GW23-e0152 **TRACHEOTOMY DURING THE CARDIOPULMONARY RESUSCITATION PROCESS**

doi:10.1136/heartjnl-2012-302920o.23

Li Jike, Yi Dinghua. *Xijing Hospital, Fourth Military Medical University*

Objectives Tracheotomy is very important in the process of cardiopulmonary resuscitation (CPR), especially the cardiac arrest result form obstruction of respiratory tract. It is advantageous, when tracheotomy is undertaken, that the dyspnoea is relieved and patient get a reliable support of respiration. We had a tracheotomy in the process of persistent CPR and the report of it is presented here.

Methods Clinical data: a 18-month-old girl, 5.5 kg, who came to our hospital for the diagnose of congenital heart disease:dextrocardia, ventricular septal defect (VSD) in 5th 3ch 2010. In the process of anesthasia before operation at 7th, the tracheal intubation could not get into the trachea which was tried out for three times even though the revelation was clear. A lump could be see below the glottis vera with the help of laryngoscope. A 2F tracheal intubation which is used for preterm infant was inserted then the patient got into the intensive care unit (ICU) immediately. Computer tomography (CT) had been done in emergency, which showed that there is a stenosis at the glottis level and the tracheal diameter is only 2 mm. The patient was cardiac arrest at that afternoon, closed cardiac massage had been done immediately with ventilatory support. Blood gas analysis (BGA) showed: PH:6.8, PO_2:31 mm Hg, PCO_2:126 mm Hg, K^+:8.4 mmol/l, HCO_3^-:12.4 mmol/l, Ca^{++}:0.96 mmol/l, BE: −21.7 mmol/l, Lac:15 mmol/l; the rest indexes were all within normal limits. Tracheotomy had been done in emergency in the process of CPR. Homeostasis had been adjusted according to the results of BGA. Adrenaline, isoprenaline, lidocaine, sodium bicarbonate and insulin with glucose were administrated in the CPR process. We undertaked CPR for about 162 min before the revival of sinus rhythm, and the vital sign showed: heart rate 146/min, blood pressure 68/42 mm Hg, respiratory frequency 22/min, temperature 37.6 °C. BGA showed PH:7.42, PO_2:188 mm Hg, PCO_2:38 mm Hg, K^+:4.9 mmol/l, HCO_3^-:23.5 mmol/l, Ca^{++}:1.28 mmol/l, BE:+2 mmol/l, Lac:3.4 mmol/l. Homeostasis had been achieved on the whole.

Results The life of patient is dangerous with serious airway obstruction especially infant. Their airway is so narrow that a lump blocking is lethally for infant. This infant can not speak and airway CT is not routine examination so trachea abnormity was not found preoperation which is a hidden danger. It is another hazardous to leave out ICU for CT examination. Tracheotomy is so difficult that doctors are hesitatingly to do it which delayed the utility time of therapy. Tracheotomy was performed after the cardiac arrest which was done in the process of CPR, but it was accomplished successfully by the cooperation of our group.

Conclusions The incision of trachea is very difficulty in children especially during the CPR process, however the procedure could be smoothly accomplished if some manipulations were improved. There are some gains from this process. First, the airway abnormity should been found preoperation in order to prevent the failure of operation due to airway obstruction. There was a patient whose postoperative CT showed left main bronchus slendered for whole range and that patient dead of respiratory failure. Second, tracheotomy must be done in emergency when tracheal intubation failed confirmly. Better effect would be got if this patient was tracheotomised before cardiac arrest. Third, continued closed cardiac massage makes the exposure of operating field very vaguely due to the floating body of patient and the influencing of other machines or people. Operator must do this operation calmly and naturally so that the complications such as tissue damage, haemorrhage and pneumohypoderma could be reduced. Fourth, doctors must have a spirit of never to say failure. This would be the last straw for some advanced diseases. Fifth, doctors could rescue patient whole-heartedly if there is a good doctor-patient relationship. An effective communication between doctor and family member of patient is important in the process of CPR and tracheotomy. Last but not the least, a unified command and cooperation is the key point for success.