ED Protocol #5

Detroit Receiving Hospital
DETROIT MEDICAL CENTER

Care of the Pregnant Injured Patient

Goal: To insure consistent care of a pregnant trauma patient and their fetuses in the Emergency Department and during their entire stay at DRH.

1. The best initial treatment for the fetus is the provision of optimum resuscitation of the mother according to Advance Trauma Life Support (ATLS) standard.
2. All female patients of childbearing age with significant trauma will have a human chorionic gonadotropin (B-HCG) performed and be shielded for x-rays whenever possible.
3. If the initial assessment of the injured woman indicates more than minimal injury, both Trauma and Obstetrics are consulted.
4. Once mom has been stabilized, the fetus will be assessed as part of secondary assessment.

I. **PRIMARY SURVEY**

A. Supplemental oxygen should be given to maintain oxygen saturation > 95% to ensure adequate fetal oxygenation.
B. Establish two large bore IV's crystalloid fluid for resuscitation is recommended.
C. If a thoracostomy tube is needed, it should be inserted 1 or 2 intercostal spaces higher than usual in the injured pregnant woman.
D. Vasopressors should only be used for intractable hypotension that is unresponsive to fluid resuscitation.
E. After mid-pregnancy, the gravid uterus should be moved off the inferior vena cava to increase venous return and cardiac output in the acutely injured pregnant woman. This may be achieved by manual displacement of the uterus or left lateral tilt.
F. O-negative blood should be transfused when needed until cross-matched blood becomes available to Rhesus D (Rh) alloimmunization in Rh-negative mothers.
G. All pregnant women $\geq$ 24 weeks gestation will have cardio-tocographic (fetal & cardiac activity) monitoring for a minimum of 4 hours. Monitoring will be continued and further evaluation will be carried out if uterine contractions, a non-reassuring fetal heart rate pattern, vaginal bleeding, significant uterine tenderness or irritability, or rupture of the amniotic membranes is present and then transfer to Hutzel for continued monitoring and care in a stable patient.
H. If the trauma pregnant patient requires admission to the hospital and/or treatment for injury the patient will be admitted to the trauma service at DRH with continued fetal monitoring.

II. **Secondary Survey**

A. Radiographic studies indicated for maternal evaluation should be deferred or delayed until results of B-HCG are returned.
B. Exposure to < 5 Rad has not been associated with an increase in fetal anomalies or pregnancy loss and is herein deemed to be safe at any point during the entirety of gestation. Consultation with a radiologist should be considered for purposes of calculating estimated fetal dose when multiple diagnostic imaging is required.
C. Concern about possible effects of high dose ionizing radiation exposure should not prevent medically indicated maternal diagnostic imaging procedures from being performed. During pregnancy, other imaging procedures not associated with ionizing radiation should be considered instead of X-rays when possible.

D. Ultrasonography and magnetic resonance imaging (MRI) are not associated with known adverse fetal effects. However, until more information is available, MRI is not recommended for use in the first trimester.
E. FAST should be considered for detection of intraperitoneal bleeding.
F. In addition to routine laboratory studies, pregnant trauma patients should have coagulation panel including fibrinogen.
G. Kleihauer-Betke analysis should be performed in all pregnant patients > 12 weeks-gestation.

Perimortem cesarean section should be considered after 24 weeks of gestation. If there is a loss of maternal vital signs for more than 4 minutes. This aids in maternal resuscitation and may allow for infant survival. Cesarean section for potential infant survival should not be done more than 20 minutes after maternal death.

REFERENCE:

ATLS care of the injured pregnant patient

Guidelines for the Management of a Pregnant Patient. J. Obstet Gynaecol Can 2015;37 (6) 553-571