Obstet Gynecol Int J  2016, 4(1): 00095

Abstract

Background: Obstetric hysterectomy is a life saving procedure in severe obstetrical hemorrhage.

Objective: Determine its frequency, indications and prognosis.

Patients and methods: This was a retrospective and descriptive survey performed at the department of Obstetrics and Gynecology, of N’Djamena Mother and Child Hospital. All patients who had undergone obstetric hysterectomy during the four-year study period from April 2011 to April 2015 were studied.

Results: During the study period, 29,490 patients were delivered at N’Djamena Mother and child hospital. A total of 46 obstetrics hysterectomies were performed that give a frequency of 0.16%. The average age was 31.2 years, with the extremes ranging from 15 to 44 years. Parity ranged from 1-13 with 41.7% of grand multipara. The commonest cause of obstetric hysterectomy was ruptured uterus, seen in 29 (63%) patients. Uterine atony was responsible in 10 (21.7%) cases. In 91.3% of the cases (n=42) subtotal hysterectomy was performed and in others total hysterectomy was performed (8.7%). Main maternal complications were: sepsis (6.5%) and urological injuries (6.5%). Maternal outcome was enameled by three deaths giving a lethality rate of 6.5%. Fetal prognosis was worst with a fetal death rate of 69.5%.

Conclusion: Obstetric hysterectomy remains frequent in our regions. Adequate prenatal consultation and surveillance of patients during labor are required for curbing the frequency of obstetric hysterectomy.

Keywords: Obstetric hysterectomy; Indications; Maternal and fetal morbidity and mortality, N’Djamena mother and child Hospital

Introduction

Obstetric hysterectomy is one marker of obstetric morbidity. It is considered one of the riskiest and dramatic operations in modern obstetric, where the uterus is removed at the time of caesarean section, following caesarean section immediately after vaginal delivery or in the period of puerperium in order to reduce maternal mortality and morbidity [1]. Emergency obstetric hysterectomy is a life saving surgical procedure in life threatening catastrophes of uterine rupture, morbidity adherent placenta, coagulopathy or uncontrollable hemorrhage. Many times, attempts to control hemorrhage failed and women’s life is saved by compromising her reproductive capability by obstetric hysterectomy [2,3]. Obstetric hysterectomy in the developed world is mainly done for gynecological indications such as sterilization and leiomyoma in obstetrical practice, but in developing countries it is usually done when conservative measures fail to control the hemorrhage [4-6]. The purpose of the present study was to determine the frequency, indications, maternal and perinatal mortality and morbidity associated with emergency obstetric hysterectomy.

Patients and Methods

This was a retrospective and descriptive survey performed at the department of Obstetrics and Gynecology, of N’Djamena Mother and child hospital. All patients who had undergone obstetric hysterectomy during the four-year study period from April 2011 to April 2015 were studied in detail regarding their age, parity, prenatal consultation, admission mode, gestational age, indication and type of obstetric hysterectomy, and feto-maternal mortality and morbidity. The data was analyzed on SPSS 18.0.

Results

Frequency

During the study period 29,490 patients were delivered at N’Djamena Mother and child hospital. A total of 46 obstetrics hysterectomies were performed, 11(24%) followed vaginal delivery, 29 (63%) during the course of, or following a caesarean section, and 6(13%) in the postpartum period. The frequency of obstetric hysterectomy was 0.16% of all deliveries (i.e., 1.6 obstetric hysterectomies for 1000 deliveries) (Table 1).

The age group between 30-34 years was the most represented with 41.3%. The average age was 31.2 years, with the extremes ranging from 15 to 44 years. Parity ranged from 1-13, with a mean of 6.2 ±
2.3. Twenty two (41.7%) patients were grand multipara. Mean gestational age was 38.2 weeks with extremes ranging from 33 to 42 weeks. The majority of patients (60.9%) had not attended prenatal consultation.

