



INCIDENCE AND OUTCOMES OF RENAL SUPPORT THERAPY AMONG PATIENTS AGED ≤ 18 YEARS OLD WITH SEVERE DENGUE IN A TERTIARY HOSPITAL: A RETROSPECTIVE COHORT STUDY



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INTRODUCTION

Management of severe dengue (SD) is quite challenging despite of intensive care especially if patients developed significant fluid overload (FO) thus some requires renal support therapy (RST). However, there are limited pediatric studies on RST in dengue.

OBJECTIVES

To determine the incidence and clinical outcomes of RST among pediatric patients with severe dengue

METHODOLOGY

STUDY DESIGN

Retrospective Cohort

STUDY SETTING

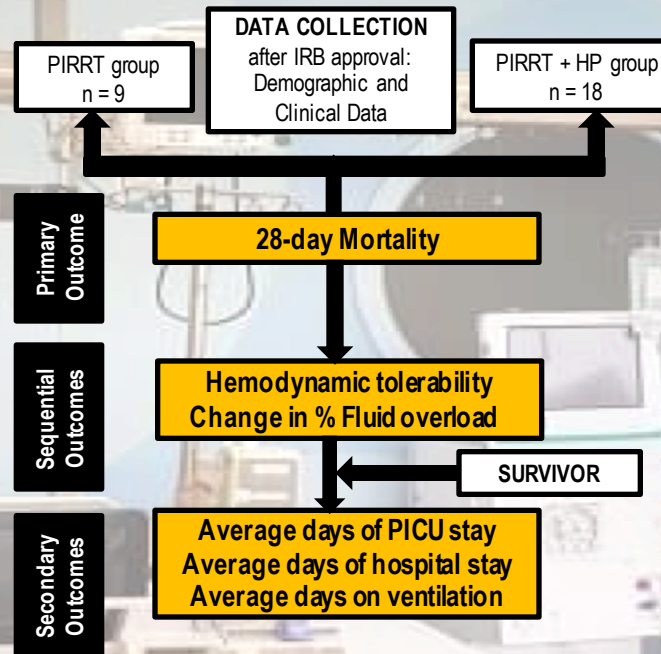
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Number of patients ≤ 18 years old admitted to PICU as severe dengue in PCMC from June 2018 to January 2020, N=357

Number of patients ≤ 18 years old with severe dengue who had renal support therapy (HD unit's database), n = 33

EXCLUSION

Pilocytic carcinoma, n = 1
HP, n = 2
HP + HD, n = 3



RESULTS

The incidence of patients with SD who had RST was 9.2%. Baseline demographic, clinical characteristics, hemodynamic parameters and complications were not significantly different between two groups except in PIRTT group noted **higher % fluid overload at initiation of RST** ($p = 0.05$).

KEYWORDS

fluid overload, hemoperfusion, mortality, PIRRT, severe dengue

Table 3-5. Comparison of Primary, Sequential, and Secondary Outcomes Between the PIRRT and PIRRT + HP Groups (N = 27)

PRIMARY OUTCOME	PIRRT ¹ (n=9)	PIRRT + HP ² (n=18)	p-value ^A
Survival and 28-Day Mortality			
Alive	2 (22.2%)	8 (44.4%)	0.40 (NS) [‡]
28-day Mortality	7 (77.8%)	10 (55.6%)	
SEQUENTIAL OUTCOMES	(n=9)	(n=18)	
FIRST TREATMENT			
Hemodynamic Tolerability			
Yes	4 (44.4%)	9 (50%)	1.00 (NS) [‡]
No	5 (55.6%)	9 (50%)	
Change in % Fluid Overload³	0.60 \pm 4.45 (0.8)	0.40 \pm 3.11 (0.2)	0.91 (NS) [§]
SECOND TREATMENT			
	(n=3)	(n=13)	
Hemodynamic Tolerability			
Yes	2 (66.7%)	10 (76.9%)	1.00 (NS) [‡]
No	1 (33.3%)	3 (23.1%)	
Change in % Fluid Overload³	1.75 \pm 0.60 (1.40)	0.85 \pm 3.44 (1.20)	0.67 (NS) [§]
SECONDARY OUTCOMES⁴	(n=2)	(n=8)	
Length of PICU Stay (days)	11.00 \pm 2.83	16.75 \pm 13.54	0.58 (NS) [§]
Hospital Stay (days)	17.50 \pm 4.95	22.25 \pm 14.41	0.67 (NS) [§]
Days on Ventilation	7.00 \pm 2.83	15.50 \pm 13.40	0.50 (NS) [§]

¹PIRRT – Prolonged Intermittent Renal Replacement Therapy; ²HP – Hemoperfusion; ³Mean \pm SD (Median); ⁴Mean \pm SD, SD standard deviation
^A p > 0.05. No significant; p \leq 0.05 Significant; [‡] Fisher Exact test; [§] T-test.

CONCLUSION and RECOMMENDATION

In this study, PIRRT can be an alternative standard treatment for hemodynamically unstable pediatric patients with SD. Whereas hemoperfusion and PIRRT was comparable with PIRRT alone in terms of hemodynamic tolerability. However, further prospective studies are recommended.