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Research Article

Maternal and Fetal Outcome of Burn with Pregnancy: A Prospective Observational Study at a Tertiary Burn Hospital

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Abstract

Background

Burns with pregnancy is a potentially life-threatening scenario as it may lead to rapid depletion of the already diminished maternal reserves and have adverse effects on maternal and fetal outcome. Limited studies and controversy between results of different studies needs more studies to be performed to clearly define the protocols that should be followed when a pregnant woman is admitted in a hospital with burns.

Materials and methods

A prospective type of observational study was carried out on 30 burn patients with pregnancy admitted in Department of Plastic Surgery and Burn Unit, Dhaka Medical College Hospital, Dhaka for a period of 12 (twelve) months to find out maternal & fetal outcome and to determine factors influencing outcome. All patients were managed using standard burn management protocol in consultation with obstetrician. Regular monitoring was done and the outcome was recorded.

Result

Mean TBSA burn was 26.23 ± 13.93 %. 17 (56.7%) patients went back home alive and 13 (43.3%) died. 17(56.7%) fetus survived but 13 (43.3%) fetal death

occurred. Maternal and fetal mortality was proportional to the TBSA burn. Maternal and fetal death in patients with burn shock and inhalation injury was 100% and 75% respectively. Death were due to septicemia [n=6(20.0%)], MODS [n=5(16.7%)], ARDS [n=1(3.3%)] and DCM [n=1(3.3%)]. Mean period of wound healing was 30.64 ± 14.02 days and the mean duration of hospital stay was 22.60 ± 18.26 days.

Conclusion

Early Hospitalization, prompt and aggressive fluid management, proper management of suspected inhalation injury and early identification and management of infection and sepsis by appropriate antibiotic which are safe for fetus can reduce both maternal and fetal death. Best care is possible using a multidisciplinary team approach with active participation of Plastic surgeon and Obstetrician with the help of anaesthesiologist.

Keywords: Burns with Pregnancy; Maternal Outcome; Fetal Outcome; TBSA Burn

1. Introduction

Burn with pregnancy is not a topic frequently mentioned in books on burn care or obstetric texts [1-3]. Despite the relatively high incidence of burns in the developing countries and its importance in pregnancy, there are only a few reports, which have studied different aspects of this problem. Burns occurring in conjunction with pregnancy can be a potentially life threatening scenario as it may lead to a rapid depletion of the already diminished maternal reserves [4] and have adverse effects on maternal and fetal outcome with high incidence of intrauterine fetal death, spontaneous abortion, and premature labor. Pregnancy itself doesn't alter the maternal survival [5]. The factors which play an effective role on the survival of the mother & the fetus are total body surface area (TBSA) Burn, the depth of the wound, gestational age, complications of the burn, associated injuries & medical diseases [6]. The management protocol in a pregnant burn female has to be tailored, taking into consideration the additional factor of fetal well-being and the fetal susceptibility to various agents [4]. Management requires multidisciplinary approach, including Plastic surgeons, Obstetricians, Radiologist, Anaesthesiolgist, Neonatologist, Dietitian, Physiotherapist and Psychiatrist with close monitoring of maternal and fetal wellbeing [7-9]. With well planned & proper management, the prognosis can be improved [6]. Pregnancy and burns occurring together are not an uncommon scenario with rates highest in the developing world [10,11]. Bangladesh is not also an exception. Previous studies have been controversial regarding the outcome of burns between pregnant and non-pregnant patients; some have concluded that pregnancy does not increase the maternal mortality rate in burn patients while some others have drawn opposite results [5,12-15]. This controversy needs more studies to be performed to clearly define the protocols that should be followed when a pregnant woman is admitted to a hospital with burns. More information is required to provide guidelines for plastic surgeons and obstetricians, regarding counseling the patients and her family for any additional risk of abortion, stillbirth, premature delivery, impaired fetal growth or malformations. In this study, an attempt was made to determine the factors influencing maternal and fetal outcome in order to plan interventions to lower the morbidity and mortality. The aims and objectives of the study was to assess maternal& fetal outcome of burn with pregnancy, to identify factors responsible for

maternal and fetal outcome of burn with pregnancy, to determine the relationship outcome of burn with pregnancy with aetiology of burn, total burn surface area, duration of pregnancy, burn related complication like inhalation injury, hypovolemic shock, Infection, septicaemia and to assess burn wound outcome.

