ORIGINAL ARTICLE

ANNALS OF PUNJAB MEDICAL COLLEGE

Frequency, Indications and Complications of Obstetrical Hysterectomy

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Submitted for Publication: 01-10-2020
Accepted for Publication 22-10-2021

How to Cite: Batool F, Kausar S, Ali R, Waqas I. Frequency, Indications and Complications of Obstetrical Hysterectomy. APMC 2022;16(2):132-135. **DOI: 10.29054/APMC/2022.1036**

ABSTRACT

Background: Obstetrical hysterectomy is a lifesaving procedure but increasing incidence in both developed and underdeveloped countries is alarming. **Objective:** To determine the frequency of obstetrical hysterectomy among all deliveries after 24 weeks of gestation and evaluation of indications and complications. **Study Design:** Cross sectional retrospective study. **Settings:** Department of Gynecology & Obstetrics, DHQ Hospital, Faisalabad Pakistan. **Duration:** One year from December 2018 to November 2019. **Methods:** All the patients who had obstetrical hysterectomies done after 24 weeks gestation till 42 days after delivery were included in study. Frequency was calculated out of total deliveries after 24 weeks of gestation. Data regarding indications and complications like bladder repair, dialysis, ICU admission, and maternal death was collected on a pre-designed proforma from hospital record and was analyzed. **Results:** Total deliveries were 7879. Frequency of obstetrical hysterectomy was 4.6/1000 deliveries. Out of these 67.5% patients had previous cesarean section. The most common indication was morbidly adherent placenta 22(59.4%) followed by ruptured uterus 9(24.3%) and uterine atony 6(16.2%). Whereas regarding complications 6(16.2%) patients were shifted to ICU, bladder injury occurred in5 (13%), 2 patients needed dialysis and maternal mortality was 5(13%). **Conclusion:** Morbidly adherent placenta was the most common cause of obstetrical hysterectomy followed by unrepairable ruptured uterus and uterine atony. The complications in the descending order were ICU admission, bladder damage, maternal death and dialysis.

Keywords: *Obstetrical hysterectomy, Morbidly adherent placenta, Uterine atony.*

INTRODUCTION

Obstetrical hysterectomy, an indicator of severe maternal morbidity and mortality is performed as a last resort to save life of a mother at the time of uncontrolled obstetrical haemorrhage.[1] Rate of peripartum hysterectomy varies in different geographical areas owing to available maternity services,[2] ranging from 1 / 1000 deliveries in high income countries[3] to 5/1000 in Bangladesh[4] and 9/1000 in Pakistan.[5]

In the recent past uterine atony was the top most cause of obstetrical hysterectomy, however with the advent of more effective uterotonic drugs and uniformed agreed policy of active management of 3rd stage of labour, the incidence of uterine atony has reduced markedly.[6] Now a days morbidly adherent placenta, ruptured uterus and septic miscarriages are emerging as frequent indications of obstetrical hysterectomies in both developed and underdeveloped countries. Previous caesarean section (CS) is a well-known risk factor of placenta praevia, morbidly adherent placenta and uterine rupture in labour and hence indirectly an important risk factor of obstetrical hysterectomy too.[5]

Obstetrical hysterectomy though a life-saving procedure, is not spare of complications like increased morbidity, cost of treatment and even grave complications like maternal mortality.[7] Obstetrical hysterectomy has profound negative impact on woman's physical, mental and psychological health due to reproductive failure.[8] Loss of the uterus in reproductive life badly affects the social being of patients in societies like ours. Obstetrical hysterectomy especially in woman of low parity and younger age poses a difficult decision for the dealing surgeon as well. Rationale of our study is to review the frequency, indications and impact of obstetrical hysterectomy in terms of perioperative complications in

tertiary care hospital with respect to changing trends in mode of delivery and health care facilities in our area.

OBJECTIVES

1. To determine the frequency of obstetrical hysterectomy among all deliveries after 24 weeks of gestation. 2. To evaluate the indications and associated complications of obstetrical hysterectomy.

METHODS

This cross-sectional retrospective study was conducted at Department of Gynecology & Obstetrics, District Head Quarter Hospital Faisalabad affiliated with Faisalabad Medical University, Faisalabad Pakistan. The duration of the study was 1 year from December 2018 to November 2019.

Data of 37 patients was included in study by using non probability consecutive sampling technique.

