PERIMORTEM CESAREAN SECTION

When maternal cardiac arrest occurs before 24 weeks of gestation, the purpose of cardiopulmonary resuscitation (CPR) is to resuscitate the mother. If she is resuscitated, it is likely that pregnancy will proceed. Emergency delivery of the fetus is not likely to improve the maternal chances of survival. In contrast, at or beyond 24 weeks of gestation, delivery of the fetus may actually improve maternal survival by decreasing aorto-caval compression with a consequent improvement of venous return and cardiac output. In addition, chest compression will be more effective once the gravid uterus is evacuated, and the functional residual capacity of the lung will increase with a consequent increase of maternal oxygenation and resuscitation efforts[1,2].

During the tragic years of Lebanon 1975-1990[3], a large number of casualties resulted in serious head injuries; one fifth of all casualty admissions to the American University of Beirut Medical Center was patients with skull injuries associated with penetrating brain damage. Craniotomy when feasible, was found preferable to the accepted technique of craniectomy. The level of consciousness has an important bearing on prognosis[4]. In the seriously head-injured pregnant victims, perimortum Cesarean delivery of the near or the full-term fetus was attempted in order to save the fetus.

Perimortum Cesarean section may be indicated to save both the mother and the fetus during certain catastrophic complications such as anaphylactic reactions associated with anesthesia[5]. The placenta plays an important role in protecting the fetus against drug-induced anaphylactic reactions in the parturient. The placental barrier will prevent crossing of the high molecular weight IgE antibodies from the mother to the fetus. Also, the high diamine oxidase of the maternal decidua will catalyse the oxidative deamination of histamine and other related endogenous amines released during anaphylaxis. Emergency Cesarean section can save the fetus, and provide optional conditions for saving the mother[5].

Emergency delivery of the fetus by Cesarean section can also optimize the hemodynamics in the pregnant cardiac patients presenting after cardiopulmonary bypass (CPB) with refractory hemodynamic deterioration and/or persistent fetal distress. It may be also advisable to consider Cesarean section before CPB if the gestational age is greater than 28 weeks and fetal maturity is reached, in order to maximize the chances of favorable maternal and fetal outcome[6].

In conclusion, these three case reports show that perimortem Cesarean delivery can save the fetus, and may optimize the conditions for saving the mother. The first case report shows that perimortem Cesarean section in a patient with irreversible head injury saved the newborn,

but not the mother. In the second pregnant patient who suffered from cardiac arrest secondary to anaphylactic reaction, perimortem Cesarean section saved the fetus, and optimized the conditions for successful resuscitation of the mother. In the third cardiac patient undergoing CPB, Cesarean delivery of the fetus facilitated successful weaning from CPB.

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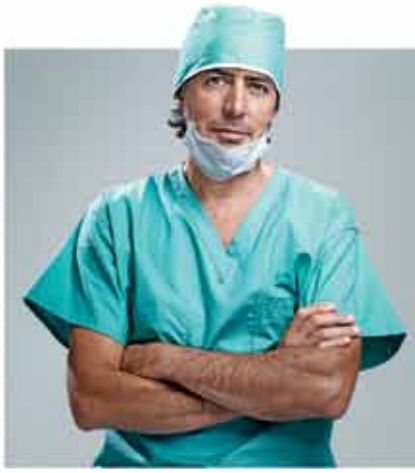

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BRIDION has not been investigated in patients receiving rocuronium or vecuronium in the Intensive Care Unit (ICU) setting.
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* Train-of-four
† Post-tetanic counts
‡ Second twitch

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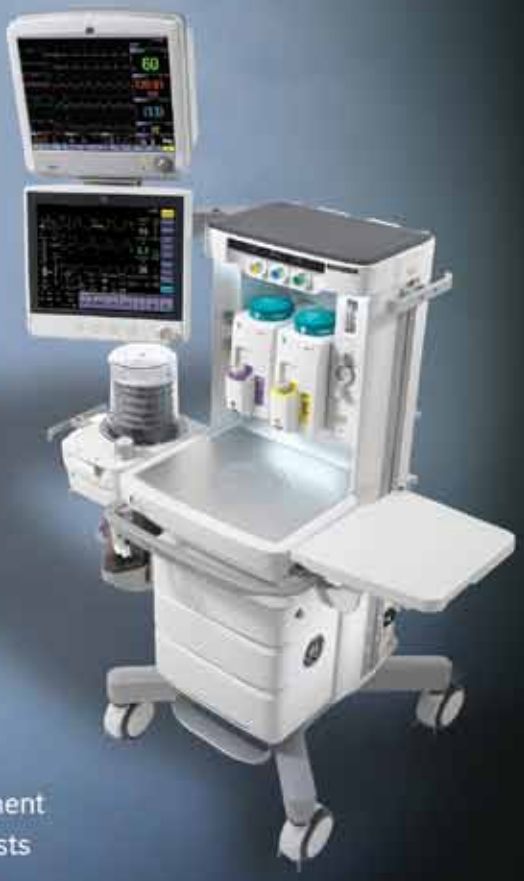

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