ECMO Committee

(Policy No 3)

Extracorpeal Membrane Oxygenation (ECMO) Centers POLICY 2017

Policy owner: ECMO Committee. MOH	**Applies to:** All Staff in MOH and private Hospitals in Kuwait
Section Location: Departments of Anaesthesia, Adult Intensive Care and Pain Management in all MOH and private Hospitals in Kuwait	**Effective date:** 01-11-2017 **Revision date**: 01-11-2020
Approved by: Head of ECMO committee, ECMO committee members	
Final Approval by: MOH Undersecretary	

Purpose:

1- To outline the ideal institutional requirements needed for safe and effective use of extracorporeal membrane oxygenation (ECMO) in all hospitals in Kuwait.

Definitions

1. Extracorporeal membrane oxygenation (ECMO) : The use of modified cardiopulmonary bypass circuit for temporary life support for patients with potentially reversible cardiac and/or respiratory failure. It provided a mechanism for gas exchange as well as cardiac support allowing time to recover from the preexisting lung or cardiac disease.

Introduction

The use of ECMO has started in the mid seventies for neonates with severe respiratory failure. Over the last 10-15 years, its use in adult patient has expanded tremendously especially after the H1N1 pandemic in 2009. More Ecmo centres are being established around the world and organisation of these centres is vital to allow a safe delivery of this service. It is recommended that for every 2-3 million population, 1 ECMO centre is required. This will provide adequate number of cases to be performed in each centre to allow maintaining the skills and expertise in ECMO management. there is evidence that higher ECMO volume is associated with lower mortality. Patients receiving ECMO at centres with more than 30 annual cases had a significantly lower mortality compared to centres with less than 6 annual cases.[1] Kuwait has a population of over 4 million and therefore 2 ECMO centres should be adequate to cover the service. The geographical location of these centres should also be taken into account when chosen to ensure covering a wide range of area in close proximity to the ECMO Centre (e.g. once centre covering the north of the country and once centre covering the south).

Centre Requirement

The ECMO service for adult severe respiratory failure can be provided for any patient in any health institution in the State of Kuwait, both private and governmental as per indications stated in the ECMO referral policy provided the ECMO Centre fulfils the following conditions:

1- The ECMO centre should be located in a General Hospital with a tertiary level Adult Intensive Care Unit.
2- The ECMO centre should be located in a General Hospital that covers a population big enough to require the support for a minimum of 30 ECMO patients per year. This is the minimum number required to maintain the skill of the ECMO team members and to provide the best success rate for the treatment.
3- The ECMO centre should have facilities for fluoroscopy or / and Transoesophageal Echocardiography with the ECMO team member having adequate skill to use it to guide the insertion of the ECMO cannulas. This should be on a 24 hour cover basis.
4- There should be facilities and staff available to provide a 24 hour in house cover for cardiopulmonary bypass (adult cardiac surgery) located within the same Hospital where the ECMO service is provided. This is to provide a backup for any possible complications that may arise.
5- There should be a 24 hour in house cover by a perfusionist.
6- There should be a trained ECMO team providing a 24 hour on-call cover including the following members:
    a- ECMO ICU consultant (should be a consultant in critical care medicine)
    b- ECMO ICU registrar
    c- ECMO ICU nurse
    d- Perfusionist

7- The centre should have a director and coordinator responsible for the overall operation of the centre including training, governance, and performance evaluation and data management. Annual report should be provided with service outcomes.

References

1. Association of Hospital-Level Volume of Extracorporeal Membrane Oxygenation Cases and Mortality. Analysis of the Extracorporeal Life Support Organization Registry. Ryan P. Barbaro et al. Am J Respir Crit Care Med. 2015 Apr 15; 191(8): 894–901.
2. ELSO guidelines for ECMO Centers v1.8. March 2014. www.elso.org

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Ministry of Health. Kuwait

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MOH Undersecretary

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