The Study included all the patients undergoing obstetrical hysterectomy after 24 weeks of gestation till 42 days after delivery regardless of parity.

Obstetrical hysterectomies before 24 weeks of gestation and after 42 days of delivery were excluded from the study.

Approval was taken from ethical review committee and from hospital administration for data collection. Data was collected by reviewing hospital charts, delivery register and mortality record. Frequency was calculated as per 1000 deliveries and described in percentage as well.

Data regarding age, parity, number of previous caesarean sections and term/preterm cases at the time of delivery who underwent obstetrical hysterectomy were calculated as frequency and percentage by using SPSS version 22. Status of elective versus emergency procedures were also noted. Data regarding complications like bladder injury, acute renal failure requiring dialysis and maternal mortality was also analyzed in percentage.

RESULTS

7879 patients delivered during the study period (December 2018 to November 2019). Total 37 obstetrical hysterectomies were done during this period. Frequency of obstetrical hysterectomy was 0.46% or 4.6/1000 deliveries. Most of the patients who underwent hysterectomy belonged to para 4 and 5 group, average age was 32 years (min. age 25 years and max. 41 years), 23(62.1%) patients delivered at term and 14(37.5%) were preterm deliveries (Table 1).

Table 1: Demographic Characteristics of Patients

Characteristics		No	Percentage %
Age (years)	Under 20	0	0%
	21-30	16	43.2%
	31-40	20	54%
	Above 40	1	2.7%
Parity	P1	0	0%
	P2-P3	7	18.9%
	P4-P5	25	67.5%
	Above P5	9	24.3%
Gestational Age(weeks)	Preterm (under 37)	14	37.8%
	Term (above 37)	23	62.1%
Previous Caesarian Section	None (NVD)	12	32.4%
	Previous LSCS	25	67.5%
Nature of Procedure	Elective	9	24.3%
	Emergency	28	75.6%

Out of 37 cases 9 (24.3%) hysterectomies were done following elective caesarean section and 28 (75.6%) cases were done in emergency. Among 37 patients 25 (67.5%) patients had previous history of LSCS and 12 (32.4%) had vaginal deliveries. Morbidly adherent placenta was the most common indication of obstetrical hysterectomy 22 cases (59.4%), ruptured uterus 9 cases (24.3%) and uterine atony 6(16.2%) cases. Among complications studied,5 (13%) patients suffered bladder injury and 2(5.4%) required dialysis post-operatively due to prolonged shock. All patients needed blood transfusion. 6(16.2%) patients shifted to ICU and maternal mortality was 5(13%).

Table 2: Indication of Obstetrical Hysterectomy

Indications	No	Percentage %
Morbidly Adherent Placenta	22	59.4%
Placenta Accreta Placenta Increta Placenta Percreta	8 7 7	
Ruptured uterus	**9**	24.3%
Uterine Atony	**6**	16.2%

Table 3: Complications

Complications	No	Percentage %
Bladder Repair	5	13%
Dialysis	2	5.4%
ICU admission	6	16.2%
Maternal Death	5	13%

DISCUSSION

Incidence of obstetrical hysterectomy varies worldwide; Asian women have 23% more risk of obstetrical hysterectomy than African women.[9] Total number of obstetrical hysterectomies performed in the period studied were 37 out of 7879 deliveries. Frequency of obstetrical hysterectomy in our study was 0.46%. This incidence is similar to other local studies, 0.45%[6] and 0.43%[10] while significantly higher than international studies conducted in Netherland (0.03%)[11] and in USA (0.04%).[12] This shows that countries with well-developed health care facilities have markedly reduced incidence of obstetrical hysterectomies as compared to underdeveloped countries. The incidence was also higher than Nepal 0.06%,[7] which is a developing country. This could be due to higher number of referral cases in our hospital and low total fertility rate in Nepal. Moreover, high parity is yet another reason for this high rate of obstetrical hysterectomy as most of the patients under study were para 4 and 5 group. Early resort to definitive surgery instead of conservative management in multiparous women is an obvious contributing factor regarding this. Majority of the patients in our study belonged to age group 21-30 years (43.2%) in contrast to another study where common age group of affected patients was between 30 to 39 years.[9]