2. Materials and Methods

This was a prospective type of observational study performed on female patients admitted with Burn with pregnancy at Department of Plastic Surgery and Burn unit, Dhaka Medical College Hospital, Dhaka, Bangladesh. Study period was one year extended from July, 2016 to June, 2017. Sample size was 30 using purposive non-random sampling technique. All admitted patients having burn with live pregnancy was included in the study and epidermal burn and burn with other severe co-morbidities were excluded from the study group. All patients were informed about the study. Then those patients willing to take part in the study were included. Diagnosis of pregnancy was made by history and examination and confirmed by patient's previous medical and obstetric records and by abdominal ultrasound. As a routine protocol, obstetric consultation was sought promptly on admission for each pregnant patient. All pregnant patients was managed in the high dependency unit by the medical and surgical services including surgical dressings in consultation with the obstetrical service. In all patients the extent of burn was calculated by using Lund and Browder's chart. A burn less than 10% in total body surface area (TBSA) was considered as minor burn. A major burn was defined as a partial or full thickness burn affecting more than 10% TBSA with 10-19% being graded as moderately severe, 20-50% as severe and more than 50% as critical. Inhalation injury was excluded. In late presentation complication of burn like burn shock, infection and septicemia were excluded.

Burn management

Initial resuscitation and burn management were done by standard protocol. No protocol has yet been established for management of pregnant women with burn in this department. All patient received appropriate burn care, including fluid resuscitation, wound care and nutritional support. Fluid resuscitation was done using Parkland's Formula. Additional 5% fluid was added if burn involved lower abdomen. Targeted urine output was 30-60 ml/hour. Maintained systolic BP>110 mm hg. Central line used in >20% burn. Nutritional support included daily intake of protein and calories according to the basal energy expenditure. After 24 hour Serum albumin done to maintain >3gm /l. Patients were treated with systemic antibiotics not harmful for baby when indicated. Wound swab for culture /sensitivity were done on 5th day/10th day/15day. Those patients who showed growth of organism were treated accordingly. In cases where bronchopneumonia developed, fetal-safe antibiotic were preferred. Every case was treated as individual.

Wound management

Wound management include hydrotherapy, fasciotomy, escharotomy, desloughing, escharectomies, debridement or wound excision and skin grafting. None of the patients underwent early excision and skin grafting. STSG for the wound was deferred till delivery of the baby in most of the cases.

Obstetric management

Obstetric management depended on gestational period, burn severity, and fetal viability. After initial management Ultra-sonogram was done for identifying

fetal wellbeing and for confirmation of gestational age. Patients were then referred to Department of Gynecology and Obstetrics of DMCH for obstetric management. The management protocol was recommend in this Centre is shown in (Table 1).

Total % burn	Age of gestation		Management
< 30	First trimester		No obstetric interference
	Second trimester		No obstetric interference
	Third trimester	More than 36 wks	Induce labour / caesarian section
		Less than 36 wks	Conservative approach and monitoring of heart rate
30-50	First trimester		Fetal monitoring by ultrasound 3-4 wks
	Second trimester		Fetal monitoring every 3-4 wks. Tocolytic therapy
	Third trimester	More than 36 wks	Deliver fetus within 48 h
		Less than 36 wks	Careful fetal monitoring
50-70	First trimester		Terminate pregnancy
	Second trimester		Terminate pregnancy
	Third trimester	If baby is viable	Induce labour / caesarian section within 24h
		Intrauterine death	No active intervention up to 4 wks / monitoring of foetus of haemocoagulation factors
> 70	First trimester		No treatment
	Second trimester		No treatment
	Third trimester		Caesarian section as an emergency procedure at the earliest

Table 1: Obstetric management protocol according to gestational age.

Data were collected using a pre-designed data collection sheet. All information regarding history of illness, clinical examination, investigation results and follow-up were recorded in that data collection sheet (questionnaire). All data were compiled in a master table first. Computer based statistical analysis were carried out with appropriate techniques and systems. Quantitative data were expressed as mean and standard deviation, and qualitative data were expressed as frequency distribution and percentage. Statistical analysis was performed by using window based computer software devised with SPSS for Windows version 22. The summarized data were interpreted accordingly and were then presented in the form of tables.

