Surgical Complications of Unsafe Abortion: A 10-year Review in South Western Nigeria

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SUMMARY

Background: **Surgical complications of unsafe abortion are assoicated with high mortality and morbidity.**

Materials and Methods: **We retrospectively examined the complications of unsafe abortions requiring laparatomy at the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria from January 1, 1991 to December 31, 2000. The case notes of 371 patients were reviewed with respect to the incidence, types of surgical complications and their management outcome.**

Results: **Our result showed that complications at laparotomy in the 371 cases were intra-abdominal pus collection (33%), uterine perforation alone (13%), uterine perforation with bowel injury (7%), urinary injury (1%). The need for laparotomy was significantly increased following abortions in the second trimester, abortions carried out by non-medical personnel, and poor socio-economic status of the patients. There were 13 cases of maternal death despite laparotomy.**

Conclusion: **We conclude that surgical intervention should be promptly performed in suspicious cases of complicated induced abortions. Adolescent reproductive health should emphasise the prevention of teenage pregnancies and support to those so affected.** *Niger Med. J, Vol 46, No.3, July – Sept., 2005: 75 – 78.*

KEY WORDS: ***Unsafe abortion, laparotomy.***

INTRODUCTION:

Data from available reports (1–5) show that each year, 75 million unwanted pregnancies occur worldwide. A very large number of people, 35 to 50 million, end in induced abortion. Of these abortions, 20 million are unsafe, resulting in the death of at least 80,000 women and serious complications.

In Nigeria alone, 610,000 abortions are performed annually, of which 60% are thought to be unsafe,constituting up to 12% of the maternal mortality ratio of 1000 per 100,000 live births, giving an estimated unsafe abortion mortality ratio of 120 deaths per 100,000 live births (1). This value is similar to the average unsafe abortion mortality in the rest of Africa (110 deaths per 100,000 live births), and is more than twice in any other regions of the world.

Several factors have been cited (6–11) for the high rate of abortion mortality in Nigeria, and included the restrictive abortion law prohibiting induced abortion for non-medical indications. Consequently a significant proportion of induced abortions take place in unsafe conditions and by untrained personnel, resulting in fatal and incapacitating complications. Majority of the deaths may be preventable if surgical interventions are not delayed, the nature of which is determined by the pattern of complications usually encountered.

This study is aimed at examining the pattern of surgical complications following unsafe induced abortion requiring laparotomies at the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife and the type of surgery performed.

MATERIALS AND METHODS

This is a retrospective study of surgical complications of unsafe abortion that presented at the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, which comprises of the Ife State Hospital, Ile-Ife and Wesley Guild Hospital, Ilesha, both in Osun State of Nigeria, from January 1, 1991 to December 31, 2000. We reviewed the theatre records of laparotomies performed for unsafe induced abortions, and extracted the case records for review. Consecutive cases of unsafe abortions not requiring laparatomy during the study period were also extracted and reviewed, and used as controls.

Data extracted from the case records included the socio-economic and demographic characteristics of the patients, the type of personnel who performed the abortion, the presenting complaints, interval before presentation, latency period (induction-surgery interval), intraopertive diagnosis, types of surgery performed, and the outcome of surgery. The characteristics and selected data were compared among the cases and controls to determine significant variables that may potentially determine if the complications will require surgical interventions.

All data were analyzed using the SPSS statistical programs, version 7.5 (SPSS inc., Illinois, 1996). Categorical variables were compared using Chi square test, while continuous varibales were compared with the student's t test. Differences were considered significant at $P < 0.05$.

RESULTS

The social, economic and demographic characteristics of patients who had complications of unsafe induced abortions were presented by nature of complications in Table 1. Laparotomy needs in unsafe abortions were more likely among

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adolescents, low socio-economic groups, poor literacy level, and induction performed after the first trimester of pregnancy, or by quacks, using sharp intrustments in all cases where information was obtainable.

Analysis of the type of presentation by need for laparatomy (Table 2) revealed that majority of complications presented with combinations of symptoms and signs that included fever and abdominal pains in all the patients, foul vaginal discharge in over 90% of all patients. Those who required laparatomy presented with foul vaginal discharge (97%), abdominal distension (91%), vaginal bleeding (56%), shock (31%) and faecal or urinary leakage *per vaginaam* (7%) compared with those who had conservative treatment (Table 2).

The mean interval before presentation was significantly shorter in the laparatomy group (4.9 ± 4.2 versus 6.5 ± 3.7 days; P<0.001). The mean presentation to laparatomy time for the surgically complicated cases was 28.0 ± 12.7 hours.

The intraoperative diagnosis and corresponding surgical interventions are presented in Table 3. Over two-third of the cases occurred in various combinations and more than a single procedure was required in such cases. There was a case of massive intra-peritoneal haemorrhage involving trauma to a major pelvic vessel. The patient however died of shock intra-operatively. In five cases, the laparatomy was negative, with no evidence of injury to any pelvic organ.

The overall outcome following surgery is generally good; the average length of stay in hospital was less than 14 days in over 75% of the cases. Mortality was recorded in 13 patients, with intra-operative death in 1, and two occurring during the immediate post-operative period. Causes of death included shock in 7, overwhelming sepsis in 3, and renal failure in the other 3, as confirmed by autopsy report.

