

# Obstetric Hysterectomy in Rural Democratic Republic of the Congo: An Analysis of 40 Cases at Katwa Hospital

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## ABSTRACT

The objective of this study was to determine the incidence, indication, and outcome of obstetric hysterectomy at an Eastern DRC rural hospital. This was a seven year retrospective study. The incidence was 0.28%. Mean age and parity of patients was 35.8 and 7 respectively. Trend to have Obstetric Hysterectomy increased with an age of = 35 years and parity of = 5. The main indications were Post-Partum Hemorrhage (PPH) (40%) and Ruptured Uterus (27.5%). Maternal mortality was 5% compared to 0.18% for Caesarean practiced at the same study period; and perinatal mortality 35.5%. Most indications could be avoided by improvement of Obstetric care. (*Afr Reprod Health* 2008; 12[1]:60-66).

## RÉSUMÉ

Hystérectomie obstétrique dans la République Démocratique du Congo rural : analyse des 40 cas à l'hôpital Katwa Cette étude avait pour objectif de déterminer l'incidence, l'indication et l'issue de l'hystérectomie dans une hôpital rural qui se trouve à l'est de la RDC. Il s'agit d'une étude rétrospective de sept ans. L'incidence était de 0,28%. L'âge moyen et la parité des patientes étaient de 35,8 et 7 respectivement. La tendance à avoir l'hystérectomie obstétrique a augmenté d'un âge de = 35 ans et de parité de = 5. Les principales indications étaient de l'hémorragie de la délivrance (HDD) 40% et la rupture de l'utérus (27,5%). La mortalité maternelle était de 5% par rapport à 0,18% pour l'opération césarienne qui a été pratiquée à la même période de l'étude, et la mortalité périnatale était de 35,5%. La plupart des indications peuvent être évités si le soin obstétrique est amélioré. (*Rev Afr Santé Reprod* 2008; 12[1]:60-66).

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KEY WORDS: *Obstetric hysterectomy, Katwa, DRC.*

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## **Introduction**

Hysterectomy is a Gynecological operation done usually on a non gravid uterus. However, certain circumstances may lead to it being done during pregnancy. It is then called Obstetric Hysterectomy, meaning the one being performed on a gravid uterus.<sup>1</sup>

Most of the time, it is performed during situations where by the life of the mother is threatened. It becomes therefore a life saving emergency procedure.

There are difficulties and complications associated with this procedure, not only due to the surgical technique, but also to the pre-, per-, and post-operation support needed for the patient<sup>2</sup>. In poor settings, like in developing countries, as the condition arises as emergency, these preparations are not ready or adequate, hence putting the patient in potential danger<sup>3</sup>. DRC is one of the countries where poverty and political crisis have made hospital so deteriorated that when emergencies arise, most of the time, the patients are at risk of dying, as health facilities are not funded for decades; they lack equipments, blood bank; and patients are impoverished by multiple socio-political instability. All these factors contribute to a possible high maternal and fetal mortality/morbidity, especially from this condition of obstetric hysterectomy.

The aim of this study was to review the records of patients who had Obstetric Hysterectomy in the last 7 years (1998 – 2004), in order:

- to determine the incidence of Obstetric Hysterectomy at the hospital,
- to determine the etiological factors or indications resulting in Obstetric Hysterectomy,
- To determine the maternal and fetal outcome of the procedure.

## **Materials and Methods**

This was a retrospective study of 40 patients who had Obstetric Hysterectomy at Katwa Hospital from JANUARY 1, 1998 to DECEMBER 31,

*African Journal of Reproductive Health Vol. 12 No.1 April, 2008*

2004, among 13940 deliveries. Data were collected from Intensive Care Unit, Labor Ward, Operating Room, Post-Partum, Surgical and Gynecological ward registers; as well as from the available patient's files. Details retrieved and analyzed included: age, parity, indications of surgery, type of hysterectomy, type of case (emergency or elective), and maternal and fetal outcome.

Certain Socio-demographic information about the patients such as education, profession, was not possible to collect since they were not included in patient records system. Therefore data analysis was limited only to available information.

Statistical analysis was performed using EPI-INFO version 3.3.2 (CENTRES FOR DISEASE CONTROL AND PREVENTION), and results are presented as frequencies, mean, range and percentages.

