Determine the frequency of peripartum hystrectomy in placenta previa

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ABSTRACT

Background: Peripartum hysterectomy is one of the life saving procedure performed after vaginal delivery or caesarean birth or in the immediate postpartum period in cases of intractable haemorrhage due to uterine atony, rupture uterus and placental disorders and it is usually reserved for the situations where conservative measures fail to control the haemorrhage. The objective of the study was to determine the frequency of peripartum hysterectomy in placenta praevia.

Methods: The study was cross-sectional. It was conducted at the Department of Obstetrics and Gynaecology, Punjab Medical College and affiliated Hospital, Faisalabad. Study was carried out over a period of six months from October 2010 to March 2011. Total 130 cases of placenta praevia undergone caesarean section were included in this study. In cases of primary postpartum haemorrhage conservative management was done first in the form of intramuscular syntometrine (Oxytocin 5 IU/ergometrine 0.5 mg). Intravenous infusion syntocinon (40 IU in 500ml 0.9% saline over 4-6 hours).

Results: Mean age of the patients was found to be 30.9±6.7 years. Distribution of cases by gestational age shows, 52 (40.0%) patients had gestation of 28-36 weeks and 78 (60.0%) patients had gestation of 37-41. Mean gestational age was observed 37.5±3.4 weeks. Parity distribution was as follows: 76 (58.5%) patients had parity 0-3, 34 (26.1%) patients had parity 4-6 and 20 (15.4%) patients had parity > 6 with mean parity of 3.2±1.9. Conservative management was done in 129 patients (99.3%). Peripartum hysterectomy was found to be in 1 patient (0.7%).

Conclusions: Placental pathology is the leading cause of postpartum hemorrhage and the main indications of peripartum hysterectomy. Timely operation minimizes the morbidity and mortality.

Keywords: Placenta praevia, Peripartum hysterectomy, Caesarean section

INTRODUCTION

Peripartum hysterectomy is defined as any hysterectomy performed within 24 hours of delivery. It is usually performed in the presence of life threatening obstetrical haemorrhage that can lead to severe complications like disseminated intravascular coagulopathy, renal and hepatic failure, death.¹

The overall rate of peripartum hysterectomy was 0.8 per 1000 deliveries.¹ Maternal mortality was 0.6%. The most commonly reported causes of haemorrhage leading to peripartum hysterectomy are uterine atony (53%), placenta praevia (9.39%), placenta accreta (39%) uterine rupture (8%) and extension of uterine incision at delivery (6%).²,³

Placenta praevia refers to a placenta that over lies or is proximate to the internal os of the cervix. It complicates
approximately 0.3-0.5% of pregnancies. Risk factors for placenta praevia include prior caesarean delivery, pregnancy termination, intrauterine surgery, smoking, multiple gestation, increasing parity and maternal age.\textsuperscript{4}

Morbidities associated with placenta praevia include antepartum haemorrhage, need for hysterectomy, morbid adherence of placenta, intrapartum haemorrhage, postpartum haemorrhage.\textsuperscript{5}

Placenta Praevia is not an uncommon but underestimated, under reported and preventable condition. Prevention is possible in case of known risk factors. Maternal and fetal mortality can be reduced by identifying high risk patients.\textsuperscript{7} Women with low-lying placenta have at least 60% chance of vaginal birth, but should be monitored for postpartum haemorrhage.\textsuperscript{8}

The rationale of my study was to know the frequency of peripartum hysterectomy in placenta praevia as placenta praevia is a common condition and it is associated with significant maternal morbidity and mortality. So my study will not only add to the existing data but also enable us to take appropriate steps at organizational levels for better backup facilities to improve outcome in such patients.

**METHODS**

This cross-sectional study is conducted in Department of Obstetrics and Gynaecology, Punjab Medical College and affiliated Hospital, Faisalabad. Sample size of 130 was calculated with confidence level 1-\(\alpha\) as 95% absolute precision (d) as 5%, anticipated proportion (p) as 9.39%.\textsuperscript{3} So 130 cases of placenta praevia undergone caesarean section were included in the study. This study was carried out over a period of six months from October 2010 to March 2011. Sampling technique used in these cases was Non-probability – consecutive sampling.

In the study all the patients undergone caesarean section for placenta praevia at any gestational age after 28 weeks to 41 weeks were included. Patients who have undergone caesarean section due to causes other than placenta praevia like: placental abruption, Fetal distress, mal-presentation, were not included in the study.

After taking approval from the hospital ethical committee women from the emergency and obstetric ward of the DHQ Hospital, Faisalabad, who full fill the inclusion and exclusion criteria was taken along with their written informed consent.

