A STUDY OF PERIPARTUM HYSTERECTOMY IN A TERTIARY REFERRAL CENTRE OVER A PERIOD OF 5 YEARS

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ABSTRACT

BACKGROUND

Peripartum hysterectomy in most cases is a lifesaving procedure, which is performed when other measures of controlling haemorrhage have failed, making it one of the markers for maternal morbidity and potential 'near-miss' mortality.

MATERIALS AND METHODS

A descriptive and retrospective analysis of 31 cases of obstetric hysterectomy was done at Bankura Sammilani Medical College and Hospital from January 2013 to December 2017. Case records were analysed to record the incidence, indications, risk factors and complications associated with peripartum hysterectomy during the study period.

RESULTS

Incidence of peripartum hysterectomy was 0.028%. The most common indication for peripartum hysterectomy was ruptured uterus with 22 cases (70.96%) followed by 7 cases of placental abnormalities (22.58%) and 2 cases of atonic postpartum haemorrhage (6.45%). Urinary tract infection (37.04%) was the most common associated complication and case fatality rate was 12.9%.

CONCLUSION

The primary cause of peripartum hysterectomy is ruptured uterus caused due to an increased rate of caesarean deliveries. This is resulting in subsequent pregnancies having complications due to an increased prevalence of trial of labour after caesarean (TOLAC). Peripartum hysterectomy can be delayed or prevented by various conservative medical and surgical techniques, but as it is a life-saving procedure, prompt decision should be made for performing a hysterectomy.

KEYWORDS

Peripartum Hysterectomy, Caesarean Hysterectomy, Postpartum Hysterectomy, Emergency Obstetric Hysterectomy, Ruptured Uterus, Placental Abnormalities, Atonic Postpartum Haemorrhage.

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BACKGROUND

Peripartum hysterectomy is a broad term that combines postpartum hysterectomy and caesarean hysterectomy.[1] Emergency obstetric hysterectomy is usually required for complications of delivery associated with haemorrhage. Rarely elective caesarean hysterectomy may be carried out for conditions such as cervical cancer, ovarian cancer and uterine fibroids. In most cases, it is the last resort life-saving procedure undertaken when other more conservative measures to control haemorrhage have failed.[2]

The three most common reasons for emergency peripartum hysterectomy are uterine rupture, abnormal placentation and uterine atony.[3] The fast growing trends in peripartum hysterectomy secondary to uterine atony is largely due to an increase in the rates of primary and repeat caesareans.[4]

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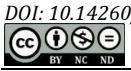

The need for blood transfusion, intensive care and the associated risks of trauma to the bladder and ureter make this one of the markers of severe maternal morbidity and potential 'near-miss' mortality in both developed and developing countries.[2]

Aims and Objectives

To study the incidence, indications, risk factors and complications of peripartum hysterectomy over a period of 5 years at Bankura Sammilani Medical College.

MATERIALS AND METHODS

This is a descriptive and retrospective analysis of 31 cases of obstetric hysterectomy done over 5 years in Bankura Sammilani Medical College and Hospital from January 2013 to December 2017. Data was collected from the record section of the college, admission register and operation register and was then studied and analysed.

RESULTS

During the study period, there were 1,08,425 deliveries and 31 peripartum hysterectomies. Incidence of peripartum hysterectomy was 0.028% (2.8 per 10,000 deliveries). Among those who had delivered, 15,349 patients had previous caesarean delivery (14.15%). During the study period 43,338 multigravidas delivered. All the patients who underwent

peripartum hysterectomy were multigravidas aged between 22-35 years and were having previous caesarean section.

Table 1 shows data of obstetric interventions during the study period and peripartum hysterectomies performed in relation to them. Although, peripartum hysterectomy was performed in 0.02% of the total number of deliveries, 0.09% of the 31,800 caesarean deliveries were caesarean hysterectomies among whom all had a previous caesarean section. All the peripartum hysterectomies were caesarean hysterectomies and there were no postpartum hysterectomies performed. Incidence of peripartum hysterectomy was 0.07% among multigravidas delivered and 0.2% among patients with previous caesarean deliveries.

Obstetric Procedures	Number	%
Total number of deliveries	108, 425	
Vaginal deliveries	76, 625	70.67%
Caesarean deliveries	31, 800	29.32%
Peripartum hysterectomy among all deliveries	31	0.028%
Caesarean hysterectomy among caesarean deliveries	0.00097	0.09%
Postpartum hysterectomy	Nil	Nil
Peripartum hysterectomy in primigravida	Nil	Nil
Peripartum hysterectomy in multigravidas	0.0007	0.07%
Peripartum hysterectomy in previous caesarean pregnancy	0.002	0.2%

Table 1. Incidence of Obstetric Procedures

Table 2 shows that the most common indication for peripartum hysterectomy is rupture uterus with 22 cases (70.96%). Second most common indication was placental abnormalities (22.58%) like placenta increta (9.67%) followed by placenta accreta (6.45%), percreta (3.22%) and placenta praevia (3.22%). There were two cases of atonic PPH (6.45%), which could not be controlled medically or by uterine devascularisation and compression sutures following which hysterectomy had to be done.

