Original Article

Indication of Emergency Hysterectomy in Pakistani Patients

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Abstract

Objective: To determine the frequency of indications and factors leading to emergency peripartum hysterectomy.

Methodology: This descriptive cross-sectional study was conducted at the department of obstetrics and gynecology in Jinnah Postgraduate Medical Centre. 104 patients who presented in gestational age 34-40 weeks assessed by last menstrual period and having indication of emergency peripartum hysterectomy. Women of age 20 to 40 years, having at least 1 child were selected.

Results: Mean age was 31.94±6.38 (22-40 years). Mean gestational age was 37.44 ± 1.68 (34-40 weeks). Atonic uterus was present in 28.8%, placenta praevia in 11.5%, morbidly adherent placenta in 11.5%, and endometritis was present in 10.6%. Uterine rupture was present in 45.2%, multiple gestations were diagnosed in 23.1% patients, 32.7% patients had gestational diabetes, 30.8% had preeclampsia while the history of the previous caesarean section was present in 35.6%. The frequency of uterine rupture decreased with increasing patient age, increasing gestational age and also with increasing parity. Placenta praevia increased with an increasing maternal age but it decreased with increasing gestational age. The frequency of preeclampsia as a risk factor for emergency peripartum hysterectomy was also affected and it with advanced gestational age. Gestational diabetes as risk factor increased with increasing the age of the patient, increasing gestational age and also the increasing parity (p-value<0.001).

Conclusion: Rupture of uterus, uterine atony, placenta praevia and abnormally positioned placenta are common indications for emergency peripartum hysterectomy. Risk factors are gestational diabetes, preeclampsia, endometritis, multiple gestations and history of previous caesarean sections.

Keywords: Emergency peripartum hysterectomy, maternal morbidity, rupture uterus, uterine atony, postpartum hemorrhage, placenta praevia.

Cite this article as: Aziz S, Ashfaq S, Sultan S, Tahir H, Iqbal F, Hassan M, Irfan SM. Indication of Emergency Hysterectomy in Pakistani Patients. J.Soc. Obstet. Gynaecol. Pak. 2017; Vol 7(1):45-49.

Introduction

Emergency hysterectomy is a lifesaving procedure performed to control hemorrhage. Emergency peripartum hysterectomy can be performed within a few hours of normal delivery. Instrumental delivery or caesarean section or sometimes can be done in the puerperium.[1] Emergency peripartum hysterectomy is indicated where patient's life at risk and it requires highly experienced and skilled medical team to treat the condition. [1]

A study reported that 2.8% women had an

Authorship Contribution: [1]Study design, analysis and interpretation of data, [2, 4, 5] data collection. [3,6] manuscript writing. [7]revising final manuscript critically.

Funding Source: none **Received:** Nov 6, 2016 **Accepted:** Mar 30,2017
Conflict of Interest: none

emergency peripartum hysterectomy while the literature shows the range to be 1 in 303 to 1 in 5000 deliveries, making a rate of 0.2-3.3/1000 deliveries respectively. The main indications for hysterectomy were morbidly adherent placenta (47.5%), ruptured Uterus (27.9%) and uncontrollable hemorrhage due to uterine atony (21.3) worldwide. [2]

The common indications were abnormal placentation (50.7%), uterine atony (34.7%) uterine rupture (16.7%). [3] The risk factor for hysterectomy included high parity, previous caesarean delivery and placenta praevia.[4] In local study, it was found that main indications were uncontrolled hemorrhage due to atonic uterus (21.8%) and ruptured uterus (53.1%). Other indications included infected puerperal Uterus (9.4%), placenta praevia (9.39%), and morbidly adherent placenta (6.3%). [5] The factors associated with obstetrical hysterectomy e.g. postpartum hemorrhage due to atony associated with multiple gestations (7.3), gestational diabetes (8.1), preeclampsia (10%), and other infected related factors e.g. endometritis.[6]

Emergency hysterectomy in the peripartum period is often performed for life-threatening obstetric conditions. [7,8] It includes both cesarean hysterectomies and postpartum hysterectomies, that are done after cesarean delivery or after vaginal delivery respectively. Previous studies have not made a distinction between the different types of emergency peripartum hysterectomy in the analyses of associated risk factors or complications. [9-12] Other studies sought to estimate the incidence of emergency peripartum hysterectomy at a single tertiary care institution, and to elucidate the differences in risk factors, indications, outcomes, and complications between cesarean and postpartum hysterectomies. [13-15]

Methodology

This was a descriptive, cross-sectional study carried out in the Department of Obstetrics & Gynecology, Jinnah Postgraduate Medical Centre, from June 2012 to March 2013. 104 cases were enrolled by non-probability consecutive technique.

