**Supplementary Data**

Supplementary Table 1: All Patients stratified by Admission Hyponatremia

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|  | **Hyponatremia-****(n = 1309)** | **Hyponatremia+****(n = 1126)** | **p-value** |
| Age (years) | 58.12 (10.93) | 56.13 (10.59) | <0.0001 |
| Male Gender | 61% ( 802/1307) | 62% ( 693/1125) | 0.90 |
| Caucasian | 77% (1010/1306) | 81% ( 906/1123) | 0.04 |
| Etiology of cirrhosis: HCV only: Alcohol only: HCV+Alcohol: NASH: Other | 22% (282/1297)27% (352/1297)15% (200/1297)23% (294/1297)13% (169/1297) | 18% (198/1118)35% (389/1118)13% (149/1118)20% (222/1118)14% (160/1118) | 0.0003 |
| Diabetes | 35% (456/1290) | 32% (358/1106) | 0.13 |
| Complications of Cirrhosis: Prior Ascites: Variceal bleed: Hyponatremia history | 62% (807/1304)25% (320/1280)29% (359/1257) | 79% (888/1124)22% (238/1099)61% (651/1068) | <0.00010.06<0.0001 |
| Admit MELD score | 17.66 (7.39) | 21.57 (7.51) | <0.0001 |
| Admit CTP score | 9.15 (2.18) | 10.21 (2.04) | <0.0001 |
| Admit Na (mmol/L) | 138.61 (2.99) | 128.83 (7.02) | <0.0001 |
| Admit Creatinine (mg/dl) | 1.40 (1.38) | 1.59 (1.21) | <0.0001 |
| Admit MAP (mmHg) | 88.54 (14.78) | 82.83 (14.04) | <0.0001 |
| Admit GFR (MDRD4) | 72.65 (39.80) | 66.67 (44.62) | <0.0001 |
| Admit WBC count (/mm3) | 6.6 (4.1) | 9.1 (5.9) | <0.0001 |
| Admit INR | 1.61 (0.60) | 1.79 (0.70) | <0.0001 |
| Admit total bilirubin (mg/dl) | 4.67 (7.03) | 7.78 (10.31) | <0.0001 |
| Infection on admission | 23% (302/1300) | 31% (351/1118) | <0.0001 |
| SBP during hospitalization | 5% (59/1309) | 12% (134/1126) | <0.0001 |
| Maximum Na (mmol/L) | 141.95 (39.09) | 136.47 (8.39) | <0.0001 |
| IV Albumin Use | 45% (589/1309) | 69% (777/1126) | <0.0001 |
| Inpatient large volume paracentesis  | 28% (362/1309)  | 42% (476/1126) | 0.05 |
| Number of organ failures 0 1 2 3 4 | 75% (983/1306)17% (219/1306)6% (73/1306)2% (27/1306)0% (4/1306) | 70% (784/1125)18% (204/1125)7% (76/1125)4% (46/1125)1% (15/1125) | 0.0003 |
| ACLF | 8% (104/1306) | 12% (137/1125) | 0.0005 |
| Length of stay (days) | 10.53 (34.75) | 14.42 (16.75) | <0.0001 |
| In-hospital mortality | 5% (70/1309) | 7% (78/1126) | <0.0001 |
| 30-day mortality | 8% (108/1309) | 14% (153/1126) | <0.0001 |

Supplementary Table 2: Univariate results for hyponatremia resolution

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| --- | --- | --- | --- | --- | --- |
| Variable | Estimate | StdErr | Wald X2 | p-value | OR (95% CI) |
| Age (years) | 0.0068 | 0.0060 | 1.29 | 0.2574 | 1.01 (1.00, 1.02) |
| Male Gender | -0.3978 | 0.1335 | 8.88 | 0.0029 | 0.68 (0.52, 0.87) |
| Caucasian | 0.0681 | 0.1600 | 0.18 | 0.6702 | 1.07 (0.78, 1.47) |
| ETOH Etiology | -0.2324 | 0.1277 | 3.31 | 0.0687 | 0.79 (0.62, 1.02) |
| Diabetes | 0.4076 | 0.1414 | 8.31 | 0.0039 | 1.50 (1.14, 1.98) |
| Prior Ascites | -0.5699 | 0.1684 | 11.45 | 0.0007 | 0.57 (0.41, 0.79) |
| Variceal Bleed | -0.1424 | 0.1537 | 0.86 | 0.3542 | 0.87 (0.64, 1.17) |
| Prior Hyponatremia | -0.5889 | 0.1383 | 18.14 | <0.0001 | 0.56 (0.42, 0.73) |
| Admit MELD | 0.0334 | 0.0090 | 13.94 | 0.0002 | 1.03 (1.02, 1.05) |
| Admit CTP | 0.0066 | 0.0339 | 0.04 | 0.8451 | 1.01 (0.94, 1.08) |
| Admit Na | 0.1021 | 0.0141 | 52.29 | <0.0001 | 1.11 (1.08, 1.14) |
| Admit Creatinine | 0.3241 | 0.0693 | 21.86 | <0.0001 | 1.38 (1.21, 1.58) |
| Admit MAP | 0.0029 | 0.0046 | 0.41 | 0.5221 | 1.00 (0.99, 1.01) |
| Admit GFR | -0.0064 | 0.0015 | 19.49 | <0.0001 | 0.99 (0.99, 1.00) |
| Admit WBC | 0.0237 | 0.1077 | 0.05 | 0.8260 | 1.02 (0.83, 1.27) |
| Admit INR  | 0.0925 | 0.0965 | 0.92 | 0.3377 | 1.10 (0.91, 1.33) |
| Admit Bilirubin | 0.0114 | 0.0070 | 2.64 | 0.1039 | 1.01 (1.00, 1.03) |
| Infection on admission | 0.5117 | 0.1436 | 12.70 | 0.0004 | 1.67 (1.26, 2.21) |
| SBP during hospitalization | 0.2002 | 0.2020 | 0.98 | 0.3217 | 1.22 (0.82, 1.82) |
| NACSELD-ACLF | 0.9434 | 0.2345 | 16.19 | <0.0001 | 2.57 (1.62, 4.07) |
| Albumin Use | 0.3526 | 0.1351 | 6.82 | 0.0090 | 1.42 (1.09, 1.85) |
| Length of Stay | 0.0575 | 0.0081 | 50.08 | <0.0001 | 1.06 (1.04, 1.08) |