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The current ECMO (VV and VA-ECMO)

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Background: ECMO has been utilized for refractory cardiac and respiratory failure. Its outcomes were almost dismal if it were not utilized appropriately. Since July of 2010, we have developed new ECMO program in our institution and our outcomes have improved remarkably.

Objective: We would like to share the current ECMO system, including technology and patient care, to optimize patient outcomes.

Methods: New ECMO program consisting of standard cannulation technique (groin venous and arterial access with retrograde perfusion catheter for VA-ECMO, Avalon dual lumen cannula for VV-ECMO), standard circuit (closed crystalloid primed circuit, heparin coated tubing and cannulae, diffusion membrane hollow-fiver oxygenator and Rota flow centrifugal pump), standard monitoring system (upper extremity arterial line, cerebral and lower extremity tissue saturation monitoring and hemodynamic transesophageal echocardiography), monitoring by multidisciplinary providers (ICU RN, mid-level providers and intensivists), and weaning using standard protocol with hemodynamic transesophageal echocardiography.

Results: Since the beginning of new ECMO program, a total of 94 ECMO (76 VA and 18 VV ECMO) procedures were performed. The mean age was 48 ± 13, of 53 male and 41 female patients. There were 30 salvage cases (post code). The overall ECMO survival rate was 55% (VA ECMO 51%, and VV ECMO 70%), and discharged from hospital in alive in 45%.

Conclusion: The outcomes of new ECMO program are reasonable. The expansion of the ECMO program is expected.

Biography

Hitoshi Hirose has graduated from Nagasaki University School of Medicine, Nagasaki Japan. In 1990, he had his general surgery residency in St. Luke's Roosevelt Hospital, New York and Nagasaki University Hospital, Japan. He started cardiovascular surgery training in Japan and then had clinical fellowship in Cleveland Clinic Foundation during 2002-2004. He received Ph.D. from Juntendo University College of Medicine in 2005 for his clinical research regarding cardiac surgery. Then he moved into Philadelphia and has been working as Attending Physician in the Division of Cardiothoracic Surgery, Thomas Jefferson University since 2009. His major interest includes management of cardiogenic shock and mechanical circulatory device, especially ECMO.

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