



Cystic Fibrosis Research News

Title:

Survival in cystic fibrosis after acute respiratory failure supported by extracorporeal membrane oxygenation and/or invasive mechanical ventilation

Lay Title:

Survival in cystic fibrosis after need for mechanical life support.

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What was your research question?

What are the outcomes for patients with CF who required advanced life support because of respiratory failure. Has the introduction of extracorporeal membrane oxygenation (ECMO) affected outcomes.

Why is this important?

It is useful to report outcomes after respiratory failure for people with CF who require advanced life support to help guide future treatments and decisions.

What did you do?

We conducted a retrospective analysis of all adult patients with CF who required mechanical ventilation (MV) and/or ECMO for acute respiratory failure at a Cystic Fibrosis Foundation accredited single quaternary care medical center in New York City between July 1, 2006 and June 30, 2016. Presenting characteristics and outcomes were analyzed for those individuals in whom MV was the only mode of invasive support and those in whom ECMO with mechanical ventilation was used. Separate analysis for the subgroup of MV patients who were eligible for transplant was conducted.

What did you find?

Mortality was 37% for all patients with respiratory failure requiring advanced support and was similar in those requiring MV alone, those requiring ECMO with MV and the subset of MV

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patients who were eligible for transplant. ICU length of stay was significantly longer for those patients requiring ECMO. Twenty-three patients underwent lung transplantation. One and 2-year survival for individuals who survived ICU admission was similar regardless of mode of support. Total hospital length of stay for ICU survivors was similar in all groups.

What does this mean and reasons for caution?

Our study demonstrates that ICU mortality for patients with CF and acute respiratory failure requiring conventional mechanical ventilation alone or with ECMO in a quaternary care medical center was 37% between the years 2006 and 2016, and is similar in those supported by MV alone or ECMO with MV. It is possible that those patients placed on ECMO were deemed less likely to survive with MV alone, so a direct comparison should not be made.

What's next?

Even with recent introduction of modulators, modalities for improved treatment of those patients with CF who require advanced life support are currently needed.

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<https://pubmed.ncbi.nlm.nih.gov/34479809/>