3. Results

Total 42068 patient attended at Plastic Surgery and Burn Unit, Dhaka Medical College Hospital, Dhaka at OPD and emergency department in one year. 38131 patient attended with burn. Total female patient was 10442. Number of female burn patient was 9344. 954 female burn patients were in childbearing age (15-45) [10.20%of all female burn patient]. Total 30 patients (3.1% of female burn patient of childbearing age), having burn with Pregnancy were included in this study fulfilling the inclusion and exclusion criteria. Among 30 patients, 11 (36.7%) patients were in age group 16-20 years followed by 10 (33.3%) in age group 21-25 years,7 (23.3%)in age group 26-30and 1

(3.3%) patient each was in age group 31-35 years and 41-45 years group. No patient was in 35-40 year group. Age range was 16-45years. Mean age was 23.76±6.04 (Table 2).

Age (years)	Frequency (n)	Percentage (%)
16 - 20	11	36.7
21 - 25	10	33.3
26 - 30	7	23.3
31 - 35	1	3.3
35 - 40	0	0
41 - 45	1	3.3
Total	**30**	**100**
Mean ± SD	23.76 ± 6.04	
Range (min-max)	16 - 45	

Table 2: Distribution of patients according to age (n=30)

Burn type	Frequency (n)	Percentage (%)
Flame	28	93.3
scald	0	0
Chemical	1	3.3
Electric	1	3.3
Total	**30**	**100**

Table 3: Distribution of patients according to cause of burn (n=30)

Mode of burn	Frequency (n)	Percentage (%)
Accidental	29	96.7
Suicidal	1	3.3
Total	**30**	**100**

Table 4: Distribution of patients according to mode of burn (n=30)

Gestational age distribution shows 2 patients (6.7%) were in first trimester of pregnancy, 13(43.3%) in Second trimester and 15(50%) patients were in third trimester of pregnancy (Table 5). Maternal and fetal outcome was noted. Among 30 patients, 17 (56.7%) were survived after treatment and 13 (43.3%) patients died. The cause of death were septicemia and MODS in maximum cases (Table 6). Fetal outcome shows, 17(56.7%) fetus were survived. Of them 8 pregnancy continued till discharge, 9 babies were delivered during treatment period (7 by normal vaginal delivery, 2 by caesarian section). 13 (43.3%) fetal death occurred. Among them 5 fetus died with maternal death, 2 intrauterine death follower by normal delivery

and 1 still birth occurred (Table 7). In 2 cases, the mother died after the fetus were delivered by normal vaginal delivery and 2 mothers survived after abortion of the fetus. Relationship between gestational age with maternal and fetal outcome was assessed. Maximum maternal (69.2%) and fetal (76.9%) mortality was observed among the mother in 2nd trimester. According to Chi-Square test maternal death is significantly related with increasing gestational age but fetal death is not influenced by gestational age (Table 8). According to Chi-Square test maternal anaemia was not statistically significantly related with maternal and fetal mortality (Table 9).

Gestational age	Frequency (n)	Percentage (%)
First trimester	2	6.7
Second trimester	13	43.3
Third trimester	15	50
Total	30	100

Table 5: Distribution of patients according to gestational age (n=30)

Maternal outcome	Frequency (n)	Percentage (%)
Alive	17	56.7
Dead	13	43.3
Causes of death		
Septicemia	6	20
MODS	5	16.7
ARDS	1	3.3
DCM	1	3.3

Table 6: Distribution of patients according to maternal outcome (n=30)

	Fetal outcome	Frequency (n)	Percentage (%)
Alive fetus (n=17, 56.7%)	Continued pregnancy	8	26.7
	NVD	7	23.3
	LUCS	2	6.7
Dead fetus	Maternal death	5	16.7
(n=13, 43.3%)	Abortion	5	16.7
	IUD	2	6.7
	Still birth	1	3.3
Total 30		30	100

Table 7: Distribution of patients according to fetal outcome (n=30)

Gestational age	n (%)	Maternal outcome		Fetal outcome	
		Dead	Alive	Dead	Alive
		(n=13)	(n=17)	(n=13)	(n=17)
1st trimester	2 (6.7)	0 (0.0)	2 (11.8)	1 (7.7)	1 (5.9)
2nd trimester	13 (43.3)	9 (69.2)	4 (23.5)	10 (76.9)	3 (17.6)
3rd trimester	15 (50.0)	4 (30.8)	11 (64.7)	2 (15.4)	13 (76.5)
P value(<0.01)		0.034 NS		0.003 S	

