

## A Maternal Death due to an Unsafe Abortion in Rural Nepal - A Case Report

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### ARTICLE INFO

*Article Type:*  
Case Report

*Article History:*  
Received: 13 Oct 2014  
Revised: 31 Oct 2014  
Accepted: 31 Oct 2014

*Keywords:*  
Maternal mortality  
Septic abortion  
Nepal  
Autopsy

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### ABSTRACT

**Background:** Abortion was illegal before 2002 A.D. in Nepal and was legalized under the 11th amendment to the Country Code (Muluki Ain) in March 2002, receiving royal assent in September 2002. Nepal Government began providing comprehensive abortion care services from March 2004 after 18 months of legalization of abortion, when the government issued Safe Abortion Service Procedure. The maternal mortality ratio in Nepal is among the highest in South Asia. Unsafe abortion is defined as an induced abortion process either conducted by less skilled personnel or performed in a non-accredited facility. Though abortion has been legal in Nepal for more than 14 years now; physicians in Nepal still face problems of abortions done by less qualified personnel.

**Case Report:** We report a fatal case of unsafe abortion in a 32 year old lady whose cause of death was ascertained as irreversible septic shock due to septic abortion.

**Conclusion:** Prompt diagnosis and appropriate intervention might provide better outcome in these types of cases. Therefore, we stress the importance of safe abortion services provided by skilled personnel at rural areas in developing countries and of early referral in case complication arises so that the life of the patient is not endangered.

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► *Implication for health policy/practice/research/medical education:* Maternal Death due to an Unsafe Abortion

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► *Please cite this paper as:* Karn A, Mandal B K. A Maternal Death due to an Unsafe Abortion in Rural Nepal - A Case Report. International Journal of Medical Toxicology and Forensic Medicine. 2015; 5(2): 105-9.

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### 1. Introduction:

An abortion is the termination of an embryo or fetus, either naturally or via medical

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methods. Unsafe abortion is defined as an induced abortion process either conducted by less skilled personnel or performed in a non-accredited facility (1). Abortion associated with clinical evidence of infection of uterus and its content is usually considered as septic abortion. Clinical features of the condition include pyrexia, offensive or purulent vaginal discharge, and

other evidence of pelvic infection (2). This risk may be varying from morbidity such as infertility to mortality. In third World countries, unsafe abortions are attributed to maternal mortality and morbidity (3). The World Health Organization (WHO) estimates that 21.6 million unsafe abortions occur each year and that 47,000 deaths from unsafe abortion occur in the world every year. Worldwide, an estimated five million women are hospitalized each year for treatment of abortion-related complications, such as hemorrhage and sepsis (4). About 1 in 8 maternal deaths globally are attributed to unsafe abortion (4).

Abortion was illegal before 2002 A.D. in Nepal and actively prosecuted as a crime by the concerned authorities. Abortion was legalized in Nepal under the 11th amendment to the Country Code (MulukiAin) in March 2002, receiving royal assent in September 2002. Nepal Government began providing comprehensive abortion care (CAC) services from March 2004 after 18 months of legalization of abortion, when the government issued Safe Abortion Service Procedure in 2004.

In Nepal, the effects of the low social status of women and lack of adequate access to health care and family planning have resulted in a maternal mortality ratio that is among the highest in South Asia (5).

## 2. Case Report:

A 32 year old lady living together with her husband had been pregnant for about five months. The couple decided not to have the baby and one afternoon they went to a local clinic in remote area of eastern Nepal to abort the child. At that place some instruments were inserted into her vagina by the abortionist. After returning home she experienced pain in lower abdomen and vaginal bleeding. On fourth day she came to the hospital with chief complaints of pain in the lower abdomen, fever associated with chills, bleeding and foul smelling discharge per vagina since afternoon with nausea and vomiting since morning. She was referred from that remote local clinic where dilatation and curettage was attempted. She was admitted in the hospital with fever,



**Fig. 1.** Confluent petechial haemorrhages.



**Fig. 2.** Dead foetus of about 24-25 weeks.



**Fig. 3.** Inflamed and enlarged uterus.

abdominal pain, vaginal bleeding and low blood pressure. Broad spectrum 3rd generation cephalosporins was started and volume replacement done with Ringer Lactate/Normal Saline 0.9%. Bedside ultrasound revealed a pregnancy of 24.2 weeks with intrauterine fetal demise. Oxytocics, 5 units' Pitocin in drip at a rate of 10 drops/min in saline was started. Bleeding per vagina continued and patient started

deteriorating hemodynamically. Patient was managed by active energetic hemodynamic support. As the platelet count was  $40,000/\text{mm}^3$ , single donor platelet unit was transfused urgently. Next morning patient became breathless and showed features of Acute Respiratory Distress Syndrome. Patient was then taken to the ICU and immediate concurrent resuscitation and investigations done. Hemoglobin and TLC were found to be 7 gm/dl and  $21,000/\text{mm}^3$  respectively and the serum electrolytes were deranged. Furthermore she had persistent hypotension, elevated liver enzymes, deteriorating renal functions, coagulation defects and bleeding tendency. Despite energetic ventilatory support and on timed IV fluids, patient deteriorated. On fourth day of admission, she died in the Intensive Care Unit in spite of vigorous resuscitation.

