

## **MORBIDITY AND MORTALITY FOLLOWING EMERGENCY OBSTETRIC HYSTERECTOMY IN CALABAR , NIGERIA**

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### **ABSTRACT**

**Objective:** To review the maternal morbidity and mortality following emergency subtotal hysterectomy and total abdominal hysterectomy in the University of Calabar Teaching Hospital (UCTH) the differences in their outcome and the influence of the cadre of surgeon on the outcome of these procedures.

**Design:** A ten year retrospective review of cases between 1<sup>st</sup> January 1990 and 31<sup>st</sup> December 1999.

**Setting:** University of Calabar Teaching Hospital, Calabar, Nigeria, a tertiary institution in a developing country.

**Patients:** Forty-five patients who underwent emergency obstetric hysterectomy.

**Results:** The commonest indications for emergency obstetric hysterectomy were ruptured gravid uterus in 27 (60%). Primary post partum haemorrhage in 15 (33.3%) of the cases and hysterectomy for puerperal sepsis was an indication in 3(6.7%) of the cases.

Complications associated with emergency obstetric hysterectomy were seen in 41(91.1%) of the cases. These were haemorrhage 10(24.4%), wound sepsis 8(19.5%), septicaemia, post operative shock and vesico-vaginal fistula each contributed 3(7.3%). Others were pelvic abscess in 2(5.0%), ureteric injury, pulmonary oedema and bed sores contributed (2.4%) each. There were nine maternal deaths giving a case fatality rate (CFR) of 20%. There was no statistical significant difference in the outcome between the two types of hysterectomy. However, when these variables were compared in relation to the cadre of surgeons and the type of hysterectomy, morbidity and mortality were significantly higher amongst the registrars, who however performed better with subtotal hysterectomy than with total abdominal hysterectomy. Suggestions are made on how to reduce the conditions that necessitated this operations and improve the outcome.

**KEYWORDS:** *Morbidity, Mortality, Obstetrics hysterectomy*

### **INTRODUCTION:**

In Nigeria, like many other developing countries, obstetric hysterectomy is frequently performed for life threatening conditions such as ruptured gravid uterus and uncontrollable post partum haemorrhage<sup>1,2,3</sup>. It is often associated with high maternal morbidity and mortality<sup>1,4</sup>. In contrast, the indications for obstetric hysterectomy in developed countries are often related to pre-existing gynaecological problems such as uterine fibroids, carcinoma of the cervix and ovarian malignancies<sup>4,5,6</sup>.

Due to the high morbidity and mortality rates associated with emergency obstetric hysterectomy in the developing countries, some have recommended subtotal rather than total abdominal hysterectomy (TAH) in these environment<sup>5,6</sup>. The theoretical assumption is that, subtotal hysterectomy (SUB-TAH) is associated with shorter operating time and it is less technical than total abdominal hysterectomy. However other workers have

seen no significant differences between the two in terms of maternal morbidity and mortality<sup>1</sup>. Whether these differences in outcome as observed is present in our environment and the reason for the differences have not yet been studied in our community. Besides, previous studies have also not considered the influence of the cadre of surgeons on the outcome of these procedures. Hence the present study was undertaken to review the maternal morbidity and mortality following obstetric subtotal hysterectomy and total abdominal hysterectomy in University of Calabar Teaching Hospital (UCTH) the differences in their outcome and the influence of the cadre of surgeons on the outcome of these procedures. It also aimed at suggesting ways of preventing these conditions which necessitate emergency obstetric hysterectomy in our community.

### **MATERIALS AND METHODS:**

The case notes of all the patients who underwent emergency hysterectomy in University of Calabar Teaching Hospital between

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1<sup>st</sup> January 1990 and 31<sup>st</sup> December 1999 were reviewed. Information abstracted from the records included age, parity of the patients and indications for the operation. Types of hysterectomy, morbidity and mortality following the operation were noted. The cadre of surgeons were also recorded. Patients relatives generally did not accede to request for post mortem examination, thus the cause(s) of death were based on clinical diagnosis in all the cases.