| Social and Epidemiologic Characteristic | Number | % |
|----------------------------------------|--------|---|
| **Age (year)**                          |        |   |
| 15 – 19                                | 2      | 4.3 |
| 20 – 24                                | 3      | 6.5 |
| 25 – 29                                | 10     | 21.8|
| 30 – 34                                | 19     | 41.3|
| 35 – 39                                | 7      | 15.2|
| ≥ 40                                   | 5      | 10.9|
| **Schooling**                          |        |   |
| No schooled                            | 26     | 56.5|
| Primary                                | 12     | 26.1|
| Secondary                              | 5      | 10.9|
| University                             | 3      | 6.5 |
| **Parity**                             |        |   |
| Primipara                              | 7      | 15.2|
| Paucipara                              | 3      | 6.5 |
| Multipara                              | 14     | 30.4|
| Grand multipara                        | 22     | 47.9|
| **Number of Prenatal consultation**    |        |   |
| 0                                      | 28     | 60.9|
| 1                                      | 12     | 26.1|
| 2                                      | 4      | 8.7 |
| 3                                      | 2      | 4.3 |

**Admission mode**

The majority of patients (78.3%) were referred from department hospital. The remaining 10 patients (21.7%) were referred from N’Djamena periphery health center. Women coming from department hospital had gone over a distance between 50-600km to reach N’Djamena Mother and child hospital.

**Hysterectomy indications**

The commonest cause of obstetric hysterectomy was ruptured uterus, seen in 29 (63%) patients. Uterine atony was responsible 10 (21.7%) cases, and placenta 7 (15.3%) patients (Table 2). Factors predisposing to uterine rupture recorded were: obstructed labor due to disproportion (n=15), prolonged labor (n=5), history of inadequate use of oxytocin injection (n=9). All patients with rupture of unscarred uterus were grand multiparas, while 7 cases had rupture of the previous caesarean section scar.

| Indications   | Number | % |
|---------------|--------|---|
| Uterine rupture | 29     | 63 |
| Uterine atony  | 10     | 21.7|
| Abruptio placenta | 5     | 11 |
| Acreta placenta | 2      | 4.3 |

**Type of Operation**

In 91.3% of the cases (n=42) subtotal hysterectomy was performed and in others total hysterectomy was performed (n=4). Blood transfusion was giving to 38 patients (82.5%) ranging from 2 to 6 units.

**Complications**

Three patients presented sepsis (6.5%) (Table 3). Three urological injuries (6.5%) were noted. Maternal outcome was enameled by 3 maternal deaths giving a lethality rate of 6.5%. Maternal death causes were: 2 for clot disorder and the remaining one for acute renal failure linked to severe post partum hemorrhage. Thirty two fetuses died giving a perinatal death rate of 69.5%.

**Discussion**

The reported incidence of emergency peripartum hysterectomy varies between 0.1 and 5.4 in 1000 deliveries [7-11]. In general, the average incidence is put at 1 in 1000 deliveries, the higher incidence is being reported from the developing world while developed countries generally report lower rates [10-13]. Our findings of 1.6 hysterectomies for 1000 delivery confirmed earlier data in developing countries. The high incidence of peripatum hysterectomy in the developing world may be due to her phenomenon of unbooked emergencies and the earlier recourse to hysterectomy due to the lack of adequate cross matched blood and other blood products which limit the time available for examining the effectiveness of other conservative procedures [3,6,10]. Moreover, certain modern conservative procedures involving interventional radiology are not practicable in most developing world settings due to lack of human and material resources involved [10].

Nineteen patients (41.3%) were in the age group of 30 to 34 years and twenty two (41.7%) were grand multipara. High association with multiparity was seen by previous studies [3-6,12,14,15]. Other risk factors for Emergency peripartum hysterectomy (EPH),

---

**Table 2:** Hysterectomy indications.

| Indications   | Number | % |
|---------------|--------|---|
| Uterine rupture | 29     | 63 |
| Uterine atony  | 10     | 21.7|
| Abruptio placenta | 5     | 11 |
| Acreta placenta | 2      | 4.3 |

**Table 3:** Complications.

| Complication | Number | % |
|--------------|--------|---|
| Ureteral Injury | 2      | 4.3 |
| Bladder Injury  | 1      | 2.2 |
| Sepsis        | 3      | 6.5 |
| Maternal Death | 3      | 6.5 |
| Fetal Death   | 32     | 69.5|
like previous caesarean birth, obstructed labor, current caesarean delivery, and abnormal placental implantation and invasion, were similar to the literature [1,2,12,13].

Schooling is an element that makes prenatal consultation comprehensive for pregnant women. It allows depiction of uterine rupture during labor which can lead to obstetric hysterectomy. The lack of schooling often affects prenatal consultation. This was valid in this study where 56.5% were not schooled and 60.9% had not attended to prenatal consultation.