**Post mortem examination.** During autopsy examination, the female was pale; there were confluent petechial haemorrhages on the body (Fig. 1) and swollen vulva. On per vaginal examination, there was inflammation in posterior fornix and posterior wall of vagina. On opening the abdomino-pelvic cavity, the uterus contained a 24-25 weeks foetus (Fig. 2). Placenta could not be appreciated. The posteriosuperior wall of uterus involving the posterior fornix and posterior wall of vagina were inflamed. The ovaries and fallopian tubes were inflamed. The lungs were congested, the liver had nutmeg appearance, bowels were dusky, omentum was soft, kidneys were congested and swollen, spleen was soft and the uterus enlarged. There were foul smelling blood clots in the uterine cavity. No perforations were seen in the uterus which was inflamed, enlarged, flaccid (Fig. 3), purplish in some areas which alternated with the livid surface yielding a marble-skin aspect, while the adnexes had an edematous and bruised aspect. Polymicrobial infection was found from the retained products of conception. Microbiology of post-abortal infection reflects *E. coli*, *Klebsiella*, *Staphylococcus aureus* and *B. hemolytic streptococci*. Histologically neutrophil infiltration into the myometrium and localized necrosis in the right cornual area, polymorphonuclear

leukocyte infiltration delimiting the necrotic areas, myometrium with variable degrees of edematous dystrophy, necrotic material with hemorrhagic infiltration and tissue disorganization in the uterus were appreciated. Chemical analysis of viscera showed no evidence of any poison. Cause of death was ascertained as Irreversible septic shock due to septic abortion.

### 3. Discussion:

There are many reasons for which Nepali women seek abortion: being unmarried, pregnancy as a result of an extramarital relationship, unwanted pregnancy, maternal health problems, sex-selection, contraceptive failure, birth spacing, and for limiting family size (6).

Mortality and morbidity from septic abortions are frequent in countries where the induced abortions are illegal or inaccessible. To cause the death of this lady, two major factors were contributed to the development of complications of septic abortion. Those are presence of retained products of conception following attempted abortion and infection introduced into the uterus at the time of abortion. Abortion-related deaths result primarily from sepsis (7, 8). Infection usually begins as endometritis and involves the endometrium and any retained products of conception. If not treated, the infection may spread further into the myometrium and parametrium. The patient may develop bacteremia and sepsis at any stage of septic abortion. In this case, presence of polymicrobial infection in the uterus could have acted as a source of infection releasing endotoxins and exotoxins. This caused systemic inflammatory response as a reaction to bacterial infection. Further release of vasoactive substances is associated with organ dysfunction, hypo perfusion or hypotension, metabolic abnormalities, and microcirculatory failure leading to septic shock. In this case there were evidence of bleeding into tissues due to bleeding and clotting defects. Macroscopic and microscopic appearances of the organs as well as clinical investigations suggested organ dysfunctions and metabolic defects.

Complications of sepsis had caused the death of this female.

Septic abortion is still a challenging problem and a major cause of maternal mortality and morbidity in developing countries like Nepal. The incidence of septic abortion is relatively high, and majority of the cases resulted from attempted termination of pregnancy, a significant contributor to maternal mortality (2).

Primary prevention of septic abortion includes provision of effective and acceptable contraception; provision of safe abortion services and appropriate medical management of abortion (9).

More recent reports from many countries reverberate the same depressing findings. A report of a 10-year study from rural India, published in 2001, found that 41.9% of all maternal deaths were from septic abortion, and the total maternal mortality rate was extraordinary (785 per 100,000 live births), approximately 100-fold greater than maternal mortality in developed countries (10).

Lack of training, unfamiliarity with treatment options, out-of-stock drugs, broken equipment, sporadic electricity and water, and transportation challenges all threaten the health of women grappling with unsafe abortion (11).

Maternal Death Review (MDR) is an important strategy to improve the quality of obstetric care and reduce maternal mortality and morbidity. The importance of MDR lies in the fact that it provides detailed information on various factors at facility, district, community, regional, and national level that are needed to be addressed to reduce maternal deaths. Facility-based MDR is a process to investigate and identify causes, mainly clinical and systemic, which lead to maternal deaths in the health facilities; and to take appropriate corrective measures to prevent such deaths. Community-based MDR is a process in which deceased's family members, relatives, neighbors or other informants, and care providers are interviewed, through verbal autopsy (2). The key principle to be adopted during the entire process of reviewing is not to blame or find fault with anybody but to

take appropriate corrective measures and to sensitize the service providers to improve the accountability (2).

Despite challenges in the delivery of safe abortion services following legalization, there is evidence of a decline in the maternal mortality ratio in Nepal, purportedly due to increased availability of safe abortion care (12, 13).

#### **4. Conclusion:**

Complications from unsafe abortions if untreated, could lead to morbidity or death. The best way to prevent unsafe abortions is to reduce the unmet need for contraception and make safe abortion services accessible to the women of Nepal at an affordable cost. Though abortion has been legal in Nepal for more than 14 years now, the doctors of rural Nepal still face problems of abortions done by less qualified personnels. Reducing maternal mortality by preventing unsafe abortion is a challenge. Prompt diagnosis and appropriate intervention might provide better outcome in these types of cases. Therefore early referral and safe abortion services by skilled personnel in the Health Posts and Sub-Health Posts of Nepal are necessary to prevent maternal deaths from unsafe abortions.

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