**PERIPHERAL VENO-ARTERIAL EXTRACORPOREAL MEMBRANE OXYGENATION: DISTAL PERFUSION CANNULATION COMPLICATION**

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The use of extracorporeal membrane oxygenation (ECMO) is a life-saving mechanical circulatory support for patients with reversible cardiopulmonary diseases. The use of veno-arterial (V-A) ECMO with peripheral cannulation of the femoral vessels have grown due to the ease of percutaneous access in emergency, as well as no need to open the chest. Peripheral V-A ECMO has a higher rate of vascular complication, such as lower limb ischemia of the ipsilateral leg, which may require distal perfusion cannula (DPC) insertion. However, the use of DPC may also increase the risk of complication, such as DPC clotting.

With the advancement in near infrared reflectance spectroscopy (NIRS) technology and automated data acquisition system, our institution has moved away from prophylactically placing DPC on most peripheral V-A ECMO patients. Instead, patients placed on peripheral V-A ECMO was monitored with NIRS on bilateral calves, and only patients with lower limb ischemia indicated by both NIRS and clinical assessment will have DPC inserted. DPC flow is monitored by automated data acquisition system’s flow probe, allowing detection of DPC clotting.

The purpose of this study was to identify the complication rate of peripheral V-A ECMO, including DPC clotting, fasciotomy and amputation. This was a retrospective study of adult patients placed on peripheral V-A ECMO between January 2018 to November 2019, and a total of 178 patients were included. Out of the 178 patients, 115 were male (65%) with an average age of 58. There were 93 patients with DPC insertion (52%), and out of them 21 patients encountered DPC clotting (23%). Of those patients with DPC clotting, 8 patients (38%) encountered multiple DPC clotting incidences.

With the advancement in technology, the use of DPC for peripheral V-A ECMO may be reduced, thereby reducing the incidences of complication. Use of automated data acquisition may allow for early identification of DPC clotting, allowing for clot extraction, and thereby avoiding DPC exchange.