Burn In Pregnancy (A Prospective Study of 60 Pregnant Burned Women With Thermal Injuries)

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الخلاصة:

إن الحروق خلال فترة الحمل لها أثار عكسية وضارة على الأم والجنين مع نسبة عالية من الوفيات داخل الرحم والإسقاط والولادة المبكرة.

من ك/١ ١٩٩٩ لغاية ك/١ ٢٠١٠ تمت معالجة ٦٠ امرأة حامل تعاني من حروق وكان أكثرها حوادث بيتية.

تمت معالجة تسعة حالات منهم (١٥%) كحالات عيادة خارجية وواحد وخمسين حالة (٨٥%) تمت معالجتهم داخل المستشفى وكان ذلك في مستشفى الحلة التعليمي العام ومستشفى الكندي التعليمي العام وتمت دراسة ومتابعة حالاتهم المرضية سريريا.

تسعة من المرضى (١٥%) كانت إصاباتهم بسيطة، ستة منهم (١٠%) إصابات متوسطة، وخمس وأربعون (٧٥%) إصابات حروق شديدة.

ستة عشر حالة (٢٦.٦%) في الثلاث شهور الأولى من الحمل، ستة عشر حالة (٢٦.٦%) في الثلاث شهور الثانية، وثمانية وعشرون حالة (٤٦.٦%) في الثلاث شهور الثالثة.

أربعة عشر حالة (٢٣.٣%) عولجت بإجراء عمليات قشط جراحي للحرق وترقيع جلدي تحت التخدير العام، أما بقية الحالات (٤٦) حالة فعولجت تحفضيا.

التداخل بالحمل حصل في حالتين فقط بشكل تحفيز الولادة بالأدوية لحالة وعملية قيصرية حالة أخرى.

اثنان وعشرون (٣٦.٦%) مريضة ،وسبعة وعشرون (٤٥%) جنينا توفوا.

نستنتج من هذه الدراسة ان الوقاية خير من العلاج، وان معالجة مثل هذه الحالات ليس بالأمر الهين وان العلاج التحفضي فيما يخص الحمل يعطي نتائج جيدة وذلك وفقا لإمكاناتنا وظروفنا الحالية ولاعتبارات الأخرى.

أما التداخل لإنهاء الحمل بالأدوية او جراحيا فيجب ان يتم بالوقت وبالطريقة المناسبة ليعطي أحسن النتائج للام والجنين.

The aim of the study:

To elucidate the maternal & fetal out comes of burn in pregnancy & to put guidelines for their management.

Abstract:

From Dec. 1999 to Dec. 2010, there were (60) burned pregnant women' (mostly domestic accidents), nine (15%) of them treated as out patient cases, and fifty one (85%) were admitted to the hospital (Hilla teaching hospital and Al-Kindy teaching hospital) and were studied prospectively, nine cases (15%) had minor injuries, six cases (10%) moderate injuries, and forty five (75%) major burns.

Sixteen 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. Fourteen cases (23.3%) treated surgically in form of wound excision and skin graft. Interferences with pregnancy performed only in two cases in form of induction of labor and caesarian section. Twenty two patients (36.6%) and twenty seven (45%) fetuses died.

We conclude that the prevention is better than treatment and management of these cases is a difficult task and conservative approach gives good results.

Key words; burn, pregnancy, abortion, premature labor, intrauterine fetal death.

Introduction:

Thermal injuries during pregnancy have adverse effects on maternal &fetal out come with high incidence of intrauterine fetal death, abortion, and premature labor. Pregnancy doesn't alter the maternal survival. (1)

The factors which play an effective role on the survival of the mother &the fetus are:

1. Total body surface area (TBSA) Burn.
2. Gestational age.
3. The depth of the wound.
4. Complications of the burn.
5. Associated injuries & medical diseases.

With well planned & proper management, the prognosis can be improved. (2)

As total body surface area burn exceeds 40% both maternal and fetal mortality reaches 100%.(3,4)

From many studies it has been shown that thermal injury does increase the risk of spontaneous abortion and premature labor.(5)

Management of burn in pregnancy requires multidisciplinary approach ,with close monitoring of maternal and fetal wellbeing.(6,7,8)

Patients &Methods:

From Dec. 1999 to Dec. 2010 there were 60 pregnant burned patients to be treated for burns in Hilla general teaching Hospital, and ALKINDY general teaching Hospital.

