

[TJS2]TSCCM-JSICM Symposium2

ECMO training

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[TJS2-2]Development of ECMO, experience in Japan

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【ライブ配信】

The history of ECMO in Japan dates back to early 1970. The pioneer pediatric surgeons and anesthesiologists had introduced ECMO, and the first successful cases in neonate and adult were reported in 1980s. Since then, neonatal and pediatric ECMO has been developed, with major problems in appropriate device supplies for children such as vascular accesses. In 1998, percutaneous cardiopulmonary support came to be used and the number of cases had increased year by year. The Japanese society of PCPS was established in 1991 and contributed to further spread of ECMO throughout the nation due to development of simplified ECMO system, providing emergency application of VA ECMO for cardiogenic shock. In 2012, SAVE J study comparing ECPR and conventional CPR for out of cardiac arrest with shockable rhythm was published, with significantly better neurological outcome in ECPR. According to the survey conducted by the society, total ECMO cases in 2009 was estimated to have been increased to approximately 2000 cases, and 2600 cases in 2015, mostly cardiac support. However, the outcome of respiratory ECMO was unknown. According to the survey on ECMO for H1N1 associated ARDS conducted after pandemic in 2009, it was revealed that the outcome was much worse than other developed countries. The possible reasons responsible for this were lack of using appropriate devices for long term ECMO, low volume centers, no training programs, no specialist team for respiratory ECMO. In 2012, ECMO project based on the ICU societies was established, started registry, education programs, periodical simulation courses. As the result, the second survey conducted at the recent pandemic of influenza in 2016, the survival rate improved to 83 percent although severity of the patients on ECMO was higher than those of in 2009.