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Midterm experience of adult extracorporeal membrane oxygenation: Cardiorespiratory failure

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Extracorporeal Membrane Oxygenation (ECMO) is a rescue therapy for critically ill patients with reversible cardiorespiratory Epathology and those who have probability of death around 80% despite maximal conventional treatment. The positive results of the recent trials have stimulated our interest to use ECMO for life threating conditions due to cardiorespiratory failure. Here we describe our experience at a tertiary care center in India. We established an adult ECMO program for cardiorespiratory support in April 2013. In the last five years, we supported 60 patients on ECMO and it was only considered once the conventional therapy deemed failing. A retrospective analysis of our patient data was performed to collect information regarding patient demographics, indication for ECMO, type of ECMO and outcomes. A total of 60 patients received ECMO during 2013 to 2018. The mean age was 36.4 years (range 18-57 years), 42 male and 18 female. Out of 60, 10 were Veno-Arterial (VA) and 50 were Veno-Venous (VV) ECMO. In VA ECMO the first patient had intractable arrhythmias and second had acute viral myocarditis leading to refractory cardiogenic shock. Out of 50 patients of VV ECMO, 38 viral pneumonia, 7 bacterial pneumonia and 3 with fulminant fungal infection leading to ARDS 2 had Wegener's granulomatosis. ECMO was instituted by peripheral cannulation in all patients. Average support time was 13 days (range 7 to 52 days). Thirty six patients (60%) were successfully separated from ECMO and 35 survived to hospital discharge. Four patients had major complications including pump failure and bleeding. One underwent lobectomy for multiple bronchopleural fistulae in right lung. ECMO is salvage therapy in patients with life threating refractory circulatory shock or severe ARDS. This therapy has the potential to save lives if applied in time and in appropriate clinical settings.

Biography

Kewal Krishan is the Director of Heart Transplant and Ventricular Assist Devices, Principal, Consultant, Cardiothoracic Surgeon at Max Super Specialty Hospital, New Delhi. He has done four years Advanced Clinical Fellowships at world's top hospitals including Mayo Clinic, Rochester MN, USA and Mount Sinai Medical Center, New York, USA where he gained expertise in advanced therapies like heart transplant, LVADs and ECMO. He is one of handful surgeons in India who are formally trained in all aspects of thoracic transplantation including orthotopic and heterotopic heart transplantation. He has many publications in international journals to his name in this field including innovative techniques in ventricular assist devices.

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