Septic Abortions, A Preventable Malady: A Study In A Tertiary Hospital Of Semi-Urban India

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Abstract

Background: Though abortion has been legalized in India for over three decades (Medical Termination of Pregnancy Act of 1972), unsafe abortion continues to be a significant contributor of maternal mortality and morbidity due to lack of knowledge of contraception, social pressures and untrained traditional birth attendants and health care providers.
Objective: To study the profile of septic abortions, complications faced, and its management
Methods: All women with features of septic abortions (n=32) were included. Observations: nearly 72% of our patients were between 26 to 35 years of age, which is the prime reproductive age group, with the majority belonging to lower socioeconomic strata. 81.2% patients underwent MTP mainly due the pregnancy being unwanted and economic issues. These were mainly conducted at home (62.5%) by untrained personnel, but surprisingly MTPs conducted at primary health centers/nursing homes also contributed to unsafe abortions (37.5%). 53% of women had the abortion in the late first trimester. All the patients had leukocytosis (100%), 19 patients presented with deranged coagulation profiles probably due to late referrals, and 53.1% had anemia of varying degrees. Only 12.4% of the cases could be managed successfully by medical treatment without any surgical intervention; the rest of them required some sort of surgical intervention.
Conclusion: To reduce the morbidity and mortality associated with septic abortion, intensive dissemination of information and commitment at all levels is required, as is the use of various contraceptive methods to be promoted. Regular training courses for traditional birth attendants (dai), nurses and doctors under the supervision of expert obstetricians is recommended.

INTRODUCTION

Unwanted pregnancy has been a problem of mankind from time immemorial. The WHO has estimated that on the Indian subcontinent 15-24 unsafe abortions take place in every 1000 women aged 15-49(1), even after 40 years of the implementation of medical termination of pregnancies in India. Illegally induced abortion is a major cause of death among women of the reproductive age group. Abortions induced by untrained birth attendants or dais, lady health visitors; or paramedics in dark rooms end up in sepsis, perforation of the uterus, peritonitis and acute renal failure (oliguria/anuria).

The purpose of this study is to evaluate the cases of septic abortion, to assess their morbidity and mortality and to emphasize preventive strategies to reduce the problem.

MATERIAL AND METHODS

The study was conducted over a period of eighteen months from November 2007 to May 2009 in the Department of Obstetrics and Gynaecology at the Himalayan Institute of Medical Sciences, Dehradun, which is a tertiary health care centre in a semi-urban area of the Uttarakhand state of India. It receives referral cases from the neighbouring towns of western Uttar Pradesh and hilly terrains of Garhwal. The study included 32 women admitted with septic abortion up to twenty weeks of pregnancy.

INCLUSION CRITERIA

Women with a history of medical termination of pregnancy with features of septic abortion

EXCLUSION CRITERIA

Women with pre-existing severe illness, prior to present illness

A detailed history, including contraception, obstetrical history and details of abortion were taken. A thorough clinical examination was done, which included general physical, systemic, per abdominal, per speculum and per vaginal examinations.

All the patients underwent complete blood count, coagulation profile, blood grouping, urine routine and microscopy, high vaginal swab, liver and kidney function tests. Blood and urine cultures were ordered. Detailed ultrasound was done to exclude retained products of conception or any other foreign bodies inside the uterus, and to evaluate the genitourinary system.

According to the condition of the patient and the results of the investigations, it was decided whether to manage the patient conservatively or surgically. Initial management included administration of broad-spectrum IV antibiotics, adequate hydration and other supportive measures. Blood and components were transfused whenever required. After 24-48 hours of conservative management, an early decision on surgical intervention was made. Surgical procedures included dilatation and evacuation, colpotomy, laparotomy with drainage of pus and peritoneal lavage, repair of uterine perforation, hysterectomy with/without resection and anastomosis of the bowels in cases of intestinal injury.

OBSERVATIONS/RESULTS

Figure 1

Table 1: Socio demographic profile (n=32)

Age (in years)	No. of patients	Percentage
20-25	2	6.25%
26-30	12	37.5%
31-35	11	34.35%
36-40	7	21.9%
Status		
Low class	19	59.4%
Middle class	10	31.2%
Upper class	3	9.4%
Religion		
Hindu	24	75%
Muslim	8	25%

Table 1 shows nearly 72% of our patients were in the 26 to 35 year age group, which is the prime reproductive age group, with the majority belonging to lower socioeconomic strata

Figure 2

Table 2: Reason/place of MTP, Duration of pregnancy

Ground of MTP	No. of patients	Percentage
Socio economic factors	26	81.2%
Contraception failure	2	6.25%
Medical	2	6.25%
Female sex of fetus	2	6.25%
Place		
Home	20	62.5%
Primary Health Centre /Nursing home	12	37.5%
Gestation age (Weeks)		
<8	11	34.4%
8-12	17	53%
>12	4	12.5%

81.2% patients underwent MTP mainly due to the pregnancy being unwanted and economic issues. These were mainly conducted at home (62.5%) by untrained personnel, but surprisingly, MTPs conducted at primary health centers/nursing homes also contributed to the unsafe abortions (37.5%). 53% of women had abortions in the late first trimester (Table 2).

