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Effectiveness of Therapeutic Plasma Exchange Following Early Postoperative Liver Transplantation in Critical Care Unit

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Introduction

Liver transplantation (LT):

- Life-saving
- Definitive
- Proven treatment



Acute and chronic end-stage liver disease

The role of **therapeutic plasma exchange (TPE)**

among LT recipients is **unclear** !

TPE may improve the prognosis and outcomes among patients with

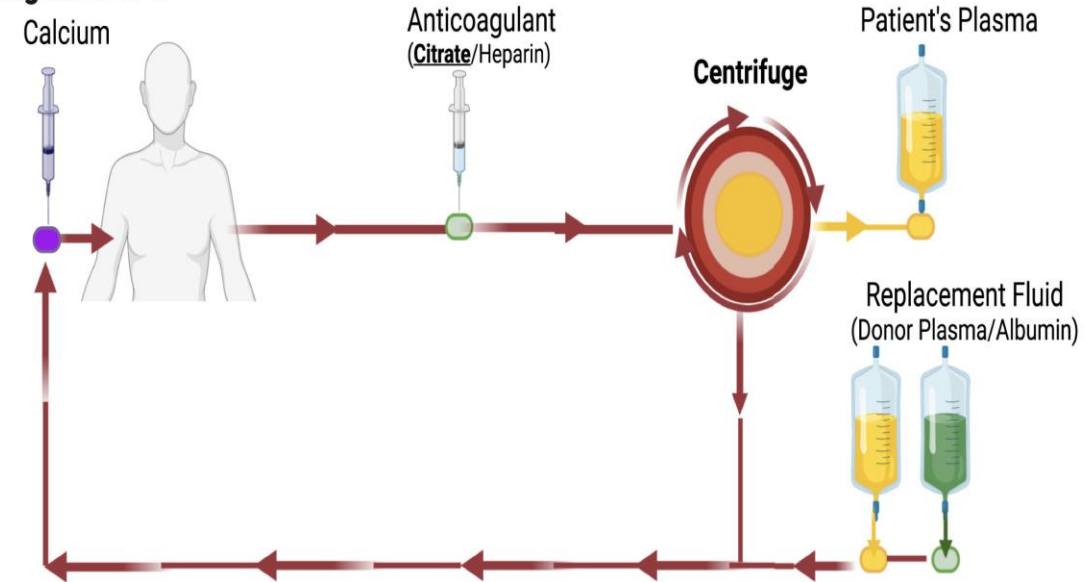
Hyperbilirubinemia

Small for size syndrome (SFSS)

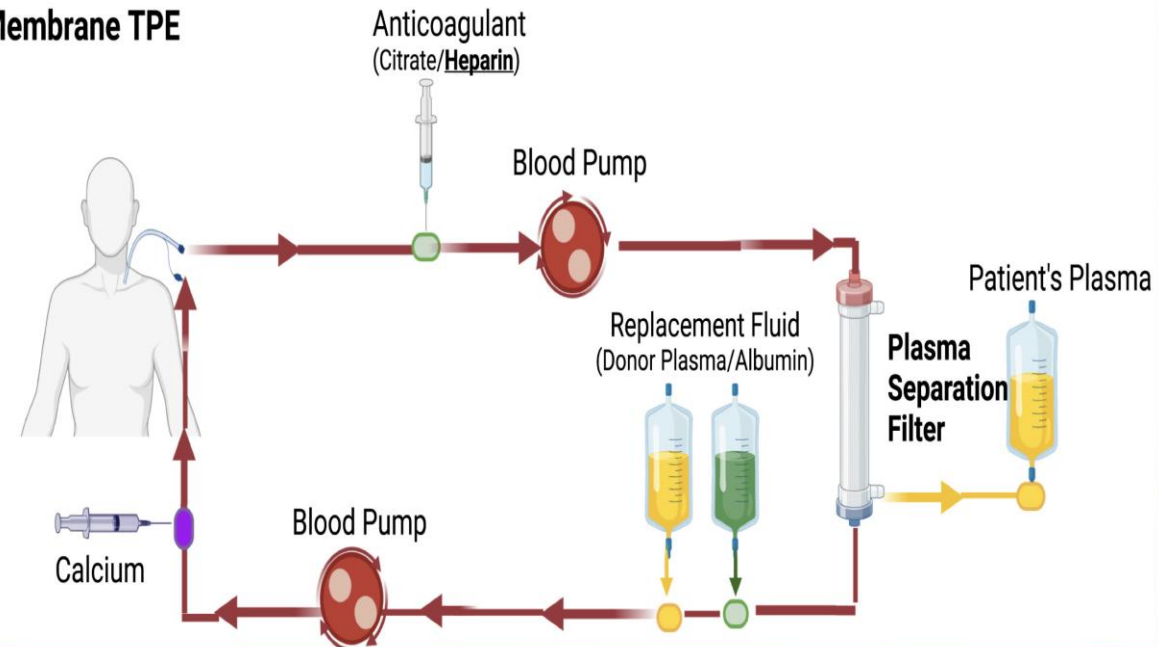
Delayed graft function (DGF)