The most common indication for peripartum hysterectomy is hemorrhage but the underlying causes vary from series to series. In the developing world, preventable factor such as uterine rupture or uterine atony are the most common indication for peripartum hysterectomy [4,7,9,10,13,14,16]. The common causes of uterine rupture in this part of the world include prolonged obstructed labour, rupture of a previous caesarean scar, injudicious use of oxytocics and trauma from instruments or manual removal [3,4,6,11,17,18]. If the rupture is extensive and hemorrhage cannot be controlled by uterine repair, then hysterectomy may become necessary [17]. Ours findings confirm this assertion with uterine rupture and uterine atony as main indications of obstetric hysterectomy respectively 63% and 21.7%. Anita [14] & Sarwat [16] previously reported more uterine atony than uterine rupture.

Peripartum hysterectomy may be either subtotal or total. A subtotal hysterectomy is thought to be technically easier and associated with shorter operating time, less blood loss, less urological injury and low morbidity [1,6,19,20]. It is therefore preferred in situations where maternal instability mandates a more expeditious procedure [19,20]. Moreover in developing countries where homologous blood is often not available, pelvic pathologies are extensive and clinical presentation of patients is worse, subtotal hysterectomy may be preferred [4,5,9]. We reported a high proportion of subtotal hysterectomy of 91.3%. Earlier studies [3,4,6] had noted a proportion of subtotal hysterectomy ranging between 81 to 94%.

Peripartum hysterectomy has been described as one of the catastrophes of modern obstetrics [1,21,22]. The difficulties associated with the procedure are not necessarily the surgical technique but the anatomical and physiological changes associated with late pregnancy and the indications for the surgery as well as the support for such ill patients [21,22]. These difficulties are more pronounced in developing countries where patients present very late and the facilities for intensive care are lacking [4-6].

The most frequent complication of peripartum hysterectomy is excessive blood loss and need for transfusion [21,22]. Only part of this blood loss is attributable to the procedure itself. The extensive blood loss is related mainly to the primary indications for hysterectomy and delay in deciding to carry out hysterectomy. The next most frequently reported complication is urological injury which affects the bladder or the ureters [11,21]. The reported incidence of urological injuries with peripartum hysterectomy is between 4.6% and 12.5% [10,11]. We had noted a proportion of urological injuries of 6.5% which confirm these data.

The post operative morbidity of peripartum hysterectomy is high. The post operative complications include bleeding, wound sepsis/dehiscence, urinary tract infections, ileus, amenia, prolonged duration of hospital stay and/or injury after urinary tract infection [21,22]. Occasionally pulmonary embolism occurs. Many complications such as bleeding, infections and fistula may require relaparotomy or reoperation for proper management [11,21,22]. Three patients have presented a sepsis, factors like delay for better care, prolonged or obstructed labor can explain our proportion.

The outcome of obstetric hysterectomy was fatal for 3 patients (6.5%). Our lethality rate confirms literature’s data showing a maternal mortality rate linked with obstetric hysterectomy ranging between 4.35 to 28.57%. According to previous studies, fetal prognosis is worst and associated with a high fetal mortality rate ranging between 55.5% - 81% [4,5,7,9]. We reported a fetus death rate of 69.5%. The commonest cause of fetal death is uterine rupture [5,6]. Uterine rupture mechanism is often followed by fetus death.

Conclusion

Obstetric hysterectomy remains frequent in our regions. Adequate prenatal consultation and surveillance of patients during labor are required for curbing the frequency of obstetric hysterectomy. Preventive means against uterine rupture and uterine atony should be instituted mainly during labor and post partum period.

