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Original Research Article

Outcome of septic abortion in a tertiary care hospital

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ABSTRACT

Background: Septic abortion is a significant cause of maternal morbidity and mortality, particularly in resource-limited settings. This study aimed to evaluate the outcomes of septic abortion and identify associated risk factors and complications.
Methods: A descriptive cross-sectional study was conducted at the Department of Gynaecology and Obstetrics, Dhaka Medical College Hospital, from January to June 2013. Fifty patients with septic abortion were purposively sampled based on defined inclusion criteria. Data were collected through interviews and clinical records and analysed using SPSS version 16.
Results: The mean age of patients was 30.62±6.34 years, with 34% aged 31-35 years. Most were multiparous (82%) and illiterate (52%). Induced abortions accounted for 66% of cases, with 58% performed by untrained individuals. Abdominal tenderness (94%), abdominal pain (70%) and per-vaginal bleeding (64%) were the most common clinical presentations. Complications included pelvic abscess (24%), uterine perforation (22%) and disseminated intravascular coagulation (18%). Maternal mortality was 6%.
Conclusions: Unsafe abortions induced by untrained personnel remain a major contributor to maternal morbidity and mortality. Improved access to family planning, education and safe abortion services is essential to mitigate these outcomes. Comprehensive post-abortion care, including contraceptive counselling, is crucial.

Keywords: Abdominal tenderness, Contraceptive methods, Maternal mortality, Septic abortion, Unsafe abortion

INTRODUCTION

Abortion is defined as termination of gestation before the fetus is viable (usually 28 weeks).[1] In cases of septic abortion, the infection typically initiates as endometritis, affecting the endometrium and any retained products of conception. Without prompt treatment, the infection has the potential to extend into the myometrium and parametrium. Parametritis, in turn, may advance to peritonitis.

At any stage of septic abortion, the patient is susceptible to developing bacteraemia and sepsis. Pelvic inflammatory disease (PID) stands out as the most prevalent long-term complication arising from septic abortion. Immediate and comprehensive medical intervention is essential to mitigate the risks associated with septic abortion and prevent the progression of complications.[2] Septic abortion is an infection of the uterus and its appendages following any abortion, especially induced abortions.[3] Morbidity indicators were surgery other than curettage, prolonged hospitalization and permanent damage. The findings of a maternal mortality and morbidity study on induced septic abortion at a teaching hospital revealed significant outcomes.

Among 92 cases of induced septic abortions, which accounted for 6% of the total abortions studied, there were nine fatalities. The causes of death were attributed to disseminated intravascular coagulation, acute renal failure and adult respiratory distress syndrome. These outcomes underscore the critical importance of addressing and

preventing complications arising from induced septic abortions, as they can lead to life-threatening conditions affecting multiple organ systems. To elucidate the specific contributions of different bacterial species in septic abortion, a comprehensive bacteriological analysis was conducted on a series of patients.

In a study involving fifty-six patients, bacteremia was identified in thirty-four individuals. The microbial isolates showed a distribution of thirty-four strictly anaerobic, thirteen microaerophilic and only twelve aerobic organisms. This suggests a predominant presence of anaerobic bacteria in the blood, emphasizing the potential role of these microorganisms in systemic infections.[4]

These findings establish non-clostridial anaerobic and microaerophilic bacteria as the major invasive pathogens in mixed infections. A retrospective study was done by reviewing the medical records of the women who were admitted to Siriraj hospital between 2006 and 2010 with the diagnosis of septic abortion. Eighty-three women were admitted with septic abortion.

In the studied group, half of the patients had a documented history of induced abortion, indicating that a significant proportion of the cases were associated with intentional termination of pregnancy. Additionally, 65% of the patients presented with incomplete abortion, signifying that a majority of the individuals had not undergone complete evacuation of the uterine contents following the abortion procedure.[5] The principal presenting symptoms were abnormal uterine bleeding, uterine perforation and gut injury.

Spontaneous abortion if it is complete is rarely followed by ill health, but an induced abortion or incomplete abortion regardless of when it is performed or by whom, is never without hazard to a woman's health and life.

The more severe types of septic abortion are almost always the consequence of induced abortion carried out by untrained or unauthorized persons who often introduce crude instruments, objects, sticks and the uterus without taking proper aseptic precautions.[6] Hazardous abortion is a significant contributor to maternal mortality and morbidity.[7]

Abortion carries little health risk when performed by modern medical techniques. However, where safe abortion is not available, abortion can contribute significantly to maternal mortality and morbidity mortality and morbidity depend on gestational age at the time of miscarriage or abortion.[7] In the United States, mortality rates per 100,000 abortions are as follows, fewer than 8 weeks, 0.5%, 11-12 weeks, 2.2%, 16-20 weeks 14% and more than 21 weeks, 18%.