Table 8: Relationship of gestational age with maternal and fetal outcome

Anaemia	n (%)	Maternal outcome		Fetal outcome	
		Dead	Alive	Dead	Alive
		(n=13)	(n=17)	(n=13)	(n=17)
Present	19 (63.3)	10 (76.9)	9 (52.9)	10 (76.9)	9 (52.9)
Absent	11 (36.7)	3 (23.1)	8 (47.1)	3 (23.1)	8 (47.1)
***p*-value(<0.01)**		**0.177** NS		**0.177** NS	

Table 9: Relationship between Maternal anaemia with maternal outcome (n=30).

There is significant relationship between percentage of burn with maternal and fetal mortality. Maximum maternal and fetal death was observed among the patient with burn involving >40% TBSA. It was observed that higher the TBSA higher the maternal and fetal death. There was significant difference in TBSA between dead and alive mother & fetus. Mean TBSA% was significantly high among the mother who died (40.30 ± 20.39%) comparing the live mother (15.47 ± 8.41%)[p-value-<0.001]. Mean TBSA% was significantly high among the mother whose fetus died (38.53 ± 21.80%) comparing the mother with live fetus (16.82 ± 9.65%) [p-value-<0.001]. According to Chi-Square test there is significant relationship between percentage of burn with maternal and fetal mortality (Table 10). Inhalation injury was present in 6 patients 5 of them died. Five fetal death occurred in mother with inhalation injury. According to Chi-Square test Inhalation injury significantly influence maternal and fetal outcome (Table 11). All patients presented lately with burn shock and septicemia died. According to Chi-Square test burn related complications on admission are significantly related with maternal and fetal mortality.

TBSA (%)	n (%)	Maternal outcome		Fetal outcome	
		Dead	Alive	Dead	Alive
<15	8 (26.7)	0 (0.0)	8 (47.1)	1 (12.5)	7 (41.3)
15 - 30	13 (43.3)	5 (38.5)	8 (47.1)	4 (30.8)	9 (52.9)
31 - 40	5 (16.7)	4 (80.0)	1 (5.8)	4 (80.0)	1 (5.8)
>40	4 (13.3)	4 (100.0)	0 (0.0)	4 (100.0)	0 (0.0)

Total	30 (100.0)	13 (43.3)	17(43.3)	13 (43.3)	17 (43.3)
p-value (0.01)		0.003 [S]		0.008 [S]	

Table 10: Relationship between TBSA%, maternal and fetal outcome (n=30)

Inhalation	**n (%)**	**Maternal outcome**		**Fetal outcome**	
		Dead	**Alive**	**Dead**	**Alive**
		(n=13)	**(n=17)**	**(n=13)**	**(n=17)**
Present	6 (20.0)	5 (38.5)	1 (5.9)	5 (38.5)	1 (5.9)
Absent	24 (80.0)	8 (61.5)	16(94.1)	8 (61.5)	16(94.1)
P-value		0.027[S]		0.027[S]	

Table 11: Relationship between presence or absence of Inhalation injury with maternal and fetal outcome (n=30)

Burn complications	**n (%)**	**Maternal outcome**		**Fetal outcome**		
		Dead (n=13)	**Alive (n=17)**	**Dead (n=13)**	**Alive (n=17)**	
Burn shock	6 (20.0)	6 (100.0)	0 (0.0)	6 (100.0)	0 (0.0)	
Infection	7 (26.7)	0 (0.0)	7 (41.2)	1 (14.3)	6 (35.3)	0.001 [S]
Septicemia	1 (3.3)	1 (100.0)	0 (0.0)	1 (100.0)	0 (0.0)	
***p*-value(<0.01)**			0.001	0.002		

Table 12: Distribution of patients according to burn related complications on late admission and their relationship with maternal and fetal outcome.

Distribution of patients according to surgical intervention for burn wound management was assessed in Table13. Among 17 survived patient 6 patient had split thickness skin grafting and one patient needed flap for coverage of wound. 10 patients were discharged with no surgical intervention. Wound healing period ranged from 14 to 66 days. Mean period of wound healing was 30.64 ± 14.02 days and the mean duration of hospital stay was 22.60 ± 18.26 days.