- 48 of them (80%) were flame & 4 (6.6 %) scaled burn
- 9 of them (15%) treated as out patient cases.
- Total body surface area burned (T.B.S.A.) ranged from 1% - 100%
- Gestational age.

A) Up to 12 weeks= 15 cases (25%)
A) 13 –29 weeks = 29 cases (48%)
C) 30 – 32 weeks = 6 cases (10%)
D) > 32 weeks = 10 cases (16.6%)

They were managed routinely as any other burn cases (fluid resuscitation, systemic antibiotics like Penicillins or Cephalosporines, local antimicrobials such as silver Sulphadiazin cream or Fucidine cream, or others according to the availability of the drugs in our hospital, analgesia, and daily wound care) with added special precautions in the close observation and follow up & treatment for maternal and fetal safety.

Daily inquiry about fetal quickening, uterine contractions, vaginal discharge, pregnancy test ultrasound study for diagnosis of pregnancy and to inform viability and maturity of the fetus, with coordination with the obstetrician

Surgical interference was in form of late wound excision and skin grafting. Concerning pregnancy our plan is shown in diagram number 1.

RESULTS;

- From total of 60 patients 4 (6.6%) scaled burn and the rest were flame burns.

Table1: Gestational age.

Gestational age	Number of cases
First trimester	16(26%)
Second trimester	16(26%)
Third trimester	28(46%)

- 9 cases (15%) treated as out patient cases, the rest needed admission.

Table2: Severity of burn.

Severity of burn	Number of cases
Minor burn	9(15%)
Moderate burn	6(10%)
Major burn	45(75%)

- 14 cases (23%) treated surgically in form of wound excision and skin grafting.

Table3; Type of management:

Type of management	Number of cases
Conservative	58(97%)
Interference (termination of pregnancy) (Caesarean section, induction of labor)	2(3%)

- 22 patients (36%) died due to septicemia and inhalation injury.
- 27 fetuses (45%) died either intra uterine with the mother or due to abortion or premature labor.

Discussion:

1-Concerning burn wound;

Burn wounds in pregnant women were dealt with as any other wounds in addition to precautions concerning pregnancy .

We used to perform wound excision and skin grafting 2-3 weeks post injury.

- No early wound excision & skin graft performed because of unavailability of facilities, and because of our sociocultural circumstances this is consistent with suggestion given by Prasanna – Mi. singh-K 1996.(9)

2-Concerning pregnancy:

The results of conservative approach to pregnancy were good. Two cases in which termination of pregnancy performed, in the first one who was 35% TBSA burn at 36 weeks of gestation with stable general condition of the mother with no great risk on her life, induction of labor done within 24 hours post injury with delivery of living fetus but the neonate was lost after few days in the pediatric unit but the mother was saved.

In this case it seems that it wasn't necessary to rash in to terminate pregnancy in this patient especially if the pediatric unit is not highly qualified to receive those premature infants.

The second case in which the mother was extensively burned 60 % TBSA. burn who were 36 week gestation ,termination of pregnancy performed after 24 hours post injury to deliver a dead baby whose mother has been lost 48 hours later.

The mortality of mothers (36%) and fetuses (45%) is consistent with other studies, being 63% for both mothers and fetuses in one of them .(7)

The management and care of these women depends on collaborative effort between trauma and obstetric team.(8)

P.Agarwal stated that maternal survival is less likely if burn exceed (50%) total body surface area burn.(9)

From that we can deduce that conservative approach of pregnancy in burned patient could lead to good perinatal out comes but if interference in pregnancy was decided it should be performed at the proper time, this agrees with finding of Unsuur-V 1996 (2), And the conclusion of Ullman –Y 1997, Who recommend urgent delivery as treatment of in term pregnant woman with extensive burn injury.(10)

Our results of maternal and fetal deaths corresponds with results noted by other authors like Hamid Karimi ,who stated that inhalation injury , suicidal burn injury and percentage of total body surface area burned were correlated with a higher maternal and fetal mortality.(11)

Conclusion:

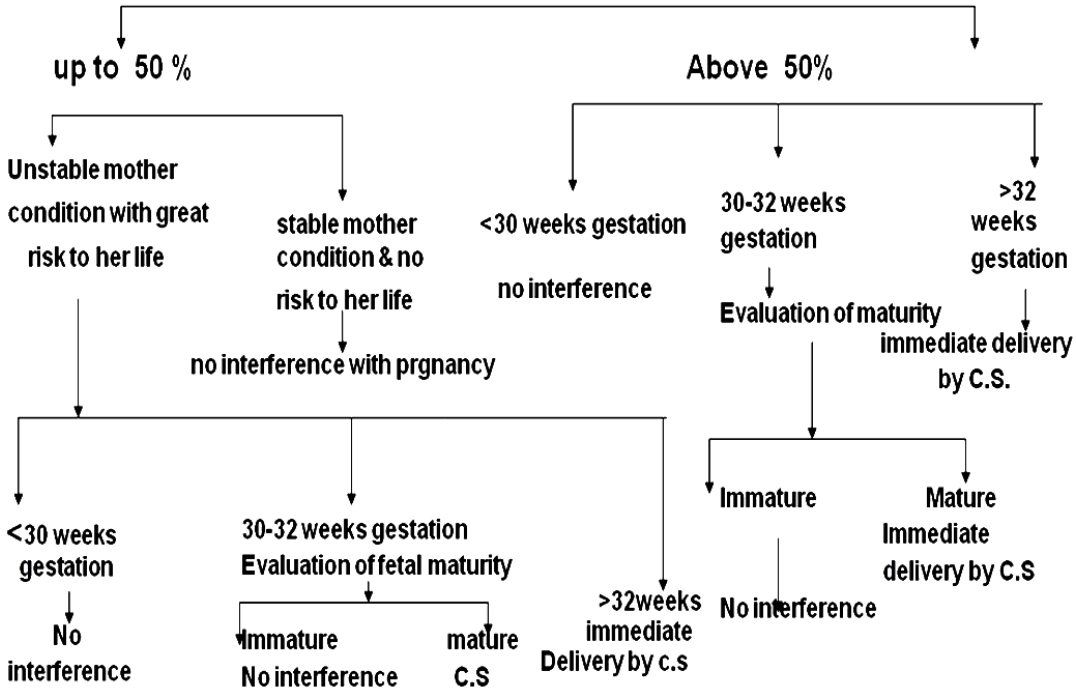
The difficulty of management of burned pregnant patient highlights the importance of prevention of burn during pregnancy.

Conservative approach gives good results and interference with pregnancy should be performed at the proper time in coordination with the obstetrician.

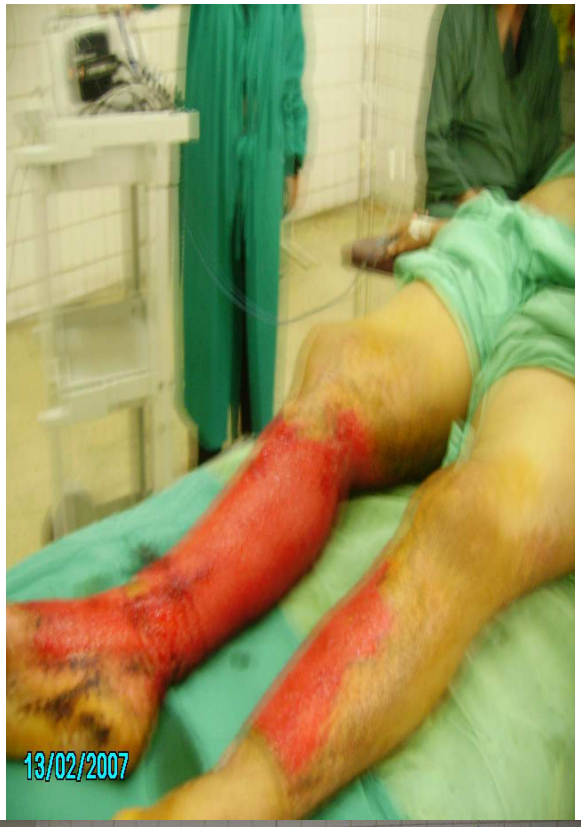
RECOMMENDATION:

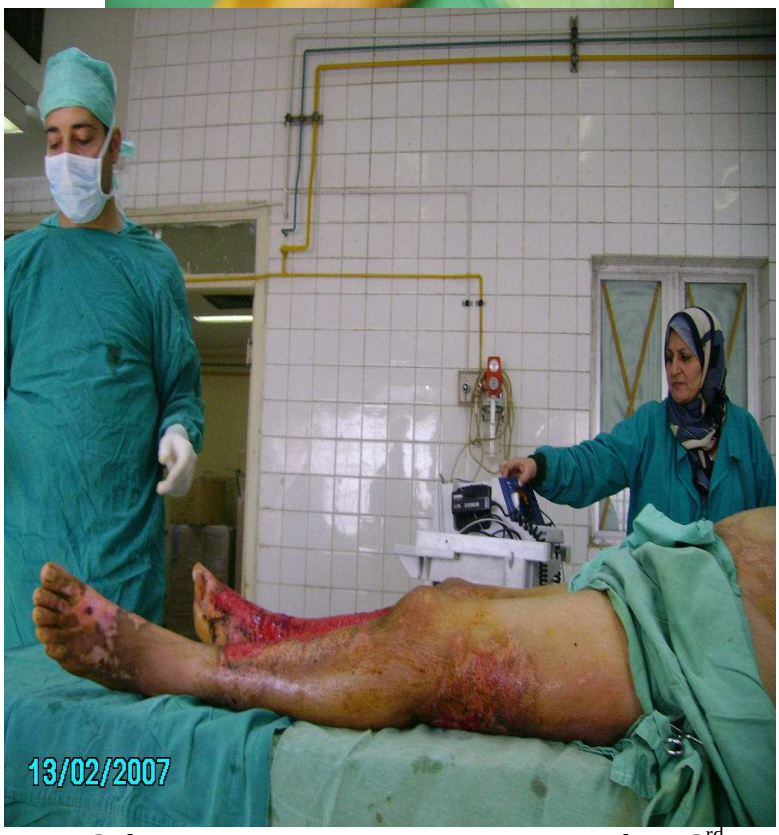
We recommend the following protocol of management of burned pregnant patients which is suitable for our capabilities and facilities and our sociocultural status in our community as shown in the following diagram:

Diagram ; shows guide lines for management of burned pregnant patients :



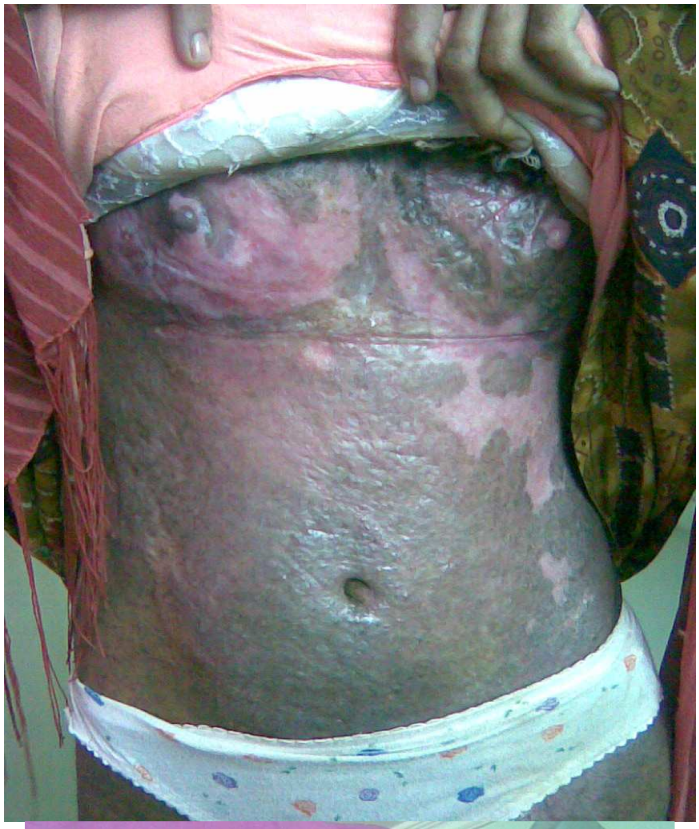
***In case of intrauterine fetal death; no active interference, but keep on monitoring the patient generally and especially for hemocoaglopathy.**





Major Burn 3rd. trimester

Major burn 3rd trimester



Skin grafts and Scarring due to major burn in 3rd. trimester

The mother and her baby after discharge and normal vaginal delivery at home

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