Indication (n=31)		Number	Percentage	
Rupture Uterus		22	70.96	
Placental Abnormalities	Placenta increta	03	9.67%	22.58%
	Placenta accreta	02	6.45%	
	Placenta percreta	01	3.22%	
	Placenta praevia	01	3.22%	
Atonic PPH		02	6.45%	

Table 2. Indications of EOH

In Table 3, the most common risk factor for peripartum hysterectomy is 18 patients having previous one caesarean delivery (58.06%) followed by 13 patients having previous two caesarean deliveries (41.93%). The other risk factors were 6 patients having morbidly adherent placenta (19.35%) and 2 patients having placenta praevia (6.45%).

Peripartum Hysterectomy (n= 31)	No. of Cases	%
Previous one LSCS	18	58.06%
Previous two LSCS	13	41.93%
Morbidly adherent placenta	6	19.35%
Placenta praevia	1	6.45%

Table 3. Risk Factors

Table 4 summarises the maternal morbidity and mortality associated with peripartum hysterectomy. Urinary tract infection was the most common postoperative morbidity (37.04%) followed by wound infection (29.63%), bladder injury (18.52%) and haemorrhagic shock (14.81%). Septicaemia (11.1%) and vesicovaginal fistula (11.1%) were seen in 3 patients. There were four maternal deaths and the case fatality rate was 12.9%.

Case (n= 31)	No	%
Urinary tract infection	10	37.04%
Wound infection	8	29.63%
Bladder injury	5	18.52%
Haemorrhagic shock	4	14.81%
Septicaemia	3	11.11%
Vesicovaginal fistula	3	11.11%
DIC	2	7.41%
Renal failure	1	3.70%
Maternal death	4	12.9%

Table 4. Maternal Morbidity and Mortality

DISCUSSION

From the above tables, it is evident that all cases of emergency hysterectomies were caesarean hysterectomies that were performed in multigravidas with previous caesarean deliveries. Table 5 is a comparison of various studies performed in the last decade around the time of the present study in India, Nigeria, Portugal and the Nordic countries.

Name of the Study	Incidence	Major Indications			Maternal Mortality (Case Fatality Rate)	Study Location
		Rupture Uterus	Placental Abnormalities	Atonic PPH		
Sneh Kiran et al (2016)[5]	0.75%	60.54%	26.17	10.1%	15.23%	India
Kumari Archana et al (2009)[6]	0.52%	75%	5.35%	8.03%	5.35%	India
Marwaha et al (2008)[7]	0.31%	60%	20%	10%	10%	India
Abiodun Omole-Ohonsi et al (2012)[8]	0.39%	73.33%	20%	6.66%	13.3%	Nigeria
Nwobodo EL et al (2012)[9]	0.51%	93.2%	1.4%	2.7%	10.84%	Nigeria
Joana Ferreira Carvalho et al (2012)[10]	0.04%	7.69%	15.38%	76.92%	7.69%	Portugal
Jakobsson M et al (2015)[11]	0.034%	14.7%	43.1%	32.7%	0.47%	Nordic Countries
Present study	0.028%	70.96%	22.58%	6.45%	12.9%	India

Table 5. Comparison with other Reported Studies

The incidence of peripartum hysterectomy in the present study is 0.028% which is comparable to the studies done by Joana Ferreira et al and Jakobsson M et al.[10,11] The incidence is low in comparison to other studies, as most of the deliveries were conducted in the hospital following regular antenatal visits. However, ruptured uterus (70.96%) was the most common indication in our study and most of the ruptured uterus cases were referred from distant peripheral health centres and hospitals. Studies done in other developing countries[5,6,7,8,9] also showed ruptured uterus to be the most common indication for peripartum hysterectomy.

Placental abnormalities (22.58%) was the second most common indication in our study, which was corresponding to the other studies of developing countries mentioned above except Kumari Archana et al.[6] Due to the rising caesarean section rate in developed countries, the number of pregnant women with a previous caesarean delivery has increased and along with that a higher incidence of placental abnormalities (Placenta praevia and/or placenta praevia accreta) that has led to an increasing trend of emergency obstetric hysterectomies.