Blood was arranged and cross matched for the patient before caesarean section. In cases of primary postpartum hemorrhage conservative management was done first in the form of intramuscular syntometrine (Oxytocin 5 IU/ergometrine 0.5 mg); Intravenous infusion syntocinon (40 IU in 500 ml 0.9% saline over 4-6 hours); injection PGF\textsubscript{2}α (1 cc in each cornu of uterus); tablet Misoprostol 800 mg (4 pessaries) into uterus. B-lynch (compression sutures applied on uterus); Uterine artery ligation were done. Peripartum hysterectomy was done if all these measures failed. Frequency of peripartum hysterectomy was noted on a specially designed proforma. This information was collected by researcher herself. The data were entered and analyzed in Statistical package for social sciences (SPSS) version 20.

Quantitative variables in this study were age, gravidity/parity, gestational age qualitative variables were conservative management and peripartum hysterectomy.

Mean±standard deviation was calculated for quantitative variables (age, parity, and gestational age). Frequency and percentages was calculated for qualitative variable (peripartum hysterectomy and conservative management).

All the data was presented in the form of tables and graphs.

**RESULTS**

Present study was carried out over a period of six months from October 2010 to March 2011 in the Department of Obstetrics and Gynaecology, Punjab Medical College and affiliated Hospital, Faisalabad.

| Table 1: Distribution of cases by age. |
| Age (year) | Number | Percentage |
| 20-25 | 41 | 31.5 |
| 26-30 | 38 | 29.2 |
| 31-35 | 27 | 20.8 |
| 36-40 | 24 | 18.5 |
| Total | 130 | 100.0 |
| Mean±SD | 30.9±6.7 |

Regarding age distribution of cases, majority of the patients, 41 (31.5%) were between 20-25 year and less patients i.e. 24 (18.5%) were 36-40 years of age with mean age of 30.9±6.7 years (Table 1).

| Table 2: Distribution of cases by gestational age. |
| Gestational age (week) | Number | Percentage |
| 28-36 | 52 | 40.0 |
| 37-41 | 78 | 60.0 |
| Total | 130 | 100.0 |
| Mean±SD | 37.5±3.4 |

Distribution of cases by gestational age shows, 52 (40.0%) patients had gestation of 28-36 weeks and 78 (60.0%) patients had gestation of 37-41. Mean gestational age was observed 37.5±3.4 weeks (Table 2).

Parity distribution was as follows: 76 (58.5%) patients had parity 0-3, 34 (26.1%) patients had parity 4-6 and 20 (15.4%) patients had parity >6 with mean parity of 3.2±1.9 (Table 3).
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with a mean of 3.2±1.9. The highest frequency was in
In present study, the parity of the patients ranged from 0
upto 24.7% in 1988
is interrelated to the fact that incidence of caesarean
sections. The incidence of placenta accreta is 5% in
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sections. The incidence of placenta accreta is 5% in
patients who undergo peripartum hysterectomy at the
perioperative antibiotics. Antibiotics are given to all
patients who undergo peripartum hysterectomy at the
Department of Obstetrics and Gynaecology, Medical
College and affiliated Hospital, Faisalabad. There was a
high prevalence of infectious morbidity in the
complications noted; we may have to study in detail our
early considerations like low parity may
contribute to the delay in performing a hysterectomy.
These delays coupled with the limited supplies of blood
and blood products may have contributed to some of the
adverse outcomes associated with uterine atony in this
study.
Early decision making and intervention may help reduce
the high mortality associated with uterine atony. The use
of hysterectomy to control bleeding in young women of
low parity is undesirable and other methods like the B-
Lynch brace procedure, ligation of the uterine arteries and
ligation of the internal iliac arteries may be used in selected
cases to control atonic uterine haemorrhage.14
Ligation of the internal iliac arteries requires the services
of a skilled surgeon and may not be the procedure of choice
in the setting of massive haemorrhage and an unstable
patient as it may be associated with a substantial risk of
failure.15 The B-Lynch procedure and ligation of the
internal iliac arteries are used in our unit but no studies
have been done to assess the effectiveness of these
methods in our practice.
Packing of the uterus in severe atonic uterine haemorrhage
has received both favourable and unfavourable reviews as
one of the methods of controlling uterine haemorrhage.
Concerns have been raised about its tendency to conceal
continued bleeding, uterine trauma and infection. Some
authors are of the view that these concerns have been
overestimated. Complications from peripartum
hysterectomy are high because of the increased blood
supply to the pelvic organs during pregnancy, the distorted
pelvic anatomy as a result of the enlarged uterus and the
fragility of the tissues.16
The incidence of morbidity is influenced by many factors
including the indication for surgery and the use of
perioperative antibiotics.17 Antibiotics are given to all
patients who undergo peripartum hysterectomy at the
Department of Obstetrics and Gynaecology, Medical
College and affiliated Hospital, Faisalabad. There was a
high prevalence of infectious morbidity in the
complications noted; we may have to study in detail our
choice of postoperative antibiotics and the incidence of
septic complications with the view to altering our
antibiotics.
In current study, frequency of peripartum hysterectomy
was found to be 1 (0.7%). This figure is consistent with the