## **Results**

### **1. Incidence of Obstetrical Hysterectomy**

During the 7 years under study, there were 13940 deliveries (Table 1). From these deliveries, 3234 were caesarean section (C/S rate of 23.2%), and there were 40 cases that had Obstetric Hysterectomy, making an incidence of 0.28%, or a ratio of 1 in 348 deliveries.

Further analysis showed that most of the hysterectomies were peripartum hysterectomy, having been done during or after the process of delivery: 31/40 (77.5%), an incidence of 0.22% or a ratio of 1 in 450 deliveries. As for hysterectomies done during pregnancy, the study found 9 cases (22.5%), an incidence of 0.06% or a ratio of 1 in 1549 deliveries.

### **2. Age distribution of the mothers**

The mean age of patients was 35.8 (23 – 49) years. Table 2 shows that most women who had Obstetric Hysterectomy were aged = 35 (50% of cases).

**Table 1: Respondents' knowledge of assessment with the partograph**

	Primary (%)				Secondary (%)				Tertiary (%)	
	Auxiliary Nurse	CHEW	Trained Nurse	Physician	Auxiliary Nurse	CHEW	Trained Nurse	Physician	Trained Nurse	Physician
Prolonged labour	23.1	31.3	45.2	82.4	35.0	41.7	56.4	94.6	84.2	93.6
Obstructed labour	13.9	29.7	42.2	58.8	25.0	25.0	44.9	89.2	67.3	80.9
Poor progress of labour	16.2	23.4	43.7	76.5	50.0	41.7	53.2	94.6	85.2	97.9
Inefficient uterine contraction	16.9	25.0	43.0	70.6	40.0	33.3	50.6	91.9	80.2	100.0
Suspected fetal distress	18.5	23.4	41.5	70.6	50.0	41.7	46.8	91.9	80.2	93.6
Abnormal fetal heart rate	18.5	28.1	40.7	64.7	40.0	25.0	48.1	89.2	77.2	97.9
Satisfactory progress of labour	20.8	25.0	33.3	76.5	50.0	41.7	55.1	89.2	78.2	93.6
Need for augmentation of labour	17.7	21.9	33.3	70.6	50.0	25.0	46.8	94.6	76.2	100.0
Need for caesarean section	10.8	31.3	43.0	64.7	30.0	25.0	46.8	89.2	77.2	91.5
Dehydration in mother	16.9	17.2	37.0	35.3	30.0	16.8	35.3	51.4	44.6	53.2

**Table 2: Previous training and knowledge about the partograph**

	Primary (%)				Secondary (%)				Tertiary (%)	
	Auxiliary Nurse	CHEW	Trained Nurse	Physician	Auxiliary Nurse	CHEW	Trained Nurse	Physician	Trained Nurse	Physician
Prior training on the partograph	17.7	12.5	31.1	76.5	30.0	25.0	53.9	89.2	72.3	91.5
Correct knowledge of at least one component part of the partograph	9.2	10.9	16.3	52.9	25.0	33.3	42.3	70.3	71.3	95.7
Correct explanation of function of the Alert line	6.9	3.1	5.9	23.5	5.0	16.8	11.5	40.5	30.7	61.7
Correct explanation of function of the Action line	6.9	4.7	10.4	47.1	5.0	8.3	21.8	73.0	40.6	78.7

### 3. Parity distribution of the mothers

The analysis also showed that most women having an Obstetric Hysterectomy had high parity of = 5 (75%) with the mean parity of 7 (range of 2 to 12) (Table 3).

### 4. Indications for Hysterectomy

Over 2/3 of obstetric hysterectomies were emergencies (67.5%), and 32.5% booked cases. Anaesthesia was administered by a trained nurse anaesthetist; and in 85% the procedure was done

under general anaesthesia, 15% under spinal. Pre-operatively, most patients were stable (57.5%), while 27.5% in circulatory shock, 7.5% anemic and 7.5% with post C/S peritonitis (Table 5). Technically, 80% of the procedures were subtotal hysterectomies against 20% of total hysterectomies.