Septic abortion was once the leading cause of maternal death around the world. According to the World Health Organization, about 68,000 women die each year due to complications, with sepsis as the main cause of death.[8] In the United States, 7 women reportedly died from complications of induced septic abortion.[9] A retrospective study was done on 63 patients with septic abortion admitted to the ICU of a university hospital in Argentina and found that the first ICU day acute physiology and chronic health evaluation (APACHE) II mean score was 13.[9] Acute renal failure developed in 73% of the patients, DIC in 31%, septic shock in 32% and twelve patients died. Eight of the deaths occurred during the first 48 hours.[10]

Objective

General objective

To find out the outcome of septic abortion.

Specific objectives

To explore the risk factors of septic abortion. To evaluate the clinical presentation and complication of septic abortion. To find out the outcome of septic abortion.

METHODS

Study type

This was a cross-sectional observational study.

Study place

The study was conducted in the Department of Gynaecology and Obstetrics at Dhaka Medical College Hospital (DMCH).

Study duration

The study duration was from January 2013 to June 2013.

Study population

Patients admitted with septic abortion in the Department of Gynaecology and Obstetrics were considered the study population.

Sample size

A total of 50 patients were selected as study participants using purposive consecutive sampling techniques based on the following criteria.

Inclusion criteria

The inclusion criteria included patients who had developed a fever following an abortion, patients presenting with signs and symptoms of sepsis following spontaneous or induced abortion, patients with a confirmed diagnosis of septic abortion and those who provided informed written consent.

Exclusion criteria

Exclusion criteria comprised patients whose abortions were uncomplicated by fever or foul-smelling per-vaginal discharge, those with complete or missed abortions and individuals who did not provide consent for participation in the study.

Statistical analysis

Data collection involved face-to-face interviews with patients, review of investigation reports and examination of clinical records, including history, laboratory findings and diagnoses. All collected data were analysed using SPSS version 16 for Windows.

RESULTS

The table shows that the age of the patients ranged from 21-40 years and a maximum of 34% were age group 31-35 years followed by 30% were 21-25 years, 18% were 36-40 years and 18% were 26-30 years. The mean±SD was 30.62±6.34 years. Out of 50 patients, 40% lived in rural areas, 22% lived in urban areas, 24% lived in sub-urban areas and 14% lived in urban slums. It was also observed that the majority (72%) were housewife, 11% were others and only 6% were service holders. Most of the patients were married 49 (98%) and 1 (2%) respondent was divorced. A maximum 52% were illiterate followed by 42% were primary level and 6% were secondary level. The majority (68%) of patients practiced contraception use and 32% had no practice of contraception use (Table 1). Nearly half of the patients 20 (40%) were 10-12 weeks, 17 (34%) were≤10 weeks, 8 (16%) were 12-16 weeks and 5 (10%) were>16 weeks (Table 2). According to the Table 4, more than two-fifths of respondents were 33 (66%) for induced abortion followed by MR 22% and spontaneous 12% (Table 3). Table enlists all the 50 abortion-inducing persons. Ironically none of them were doctors. About two third of the respondents 29 (58%) had their abortion induced untrained and 21 (42%) were self-induction.

The Table 5 shows that when inquired about the reasoning for abortion induction, among them, unwanted pregnancies counted most 35 (70%) and don't want more pregnancies as a husband left 15 (30%).

The Table 6 explains that the respondents were having various difficulties following abortion induction. Out of them abdominal tenderness was the most prevailing condition 47 (94%) followed by abdominal pain 35 (70%). Table 7 shows the commonest complication was pelvic abscess (24%), uterine perforation (22%), DIC (18%), intestinal perforation (12%) and generalized peritonitis (4%). In this study, 94% of the patients improved and 6% died (Table 8).

Table 1: Distribution of the cases by their baseline characteristics (n=50).

Variables	N	%
Age in years		
21-25	15	30
26-30	9	18
31-35	17	34
36-40	9	18
Mean±SD	30.62±6.34	
Area of residence		
Rural	20	40
Urban	11	22
sub-urban	12	24
Urban slums	7	14
Occupational status		
Housewife	36	72
Service holder	3	6
Others	11	22
Marital status		
Married	49	98
Divorced	1	2
Educational status		
Illiterate	26	52
Primary	21	42
Secondary	3	6
Contraception use		
Yes	34	68
No	16	32

Table 2: Distribution of the patients by their duration of recent pregnancy (n=50).

Pregnancies duration of pregnancy	N	%
≤10 weeks	17	34
10-12 weeks	20	40
12-16 weeks	8	16
>16 weeks	5	10

Table 3: Distribution of patients by their use of different methods for abortion (n=50).

