Marked Recovery with Acute Inpatient Rehabilitation in Patient with Severe COVID-19 Infection Requiring ECMO: A Case Report

Tim Curtis[1], Lane Lagattuta DO[2], Ishita Jain MD[2], Chirag Shah MD[2]
[1]Rush Medical College, [2]Rush University Medical Center Physical Medicine & Rehabilitation, Chicago. IL

RUSH UNIVERSITY

Case Diagnosis

COVID-19 causing ARDS requiring ECMO

Case Description

A 38 year-old male with no significant past medical history presented to the ED with body aches and fatigue, was evaluated, tested positive for SARS-CoV2 but discharged home with instructions to self-isolate. Seven days later, the patient again presented with worsening shortness of breath and was placed in a prone position and started on high-flow nasal cannula. He became increasingly hypoxic and chest x-ray displayed developing acute respiratory distress syndrome. The patient was intubated for acute hypercapnic/hypoxic respiratory failure and subsequently required emergent veno-venous ECMO cannulation. He remained on ECMO for 72 days before decannulation. His hospital course was further complicated by MSSA bacteremia and right subclavian deep vein thrombosis. He was transitioned to acute inpatient rehabilitation for assistance with functional deficits and after 10 days he was discharged, deemed independent with all activities of daily living and ambulating without need for supplemental oxygen.

Quality Indicator Score Improvements with 10 days of Acute Inpatient Rehabilitation

	Admission	Discharge
Rolling	Supervision	Independent
Sit < > Lying	Supervision	Independent
Sit to Stand	Partial Assist	Independent
Gait 150ft without AD	Supervision	Independent
Eating	Modified Independent	Independent
Oral Hygiene	Modified Independent	Independent
Toilet Hygiene	Supervision	Independent
Shower/Bathing Self	Partial Assist	Independent
Upper Body Dressing	Partial Assist	Independent
Lower Body Dressing	Partial Assist	Independent
Footwear	Partial Assist	Independent
Toilet Transfer	Supervision	Independent
Car Transfer	Supervision	Independent
Tub/Shower Transfer	Partial Assist	Independent

Discussion

Our patient had a severe course of COVID-19 infection leading to respiratory compromise requiring ECMO and more than two months of intensive care but was able to return to baseline functional status after just 10 days of acute inpatient rehabilitation with physical therapy, occupational therapy, speech and language pathology and psychology. Acute inpatient rehabilitation has proven to be a key component in accelerating and optimizing recovery in patients with severe COVID-19 infection[1].

Conclusion

There is little published research on rehabilitation outcomes of COVID-19. Better understanding of various patients' course of recovery can help determine prognostic factors and highlight best practices.

References

1. Sheehy LM. Considerations for Postacute Rehabilitation for Survivors of COVID-19. JMIR Public Health Surveill. 2020;6(2):e19462. Published 2020 May 8. doi:10.2196/19462