

Symposium

Introduction

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Interventions to Optimize Survival and Recovery in Patients with ARDS

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Many adult patients in the intensive care unit (ICU) are either admitted with a primary pulmonary diagnosis or a diagnosis putting them at risk for developing a pulmonary complication. These pulmonary issues can quickly devolve into acute respiratory distress syndrome (ARDS). It has been estimated that 10% to 15% of ICU patients and up to 23% of those who are receiving mechanical ventilatory support meet criteria for ARDS,¹ although ARDS is likely underrecognized and underreported.²

Our care of patients with ARDS has advanced immeasurably in the past several decades. Interventions include mechanical ventilation, sedation and paralysis, prone positioning, and extracorporeal membrane oxygenation (ECMO).³⁻⁵ Mortality from ARDS has been noted to be decreasing over the past 20 years.² However, we still have much to learn about the direct management and supportive care we provide for these patients; there are still significant numbers of patients who are affected with long-term sequelae from ARDS, some of which may be a result of our interventions and treatments (ie, iatrogenic harm). For instance, mechanical ventilation itself can result in pulmonary damage⁵ and the overuse or underuse of sedation and pain medications and immobility may contribute to the development of muscle weakness and neuropsychiatric issues, sometimes lasting for months after ICU discharge.³

The articles in this symposium series highlight the interventions providers have taken to optimize survival from ARDS and facilitate long-term patient recovery. Kaplow and Miller provide a case report of a pregnant patient who contracted COVID-19 and ultimately developed ARDS that was refractory to standard ARDS therapies. They describe the use of ECMO for this patient, which necessitated a multidisciplinary approach to stabilize the patient and provide the time needed to improve fetal viability. They report on the positive outcomes for both mother and baby.

One of the challenges in the care of patients with ARDS is the appropriate use of sedation to address agitation, air hunger, and ventilator dyssynchrony and its use in conjunction with neuromuscular blocking agents, all while attempting to avoid the deleterious effects of oversedation or undersedation. Assessment of patient sedation levels can be subjective. Although bispectral index (BIS) monitoring has been available for years as a technology to more objectively assess sedation levels, there has been controversy over its utility in ICU patients. Lussier and colleagues describe a quality improvement project using the multistep

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interventions of education, implementation of a standard order set, and use of sedation titration orders to optimize use of BIS and ultimately sedation in patients with ARDS.

Finally, Sheasby and colleagues conducted a pre-post retrospective study on implementing an interprofessional early mobility protocol for patients who developed ARDS with COVID-19. They describe patient outcomes and just as importantly describe the accountabilities and implications for each discipline in implementing the protocol for this patient population during a pandemic.

It is important that we continue to share our interventions, successes, and opportunities for improvement in the care of patients with ARDS. Hopefully these articles will encourage you to consider the care of patients with ARDS in your setting and ways we can continue to seek the answers needed for both improving

survival and avoiding long-term sequelae in this population.

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