after LT

Centrifugation TPE



Membrane TPE



Aim:

to report our experiences
about the usage of TPE among LT recipients following
early postoperative LT in critical care unit (CCU)

Liver Transplantation

n=113



**Missing Data
n=2**

TPE During Early Postoperative Period

n=73

Material and Method

Retrospectively

January 2019 - January 2024

Results

The mean age: 17.3 ± 21.1 years

	Valid	Frequency	Percent
AGE	=>18	21	28.8
	<18	52	71.2
GENDER	MALE	46	63
	FEMALE	37	37
TRANSPLANTED ORGANS	LIVING DONORS	69	94.5
	CADAVERIC	4	5.5
ETIOLOGY	HCC	6	8.2
	CRIPTOGENIC	8	11.0
	PFIC	12	16.4
	METABOLIC DISEASES	16	21.9
	BILIARY ATRESIA	12	16.4
INDICATIONS FOR TPE	SMALL FOR SIZE SYNDROME	3	4.1
	DELAYED GRAFT FUNCTION	70	95.9

Before TPE - After TPE	Mean	Std. Deviation	P Sig
TOTAL BILIRUBIN	3.5741	4.4832	.000
DIRECT BILIRUBIN	1.6675	1.7074	.001
ASPARTATE AMINOTRANFERASE	509.80000	901.13927	.000
ALANINE AMINOTRANSFERASE	366.1233	597.4807	.000
C-REACTIVE PROTEIN	45.82784	257.94812	.284
AMMONIA	22.82186	39.47678	.140
LACTATE DEHYDROGENASE	1084.81194	3045.56096	.002
INTERNATIONAL NORMOLIZED RATIO(INR)	.8004	7.1046	.092
LACTATE	.2986	5.5402	.021

Length of CCU stay: 6.2 ± 4.8 days

Length of hospital stay: 23.0 ± 11.7 days

The CCU mortality rate :17.8 % (n=13)

	Valid	Frequency	Percent
SESSIONS OF TPE	1	19	26.0
	2	20	27.4
	3	11	15.1
	4	3	4.1
	5	3	4.1
	6	2	2.7
	7	1	1.4
	8	3	4.1
	9	1	1.4
	10	3	4.1
	11	2	2.7
	12	2	2.7
	14	1	1.4
	26	1	1.4
	27	1	1.4
	TOTAL	314	
TPE DURATION	(Hours)	1.6	± 0.5
TPE INDICATION	(Times)	4.3	± 4.9
	(Days)	6.2	± 4.8
PF VOLUME	20 ML/ KG	67	91.8
	10 ML/KG	6	8,2
CVVHDF		10	13,7

Conclusion

Beneficial effects of TPE;

Effective treatment option for

- Delayed graft function
- Small for size syndrome
- Hyperbilirubinemia after liver transplantation

TPE may be considered as an extracorporeal liver support system:

Improves Liver Regeneration

and

Recovery During The Early Postoperative Liver Transplantation

References

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