All women of child-bearing age 20 to 40 years with the parity 1 or more having gestational age 34-40 weeks assessed by last menstrual period were included. Pregnant women with other causes of acute abdomen include acute appendicitis, ruptured abdominal aneurysm, peritonitis, pancreatitis, cholecystitis, ruptured spleen or ruptured ovarian cyst were excluded. The data was recorded on a predesigned proforma by the researcher.

Data Collection Procedures: The sample subjects were selected through emergency departments of Gynaecology and Obstetrics, Jinnah Postgraduate Medical Centre. All patients were carefully scrutinized for indication of emergency peripartum hysterectomy like uterine atony if flabby uterus found clinically, morbidly adherent placenta diagnosed on ultrasound showing the depth of Placental invasion as superficial myometrium deep myometrium and outside the uterus), ruptured uterus suspected if patient was having, hemorrhage > 1000 ml assessed by number of pads minus the weight of dry pads (1 gm = 1 ml), tachycardia > 100 b/min, B.P 90/50 mm Hg. Factors associated with emergency peripartum hysterectomy such as multiple gestation (gravid 2 or more), gestational diabetes (fasting blood sugar>126 mg/l), preeclampsia (if BP > 140/90 mm Hg, protienuria> 300 mg in 24 hours' urine sample), endometritis if abdominal pain and tenderness on palpation, culture showing no growth), previous caesarean section (1 or more).

Data Analysis: SPSS version 19 was used for data analysis. Mean (±standard deviation) was calculated for quantitative variables such as age and gestational age. The frequencies of categorical variable like parity, indications of the obstetrical hysterectomy such as atonic uterus, ruptured uterus, morbidly adherent placenta were calculated. Factors leading to obstetrical hysterectomy e.g. multiparity, multiple gestations, gestational diabetes, endometritis was also presented as frequency and percentage. Variables considered as effect modifiers like maternal age, parity, and gestational age were stratified to find out the effects of this on outcome through chi-square test $P < 0.05$ will be taken as significant.

Results

The mean ± SD age of patients was 31.94 ± 6.38 years with a range from 22 to 40 years. The mean ± SD parity was 2.03 ± 1.17 children which ranged from minimum 1 child to a maximum 5 children. The mean ± SD gestational age was 37.44±1.68 weeks with a range from 34 to 40 weeks.

Overall 18.1% patients were in group aged upto 25 years, those who aged from 26-35 years were 41.3% while in 36-45 years age group there were 40.4%

women. Regarding the gestational age, it was seen that nearly two-thirds (i-e; 61.5%) had a gestational age of 38 weeks or above, twenty-three percent patient presented with a gestational age of 36-37 weeks while those having the gestational age of up-to35 weeks were only 15.4%.

Regarding indications and factors leading to emergency peripartum hysterectomy atonic uterus was present in 28.8%, placenta praevia was present in 11.5%, morbidly adherent placenta was present in 11.5%, and endometritis was present in 10.6%. Beside these uterine rupture was present in 45.2%, multiple gestations were found in 23.1% patients, gestational diabetes was present in 32.7% patients, preeclampsia was found in 30.8% and history of previous caesareans section was present in 35.6%.

When evaluated the effect of age of patients on frequency of uterine rupture as an indication for emergency peripartum hysterectomy it was noted that with the increasing age there was a decrease in frequency of uterine rupture. The finding was not significant (P = 0.293). With the increasing age the frequency of Placenta Praevia as an indication for emergency peripartum hysterectomy increased from 5.3% in age group of upto 25 years to 19.0% in 36-45-year age (P= 0.140). Similarly, the frequency of gestational diabetes also increased with increasing age. (P= 0.179).

When gestational age was evaluated to see its effect on frequency of uterine rupture as an indication for emergency peripartum hysterectomy it was found that with increasing gestational age there was decrease in frequency of uterine rupture but it was slight and non-significant (P= 0.874).

The frequency of gestational diabetes also increased with increasing gestational age and this finding was highly significant (P= 0.001).

The gestational age also affected the frequency of preeclampsia as a risk factor for an emergency peripartum hysterectomy which increased with an increasing gestational age (P= 0.847).

Relationship of the history of the previous caesarean section with gestational age was not clear (P= 0.205). With the increasing gestational age, the frequency of Placenta Praevia as an indication for emergency peripartum hysterectomy decreased (P = 0.263).

This study also evaluated the effect modification of various indication of emergency hysterectomy by parity (number of children). It was found that with increasing parity there was an increase in the frequency of atonic uterus (P = 0.127); decrease in frequency of uterine rupture (P= 0.021); an increase in the frequency of gestational diabetes (P = 0.426).

