

Title: Severe heart laceration during pleural decortications successfully resuscitated by ECMO – a case report

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Background: The complications of video-assisted thoracoscopic surgery (VATS) are relatively low, but the possibility of life-threatening complications still exist and may require conversion to thoracotomy (*Ann Thorac Surg* 1996;61:533-537). We report a case, not documented before, complicated with intra-operative right ventricle (RV) laceration and was successfully resuscitated with extracorporeal membrane oxygenation (ECMO).

A case report: A 54-year-old female weighted 43 kilograms had left lung trauma one month ago. She was scheduled for VATS to decorticate left pleural fibrosis and improve lung expansion. Via the thoracoscopic view, severe lung adhesion over anterior pericardium was seen, and an exsanguinating bleeding into the cavity was found during thoracoscopic exploration. At that moment, the continuous arterial blood pressure suddenly fell to mean 30 mmHg and then ventricular arrhythmia occurred. A heart laceration was highly suspected; therefore emergent thoracotomy was performed immediately. We started resuscitated with a fluid-warming pressure infusion device (H-500/H25i, Level-1). We also administered thiopental and placed ice pillow around the patient's head for brain protection. The veno-arterial mode of ECMO via femoral vein and artery was set up by cardiovascular surgeon. They diagnosed and repaired the RV laceration, then the blood pressure and the heart rate regained. She was sent to intensive care unit. Three days later, she was decannulated from ECMO and survived with full Glasgow coma scale (GCS) without major neurologic complication.

Conclusion: In this case, though the situation was desperate, we extricate the patient with ECMO and with brain protection by thiopental and the ice pillow. Our endeavors brought a good result in this critical case. The patient survived with full GCS.