Maintaining CPR Quality During Advanced Airway Insertion in Patients with Cardiac Arrest

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Use of an endotracheal tube or laryngeal mask airway significantly reduced interruptions in chest compressions.

Current resuscitation guidelines emphasize minimizing interruptions in chest compressions, especially early in the process. In a prospective observational study, researchers measured the effects of advanced airway use on cardiopulmonary resuscitation (CPR) quality in consecutive adults with medical cardiac arrest at a single hospital in England from 2008 to 2011. A compression sensor device was used to measure CPR quality, including no-flow ratio (the proportion of time without compressions), before and after placement of an endotracheal tube (ETT; 50 patients), laryngeal mask airway (LMA; 25 patients), or bag-valve mask (BVM; 25 patients).

Median time to insertion was 16 seconds for the ETT and 8 seconds for the LMA. After insertion of the devices, the median no-flow ratio improved significantly: from 0.24 to 0.15 in the ETT group and from 0.28 to 0.13 in the LMA group. There was no change in no-flow ratio in the BVM group. The study was not powered to determine differences in patient outcomes.

Comment: CAB (circulation, airway, breathing) has replaced the old adage of ABC in the order of interventions for resuscitation of adults with medical cardiac arrest. This study supports minimizing interruptions in CPR when performing advanced airway maneuvers.

Note to readers: At the time NEJM Journal Watch reviewed this paper, its publisher noted that it was not in final form and that subsequent changes might be made - See more at: http://www.jwatch.org/na33923/2014/04/03/maintaining-cpr-quality-during-advanced-airway-insertion#sthash.9ci1NBqA.dpu

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