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Emergency physician-initiated extracorporeal cardiopulmonary resuscitation.

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Abstract

CONTEXT: Extracorporeal cardiopulmonary resuscitation (ECPR) refers to emergent percutaneous veno-arterial cardiopulmonary bypass to stabilize and provide temporary support of patients who suffer cardiopulmonary arrest. Initiation of ECPR by emergency physicians with meaningful long-term patient survival has not been demonstrated.

OBJECTIVE: To determine whether emergency physicians could successfully incorporate ECPR into the resuscitation of patients who present to the emergency department (ED) with cardiopulmonary collapse refractory to traditional resuscitative efforts.

DESIGN: A three-stage algorithm was developed for ED ECPR in patients meeting inclusion/exclusion criteria. We report a case series describing our experience with this algorithm over a 1-year period.

RESULTS: 42 patients presented to our ED with cardiopulmonary collapse over the 1-year study period. Of these, 18 patients met inclusion/exclusion criteria for the algorithm. 8 patients were admitted to the hospital after successful ED ECPR and 5 of those patients survived to hospital discharge neurologically intact. 10 patients were not started on bypass support because either their clinical conditions improved or resuscitative efforts were terminated.

CONCLUSION: Emergency physicians can successfully incorporate ED ECPR in the resuscitation of patients who suffer acute cardiopulmonary collapse. More studies are necessary to determine the true efficacy of this therapy.

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MeSH Terms

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