All patient data underwent computer analysis and were evaluated using analysis of variance, X<sup>2</sup> test, Students t-test, Fishers exact test and Kruskal-wallis test, depending on the appropriate specificities of each test.

## RESULTS

There were 17,650 deliveries during the ten year period of study. Emergency obstetric hysterectomy were performed in forty-five of these cases giving an incidence of 1:392 deliveries. Mean maternal age for this procedure was 31.35±7.20 with a range of 15 – 44 years. Three (6.7%) patients were less than 20 years. Seventeen (37.8%) were between 21 and 30 years and 25 (55.5%) were in the age group between 41 and 50 years.

Mean parity was 5.09±2.95, 3(6.6%) were nulliparous and 16 (36.6%) were of multiparous while twenty-six (57.8%) were in grandmultipara group.

Indications for hysterectomy were ruptured gravid uterus in 27 (60%) and three (11.1%) were nulliparous with a previous history of complicated termination of pregnancy. Twenty-four (88.9%) of the patients were multiparous and 14 (51.9%) had no antenatal care and were admitted with a history of prolonged obstructed labour with ruptured gravid uterus either in the spiritual churches or with traditional birth attendants. Ten (37%) were booked cases and five of them had previous history of caesarean section, defaulted and had labour and delivery in spiritual churches. The remaining five had failed forceps and laparotomy was done and ruptured gravid uterus was diagnosed intra-operatively.

Primary post partum haemorrhage was an indication in 15 (33.3%) of the cases. Eight (53.3%) were grand-multiparous women who had spontaneous vaginal delivery with post-partum haemorrhage. Four (26.7%) had severe haemorrhage during caesarean section, three (20%) had manual removal of placenta and continued to bleed after removal.

Hysterectomy for puerperal sepsis was an indication in 3 (6.7%) of the cases. One (33.3%) had caesarean section due to prolonged obstructed labour with resultant puerperal sepsis. The remaining two (66.7%) had spontaneous vaginal delivery with the traditional birth attendants.

Complications associated with emergency obstetric hysterectomy were seen in 41 (91.1%) of the cases, Table 1. These were Haemorrhage 10 (24.4%), wound sepsis 8 (19.5%), septicemia, post operative shock and vesicovaginal fistula each contributed 3 (7.3%). Others were Pelvic abscess in 2 (5.%), ureteric injury, pulmonary oedema and bed sores contributed one (2.4%) each. There were nine maternal deaths giving a case fatality rate (CFR) of 20%. Table 2 shows the comparison between TAH and SUB-TAH and the outcome. There was no statistically significant difference in the outcome of the two operations.

Table 3 shows the outcome of the two operations in relation to the cadre of surgeons. There was no statistically significant difference in outcome between the senior registrars and consultants. Whereas the morbidity and mortality were significantly higher amongst the registrars. The registrars, however, performed better with subtotal hysterectomy than total abdominal hysterectomy.

**Table 1: Postoperative Complications Associated with Emergency Obstetric Hysterectomy**

Complication	Number	Percentage (%)
Haemorrhage	10	24.4
Wound Sepsis	8	19.5
Septicemia	3	7.3
Post operative hypovolemic shock	3	7.3
Visico – vaginal fistula	3	7.3
Pelvic abscess	2	5.0
Ureteric injury	1	2.4
Pulmonary oedema	1	2.4
Bed sores	1	2.4
Maternal deaths	9	22
Total	41	100%

**Table 2: Comparison between total Abdominal Hysterectomy and Subtotal Hysterectomy and the Outcome**

VARIABLE	TAH	SUB.TAH	P-VALUE
No. of cases	18	27	-
Mean duration	125.6	110.9	NS
Mean blood loss	726.5	583.0	NS
Mean duration of hospital stay	12	11.9	NS
Post operative morbidity no. (%)	14(77.8)	19(70.4)	NS
Case fatality rate no.(%)	4(22.2)	5(18.5)	NS

Percentage in parenthesis

NS – not significant.