***Table 1:* Demographic characteristics of sugery-requiring complications of unsafe abortions compared with those not requiring surgical interventions. Values are given as mean ± SD, or n(%) or n/N(%).**

	Surgical intervention 371	**Non-surgical intervention** 375	**P value**
Patient's age (y)	18.4 ± 7.2	21.8 ± 8.3	0.017
Gravidity	1.5 ±0.8	2.6 ±1.1	< 0.001
Parity	0.4 ±0.3	1.7 ±0.9	< 0.001
Gestational age (wks)	13.1± 5.2	7.1 ±3.0	< 0.001
Low socio-economic status	141 (38)	93 (25)	< 0.001
Primary or less education	160 (43)	95 (25)	< 0.001
Unmarried/separated	288 (78)	241 (64)	< 0.001
Ever used contraception	21/310 (7)	49/338 (14)	0.002
Procurement by Quacks	242/361 (67)	201/366 (55)	0.001
Positive history of use of sharp instruments	293/293 (100)	260/373 (69)	< 0.001

***Table 2:* Pattern of presentation in complicated unsafe abortion values are expressed in n(%)**

	Laparatomy 371	**Conservative** 375	**P**
Abdominal pains	371 (100)`	375 (100)	NS
Fever	371 (100)	375 (100)	NS
Foul vaginal dischage	360 (97)	341 (91)	< 0.001
Abdominal distension	338 (91)	271 (72)	< 0.001
Vaginal bleeding	208 (56)	139 (37)	< 0.001
Shock	115 (31)	34 (9)	< 0.001
Faecal/urinary leakage PV	26 (7)	0 (0)	< 0.001

Table 3: **Intraoperative diagnosis and corresponding surgical intervention in laparatomy for unsafe abortions.**

Diagnosis and surgery	Number of patients (%)
Multiple complications	289 (78)
Perforate uterus alone	52 (14)
Repair	37 (10)
Hysterectomy	15 (4)
Bowel injury	26 (7)
Simple repair	22 (6)
Resection and end-to-end anastomosis	4 (1)
Bladder injury	3 (1)
Repair	3 (1)
Pelvic collection	122 (33)
Drainage	122 (33)

DISCUSSION

In this study, the incidence of surgical complications of induced abortion is highest among adolescents and young people. This can be accounted for by the reportedly high rate of premarital sexual activities among them. Reasons adduced for this high adoloscent sexuality include Nigeria's deteriorating socio-economic situation, the erosion of traditional African values, the early onset of menarche, widening gap between age at menarche and age at marriage, infrequent use of barrier contraceptives and the decreased value placed on virginity (6–17).

Interventions targeted at these reasons may significantly reduce the incidence of induced abortion-related maternal mortality and morbidity.

This study reveals that the mortality following abortion is due to multiple complications in more than 75% of the cases. These complications were significantly present in pregnancies above the first trimester, presumably as termination of pregnancy becomes more difficult as the tissues are well formed. When such terminations are performed by untrained staff, the risk is increased for the occurrence of multiple complications as shown in this study. The result highlights the need for increasing the family life education status of Nigerians and accessibility to family planning in Nigeria in order to reduce the number of women requiring illegal termination of pregnancy.

The presentation of complicated abortion requiring laparatomy are generally similar to those that did not require laparatomy, suggesting that a high index of suspicion is needed in all cases and appropriate investigations such as an erect X-ray to demonstrate gas under the diaphragm should not be delayed. The occurrrence of abdominal distension or passage of faeculent vaginal discharge or drainage of urine *per vaginaam* should indicate the need for surgical exploration.

The variety of abdominal findings and subsequent procedures undertaken largely falls within the realm of the specialists. All bowel injury is to the small intestine, those with little perforation that has no vascular involvement has simple repair, while those with devascularisation, wider bowel segment injuries, or complete distruption of the intestine had resection and reanastomosis. All the patients were adequately covered with intravenous cefuroxine or cephalosporins and metronidazole, with adequate resuscitation and blood transfusion when necessary. All patients who had bladder injuries had bowel injuries as additional complications.

The need for bowel and urological surgery in a significant number of these cases is an indication of the necessity for joint operations by the gynaecologic and general/urologic surgeons. This will maximize the benefit of the procedures for the patient and improve survival.

Overall prognosis observed in this study depended significantly on cardiovascular support and infection control. Mortality was significantly associated with the degree of shock and overwhelming sepsis. Aggressive antibiotic therapy, modified in the light of patients condition and culture/sensitivity results, as well as urgent blood transfusion of preferably fresh blood are recommended in all cases where surgical complications are suspected following induced abortions.

In conclusion, the need to decrease mortality from unsafe abortion in Nigeria calls for the urgent necessity to identify further factors determining unprotected sexuality among Nigerian women, with the aim to providing accessible family planning services and facilities for prompt intervention. Aggressive management of complicated cases are required in centres where blood and expertise is available so as to improve the prognosis.

Furthermore, there should be adequate provision of adolescent health in secondary and tertiary levels through health education on prevention and early presentation.

Governmental and non-governmental agencies should look into the possibility of supporting teenagers and young adults who need economic support to discourage them from engaging in unprotected sexual intercourse with subsequent high rate of unwanted pregnancies that may result in unsafe abortion.

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