Operation	**Frequency (n)**	**Percentage (%)**
STSG	6	35.3
Flap	1	5.9
None	10	58.8
Total	17	100

Table 13: Distribution of patients according to reconstruction done (n=17)

4. Discussion

This incidence of burn with pregnancy is almost similar to other study in same institution [13]. In the other study 49 patients were admitted in Indian tertiary level hospital in five years [14]. Another study was showed 48 burn injured pregnant women admitted in 13 years period time [17]. This incidence rate may be underestimated because a pregnancy test is not routinely done in burned women of reproductive age. Distribution of study subjects by age group is similar to study in the same center in 2014 [13], where Majority of the patient of 2nd decade, and an Indian study where mean age was 23.08 years [14]. A study in Iran, [15] also had similar result. Distribution of patients according to education level was recorded. Maximum patients 24 were educated below SSC, 5 patients had studied up to higher secondary level and only one patient was graduate. Low educated patients have minimum awareness about safety measures against burn, poor knowledge about health care during pregnancy and primary management of burn wound which may contribute to increase incidence and extent of burn and may lead to poor outcome of burn injury. Out of total 30 patients, 27(90%) patients were housewives. 28 patients (93.3%) suffered from flame burn. 0nly one patient had chemical burn and one had electric burn. This result is similar to study in the same centre in 2014 [13], where 93.33% patients had flame burn and rest of them had scald burn.

Similar result was also demonstrated in studies conducted in India [4,14], Iran [15] and Iraq [18]. All burn cases were accidental in nature except one which was suicidal. This result is similar to maximum studies [4,13]. This is probably because of increasing familial stress due to day to day problems like, cooking with an open unguarded fire, rearing of smaller children, overburdened household activities and living in an overcrowded space with minimal amenities inviting frequent accidents. But there is increased incidence of suicidal burn in pregnancy in Iran [15]. More common prevalent factors were poverty, familial conflicts a quarrel with one of the family members, a relative and/or a friend and addiction [15,19,20]. In every case of burn whatever explanation be given by the relative/victim; a thorough investigation must be conducted by Investigating officer or magistrate, to provide proper history to the Medico legal Expert, and help him to pick up slightest clue available & decide whether the case is accidental/suicidal/homicidal [21].

The treating physician whom the patient rely most and share the incidental facts can also help in this matter. Gestational age was recorded. Maximum 15(50%) patients were in third trimester, followed by 13(43.3%) in Second trimester only 2 patients (6.7%) were in first trimester of pregnancy. A previous study in same burn unit shows 50% women were in 3rd trimester, 33% women were in 2nd trimester and 17% were in 1st trimester [13].

A retrospective study in India from 1998 to 2003 including 49 patients showed, gestational age at the time of injury varied from 8 weeks to 34 weeks with 11 cases in first trimester, 21 in second trimester and 17 patients in last trimester [14]. A prospective study of 60 cases at Al kindy general teaching hospital Baghdad-Iraq showed, 16 cases (26.6%) were in the first trimester, sixteen cases (26.6%) in the second and twenty eight cases (46.6%) in the third trimester [18]. In this study TBSA of the burned pregnant women ranged from 1-95%, mean TBSA was 26.23±13.93 %.The majority of burns fell within 15%-30%. In other study TBSA of the burned pregnant women

ranged from 10%-72% and the majority of burns ranged between 20%-30% [13]. In an Indian study the percentage of TBSA varied from 8 % to 100% (mean 71.47%) [14]. Maternal and fetal outcome was recorded. Among thirty study subjects, 17 (56.7%) patients went home alive.13 (43.3%) patients died. 6 patients died due to septicemia which was 20.0% of total death.

The next cause of death was due to MODS [n=5(16.7%)], 1 patient died due to ARDS (3.3%) and 1(3.3%) due to DCM due to severe anaemia following postpartum haemorrhage. 17(56.7%) fetus were survived. Of them 8 pregnancy continued till discharge, 9 babies were delivered during treatment period (7NVD, 2LUCS). 13 (43.3%) fetal death occurred .Among them 5 fetus died with maternal death, 2 IUD and 1 still birth occurred. In 2 cases, the patients died after the fetus were delivered by normal vaginal delivery and 2 mothers survived after abortion of the fetus. Other local study shows, out of 30 mothers, 12 mothers survived with their fetus. Out of these, 07 burned women had good outcome with discontinuation of pregnancy. 09 mothers died due to burn.13 fetus survived but most of the fetus (17) not survived [13]. In an Indian study, among 49 thermally injured pregnant women in five years, there were 33(67.34%) maternal deaths and 34(69.39%) fetal deaths 14.

