Supplementary Table 1. Estimated measurement differences between reperfusion biopsies (needle) and procurement biopsies (wedge), controlled for ischemia times and pump.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Glomerulosclerosis | Interstitial fibrosis | Tubular atrophy | Arterial intimal fibrosis | Arteriolar hyalinosis | Acute tubular injury |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Reperfusion biopsy | -0.153 | −0.084 | −0.024 | **2.086\*\*\*** | **1.804\*\*\*** | **3.788\*\*\*** |
| (1.258) | (0.516) | (0.501) | (0.549) | (0.533) | (0.669) |
| Cold  ischemia time | **−0.004\*** | **−0.001\*** | −0.001 | −0.000 | −0.002\* | 0.001 |
| (0.002) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Pump | **3.417\*** | 0.487 | 0.143 | 0.625 | 0.412 | 0.193 |
| (1.501) | (0.476) | (0.529) | (0.568) | (0.556) | (0.547) |
| Warm ischemia time | −0.033 | 0.010 | −0.001 | 0.025 | 0.037 | 0.014 |
| (0.068) | (0.017) | (0.018) | (0.032) | (0.027) | (0.023) |
| N | 76 | 76 | 74 | 75 | 73 | 69 |
| logL | −235.885 | −51.813 | −45.964 | −69.962 | −66.884 | −67.531 |

*Note*: The table shows estimated coefficients from Tobit regression (column 1, constant omitted), logistic regression (column 3, constant omitted), and ordered logit regressions (columns 2, 4, 5, and 6). The first row shows estimated coefficients on a dummy that takes on value 1 for reperfusion biopsies and 0 for procurement biopsies. Values in parentheses represent standard errors corrected for clusters on the case level. Asterisks represent p-values: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

Supplementary Table 2. Tobit regressions of GFR on reperfusion components at one, three, six, twelve months, and last measurement after transplant.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | GFR | | | | |
|  | 1 month | 3 months | 6 months | 12 months | Last |
| Glomerulo­sclerosis | 0.201 | 0.500 | −0.098 | −0.110 | 0.214 |
| (0.344) | (0.356) | (0.333) | (0.355) | (0.380) |
| Int. fibrosis/tubular atrophy | −2.667 | −3.350 | −0.543 | −1.763 | −6.266 |
| (4.896) | (5.137) | (4.734) | (5.388) | (5.413) |
| Arterial intimal fibrosis | **−8.559\*** | **−10.290\*\*** | **−7.977\*** | −6.218 | −4.309 |
| (3.494) | (3.644) | (3.444) | (3.752) | (3.864) |
| Arteriolar hyalinosis | −2.886 | −0.865 | −1.753 | −2.976 | −5.495 |
| (3.150) | (3.339) | (3.116) | (3.424) | (3.486) |
| Acute tubular injury | 3.649 | 3.371 | -0.310 | 0.118 | 1.262 |
| (3.355) | (3.492) | (3.178) | (3.426) | (3.713) |
| Constant | 49.582\*\*\* | 56.655\*\*\* | 66.581\*\*\* | 63.652\*\*\* | 63.642\*\*\* |
| (9.618) | (9.992) | (9.079) | (9.749) | (10.647) |
| *N* | 84 | 82 | 78 | 76 | 84 |
| *logL* | −364.885 | −358.976 | −335.368 | −332.793 | −376.217 |

*Note*: Values in parentheses represent standard errors. Asterisks represent p-values: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