| Parity | Number | Percentage |
|--------|--------|------------|
| 0-3    | 76     | 58.5       |
| 4-6    | 34     | 26.1       |
| >6     | 20     | 15.4       |
| Total  | 130    | 100.0      |
| Mean±SD| 3.2±1.9|

| Conservative management | Number | Percentage |
|-------------------------|--------|------------|
| Yes                     | 129    | 99.3       |
| No                      | 01     | 0.7        |
| Total                   | 130    | 100.0      |

| Peripartum hysterectomy | Number | Percentage |
|-------------------------|--------|------------|
| Yes                     | 1      | 0.7        |
| No                      | 129    | 99.3       |
| Total                   | 130    | 100.0      |

Conservative management was done in 129 (99.3%) patients (Table 4).
 Peripartum hysterectomy was found to be in 1 patient (0.7%) (Table 5).

**DISCUSSION**

Peripartum hysterectomy is one of the life saving surgical
procedures performed. Life-threatening haemorrhage
resulting from uterine rupture and atony has become rare
events in the developed world but they continue to pose a
major problem in obstetric care in developing countries.9

As reported by Clark et al incidence of placenta praevia
increases from 0.5% in general population to 3.9% after
one caesarean section and upto 10% after four caesarean
sections. The incidence of placenta accreta is 5% in
patients with placenta praevia with one previous caesarean
scar to 67% with four previous caesarean scar.10

Fixation of abnormal placentation as a primary indication is
interrelated to the fact that incidence of caesarean
section increased from 5.5% in 1970 to 16.5% in 1980 and
upto 24.7% in 1988.11

In present study, the parity of the patients ranged from 0-7
with a mean of 3.2±1.9. The highest frequency was in
those who were para 2. These results are comparable with
a study of Kwame-Aryee et al, they demonstrated mean
parity 2.7±1.7.12

Problems arise when dealing with atony of the uterus; the
diagnosis is made when conservative measures have failed
to control bleeding by which time the patient may have lost
a large volume of blood and her condition may be in
extremis. In our unit uterine atony is managed initially
with manual massage of the uterus, administration of
intravenous oxytocin and ergometrine supplemented by
the replacement of blood volume with crystalloids,
colloids and blood transfusion. Prostaglandin F2α and
rectal misoprostol have also been used.13

Surgery is considered when these conservative measures
have failed. Other considerations like low parity may
contribute to the delay in performing a hysterectomy.
These delays coupled with the limited supplies of blood
and blood products may have contributed to some of the
adverse outcomes associated with uterine atony in this
study.

| Table 3: Distribution of cases by parity. |
|------------------------------------------|
| Parity | Number | Percentage |
|--------|--------|------------|
| 0-3    | 76     | 58.5       |
| 4-6    | 34     | 26.1       |
| >6     | 20     | 15.4       |
| Total  | 130    | 100.0      |
| Mean±SD| 3.2±1.9|

| Table 4: Conservative management. |
|-----------------------------------|
| Conservative management | Number | Percentage |
|-------------------------|--------|------------|
| Yes                     | 129    | 99.3       |
| No                      | 01     | 0.7        |
| Total                   | 130    | 100.0      |

| Table 5: Peripartum hysterectomy. |
|-----------------------------------|
| Peripartum hysterectomy | Number | Percentage |
|-------------------------|--------|------------|
| Yes                     | 1      | 0.7        |
| No                      | 129    | 99.3       |
| Total                   | 130    | 100.0      |
study of Shah and Khan, they reported 0.68% frequency of peripartum hysterectomy. 18

CONCLUSION

In conclusion, peripartum hysterectomy rates are increasing over time, possibly related to increasing caesarean deliveries, and other factors, such as abnormal placentation, that are known to be associated with increasing maternal age and delayed childbearing in today’s society. Our results suggest that placenta praevia increase the risk for peripartum hysterectomy. Although it is not possible to prevent all cases of hysterectomy, women at particularly high risk should be counseled and preventative steps comprising early assessment and recognition of a woman’s potential risks should be employed.

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

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