Figure 3

Table 3: Clinical and Laboratory profile

Symptoms/signs	No. of patients	Percentage
Fever/pelvic pain	29	90.6%
Tachycardia	28	87.5%
Vaginal discharge	22	68.8%
Nausea/vomiting	21	65.6%
Oliguria/anuria	18	56.2%
Abdominal distension/ tenderness	17	53.1%
Jaundice	13	40.6%
Excessive bleeding/menstrual problem	8	25%
Hypotension	7	21.8%
Pelvic examination		
Foul smelling discharge/sanguinous discharge	15	46.8%
Bleeding P/V	8	28.13%
Normal/Inconclusive examination	9	25%
Uterine size(a)<8wks (b)8-10wks (c)10-12 wks (d)>12 wks	19 10 3 nil	59.37% 31.2% 9.3% nil
Uterine tenderness	6	18.7%
Fullness in Pouch of Douglas	8	25%

Figure 4

Laboratory Parameters		
Leukocytosis	32	100%
Coagulopathy	19	59.3%
Anemia	17	53.1%
Thrombocytopenia	13	40.6%
Electrolyte imbalance	13	40.6%
Deranged Liver function test	13	40.6%
Micro organisms Cultured		
Sterile culture	14	43.8%
Escherichia coli	7	21.8%
Mixed flora	4	12.4%
Pseudomonas Aeuroginosa	3	9.4%
Klebsiella Pneumonae	3	9.4%
Yeast	1	3.2%

As shown in Table 3, most of the patients referred to our hospital presented with fever associated with pelvic pain (90.6%). 68.8% of the patients complained of vaginal discharge of variable character.

All the patients had leukocytosis (100%), 19 patients presented with deranged coagulation profiles, probably due to late referrals, and 53.1% had anemia of varying degree.

Figure 5

Table 4: Management strategy and complications

CONSERVATIVE MANAGEMENT	No. of patients	% age
Management by medical treatment alone	4	**12.4%**
SURGICAL MANAGEMENT		
Minor - Suction and Evacuation	16	**50%**
Major - Laparotomy with uterine perforation repair	5	**15.6%**
Laparotomy with Hysterectomy	3	**9.4%**
Laparotomy with pyoperitoneum drainage	2	**6.2%**
Laparotomy with intestinal resection anastomosis and Uterine perforation repair.	2	**6.2%**
Complications		
Disseminated intravascular coagulation	3	**9.3**
Acute renal failure	7	**21.8%**
Maternal Mortality	3	**9.4%**
Vesicovaginal fistula	1	**3.1%**

A majority (15/32) of the cases required transfusion of blood and blood components. 4 patients underwent hemodialysis for acute renal failure. Only 12.4% of the cases could be managed successfully by medical treatment without any surgical intervention (Table 4).

DISCUSSION

Septic abortion is a significant contributor to maternal mortality and morbidity but is largely preventable. According to Indian statistics, the mortality rate of septic abortion is 7.8 per 1000 abortions (2). In our study, the majority of the patients (37.5%) were in the age group of 26-30 years, followed by the age group of 31-35 years (34.35%), findings similar to those of other studies (3, 4). However, Meenakshi et al., Jain V et al. and Bhattacharya et al. (5, 6, 7) found that three-fourths of the women who had unsafe abortions were between 20-30 years of age. The reason for this could be that we didn't get any unmarried or teenage pregnancies.

Most of the patients belonged to the Hindu religion (75%) because of the geographical and regional distribution of the population in our study.

Another study by Kamlajayaram and Parameshwari showed that 76% of septic abortion patients were Hindus (8). Agarwal and Salhan also reported similar findings, wherein 77.3% cases were Hindus (9), while Bansal and Sharma observed that 95.97% of cases were of the Hindu religion (10). It is difficult to conclude that Muslims are not much worried about untimely and unwanted pregnancies and hence do not go for their termination.

Most of the patients of septic abortion in our study belonged to low socioeconomic strata (59.4%). Mukhopadhya and Das also showed that 70% of their cases belonged to low socioeconomic status (11) and a similar observation was also made by Das et al. (92.2%) (12). It seems this population does not observe contraception and uses unsafe abortion as a method of birth spacing. Various myths about IUCDs, OCPs and other family planning methods are prevalent in the community and need to be addressed.

