**Supplementary Table 1: Patient Characteristics Stratified by AKI status - Validation Cohort**

| ***Characteristic*** | ***Development of AKI******N=41*** | ***Non-AKI******N=267*** | ***P-value*** |
| --- | --- | --- | --- |
| Mean age (+ s.d.) | 56.4 (10.6) | 53 (9.3) | 0.030 |
| Sex, n (% male) | 32 (78) | 193 (72) | 0.439 |
| Race, n (% white) | 16 (39) | 132 (50) | 0.183 |
| Etiology of cirrhosis, n (%) Alcohol HCV HCV and Alcohol NASH Other | 18 (44)6 (15)9 (22)1 (2)7 (17) | 117 (44)32 (12)91 (34)0 (0)27 (10) | 0.092 |
| Baseline Creatinine (+ s.d.) | 1.0 (0.5) | 0.8 (0.3) | 0.001 |
| CTP Stage, n (%) A B C | 3 (7)17 (44)19 (49) | 42 (16)139 (54)79 (30) | 0.068 |
| MELD score (+ s.d.) | 19 (8) | 15.4 (5.4) | <0.001 |
| Ascites, n (%) None Controlled Uncontrolled | 18 (47)11 (29)9 (24) | 144 (57)63 (25)46 (18) | 0.527 |
| Sodium mmol/L (+ s.d.) | 134.7 (5.9) | 135.9 (5.1) | 0.146 |
| Admission Creatinine mg/dL (+ s.d.) | 1.0 (0.5) | 0.8 (0.3) | <0.001 |
| BUN mg/dL (+ s.d.) | 21.2 (13.9) | 15 (12.5) | 0.004 |
| Albumin g/dL (+ s.d.) | 2.5 (0.6) | 2.7 (0.6) | 0.029 |
| INR (+ s.d.) | 2 (1.9) | 1.6 (0.8) | 0.017 |
| Total Bilirubin mg/dL (+ s.d.) | 6.5 (8.2) | 4.1 (4.6) | 0.007 |
| WBC 109 (+ s.d.) | 13.2 (20.1) | 8.3 (9.2) | 0.001 |
| Mean Arterial Pressure (+ s.d.) | 92.3 (18.1) | 93.3 (14.6) | 0.694 |
| Presence of Infection, n (%) | 17 (42) | 41 (15) | <0.001 |
| Reason for Admission, n (%) Overt Hepatic Encephalopathy PHTN related bleed Ascites/Anasarca Other | 9 (22)6 (15)16 (39)10 (24) | 52 (20)69 (26)94 (35)52 (19) | 0.485 |

HCV, hepatitis C; NASH, non-alcoholic steatohepatitis; CTP, Child Turcotte Pugh; MELD, Model For Enstage Liver Disease; BUN, blood urea nitrogen; INR, international normalized ratio; WBC, white blood cell count; PHTN, portal hypertension

**Supplementary Table 2: Comparisons of Patient characteristics between Derivation and Validation Cohorts**

|  | ***Derivation cohort*** | ***Validation cohort*** |  |
| --- | --- | --- | --- |
| ***Characteristic*** | ***N=397*** | ***N=308*** | ***P-value*** |
| Age (+ s.d.) | 57.3 (10.8) | 53.4(9.5) | <0.001 |
| Gender, n (% male) | 221 (56) | 225(73.1%) | <0.001 |
| Race, n (% white) | 374 (94) | 148(48.7%) | <0.001 |
| AKI development, n (%) | 59 (15) | 41(13.3%) | 0.559 |
| Etiology of cirrhosis, n (%) |  |  |  |
|  Alcohol | 110 (28) | 135 (44) |  |
|  HCV | 60 (15) | 38 (12) | <0.001 |
|  HCV and Alcohol | 33 (8) | 100 (33) |  |
|  NASH | 132 (33) | 1 (<1) |  |
|  Other | 62 (16) | 34 (11) |  |
| Baseline Creatinine (+ s.d.) | 1.0 (0.5) | 0.8 (0.3) | <0.001 |
| CTP Stage, n (%) |  |  |  |
|  A | 21(5) | 45 (15) |  |
|  B | 131 (33) | 156(52) | <0.001 |
|  C | 242 (61) | 98(33) |  |
| MELD (+ s.d.) | 17.2 (6.1) | 15.9 (5.9) | 0.006 |
| Ascites, n (%) |  |  |  |
|  None | 87 (22) | 162 (56) |  |
|  Controlled | 108 (27) | 74 (25) | <0.001 |
|  Uncontrolled | 202 (51) | 55 (19) |  |
| Sodium mmol/L (+ s.d.) | 133.1 (5.9) | 135.8 (5.3) | <0.001 |
| Creatinine mg/dL (+ s.d) | 1 (0.5) | 0.8 (0.3) | <0.001 |
| BUN mg/dL (+ s.d) | 21.1 (13.8) | 15.9 (12.8) | <0.001 |
| Albumin g/dL (+ s.d) | 2.9 (0.6) | 2.7 (0.6) | 0.002 |
| INR (+ s.d) | 1.8 (2.4) | 1.7 (1) | 0.199 |
| Total bilirubin mg/dL (+ s.d) | 4.3 (4.8) | 4.4 (5.2) | 0.867 |
| WBC 109 (+ s.d) | 7 (4.9) | 8.9 (11.4) | 0.002 |
| Mean Arterial Pressure (+ s.d) | 85 (14.5) | 93.1 (15.1) | <0.001 |
| Presence of Infection, n (%) | 44 (12) | 58 (19) | 0.019 |
| Reason for Admission, n (%) |  |  |  |
|  Overt Hepatic Encephalopathy | 102 (26) | 61 (20) |  |
|  PHTN related bleed | 62 (16) | 75 (24) |  |
|  Ascites/Anasarca | 68 (17) | 110 (36) | <0.001 |
|  Other | 83 (21) | 62 (20) |  |
|  Liver unrelated | 82 (21) | 0 (0) |  |

HCV, hepatitis C; NASH, non-alcoholic steatohepatitis; CTP, Child Turcotte Pugh; MELD, Model For Enstage Liver Disease; BUN, blood urea nitrogen; INR, international normalized ratio; WBC, white blood cell count; PHTN, portal hypertension