**Supplementary Table 1. Results of generalized estimating equations for the association between different time points and outcomes.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **Comparison** | **Estimate** | **Standard error** | **95% CI** | **Z** | ***P*-value** |
| **Low** | **High** |
| TBIL (μmol/L) |  |  |  |  |  |  |  |
| Post-HPE 1 month  | Pre−HPE | −93.47 | 7.36 | −107.91 | −79.04 | −12.69 | <0.001 |
| Post-HPE 2 months  | Pre−HPE | −93.80 | 7.96 | −109.39 | −78.21 | −11.79 | <0.001 |
| Post-HPE 3 months  | Pre−HPE | −68.63 | 11.08 | −90.34 | −46.92 | −6.2 | <0.001 |
| Transplant or death | Native liver survival | −34.09 | 10.03 | −53.75 | −14.43 | −3.4 | <0.001 |
| DBIL (μmol/L) |  |  |  |  |  |  |  |
| Post-HPE 1 month  | Pre−HPE | −57.78 | 5.36 | −68.27 | −47.28 | −10.79 | <0.001 |
| Post-HPE 2 months  | Pre−HPE | −62.64 | 5.61 | −73.64 | −51.64 | −11.16 | <0.001 |
| Post-HPE 3 months  | Pre−HPE | −44.07 | 7.99 | −59.74 | −28.40 | −5.51 | <0.001 |
| Transplant or death | Native liver survival | −26.11 | 8.01 | −41.81 | −10.41 | −3.26 | <0.001 |
| APRI |  |  |  |  |  |  |  |
| Post-HPE 1 month  | Pre−HPE | −0.74 | 0.24 | −1.21 | −0.28 | −3.13 | <0.001 |
| Post-HPE 2 months  | Pre−HPE | −0.21 | 0.37 | −0.94 | 0.51 | −0.59 | 0.556 |
| Post-HPE 3 months  | Pre-HPE | −0.20 | 0.32 | −0.83 | 0.43 | −0.63 | 0.530 |
| Transplant or death | Native liver survival | −0.58 | 0.30 | −1.16 | 0.004 | −1.94 | 0.052 |
| SWS(m/s) |  |  |  |  |  |  |  |
| Post-HPE 1 month  | Pre-HPE | −0.03 | 0.04 | −0.11 | 0.0439 | −0.85 | 0.395 |
| Post-HPE 2 months  | Pre-HPE | 0.23 | 0.06 | 0.11 | 0.3542 | 3.82 | <0.001 |
| Post-HPE 3 months  | Pre-HPE | 0.70 | 0.11 | 0.49 | 0.9121 | 6.59 | <0.001 |
| Transplant or death | Native liver survival | −0.34 | 0.10 | −0.53 | −0.157 | −3.61 | <0.001 |

APRI, aspartate aminotransferase to platelet ratio index; DBIL, direct bilirubin; HPE, hepatoportoenterostomy; SWS, shear wave speed; TBIL, total bilirubin.