Socioeconomic status and unwanted pregnancy were the main reasons for MTP (81.2%) in most of our patients. This is in agreement with the findings of Padubidri and Kotwani (54%) (13) and Das et al. (78%) (12).

MTP is a safe and easy procedure for trained hands but becomes life threatening when performed by untrained persons in unsterile conditions. In our study, a majority of the patients had their MTP done at home (62.5%) or in other unauthorized places by dais and untrained personnel. It is observed that sometimes the attitudes of staff, residents and doctors in hospitals are not patient friendly, especially if she is seeking MTP services for an unwanted pregnancy. Thus the patient is driven towards inappropriately trained persons, seeking confidentiality. Sharma et al. had similar observations; 67.7% of cases were induced by dais and other untrained persons at home or other unhygienic places (2). Various others authors have made similar observations (6, 13, 14, 15).

This suggests there is a lack of qualified doctors in the rural and hilly areas of western UP and Uttarakhand, so women find dais easily accessible and affordable. MTPs conducted by untrained persons remain the most important cause of septic abortions.

It is pertinent to note that 37.5% of abortions in our study were carried out at primary health centers and nursing homes, as also observed by Sule-Odu et al. and Bhattacharya S. et al (16,7). This suggests that many doctors and health care providers in developing nations are not properly trained to render safe abortion services.

Disseminated intravascular coagulation (DIC) as a complication has been observed in the range of 2.08 to 3.2 (2, 7, 47), while we observed DIC in 9.3% (3 patients) during the initial presentation. This is due to the fact that we are a tertiary care institution, which receives septic patients after initial management/mismanagement from the neighbouring towns and cities of Western U.P and the hilly areas of Uttarakhand. By this time, life-threatening complications may have already set in.

Vaginal swab cultures reported E. coli (24-57.8%) as the commonest organism by Das et al. and Singh et al. (12, 17) while we found only 21.8% of vaginal swab cultures positive for E. coli. The majority of our cases had sterile cultures (43.8%) probably due to the fact that patients had already received various antibiotics by the time they were referred to our centre.

The management of septic abortions is still a challenge to obstetricians. Earlier some authorities advocated conservative treatment with the idea that the patient may not withstand surgical trauma; in such critical ill health, additional handling of the tissues may further lead to complications like DIC and endotoxic shock.

Aggressive management with IV fluids, broad-spectrum antibiotics, blood components, vasopressors and oxygen was given in our patients as a first line of management wherever required. 4 out of 32 (12.4%) patients responded to conservative management alone, a finding similar to that of Sharma et al. (16.1%) and Agarwal and Salhan (20%)(2, 3), whereas a majority of the patients ultimately required surgical interference in some form or another. 50% of cases required suction and evacuation. In those patients requiring exploratory laparotomy (37.5%), further procedures were individualized depending on the severity of the case. Rates of laparotomies as reported vary from 16-62.6% (3, 6, 8, 12, 17, 18). In our study, 9.4% cases needed a hysterectomy; this is similar to what others found (7, 9). In spite of aggressive management, we lost 3 patients (9.3%) of which 1 had DIC and 2 died of MODS. Maternal mortality attributed to unsafe abortion as reported ranges from 6.45% to 26.4% (2,6,14,15,19,20).

Septic abortion is mostly a preventable condition, and there

are ample opportunities for primary, secondary and tertiary prevention. Primary prevention of septic abortion includes provision of effective and acceptable contraception; freely available, easily accessible, safe, legal abortion services in case of contraception failure; constructive contribution by the media and proper training and availability of health personnel to ensure safe abortions.

Secondary prevention of septic abortion entails prompt diagnosis and effective treatment to avert more serious consequences, like immediate re-evacuation. Evaluation of the patient at 24 hrs after the start of treatment is essential to assessing the necessity of surgery. The purpose of tertiary prevention is to avert the serious consequences of septic shock /ARDS. Thus with this strategic approach, the sensitization of the masses, utilizing media and emphasizing early referral of potentially septic patients we can bring down maternal morbidity and mortality.

In our experience, we have found that it is difficult to define the end point of conservative treatment, yet aggressive surgical management has a distinct advantage in the treatment of septic abortions. The idea is to remove as much of the infective tissue as practically and as quickly as possible.

This should not be too early, before adequate antibiotic coverage, or too late, when it will be meaningless.

CONCLUSION

Complications of unsafe abortions remain a major public health issue among women in developing countries. To reduce the morbidity and mortality, intensive dissemination of information and commitment at all levels is required. Regular training courses for traditional birth attendants (dai), nurses and doctors under supervision of expert obstetricians is recommended. Education of women regarding contraceptive measures, which largely remain underutilized, needs to be addressed.

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