Early marriages, low contraception prevalence especially in countries like ours may explain such a high prevalence at this age. An interesting observation was made during study that 67.5% of the patients had previous caesarean sections. This indicates that scarred uterus is an important antecedent leading to obstetrical hysterectomy either due to adherent placenta or uterine rupture during trial of labour in scarred uterus. A local study looking at the factors leading to peripartum hysterectomy found injudicious use of syntocicnone (45%) as most common and previous Caesarean section (cs) the 2nd most common factor (36%) leading to obstetrical hysterectomy.[13]

The most common indication for obstetrical hysterectomy in our study was morbidly adherent placenta seen in 22 cases (59.4%). This result is comparable to study conducted in India where adherent placenta was also the most common cause of obstetrical hysterectomy 52 case (52.52%).[14] However in a local study morbidly adherent placenta caused 11 (27.5%) of the cases of obstetrical hysterectomy.[15] Out of 22 cases of adherent placenta in our study, 8(36%) were found to be placenta accreta and 7 (32%) cases were of placenta increta and percreta each. Except one rest of the 21 cases were associated with previous CS. 19 hysterectomies were done as a part of caesarean section while 2 procedures were done after failed conservative management of focal accreta. Primary surgeries of all cases of morbidly adherent placenta were done in the index hospital except for one that was referral case of retained placenta.

Unrepairable ruptured uterus was the 2nd most common indication of obstetrical hysterectomy (24.3%) in our study in contrast to a study by Parmer *et al* in which ruptured uterus was the most common cause (51%) of obstetrical hysterectomy.[16] This could be due to the different populations under study. In study by Ahirwar N *et al* uterine rupture was the 2nd commonest indication of obstetrical hysterectomy, 36 cases (36.36%).[14] Out of 9 cases of ruptured uterus in our study 8 were referral and 4 were associated with previous CS.

Uterine atony was the 3rd most common cause of obstetrical hysterectomy in our study 16.2% cases. This is similar to a study by Munir SI *et al* in which uerine atony caused 4 (15.3%) of obstetrical hysterectomies.[6] While Uteine atony was found to be the most common indication of obstetrical hysterectomy in a study of nine European countries (34.8%) collectively.[17] The latter is understandable as their well-structured health system precludes caesarean section by unqualified persons and trial of labour in scarred uterus at home. Moreover, radiological interventions further help avoid hysterectomy.

Regarding complications urinary bladder injury was recorded in 5 cases and out of them 4 were during obstetrical hysterectomies of morbidly adherent placentas and one was associated with ruptured uterus. In a study of Ahirwar N *et al* bladder injury was also the most common complication during this procedure 7 (7 %).[14] In our study, 2 (5.4 %) patients needed dialysis after procedure due to prolonged shock. Out of 37 cases studied five of the mothers died making mortality of 13.5 %, this was almost comparable to study conducted in Nigeria 14%.[1] In one local study maternal mortality as a result of obstetrical hysterectomy was 2 (9.5%).[2] This difference in our and local study may be due to the fact that my study was conducted in a tertiary care hospital which is a main referral centre. In our study out of 5 maternal deaths, 2 patients had underlying pathology of uterine atony and two had ruptured uterus and one was due to morbidly adherent placenta. Out of five mortalities four cases were referred cases explaining that probably these patients had suffered significant blood loss before reaching tertiary care unit. This also emphasizes that timely decision and early referral can save precious life of a mother. Even life-threatening adherent placenta may not be so lethal in equipped hospitals and expert hands.

CONCLUSION

Obstetrical hysterectomy is a lifesaving procedure but its increasing incidence in developing countries is alarmingly high. Incidence of obstetrical hysterectomy

and morbidity and mortality associated with it can be brought under control by improving antenatal care, identification of high-risk pregnancies and management at right place. Although caesarean section has revolutionized the management of obstetric patients in many aspects, its overuse especially in developing countries has resulted in grave implications like adherent placentas and uterine rupture. An important observation was made in my study that previous caesarean section was antecedent in most of the obstetrical hysterectomies. This key risk factor needs to be brought under control in low-income countries where check and balance on health care system is weak.

LIMITATIONS

Single centre retrospective study, therefore further studies may be necessary.

SUGGESTIONS / RECOMMENDATIONS

Frequency of obstetrical hysterectomy is directly related to high cesarean section rate so by controlling cesarean section this grave complication can be avoided.

CONFLICT OF INTEREST / DISCLOSURE

None declared.

ACKNOWLEDGEMENTS

We acknowledge our worthy HOD Professor Dr rubina ali who encouraged and guided us to write research article.

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