

EFFECTIVENESS OF DPMAS IN SUPPORTING TREATMENT FOR ACUTE LIVER FAILURE PATIENTS IN VIETNAM

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Objective: to evaluate the clinical and subclinical results of double plasma molecular absorption system (DPMAS) as a supporting treatment for patients with acute liver failure.

Patients and method: a prospective non-controlled interventional study was carried out on 27 patients diagnosed acute liver failure (ALF) or acute-on-chronic liver failure (ACLF) from June 2019 to August 2020 with 51 DPMAS episodes at Emergency Department, Bach Mai Hospital. Clinical and subclinical parameters were recorded at admission, before and after each DPMAS episode, mortality rate was collected within 30 days.

Results: Among 27 patients, the male accounted for 88.9%, the mean age was 52.3 ± 14.1 , the number of patients diagnosed with ALF and ACLF was 44.6%, 55.6%, respectively.

Figure 1: Etiologies of ALF and ACLF

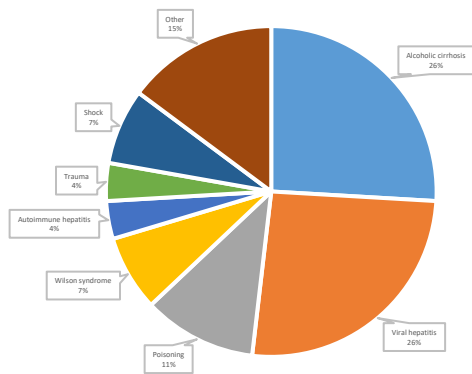


Table 1: Severity at hospital admission

Severity score	General Mean±SD	ALF group Mean±SD	ACLF group Mean±SD	P
MELD	26.85±8.14	28.33±7.9	25.67±8.41	0.408
SOFA	8.19±3.63	8.83±4.41	7.67±2.92	0.417
Glasgow	12.67±2.99	12.83±2.55	12.53±3.39	0.801
APACHE II	14.00±7.7	13.50±8.34	14.40±7.41	0.769

Table 2: Mortality rate at 30 days

Mortality	General N(%)	ALF group N(%)	ACLF group N(%)	p**
Number of patients	15(55.6%)	8(66.7%)	7(46.7%)	0.299

Table 3: Changes in vital signs

Parameters	Before DPMAS	Post DPMAS	P
	Mean±SD	Mean±SD	
Heart rate (BPM)	100.31±20.03	99.9±20.77	0.88
Mean blood pressure (mmHg)	86.42±15.53	84.27±13.15	0.16
SpO2	97.24±2.07	97.16±2.34	0.88
Temperature (°C)	37.12±0.79	37.04±0.66	0.17
Glasgow	12.51±3.02	12.39±3.19	0.08

Table 4: Changes in lab results

Parameters	Before DPMAS	Post DPMAS	Clearance rate %	p*
	Mean±SD	Mean±SD		
Ure (mmol/L)	13.58±12.95	14.03±13.5	NA	0.38
Creatinine (μmol/L)	103.63±112.49	109.8±121.05	NA	0.89
AST(U/L)	329.13±344.05	220.57±274.41	30.31±22.95%	<0.001
ALT(U/L)	381.63±577.92	276.67±400.56	12.95±37.42%	<0.001
Bilirubin total (Umol/L)	279.75±174.32	202.46±131.16	25.98±17.96%	<0.001
Bilirubin direct (Umol/L)	215.29±128.33	157.6±101.19	27.57±20.18%	<0.001
Protein (g/L)	55.35±8.11	51.43±7.07	NA	<0.001
Albumin (g/L)	29.0±4.71	27.36±3.47	NA	0.01
Glucose (mmol/L)	9.18±3.72	9.35±4.39	NA	0.62
Sodium (mmol/L)	137.18±6.02	137.84±6.82	NA	0.26
Potassium (mmol/L)	3.90±0.77	3.96±0.84	NA	0.53
PT(%)	48.36±19.07	28.62±15.42	NA	<0.001
INR	1.93±1.3	3.25±2.04	NA	<0.001
Ammonia (μmol/L)	113.09±126.46	85.19±51.61	NA	0.119
IL6 (pg/mL)	47.42±75.69	65.41±233.71	NA	0.478
CRP (mg/dL)	8.79±18.09	6.54±10.54	19.17±32.23%	0.149

Conclusion: DPMAS effectively reduced level of total bilirubin, direct bilirubin, AST, and ALT.

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