**Table 3: Variables of TAH and SUB.TAH with Cadre of Surgeons and the Outcome**

VAIABLE	TAH			SUB.TAH		
	Consultant	Snr. Registrar	Registrar	Consultant	Snr. Registrar	Registrar
Cadre of Surgeons	Consultant	Snr. Registrar	Registrar	Consultant	Snr. Registrar	Registrar
No. of cases performed	N=6	N=7	N=5	N=6	N=8	N=13
Mean blood loss	592.3	605.5	1200	430	450	530
Mean duration of operation (Mins)	115	p=0.834	p=0.00123	104.2	p=0.601	p=0.6
		116.6	160		109.4	112
Mean duration of hospital stay 9days)	9	p=0.89	p=0.0086	9.4	p=0.273	p=0.26
		10	21.5		10	12
Post operative morbidity no. (%)	4(50)	5(71.4)	12(240)*	2(33.3)	4(44.4)	5(38.5)
Maternal mortality ratio no. (%)	1(12.5)	1(14.2)	2(40)	1(16.6)	1(11.1)	3(23.0)

Percentages in parenthesis

\*More than one complications

## DISCUSSION

The present study has shown that ruptured gravid uterus, primary post-partum haemorrhage and puerperal sepsis are the major indications for emergency obstetric hysterectomy in our community. It also records an incidence of 1:392 deliveries in this operation. This is comparatively higher than those reported by other workers<sup>1,5,6</sup>. It may be explained by the high incidence of ruptured gravid uterus in our community as this contributed sixty percent of the cases. Uterine rupture provides a strong indication for obstetric hysterectomy especially when the rupture is massive or in the presence of necrotic and infected tissues, or when it occurs in a grandmultiparous woman<sup>7,8</sup>.

Most patients who underwent emergency obstetric hysterectomy had no antenatal care. They had prolonged labour under the care of untrained personnels who only referred them late to the hospital. In Nigeria, spiritual churches or prayer houses are actively engaged in obstetric practices, and their method are based on efficacy of prayers for the conduct of deliveries and management of complications<sup>9</sup>. No matter how long a woman is in labour, they still expect miracles to happen<sup>10</sup>. This delays urgent referral to centres where emergency obstetric care is available.

The study has also revealed a higher incidence of subtotal hysterectomy 27(60%) compared to total abdominal hysterectomy 18 (40%). This was probably influenced by the skill of the surgeons as more subtotal hysterectomies were performed by the resident than the consultants. The belief that it reduces morbidity and mortality from emergency obstetric hysterectomy may also have been a strong factor<sup>11,12</sup>. The study has shown that there was no statistically significant difference in outcome when the two types of hysterectomy were considered disregarding the cadre of surgeons. However, when the variables were compared in respect of the cadre of surgeons, the rate of complications and mortality were higher among the registrars than others. The registrars however had better outcome with subtotal hysterectomy than total abdominal hysterectomy. There was no statistical difference in outcome between the senior

registrars and consultants. These observations may account for the seeming disparity in the outcome between total abdominal hysterectomy and subtotal hysterectomy recorded by other workers. The high incidence of emergency operation explains the high morbidity and mortality in this study, the operation being performed when the condition of the patient was desperate. Haemorrhage and sepsis being the commonest complications and were the causes of death. In many cases blood was not available for transfusion and antibiotics administration was irregular as patients relative could not afford these. The subject of adequate blood transfusion services in Nigeria has been discussed at length by many<sup>13,14</sup>. There is a general apathy on the part of Nigerians to donate blood and close relatives of patients still find it difficult to donate blood in life-threatening haemorrhage<sup>15</sup>. Increased use of prophylactic antibiotics to avoid post operative infections<sup>8,15</sup>, and use of microbiologically guided choice of antibiotics in infected cases, and aseptic precautions in our theatres<sup>15</sup>, will help to reduce our sepsis rate and morbidity and mortality.

