New Advances In Anesthetic Considerations For Trauma In Pregnancy

Essay
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بسم الله الرحمن الرحيم

وقُلِ اعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونَ

صدق الله العظيم

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Hassan Ahmed Sayed Ahmed

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List of Abbreviations

ABCDE	Airway, Breathing, Circulation, Disability, Exposure
ACLS	Advanced cardiac life support
ACOG	American College of Obstetricians and Gynecologists
AISS	Assign injury severity score
ALT	Alanine Transaminase
AP	Anterior posterior
ASA	American Society of Anesthesiologists
AST	Aspartate Transaminase
ATLS	Advanced trauma life support
BMI	Body mass index
BP	Blood pressure
CA	Cardiac arrest
CO	Cardiac output
COP	Colloid oncotic pressure
CPR	Cardiopulmonary resuscitation
C-section	Caesarean section
C-spine	cervical spine
CT	Computed tomography
C-V	Compression-ventilation
DIC	Disseminated intravascular coagulation
DNA	Deoxyribonucleic Acids
ECG	Electrocardiogram
ERV	Expiratory reserve volume
FAST	Focused abdominal sonography for trauma
FMH	Fetomaternal hemorrhage
FRC	Functional residual capacity
GABA	Gamma-Aminobutyric acid
GCS	Glasgow Coma Score
HCO_3	Bicarbonate
IC	Inspiratory capacity

ICP	Intracranial pressure
IV	Intravenous
IVC	Inferior Vena Cava
KB	Kleihauer-Betke (Test)
Kpa	Kilopascal
LDH	Lactate Dehydrogenase
mEq/L	Milliequivalents per liter.
min	Minute
Ml	Milliliter
mmHg	Millimeter of Mercury
mOsm	Milliosmole
MRI	Magnetic Resonance Imaging
MSH	Melanocytes Stimulating Hormone
MV	Minute Ventilation
NSAIDS	Nonsteroidal Anti-Inflammatory Drugs
PA	Pulmonary artery
$PaCO_2$	Partial pressure of carbon dioxide in arterial blood
PaO_2	Partial pressure of oxygen in arterial blood.
$PetCO_2$	Partial pressure of end-tidal carbon dioxide
Ph	Hydrogen ion concentration
$PtCO_2$	Transcutaneous oxygen
PVR	Pulmonary vascular resistance
rad	Radiation absorbed dose
RBC	Red Blood Cell
RSI	Rapid Sequence Induction
RV	Reserve volume
SV	Stroke volume
SVR	Stroke volume resistance
T3	Triiodothyronine
T4	Tetraiodothyronine; Thyroxine
TEE	Transesophageal echocardiogram
TLC	Total lung capacity
γ-GT	Gamma-glutamyl Transferase

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Introduction and Aim of The Essay

Introduction

Trauma of pregnant women with its potential impact into the health of both the mother and the fetus has evolved over the last decades into a major adverse risk factor to successful pregnancy outcome. Trauma now represents the leading cause of non-obstetric causes of death in pregnancy, accounting for 6-7% of all maternal deaths, and maternal death remains the most common cause of fetal demise.

The most common etiologies of trauma in pregnancy include transportation accidents, falls, violent assaults, and burn injuries ***(Kuczkowski, 2008).***

Patients presenting for surgery during the course of pregnancy carry a number of important challenges for anesthesiologists. Optimum management requires a thorough understanding of maternal and fetal physiology, altered drug pharmacodynamics and pharmacokinetics, and a sensitive approach to the parturient, who must be counseled carefully about the risks and benefits of intervention. The ultimate goal is to provide safe anesthesia to the mother while simultaneously minimizing the risk of preterm labor or fetal demise. Multidisciplinary input from surgeons, anesthesiologists, and obstetricians is essential to ensure fetal and maternal wellbeing thought the perioperative period. Successful maternal and fetal outcome are dependent on expert management of both the surgical disease process and anesthesia ***(Mhuireachtaigh & O'Gorman, 2006).***

The anesthesiologist plays a key role on the pregnant trauma team because of their responsibility for airway management, obtaining vascular access, blood and fluid resuscitation, treatment of coagulopathies, prevention of hypothermia, insuring adequate anesthesia and analgesia, as well as optimizing mechanical ventilation ***(Kuczkowski, 2004).***