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Causes of cardiac arrest in pregnant and performing effective cardiopulmonary resuscitation according to the 2015 guideline

Baris Cankaya
Marmara University Hospital, Turkey

Women experience physiologic changes during pregnancy which make clinicians focus on both the pregnant and the newborn with a specialized topic. There are some reasons why cardiopulmonary resuscitation is more difficult to perform and leading to less effective management in the pregnant than in the non-pregnant. Some changes associated with pregnancy are cardiovascular changes (increased heart rate, increased stroke volume, increased cardiac output, decreased systemic vascular resistance, increased uterine blood flow), respiratory changes (increased respiratory rate, increased oxygen consumption, decreased functional residual capacity, decreased bronchial tonus, increased upper airway vascularity), increased renal blood flow, increased cortisol, aldosterone, ACTH and insulin levels, decreased albumin, increased sedation, shift of oxy-Hgb dissociation curve to right and increased plasma volume. At term, the vena cava is completely occluded in 90% of supine positioned pregnant patients and the stroke volume may be only 30% of that of a non-pregnant woman. During cardiac arrest, avoiding for the effects of the gravid uterus on venous return, a maternal pelvic tilt to the left of greater than 15 degrees is recommended. The tilt needs to be less than 30 degrees for effective closed chest compression. Delivery of the fetus during cardiac arrest will reduce the oxygen demands on the mother and also increase the venous return to the heart. The esophageal sphincter is more relaxed during pregnancy, so entrance of air into the stomach is increased. Passive regurgitation of stomach contents which are greater in volume and more acidic in pregnancy can damage the lungs. The need for Cardiopulmonary Resuscitation (CPR) is a rare event occurring in one out of 30,000 pregnancies. Cardiac disease remains the leading cause of death in pregnancy. Physiological changes that occur in pregnancy, including the overall increase in circulatory volume status, may contribute to improved survival in pregnant women having non-traumatic arrest.

Biography

Baris Cankaya has completed his graduation from Ankara University Medical Faculty in 2000. He is working as Anesthesiology Specialist at Marmara University Training Hospital. He has attended several academic meetings nationally and internationally. His academic interests include microcirculation, fluid therapy, resuscitation, patient safety and perioperative analgesia. He has participated in various international workshops, congress/symposiums and certifications and to list a few: EPLS provider Berlin 2015; NLS provider Athens 2015; MECOR Level I October 2014; ECMO workshop 2015, Leicester; Airway workshop ICISA 2014, Tel Aviv; Innovations Workshop ICISA 2014, Tel Aviv; Gastro 2016, Birmingham: oral presentation: Sedation for pediatric patient with end stage hepatic disease outside operating room; International intensive care symposium İstanbul 2015 and so on.

cankayabaris@hotmail.com

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