小児においてCPRの最良の結果を出すには心臓マッサージに呼吸を加えることである (ReSS.AOS.13A)

CARES：心停止後の小児において換気を伴うCPRは転帰を改善する

CARES: CPR with ventilation associated with better outcomes after cardiac arrest in children

院外心停止を来した小児および10代の若年者において、バイスタンダーによる心肺蘇生（CPR）は一蘇生を行わない場合と比べ一生存率および神経学的転帰が優れていた、と2016年American Heart Association年次集会で発表され、同時に*JAMA Pediatrics* オンライン版に掲載された。従来のCPR（換気を伴う）または心臓マッサージのみのCPRが、同数の症例に施行された。従来のCPRは心臓マッサージのみのCPRと比べ転帰を改善した。幼児においては、換気を行わない限り従来のCPRの有益性はなかった。

Full Text

Receiving cardiopulmonary resuscitation (CPR) from a bystander – compared with not – was associated with better overall and neurologically favorable survival for children and adolescents who had out-of-hospital cardiac arrest, according to research presented at the American Heart Association's Scientific Sessions 2016 and simultaneously published online by *JAMA Pediatrics*.

The outcome of out-of-hospital cardiac arrest (OHCA) in children is generally poor, with a mortality rate greater than 90 percent. The American Heart Association (AHA) recommends conventional CPR for pediatric cardiac arrest. However if the bystander is unable or reluctant to perform rescue breathing, the AHA recommends compression-only CPR (COR), noting that delivering COR is better than no CPR.

Maryam Y. Naim, M.D., of Children's Hospital of Philadelphia, and coauthors analyzed data from the Cardiac Arrest Registry to Enhance Survival (CARES) for OHCAs in children younger than 18 from January 2013 through December 2015.

The study included 3,900 children with OHCA, of whom 2,317 (59.4 percent) were infants, 2,346 (60.2 percent) were female and 3,595 (92.2 percent) had nonshockable heart rhythms. Cardiac arrests that occur in infants are most likely secondary to sudden infant death syndrome, according to the report.

The authors report:

- CPR from bystanders was performed on 1,814 children (46.5 percent).
- Overall survival was 11.3 percent and neurologically favorable survival was 9.1 percent.
- CPR from a bystander was associated with better odds of overall survival and neurologically favorable survival compared with none.
- Conventional CPR (with breathing) and compression-only CPR were provided in a similar number of cases; conventional CPR was associated with improved outcomes compared with compression-only CPR; among infants, conventional CPR from a bystander was associated with improved outcomes while compression-only CPR had outcomes similar to no CPR from a bystander.

Limitations to the study are that the data are observational and causality cannot be established.

"Bystander CPR is associated with improved outcomes in children with OHCA. Conventional BCPR [bystander CPR] is associated with improved outcomes compared with COR [compression-only CPR] and, among infants, there was no benefit of BCPR unless ventilations were provided. Efforts to improve the provision of CPR in minority communities and increasing the use of conventional BCPR may improve outcomes for children with OHCA," the study concludes.

The authors report no relevant financial relationships.