Supplementary Table 3. Tobit regressions of GFR on procurement components at one, three, six, twelve months, and last measurement after transplant.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | GFR | | | | |
|  | 1 month | 3 months | 6 months | 12 months | Last |
| Glomerulo­sclerosis | -0.540 | -0.645 | **-1.058\*** | -0.951 | 0.004 |
| (0.508) | (0.559) | (0.488) | (0.512) | (0.639) |
| Int. fibrosis | 3.162 | 8.419 | 4.840 | 3.805 | 1.370 |
| (8.319) | (9.136) | (7.748) | (8.118) | (10.458) |
| Tubular atrophy | -10.992 | -12.641 | -8.336 | -6.641 | -19.547 |
|  | (8.395) | (9.210) | (7.782) | (8.232) | (10.529) |
| Arterial intimal fibrosis | **-17.198**\* | **-17.374\*** | -10.199 | -10.769 | -1.558 |
| (7.541) | (8.236) | (7.507) | (7.256) | (9.264) |
| Arteriolar hyalinosis | **20.574\*\*** | **19.386\*** | **16.899\*** | **14.112\*** | 13.700 |
| (7.252) | (7.894) | (6.865) | (6.918) | (8.853) |
| Acute tubular injury | -3.610 | -4.581 | -3.647 | **-5.345\*** | -0.740 |
| (2.316) | (2.566) | (2.168) | (2.33) | (2.902) |
| Constant | 50.542\*\*\* | 61.997\*\*\* | 60.597\*\*\* | 64.358\*\*\* | 57.755\*\*\* |
| (4.081) | (4.601) | (3.910) | (4.224) | (5.125) |
| *N* | 72 | 70 | 66 | 65 | 71 |
| *logL* | -301.308 | -302.262 | -276.534 | -275.733 | -319.397 |

*Note*: Values in parentheses represent standard errors. Asterisks represent p-values: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

Supplementary Table 4. Tobit regressions of GFR on recipient variables and arterial intimal fibrosis in reperfusion biopsy at one, three, six, twelve months, and last measurement after transplant.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | GFR | | | | |
|  | 1 month | 3 months | 6 months | 12 months | Last |
| Arterial intimal fibrosis | **-8.819\*\*** | **-9.696\*\*** | **-9.730\*\*\*** | **-7.821\*\*** | **-7.942\*** |
| (2.828) | (2.961) | (2.691) | (2.914) | (3.182) |
| Recipient DM |  |  |  | **-9.737\*** |  |
|  |  |  |  | (4.849) |  |
| Constant | 69.693\*\*\* | 67.823\*\*\* | 63.126\*\*\* | 69.111\*\*\* | 65.858\*\*\* |
| (9.435) | (9.914) | (9.001) | (9.553) | (10.631) |
| *N* | 84 | 82 | 78 | 76 | 84 |
| *logL* | -363.74 | -358.651 | -334.827 | -331.085 | -376.578 |

*Note*: Multivariate regression including arterial intimal fibrosis in reperfusion biopsy, recipient age, recipient gender, years in dialysis, and recipient DM. Only significant results are shown. Values in parentheses represent standard errors. Asterisks represent p-values: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

Supplementary Table 5. Tobit regressions of GFR on donor variables and arterial intimal fibrosis in reperfusion biopsy at one, three, six, twelve months, and last measurement after transplant.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | GFR | | | | |
|  | 1 month | 3 months | 6 months | 12 months | Last |
| Arterial intimal fibrosis | **-8.344\*\*** | **-9.885\*\*** | -**6.531\*** |  | **-7.494\*** |
| (3.120) | (3.309) | (2.948) |  | (3.568) |
| DCD | **-12.732\*\*** |  |  |  |  |
|  | (4.708) |  |  |  |  |
| Constant | 67.494\*\*\* | 72.331\*\*\* | 72.688\*\*\* | 68.753\*\*\* | 69.792\*\*\* |
| (5.880) | (6.250) | (5.554) | (6.390) | (6.736) |
| *N* | 84 | 82 | 78 | 76 | 84 |
| *logL* | -362.299 | -358.56 | -332.50 | -331.974 | -376.53 |

*Note*: Multivariate regression including arterial intimal fibrosis in reperfusion biopsy, donor age, donor hypertension, DCD, donor DM, donor terminal Cr. Only significant results are shown. Values in parentheses represent standard errors. Asterisks represent p-values: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.