

# CRITICALLY ILL PATIENTS WITH COVID-19 PNEUMONIA REQUIRING RENAL REPLACEMENT THERAPY WITH OXIRIS MEMBRANE IN A THIRD LEVEL HOSPITAL IN NORTH-EAST MEXICO



UDEM

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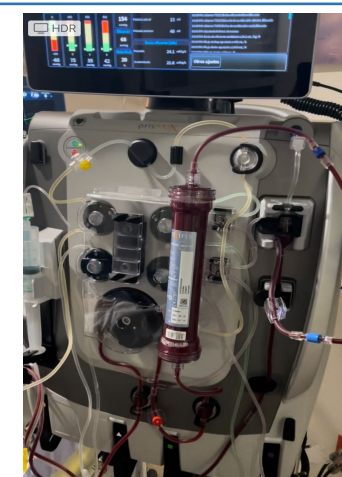
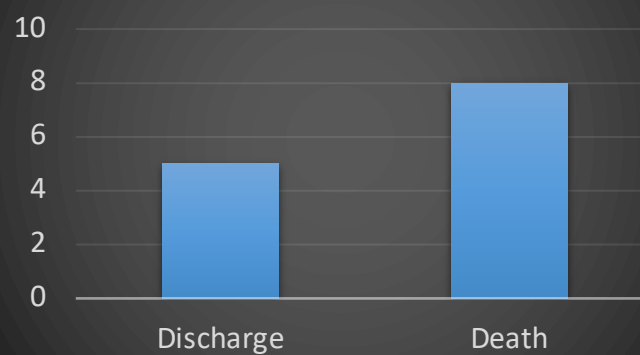
## Introduction

Approximately 5 to 10% of patients with AKI require RRT during their stay in the ICU. The mortality of these patients ranges from 30 to 70%. A factor that these patients commonly present is hemodynamic instability. Continuous renal replacement therapy (CRRT) has provided physicians with a versatile tool for the care of critically ill patients with hemodynamic instability with indications for RRT such as uremia, and fluid overload. The CRRT presents different modalities for its application and allows the use of different membranes and cartridges, which is why it is frequently used in patients with multiple organ failure and sepsis. The pathophysiological understanding of this last entity has generated new strategies as a measure for the decrease of inflammatory cytokines. For these reasons, the TRRC has earned a place in the ICU during the SARS-CoV-2 pandemic. Currently, a mortality of 50% is described in the patient with critical Covid-19 and a decrease in it has been reported when they undergo CRRT with the use of the oXiris® membrane. Therefore, the following study was carried out to describe our experience with the oXiris® membrane in patients with Covid-19 in the ICU of a tertiary hospital in northeast Mexico.

## Results

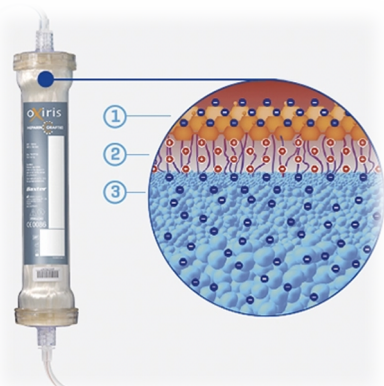
13 patients were included, men 76.9%. The mean age was  $59.4 \pm 12.9$  years. The most frequent comorbidities were arterial hypertension (53.8%) and DM2 (38.4%); in 7 and 5 patients, respectively. The mean EIH was  $60.3 \pm 44.9$  and  $45.8 \pm 30$  days in the ICU. The median duration of the days with CRRT was 8 (3-11). The main indication for the initiation of CRRT was anuria (61.5%), followed by fluid overload (23%) and uremia (15.4%). Of the total population, 4 (30.7%) recovered kidney function, 5 (38.4%) were discharged with intermittent hemodialysis, and 8 (61.5%) died. In the first 48 hrs of the initiation of CRRT with oXiris® the vasopressor requirements decrease besides the creatinine and urea.

## Outcomes



## Methods and Materials

Observational, retrospective and analytical study. Thirteen patients older than 18 years hospitalized in the ICU with a diagnosis of Covid-19 by real-time PCR test were included, who required CRRT with the oXiris® filter between January 2020 and August 2021. Sociodemographic data, number of days total hospital stay (EIH) and ICU; duration and specifications of the TRRC, and its outcome.

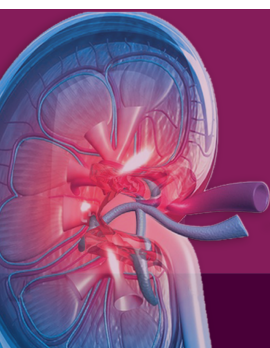


3rd layer	Heparin grafting	Reduce local thrombogenicity
2nd layer	Multiple layers of PEI	Improve biocompatibility Adsorb endotoxins
1st layer	AN69 copolymer hydrogel structure	Adsorb cytokines Remove solutes via convection through membrane pores (cut-off 40 kDa)

## Conclusions

Despite the use of the oXiris® filter in the patient with critical covid-19, mortality exceeds 50%, even if there is a good response in hemodynamical improvement at the beginning of the therapy. We consider that this outcome is dependent on multiple comorbidities and clinical situations not included, so its application should continue to be investigated.

	N(%)	Media ± Ed	Median (p25-p75)
MALE	10 (76.9)		
BMI		$59.4 \pm 12.9$	
IDM		$32.5 \pm 6.8$	
HTA	7 (53.8)		
CKD	3(23)		
Q-SOFA			2 (125-2)
DAYS IN TRRC			8(3-11)



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