A 8 year long study in Iran shows Maternal death occurred in 12 of the 39 patients (30.8%). Fetal death occurred in 15 (38.5%) of the cases [15]. In this study an attempt was made to find out the factors which are related with maternal and fetal outcome. Relationship between gestational age with maternal and fetal outcome was assessed. Maximum maternal (69.2%) and fetal (76.9%) mortality was observed among the mother in 2nd trimester, but increasing gestational age was significantly related with increase in maternal death but not with fetal death. This result is similar to some studies [4,14], but dissimilar with other studies [13,15]. This study shows that there is significant relationship between percentage of burn with maternal and fetal mortality. Maximum maternal and fetal death was observed among the patient with burn involving >40% TBSA. This result is similar to other studies [4,21]. No study in our country had not established any relationship between TBSA with maternal and fetal mortality [13]. An Indian study shows > 60 per cent TBSA with 100 per cent fetal and maternal mortality and there was 50 percent maternal and fetal loss in the 40-59 percent TBSA group [5].

Another study shows, and a 50% burn was found to be critical to the finding of maternal and fetal mortality [15], as it was true in some other studies [22-25]. In a five years study in Nigeria no association was identified between mother's burn characteristics (TBSA, burn type and cause of burn) and maternal and fetal outcome. Women with TBSA of >60% died in both pregnant (study) and non-pregnant (control) groups [26]. There is significant relationship between inhalation injury and maternal and fetal outcome. Inhalation injury was present in 6 patients 5 of them died. 5fetal death occurred in mother with inhalation injury. Other study also showed that inhalation injury was significantly associated with maternal and fetal outcome after thermal injury [15]. There is significant relationship between burn complications like burn shock, septicemia and infection present in lately presented cases with maternal and fetal outcome. 6 cases were admitted with burn shock all of them ended in maternal and fetal death. An Indian study by showed

33 maternal death was directly attributable to irreversible burn shock in 15 cases, Septicemia in 8 cases and respiratory complications including smoke inhalation pulmonary edema and embolism in 10 cases [14]. Relationship between Maternal anaemia with maternal and fetal outcome was assessed. Anaemia was present in 19 (63.3%) study subjects. Maximum maternal and fetal death was seen among the anaemic mothers. But difference in anaemia was not statistically significant between dead and alive mother and fetus.

There is no available data to compare the result. In no patient early wound excision & skin graft could be performed because of huge burn patient load in study center, unavailability of facilities and because of our sociocultural circumstances this is consistent with studies [3,15,26,27]. Split thickness skin grafting for the wound was deferred till delivery of the baby in most of the cases. Among 17 survived patient, 6 (35.3%) patient had STSG and one patient needed flap for coverage of wound, 10(58.8%) patients were discharged with no surgical intervention and advised for follow up. Wound healing period among the alive patients ranged from 14 to 66 days. Mean period of wound healing was 30.64 ± 14.02 days and the mean duration of hospital stay was 22.60 ± 18. 26 days.

Limitation of the study

The study was conducted in a single center in Dhaka city which may not be representative for the whole population. The sample size was small in the present study. If the study could have been done for a longer period of time, and in multiple centers, more significant data and results could have been yielded. Because in this study center, routine urine pregnancy tests were not carried out in all females of child-bearing age group, some of the positive cases may have been missed. In this study, none of the patients underwent early excision and skin grafting. If it was possible it could have influenced the result.

5. Conclusions

Like other developing countries, the incidence of burn with pregnancy is high in this country. Most burns with pregnancy are in the16-30years age group and accident was the major cause of injury. It can be prevented by counselling of pregnant mother about personal safety, application of household safety measures against burn, population education programme about burn. Maternal and fetal mortality is proportional to the TBSA burned. Inhalation injury, burn related complications like burn shock, septicemia and infection are major factors responsible for maternal and fetal mortality.

Early Hospitalization, prompt and aggressive fluid management, proper management of suspected inhalation injury and early identification and management of infection and sepsis by appropriate antibiotic which are safe for fetus can reduce both maternal and fetal death. Best care possible should be offered using a team approach with active participation of Plastic surgeon and Obstetrician with the help of anaesthesiologist.

Conflicts of interests

There is no conflict of interest.

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