Atonic postpartum haemorrhage (6.45%) was the least common indication of peripartum hysterectomy in the present study, but it was the most common indication in the study done by Joana Ferreira Carvalho et al[10] (76.92%) and second most common indication in the study done by Jakobsson M et al (32.7%).[11]

In the present study although the case fatality rate is 12.9%, it varies with different studies conducted in different countries. This is because of the variation in the indication for peripartum hysterectomy, preparedness and promptness to manage haemorrhage, the availability of blood products, timing and skill of surgical interventions, complications associated with hysterectomy and availability of critical care at the various study centres that were compared. The cause of 4 maternal deaths following emergency hysterectomy was due to DIC, haemorrhagic shock, renal failure and septicaemia.

CONCLUSION

The rate of peripartum hysterectomy in our study is not very high which can be attributed to the Maternal and Child Health Programmes of India that has aggressively promoted institutional deliveries (89.6% of all deliveries).[12]

The present study shows an increased incidence of uterine rupture in multiparous women with previous caesarean deliveries. There is a distinct shift from the primary cause of ruptured uterus in an unscarred uterus of a multiparous patient due to inappropriate use of oxytocic drugs, to the increased prevalence of trial of labour after caesarean (TOLAC) in previously scarred uterus. The reason for this shift is due to an increase in the rate of caesarean deliveries that have resulted in complications in subsequent pregnancies.[4]

Although, many cases with haemorrhage cannot be anticipated, those with abnormal placentation can often be identified by antenatal ultrasonography or MRI following which elective caesarean hysterectomy can be performed. In cases of placenta praevia with accreta over an old caesarean scar removal of the placenta can cause torrential haemorrhage and hence it is best to proceed to total hysterectomy with the placenta in situ.

While many of the surgical principles of emergency obstetric hysterectomy are similar to hysterectomy done on a gynaecological patient, there are a number of anatomical and physiological changes in the pregnant uterus and pelvis that create potential difficulties.[2] However, morbidity is quite often associated with the conditions that lead to peripartum hysterectomy and not necessarily due to the procedure itself.[3]

Judicious use of oxytocics with proper supervision and management of labour by skilled birth attendants and timely referral from primary health centres and sub-divisional hospitals can reduce incidence of postpartum haemorrhage and uterine rupture associated with peripartum hysterectomy. Peripartum hysterectomy can be delayed or prevented by various conservative medical and surgical techniques. However, as it is a lifesaving procedure a fine balance should be kept between the premature decision of performing a hysterectomy and delaying excessively with repeated conservative methods that may not bear result, while keeping in mind the woman's age, parity and desire for future child-bearing.

REFERENCES

[1] Cunningham FG, Leveno KJ, Bloom SL, et al. Williams Obstetrics. 24th edn. United States of America: McGraw-Hill Education, 2014:pp 587.
[2] Baskett TF, Calder AA, Arulkumaran S. Munro Kerr's: operative obstetrics. 11th edn. United Kingdom: Elsevier Ltd, 2007:309-10.
[3] Rock JA, Jones HW. Te Linde's: operative gynecology. 10th edn. Philadelphia: Lippincott Williams & Wilkins, 2008:pp 831.
[4] Bateman BT, Mhyre JM, Callaghan WM, et al. Peripartum hysterectomy in the United States: nationwide 14 year experience. Am J Obstet Gynecol 2012;206(1):63.e1-8.
[5] Kiran S, Sinha AR. Emergency obstetric hysterectomy. A 5 years retrospective study at Patna Medical College, Patna, Bihar. IJOPARB 2016;06(4):18-21.
[6] Kumari A, Sahay PB. A clinical review of emergency obstetric hysterectomy. J Obstet Gynaecology India 2009;59:427-31.
[7] Parveen M, Manjeet K, Gupta AJ. Peripartum hysterectomy-a five year study. Obstet Gynecol India 2008;58(6):504-6.
[8] Omole-Ohonsi A, Olayinka HT. Emergency peripartum hysterectomy in a developing country. J Obstet Gynaecol Can 2012;34(10):954–60.
[9] Nwobodo E, Nnadi D. Emergency obstetric hysterectomy in a tertiary hospital in sokoto, Nigeria. Ann Med Health Sci Res 2012;2(1):37-40.
[10] Carvalho JF, Cubal A, Torres S, et al. Emergency peripartum hysterectomy: a 10-year review. ISRN Emergency Medicine Article ID 721918, 2012;2012:7.
[11] Jakobsson M, Tapper AM, Colmorn LB, et al. Emergency peripartum hysterectomy: results from the prospective Nordic Obstetric Surveillance study (NOSS). Acta Obstet Gynecol Scand 2015;94(7):745-54.
[12] Executive Summary Health and Family Welfare 2015. Available from: http://mospi.nic.in/statistical-year-book-india/2015/199.