The analysis of the indications for the procedure (Table 4) found that the two principal indications were Postpartum Hemorrhage (40%), and Ruptured Uterus (27.5%). Most of the Post-Partum Hemorrhages were due to atonic PPH (9/16). The majority of women with ruptured uterus were referred from local clinics already ruptured and they had history of previous caesarean section. Molar pregnancy came in third position (17.5%).

### **5. Outcome and complications**

Table 5 shows that 87.5% of patients remained stable after the operation, while the rest were in circulatory shock (12.5%). In this series, there were 2 maternal deaths, a rate of 5%. Among these deaths, one woman was preoperatively stable, going for C/S for previous C/S. However, during C/S there was uncontrollable bleeding, that led to hysterectomy. Patient condition deteriorated (circulatory shock), during and after the operation, and finally died 4 days later. The second case of death was a ruptured uterus case, which was already in shock prior to the operation and remained so in post-op until she died. In both deaths, there was a significant delay in getting blood from donors, prolonging the circulatory shock and coma, with probable brain damage.

Further analysis done to compare the risk of dying between hysterectomy and C/S found that women with hysterectomy were 28 times more likely to die from surgery than women with C/S (OR = 28.32 (3.82<OR<162.49), 95% CI).

A part from the 2 deaths, there were 3 cases of urinary injuries resulting in fistula: two vesico-vaginal fistulas and one uretero-abdominal fistula that lead to post-op. urinary peritonitis; a re-

laparotomy was done to correct the defect. The rest of patients progressed well. The mean hospital stay was 10.6 +/- 4.1 days (range 4 – 22 days).

The fetal outcome (Table 5) was studied after excluding cases of Ectopic Pregnancy, Molar Pregnancy, and Septic Abortion. Among the 31 women studied, 64.5% had live babies, and 35.5% with fetal loss.

### **Discussion**

This study reviewed 7 years experience of Obstetric Hysterectomy at Katwa Hospital, a secondary referral hospital in Eastern DRC.

The overall incidence of obstetric hysterectomy was 0.28% or a ratio of 1:348. This incidence, just as the other studies found, is 4 to 7 times higher than that of developed countries; where the incidence is lower<sup>4,8</sup>. In poor settings like this, several studies found almost similar results. In Nigeria, the incidence was 0.226%<sup>2</sup>, in Indore (India) 0.26%<sup>1</sup>. Incidences were a bit higher than this series in other African studies: 0.4% in Dongmo et al. series<sup>9</sup> and 0.45 in Diouf et al. series<sup>10</sup>. From these findings, it seems that the incidence is higher in settings and regions where there is higher parity and poor usage of modern obstetrics<sup>11</sup>. That is why the need of skilled obstetrical attendants and improvement of obstetric care is crucial in these settings.

This study showed that most of the 40 women who had hysterectomy had a high parity (>=5) and increased maternal age (>=35). This is likely due to the fact that, in Africa, with increased age, women are likely to have had many pregnancies. These in turn put the women at increased risk of obstetric complications during deliveries like uterine rupture, postpartum hemorrhage, which can lead to hysterectomy being performed. It is for this reason that it is recommended to have fewer births, less than 5<sup>2,12</sup>, and to limit pregnancies to healthiest ages<sup>12</sup>, in order to minimize these risks. This action can be well facilitated by the use of effective contracep-

tive methods. Therefore, the use of contraceptive should be encouraged.

The first reason for having an obstetric hysterectomy in this setting was PPH (40%), especially atonic PPH. This may be due to what we have just emphasized above. These women were mostly grandmultiparous (Mean parity 7), a well known risk factors for PPH. Also, this setting does not have a blood bank to avert any bleeding. That's why it might have been easier to resort to hysterectomy where primary measures to stop the bleeding failed just to save the life of the mother. Some studies also found PPH as the principal cause of hysterectomy: 71.7% in Diouf et al. series<sup>10</sup> and 76% in Mayi-Tsonga et al. series<sup>13</sup>. Others found PPH coming in second position after Ruptured Uterus, which in these studies was the main indication: 69.7% in Shubham G et al. series<sup>1</sup>, 35% in Okogbenin SA et al. series<sup>2</sup>, 80% in Dongmo R et al series<sup>9</sup>, 32.4% in Sebitloane MH et al. series<sup>14</sup>. When comparing these results to the ones of this series, the frequency of ruptured uterus was lower (27.5%). Even though it is lower, in this country (DRC), ruptured uterus remains one of the principal causes of maternal death along with PPH<sup>15</sup>, and risk factors incriminated in causing rupture include previous C/S, and CPD<sup>16</sup>. In developed countries in contrast, these two indications are rare owing to improved obstetric care and low parity<sup>2</sup>. Studies done in developed countries show that most of principal indication for obstetric hysterectomy is complications related to abnormal placentation<sup>4-6, 17</sup>.