Methods	N	%
Induced	33	66
Spontaneous	6	12
MR	11	22
Total	50	100

Table 4: Distribution of the patients by the person for induction of abortion (n=50).

Induction	N	%
Untrained	29	58
Self-induction	21	42
Total	50	100.0

Table 5: Distribution of the patient by their reasoning for induction of abortion (n=50).

Reason	N	%
Unplanned pregnancy	35	70.0
Don't want more pregnancies as husband left	15	30.0
Total	50	100.0

Table 6: Distribution of patients according to their clinical presentation and complications following abortion induction (n=50).

Clinical presentation	N	%
Fever	31	62
Abdominal pain	35	70
Abdominal tenderness	47	94
Per-vaginal bleeding	32	64
Foul-smelling P/V discharge	27	54
Total	50	100

Table 7: Distribution of respondents by their complications (n=50).

Complications	N	%
Pelvic abscess	12	24
DIC	9	18
Uterine perforation	11	22
Intestinal perforation	6	12
Generalized peritonitis	2	4

Table 8: Distribution of the patients by their outcome following induced abortion (N=50).

Outcome	N	%
Improved	47	94
Death	3	6
Total	50	100

DISCUSSION

Septic-induced abortion is acknowledged as a significant contributor to maternal mortality and morbidity, particularly in developing countries. The problem at the community level is much bigger and graver. It is a great problem that puts an extra burden on already overworked staff and limited resources of government hospitals.[11] A total number of 50 septic abortions were included in this study.

This study shows that 34% of the patients were in the age group of 31-35 years. The mean age was 30.62±6.34 years. Most of them (82%) were multipara, maximum (52%) were illiterate. These findings are consistent with Fawad et al, study.[12] One study showed that about half of the abortions were obtained by young unmarried women in developed countries. But in developing countries, abortion is most common among married women with 2 or more children.[13] This study shows all 35 patients unplanned pregnancies. Unwanted pregnancy is a significant public health problem both in developed and developing countries.[14]

This study shows abdominal tenderness was the most prevailing condition 47(94%) followed by abdominal pain 35 (70%). In this study, it was found that the majority (72%) did not have any history of contraceptives. Patnaik et al, study show that 75.7% of patients did not use any contraceptive method, 6.9% used oral pills, 7.9% used condoms and 0.7% used injectable methods. In this series, the maternal mortality rate was 4%.[15] This finding is consistent with BMMS's reported maternal mortality of 1% due to abortion.[2] The morbidity of unsafe abortions includes 34% fever, 92% abdominal pain, 56% vaginal bleeding and 36% foul smelling.

Patients also present in hypovolemic shock. All these complications need efficient medical and surgical management in a center properly equipped and staffed. Intensive care management may be needed in critically serious patients.[16-19] Mirsarai and Abhoynagar stated about 48 percent of the 143 women, who came to the THC after abortion, had some abortion-related complications. Of those complications, more than two-thirds had a hemorrhage, while another two-thirds complained of lower abdominal pain.

A little more than one-third had a fever and more than one-fifth developed foul-smelling discharge.[20] This study shows septic abortion constitutes the most common complication of pelvic abscess (24%), uterine perforation (22%), DIC (18%), intestinal perforation (12%) and generalized peritonitis (4%). At Ayub Medical College Hospital, twenty patients (38.4%) presented with heavy vaginal bleeding due to incomplete nature of the procedure. Twelve patients (23%) presented in shock due to excessive vaginal bleeding. Ten patients (19.2%) had uterine perforation and intraperitoneal haemorrhage.

Two patients (3.8%) had gut injuries associated with uterine perforation. Three patients 5.7% developed septicemia due to uterine gangrene. Ten patients 19.2% had acute pelvic infection presented with pelvic abscess and acute pelvic inflammatory disease. Maternal mortality in our study was 3 out of 50 (6%). Fawad et al, study found maternal mortality was 3.8%.[21] Indeed, the prevention of complications related to abortion is crucial and can be achieved through increased awareness among patients, coupled with motivational efforts and the expansion of suitable health facilities at the community level.

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

CONCLUSION

Abortion is a very common gynecological problem in Bangladesh. In this study, most of the patients were aged 26-34 years, married, multigravida, illiterate or had only primary level education and coming from lower socioeconomic status. Most of the patients were abdominal tenderness, abdominal pain and vaginal bleeding and most were induced by untrained persons in unhygienic conditions. This study suggests that the accessibility and availability of reproductive health and family planning services need to be further improved in the rural areas of Bangladesh. This should include better services for abortion clients and compassionate post-abortion contraceptive counselling.

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