In conclusion, the incidence of emergency obstetric hysterectomy is high in our community, the morbidity and mortality following this operation in our practice is also higher than those obtained in the developed countries. This is due to lack of antenatal care and late referral of patients by untrained birth attendants. There is no significant difference in outcome following total abdominal hysterectomy when compared with subtotal hysterectomy provided the required expertise is available. To reduce the incidence of emergency obstetric hysterectomy and morbidity and mortality from it, there is need for every woman to deliver under trained personnel and this is only possible with proper public enlightenment campaigns with formation of relevants health messages in local language to encourage the use of health facilities both during the antenatal care and delivery.

It may also become necessary to involve the basic obstetric training programme for the spiritual Church leaders or their representative, and the traditional birth attendance with emphasis

on the method of screening high risk pregnancies, proper aseptic technique, and prompt referral to hospital.

Religious organisation should be recognised as an important targets in the effort to reduce maternal morbidity and mortality in our environment and the need for them to establish properly staffed, and well equipped health clinics to provide emergency obstetric care as an annex to the church.

Obstetric hysterectomy can save many lives but require proper judgment and skills. Total abdominal hysterectomy should always be done but where the expertise is low subtotal hysterectomy will save the life of the patients.

#### REFERENCE

1. **Onwudiegwu U, Okonofua F.** Emergency obstetric hysterectomy in semi-urban hospital. *Nig. Med. J.* 1993;24 (2): 54-7
2. **Korejo R, Jafarey SN.** Obstetrics hysterectomy – Five years experience at Jinnah postgraduate medical centre, Karachi. *JPMA* 1995 45 (4): 86 – 8
3. **Gupta U, Ganesh K.** Emergency hysterectomy in Obstetrics, review of 15 years. *Asia Oceano Journal of Obstetrics & Gynaecology* 1994 20 (1): 1-5
4. **Thonet G R N.** Obstetrics hysterectomy – an 11 years experience. *Br. J. Obstet. Gynaecol* 1986 93: 794 – 8
5. **Barclay DL.** Caesarean hysterectomy at Charity Hospital in New Orleans – 1000 consecutive operations. *Clin. Obstet. Gynaecol* 1969 12:635 – 51
6. **Haynes DM, Martins BJ. Jr.** Caesarean hysterectomy: a twenty five year review. *Am. J. Obstet Gynecol* 1979 134:393 – 8
7. **Mokgokong ET, Marivate M.** Treatment of ruptured uterus. *S.*

*Afr. Med. J.* 1976 50: 1621 – 24

8. **Heij HA, Tevelde ER, Cairns JM.** Management of rupture of the gravid uterus. *Trop. Doct.* 1985 15: 127-31
9. **Adetunji JA.** Church based Obstetric Care in a Yoruba Community, Nigeria. *Soc. Sci. Med.* 1992 33 (9): 1171-31
10. **Udoma, E. J, Ekott M. I, Asuquo EE, J. JOHN M E.** Maternal Mortality from Obstructed Labour – the role of spiritual churches. *Int. J. Gynecol obstet* 1999, 67 (2) 350-2.
11. **Lawson JB.** Sequelae of obstructed labour. In: Lawson JB, Stewart DB (editors), *Obstetrics and Gynaecology in the tropics and developing world.* London Edward Arnold Publishers Limited 1967 203-18
12. **Giwa – Osagie OF, Uguru V, Akinla O.** Mortality and Morbidity of emergency obstetric hysterectomy. *J Obstet Gynaecol* 1983 4: 94-6
13. **Otong JG, Asuquo EEJ, Olaniran NS, Duke FD, Abia RP.** Community mobilization for blood donation, Cross River State, Nigeria *Int. J. Obstet Gynecol* 1997 sup 59 (2):119-25
14. **Megafu U.** Maternal mortality from emergency caesarean section in booked hospital patients at the University of Nigeria Teaching Hospital, Enugu. *Trop. J. Obstet Gynaecol* 1988 special edition 1 (1): 29 – 31
15. **Howie PW, Davey PG.** Prophylactic antibiotics and caesarean section. *BMJ* 300: 2 – 3
16. **Chi I, Whatley A, Wilkens L, Potts M.** In hospital maternal mortality risk by caesarean section and vaginal deliveries in two less developed countries – A descriptive study. *Int. J. Gynecol Obstet* 1986 24: 121 – 31