Discussion

With the increasing rates of maternal mortality and increasing use of advanced obstetrical techniques, the frequency of emergency peripartum hysterectomy is also increasing globally.[2,3,6] It is lifesaving procedure, but carries poor maternal outcome. Increasing literacy rate, improving contraception prevalence rate and antenatal care and adequate facilities can reduce rate of obstetrical hysterectomy so improves in maternal outcome.[7,11,12]

Identifying women's antenatally those who are at high risk for postpartum hemorrhage; prompt management of intrapartum factors can minimize to peripartum hysterectomy. Other than this the women should opt to deliver in specialized health facilities. The provision of good antenatal care and delivery by experienced birth attendants is a mainstay in order to decrease poor maternal outcome.[1,5] Our study executed by keeping in mind the populations and resource poor setting of our country to estimate the frequency of different causes and their associated risk factors which lead to emergency peripartum hysterectomy in a patient.

It was in this study that rupture of the uterus was most common indication (45.2%) in patients for emergency peripartum hysterectomy, followed by atonic uterus which was found in about 29% patients. These were followed by placenta praevia, morbidly adherent placenta and endometritis. Ruptured uterus and uterine atony were two major reasons of postpartum hemorrhage. Both these conditions were found to be commonly associated in serious obstetrical emergency and causing the emergency peripartum hysterectomy in many of cases.

Many local and international level studies have found the similar picture. One study conducted by Korejo R, et al, found that ruptured uterus and atony of uterus were commonest indications and accounted

for 47.1% & 28.9% cases of emergency obstetrical hysterectomies.[16] This resembles our results. In an international study, it was found that the incidence of peripartum hysterectomy during the study period 4.34/ 1000 deliveries. [17] They found that the commonest indication was uterine rupture 48.9%, uterine atony 33% and placenta accreta 11%. These rates approximate to the findings of this study.

Besides these other, local and international studies have found almost similar rates of indications of emergency obstetrical hysterectomies. In other local study conducted by Ehtisham S (2011), it was found that emergency obstetrical hysterectomies rate was 9.5/1000 deliveries. [18] The mean age was 31±3 years (range 22-39 years) and parity was 3.3 (range 2 to 9 children). These results are very similar as found in a current study where we found that mean ± SD age was 31.94 ±6.38 years (range 22 to 40) & the mean ± SD parity was 2.03 ±1.17 children (1-5). This shows that most commonly affected age group in Pakistan with postpartum serious emergency conditions is of 20-40 years age. The difference in parity may be due to the difference of area studied. Other studies also found similar age pattern although the mean parity was lower in international especially western studies than local studies. [16-18]

The mean ± SD gestational age was noted to 37.44 ±1.68 weeks (range 34 to 40). Other studies which investigated the emergency obstetrical hysterectomies also found the similar gestational age pattern. Accordingly, Carvalho F, et al, documented that more than 75% patients presented in gestational age from 38-41 weeks while the mean gestational age was 39 weeks. [19]Another study, Kausar S, et al, described that mean gestational age was 34.60 ± 2.95 weeks; furthermore than two-thirds i-e; 69% of their patients presented in gestational age between 32-37 weeks &11.62% patients had gestational age under 32 weeks while 20% had over 37 weeks. [20] This is in concordance with our study.

Further the current study also evaluated that frequency of uterine rupture was decreased with increased patients age, gestational age, and parity. It may be due to the reason that C-section rate is on a rising trend and most of the cases of the ruptured uterus were due to scar dehiscence. Thus we can say that patients in younger age and lower parity are more at risk for severing obstetric emergency which can lead them to emergency hysterectomy.[21]

Simultaneously; it was noted that increasing the age of patient led to increased frequency of uterine atony which causes severe PPH. It is evident form literature that with the increasing age of woman the uterine contractility is lowered and risk of atonic uterus are higher.[19]

In the current study, the frequency of placenta praevia increased with increasing maternal age but it is decreased with increasing gestational age. Relationship of placental disorders with maternal age and gestational age are not clearly understood and warrant separate research studies.[22]

It was a highly significant finding (P<0.001) that gestational diabetes as risk factor was directly associated with advanced maternal age, increasing gestational age and also increasing the parity. In patients included in the current study, the total abdominal hysterectomy was performed in about 82% and sub-total hysterectomy was performed in 18%.

Conclusion

Emergency peripartum hysterectomy is not an uncommon practice in our set up. There are many maternal conditions which indicate the emergency peripartum hysterectomy. Most common of these is rupture of uterus followed by uterine atony, placenta praevia and abnormally positioned placenta. Risk factors leading to emergency peripartum hysterectomy are gestational diabetes, preeclampsia, endometritis, multiple gestations and history of previous caesarean sections. To control and reduce the maternal and fetal mortality these factors need to controlled.

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