed similar incidence of atonic PPH which was between 4-6%[10]. The low incidence seen in our study may be due to the fact that IIIrd stage of labour was actively managed irrespective of the risk category of the patient. Easy accessibility of laboratory and blood bank services, free antenatal services and free supplement supply of iron tablets were some of the factors predisposing to decreased incidence of atonic PPH. Moreover awareness is high in this part of India hence patients come regularly for antenatal checkups.

It was noted that 1.64% of the cases of PPH follow vaginal delivery where as 7.52% of the cases were after a cesarean section. This result was supported by a study which says that the incidence was 3.9% in vaginal deliveries & 6.4% in cesarean deliveries.[11]

Our results indicate that medical management was used more often for control of atonic PPH in vaginal delivery patients than Caesarean delivered patients. There was no statistical significance among age, parity or gestational age in both the groups. The rate of surgical management in Caesarean delivered patients was high. The difference may be because in PPH, following vaginal delivery, appropriate time was given for medical management to act before surgical intervention was tried.

However in caesarean delivery if the uterus was atonic even after giving medical management, surgical intervention was initiated probably in anticipation of need to prevent relaparotomy.

So questions that arise are- were we more aggressive in dealing with atonic PPH in caesarean deliveries?, Was it a visual impact of blood loss or fear of patient bleeding to death on table or need for relaparotomy that had lead to the surgeon's bias?. These questions need to be answered because studies have shown that surgical methods can probably impair fertility outcomes[12]. Moreover there are concerns regarding closure of uterine cavity and blood entrapment resulting in infection, pyometra and adhesions as the uterus will be transfixed from front to back in some of the suturing techniques[13]. Compressive suture can also increase PPH recurrence [14]. A higher risk of uterine ischaemia seems to be caused with artery ligation.

Our study showed that blood transfusion rate in vaginally delivered patients was less than patients who delivered by Caesarean section. This result makes us to look back again as to why more blood transfusions were needed in caesarean delivered patients despite the fact that rate of blood transfusion between the patients managed medically or surgically was not significant.

The incidence of Atonic PPH in our center is low and none of the patients who had atonic PPH succumbed to maternal mortality. Blood transfusion rate in Caesarean delivered patients is more which can probably be decreased.

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