In this study, it was found that vesicular mole came in third position as an indication for obstetric hysterectomy, with an incidence of 17.5%. Uncontrollable hemorrhage might have led to the hysterectomy. In SHUBHAM et al. study<sup>1</sup>, they only found 2.3% of cases with this condition. In view of this rate, it seems like this condition might be frequent in this region. Another study may be needed to determine the frequency.

Another striking finding was the 5% of hysterectomy being performed for sterilization.

Even though, according to Britton JJ<sup>18</sup>, such operations can now be performed with less attendant risks, with improvement in surgical technique, blood banks, antibiotic therapy, and other modalities of postoperative care, the authors think that in poor settings like in developing countries, the risks of the operation is still high. And they agree with Diebel N<sup>19</sup> that it is better to refrain from performing more surgery on a patient than she needs, to minimize the risks, especially in working conditions like those in developing countries. However, coexisting gynecological conditions may be taken into account when one considers sterilization, and it may be a good option to offer hysterectomy to those patients<sup>20, 21</sup>. But unnecessary surgery is to be avoided in ours settings, due to many risks.

Concerning the technique, this study found that most of the hysterectomies were subtotal (80%). This might be due to the inexperience of the surgeons. Though subtotal hysterectomy is quick and much easier technique, but it still put women in a potential risk of carcinoma of the cervix, a disease that is one of the most common in low socio-economic countries like ours. The technique of total hysterectomy during C/S requires expert surgical dexterity in order to minimize the significant morbidity<sup>22</sup>. Doctors need to be well trained in total hysterectomy. Dongmo et al.<sup>9</sup> found almost the same result (80.6% of subtotal vs. 19.4% of total hysterectomy). Okogbenin et al<sup>2</sup> found 43.5% of women having subtotal hysterectomy. The lower subtotal rate in the later might be due to that fact that the study was done in a tertiary teaching hospital where there are specialist doctors.

As for complications, while about 42.5% of cases were in un-stable conditions prior to the operation, most of these patients were well stabilized. However, 12.5% remained in circulatory shock post-operatively, resulting in two maternal deaths for this series (5%), a disastrous consequence, while other recovered progressively well. Compared to C/S, this procedure was

found to be riskier in poor settings (OR 28). In other countries the maternal mortality was even higher than this series, varying from 5.6% to 35%: 35% in Yaoundé<sup>9</sup>, 5.6% in Durban<sup>14</sup>, 12.5% in Benin City<sup>2</sup>, 10.9% in Indore<sup>1</sup>, 24% in Brazzaville<sup>13</sup>. In developed countries the maternal mortality is very low, with no mortality in some studies<sup>4,8,17,23</sup>. In this series, the mortality depended on availability of blood, as the two patient died from hypovolemic shock for lack of blood. Blood transfusion was delayed until family replacement donors are found. This emphasizes the need for a blood bank.

The perinatal mortality was higher with 35.5% of fetal loss. The highest perinatal mortality was found in the study in Indore<sup>1</sup> where they found 70.5% of fetal loss. In other studies the rate varied from 30 to 57%<sup>2,13,14</sup>. In studies from developed countries, there were few fetal deaths<sup>4,17</sup>.

## Conclusion

Obstetric Hysterectomy, a dangerous procedure is not rare in poor and rural DRC setting. It is a life saving technique that needs experienced surgeons to minimize its potential complications. The common indications being PPH and ruptured uterus, occurring in patients with high parity and increased age, call for an improvement of obstetric care with family planning, timely referrals, proper management of third stage of labor and backup services like blood bank and skilled personnel to avert its potential complications. Finally, good and complete record keeping is also recommended.

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