References

1. Shaikh NB, Shaikh S, Shaikh JM (2010) Morbidity and mortality associated with obstetric Hysterectomy. J Ayub Med Coll Abbottabad 22(2): 100-102.
2. Mathe JK (2008) Obstetric Hysterectomy in rural Democratic Republic of the Congo: An analysis of 40 cases at Katwa Hospital. Afr Reprod Health 12(1): 60-66.
3. Nahid M, Haikel T, Zayen S, Habib A, Mohamed D, et al. (2012) Obstetric hysterectomy: indications and prognoses. Tunisian médicale 90(8-9): 625-629.
4. Randriamibelomanana JA, Botololahy ZA, Rakotoarivony ST, Herinirina SAE, Rasaraharitra RA, et al. (2011) Obstetric hysterectomy performed at the maternity Tsimasime University Centre(Madagascar). Revue d'Anesthésie-Réanimation et de Médecine d’Urgence 3(1): 8-11.
5. Nayama M, Gama A, Garba A, Oumara M, Guédé S, et al. (2014) Obstetric hysterectomy at Niamey Issa-Ganobi Maternity, Med Afr Noire 61(12): 613-621.
6. NKwobong E, Kouam L, Simeu C (2010) Emergency obstetric hysterectomy, experience of Yaoundé university Centre (Cameroon). Med Afr Noire 57(5): 245-248.
7. N Siddiq, A Ghazi, T Ali (2007) Emergency obstetric hysterectomy (EOH): a life saving procedure in obstetrics. Pakistan Journal of Surgery 23(3): 217-219.
8. Omole-Osiami O, Oluyinka HT (2012) Emergency Peripartum Hysterectomy in a Developing Country. J Obstet Gynaecol Can 34(10): 954-960.
9. Kwamé-Aryée RA, Kwalaye AK, Seyfah JD (2007) Peripartum hysterectomies at the KORLE-BU Teaching Hospital: a review of 182 consecutive cases. Ghana Med J 41(3): 133-138.
10. Umezurike CC, Feye-Waboso PA, Adisa CA (2008) Peripartum hysterectomy in Aba South Eastern Nigeria. Aust NZ Obstet Gynaecol 48(6): 580-582.

11. Zeteroglu S, Ustun Y, Engin-Ustun Y, Sahin G, Kamaci M (2005) Peripartum hysterectomy in a teaching hospital in the Eastern region of Turkey. Eur J Obstet Gynecol Reprod Biol 120(1): 57-62.

12. Alsayali AR, Baloul SM (2000) Emergency obstetric hysterectomy: 8-year review at Taif Maternity Hospital, Saudi Arabia. Ann Saudi Med 20(5-6): 454-456.

13. Knight M, Kurinczuk JJ, Spark P, Brocklehurst P (2008) Cesarean Delivery and Peripartum Hysterectomy. Am J Obstet Gynecol 111(1): 97-105.

14. Anita K, Kathvi WW (2005) Emergency obstetric hysterectomy. J Obstet Gynecol India 55(2): 132-134.

15. Ibrahim M, Ziegler C, Klam SL, Wieczorek P, Abenhaim HA (2014) Incidence, Indications, and Predictors of Adverse Outcomes of Postpartum Hysterectomies: 20-Year Experience in a Tertiary Care Centre. J Obstet Gynaecol Can 36(1): 14-20.

16. Sarwat A, Umbr Een, Fouzia (2015) Emergency obstetric hysterectomy. Professional Med J 22(1): 100-105.

17. Okogbenin SA, Ghanro EP, Otoide VO, Okonta PI (2003) Obstetric hysterectomy: Fifteen years experience in a Nigerian tertiary centre. J Obstet Gynaecol 23(4): 356-359.

18. Jagruti MS, Santwan BM, Riddhi BS, Swati T (2013) Emergency Obstetric Hysterectomy: A Retrospective Study at a Tertiary Care Hospital. International Journal of Scientific Research 2(12): 378-380.

19. Rossi AC, Lee RH, Chmait RH (2010) Emergency Postpartum Hysterectomy for Uncontrolled Postpartum Bleeding. Obstet Gynaecol 115(3): 634-644.

20. Lovina SMM (2011) Emergency peripartum hysterectomy: Incidence, indications, risk factors and outcome. N Am J Med Sc 3(8): 358-361.

21. El-Jallad MF, Zayed F, Al-Rimawi HS (2004) Emergency peripartum hysterectomy in Northern Jordan. Indications and Obstetric outcome (an 8-year review). Arch Gynecol Obstet 270(4): 271-273.

22. Yucel O, Ozdemir I, Yucel N, Somunkiran A (2006) Emergency peripartum hysterectomy: A nine year review. Arch Gynecol Obstet 274(2): 84-87.

23. André B Pembé, Peter JT Wangwé, Siriel NM (2012) Emergency peripartum hysterectomies at Muhimbili National Hospital, Tanzania: a review of cases from 2003 to 2007. Tanzania Journal of Health Research 14(1): 1-10.

Citation: Foumsou L, Gabkika BM, Choua O, Djonjali S, Hissein A, et al. (2016) Obstetric Hysterectomy Performed at N’Djamena Mother and Child Hospital (Chad): Indications and Prognosis. Obstet Gynecol Int J 4(1): 00095. DOI: 10.15406/ogij.2016.04.00095