

Rescue Mediastinal Tumor-associated-Cardiac Tamponade with Extracorporeal Membrane Oxygenation: Report of 3 cases

使用葉克膜救治縱隔腔腫瘤併發心包膜填塞急症的三個病例經驗

Jeng-Sheng Chang¹, 莊子瑤¹, 彭義欽¹, 翁德甫², 吳康熙², 彭慶添², Divisions of Cardiology-and-Critical Care Medicine¹ and Oncology², Children's hospital, China Medical University Hospital, Taichung,

Background: Mediastinal tumor used to be complicated with airway compression or SVC syndrome, however, some tumors may be compressing on the heart and the great vessels, producing significant pericardial effusion and cardiac tamponade.

Methods: Retrospective review in 3 years of 3 cases of mediastinal tumor complicated with cardiac tamponade and admitted to the PICU for urgent management, including pericardiocentesis and ECMO set up. Their tumor images, hemodynamic data before and after interventions, durations of ECMO support, timing for chemotherapy and the final outcomes are compared.

Results: **Case 1.** A 15-year-old boy gaining weight quickly was admitted with tachycardia and tachypnea for a few days. CXR showed bilateral massive pleural effusion and marked pericardial effusion. He collapsed suddenly while preparing for pericardiocentesis, which required CPR, DC shock and ECMO set up. Echocardiogram showed remarkable MPA compression by tumor mass. ECMO was removed in 4 days. Needle biopsy showed a stage III thymoma. **Case 2.** A 9-year-old boy noted to have a large mediastinal tumor when admitted for fever and pneumonia. Remarkable tumor compression on RVOT was noted. He suffered respiratory failure at 11th day of pneumonia management and had to be put on ECMO support. ECMO was removed in 6 days. Yolk sac tumor was proved by the needle biopsy. However, he suffered ARDS and expired at 53rd day of admission. **Case 3.** A 12-year-old boy suffered cough 2 weeks was admitted with respiratory distress. Echocardiogram revealed severe pulmonary hypertension, marked RV dilatation, significant pericardial effusion and high echogeneity mass surrounding the pulmonary veins and AO root. Urgent ECMO and surgical pericardiectomy were demanding soon after admission. ECMO was removed in 6 days. He was put on prednisolone and radiotherapy. However, he died on multiorgan failure & hemothorax. Biopsies revealed sclerosing mediastinitis. **Conclusion:** Cardiac tamponade caused by mediastinal tumors showed a high risk of cardiovascular collapse. Urgent ECMO intervention would be life saving.