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**Renal outcomes of large volume paracentesis in cirrhotic patients with spontaneous bacterial peritonitis, a nephrologist's perspective.**

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**Objectives:** Spontaneous bacterial peritonitis (SBP) occurs in 10-30% of cirrhotic patients and is associated with high mortality rate among hospitalized patients and its associated incidence of acute kidney injury (AKI) and hepatorenal syndrome (HRS).

- Outcomes of LVP in SBP patients has not been clearly addressed in previous studies.
- Furthermore, in the absence of more viable therapeutic options for preventing kidney impairment in SBP, the management really looms around time and need for renal replacement therapy (RRT).
- This study will assess the outcome of LVP in patients with SBP, both in terms of mortality, length of stay and effect on renal function.

**Methods:** • This cross-sectional study was conducted in the Medicine Unit of Aga Khan University Hospital.

- A total of 113 patients with diagnosed SBP were assessed. Among these patients 61 underwent LVP while 51 were managed conservatively.
- Baseline and 48 hours clinical outcomes (including creatinine and ascitic fluid total leucocytes (TLC) count) were compared.
- Total length of stay, special care unit stay and need for renal replacement therapy were assessed among other factors.

**Results:** • There was statistically significant improvement in post 48 hours creatinine among patients undergoing LVP (p-value <0.001) whereas no significant improvement was seen in patients without LVP (p-value 0.32).

- Similar improvements were seen for special care unit stay and total length of stay in patients with LVP, need for RRT and incidences of AKI and HRS.

**Conclusions:** LVP in patients with SBP translates into significantly positive outcomes in terms of length of hospital stay, special care unit stay, need for RRT and development of AKI and HRS. Hence LVP is recommended as a favored therapeutic option. Further studies in this context will be more rewarding for the morbid cirrhotic patients in the low resource settings.

Renal outcomes in cirrhotic patients, a nephrologist's perspective

Table showing outcomes of LVP in SBP

	All patients	LVP		p-value <sup>b</sup>
	n=113	No n=52 Mean (SD) <sup>a</sup>	Yes n=61 Mean (SD)	
Age	53.87 (10.98)	52.29 (10.98)	55.21 (10.89)	0.16
SCU stay (days)	2.08 (2.81)	3.23 (3.45)	1.10 (1.56)	<0.001***
Total stay (days)	4.93 (3.60)	6.44 (4.58)	3.64 (1.63)	<0.001***
Baseline Ascitic fluid TLC	5559.77 (10735.36)	7221.37 (12523.50)	4143.33 (8796.86)	0.14
48 hours Ascitic fluid TLC	1450.34 (2666.35)	2005.08 (2683.29)	986.54 (2583.04)	0.04*
Baseline Creatinine (mg/dl)	1.69 (1.36)	1.96 (1.73)	1.47 (0.88)	0.68
48 hours Creatinine (mg/dl)	1.32 (1.31)	1.71 (1.77)	0.99 (0.58)	0.004**
Baseline Sodium (mEq/L)	128.05 (7.20)	127.77 (6.66)	128.30 (7.67)	0.7
Baseline Albumin (g/dL)	2.45 (0.56)	2.30 (0.57)	2.58 (0.52)	0.01*
INR	1.82 (0.93)	1.82 (0.56)	1.82 (1.16)	0.97
Total Bilirubin (mg/dL)	5.23 (6.41)	4.98 (5.71)	5.45 (6.98)	0.70
CTP	11.64 (1.79)	11.77 (1.78)	11.52 (1.81)	0.47
MELD	22.11 (8.10)	23.01 (8.74)	21.35 (7.50)	0.28
TLC (x10 <sup>3</sup> /μL)	12.51 (7.72)	14.28 (9.58)	11.01 (5.32)	0.03*
PPCD	25 (23.4%)	16 (64.0%)	9 (36.0%)	0.01*
AKI	6 (5.3%)	4 (7.7%)	2 (3.3%)	0.26

<sup>a</sup>Significant at p<0.05; <sup>\*\*</sup>Significant at p<0.005; significant at p<0.0005, <sup>a</sup> parenthesis show standard deviation unless % sign is shown, <sup>b</sup>p-value calculated using independent sample t-test or chi-squared test. LVP=Large Volume Paracentesis, SCU=Special Care Unit, CTP=Child-Turcotte-Pugh, MELD=Model of End-Stage Liver Disease, PPCD=Post Paracentesis Circulatory Dysfunction.