**Supplementary Table 11. Comparison of cytokine levels before the first, and after the second, treatment using ALSS**

|  |  |  |
| --- | --- | --- |
| 　 |  Survival group (n=5)  |  Death or LT group (n=5) |
| Cytokines(pg/ml) | Before first ALSS | After second ALSS | Before first ALSS | After second ALSS |
| Pro-inflammatory |  |  |  |  |
| Eotaxin | 122(94, 165) | 103(86, 141) | 147(84, 166) | 7 (52, 112) |
| Fractalkine | 156(133, 455) | 136(124, 236) | 171 (116, 347) | 123(101, 144) |
| GROa | 35(16, 84) | 33(10, 62) | 31(13, 89) | 29 (4, 49) |
| IL-8 | 178(86, 246) | 51(43, 108) | 48 (38, 109 ) | 22(15, 76) |
| CXCL9 | 9577(5184, 13275) | 4737(4305, 10419) | 8212(4372, 67171) | 16327(8893, 31588) |
| IP-10 | 2497(1087, 4762) | 2665(699, 5309) | 3201(1261, 16939) | 4405(2569, 13077) |
| MCP-1 | 812(554, 973) | 371(359, 953) | 374 (309, 680) | 367 (211, 445) |
| MCP-3 | 67(30, 109) | 55(24, 78) | 41(26, 91) | 27(24, 67) |
| MDC | 584(300, 838) | 363(300, 755) | 449 (159, 587) | 258(126, 471) |
| MIP-1A | 31(30, 58) | 37(23, 85) | 34(25, 80) | 29(26, 40) |
| MIP-1B | 86(48, 113) | 75(45, 105) | 71(55, 95) | 59 (44, 84) |
| RANTES | 2980(2659, 3957) | 3345(2107, 4278) | 20672(9979, 27322) | 2013(1334, 3934) |
| IFNa2 | 64(62, 146) | 62(42, 104) | 91 (70, 248 ) | 71 (62, 119 ) |
| IFNy | 11.8(5.2, 23.0) | 5.4(0.8, 12.4) | 5.9(5.9, 41 ) | 2.1(1.5, 8.6) |
| IL-1α | 18.8(11.5, 68.6) | 14.8(7.3, 16.3) | 19 (14, 116 ) | 12(11, 22.1 ) |
| IL-1β | 25.7(13.9, 112.7) | 12.5(7.2, 42.4) | 15(12, 114) | 11( 8, 30) |
| IL-5 | 11.4(6.0, 19.3) | 6.3(3.7, 9.3) | 5.9(4.2, 11.6) | 4.7(3.4, 9. ) |
| IL-6 | 21.5(8.9, 31.2) | 10.5(7.1, 13.6) | 13.5(11.9, 26.2 ) | 12.6(7.3, 14.) |
| IL-12(p40) | 49(28, 127) | 29(17, 51) | 88(66, 133 | 50(39, 75 ) |
| IL-12(p70) | 4.6(2.7, 10.9) | 3.3(2.1, 4.2) | 7(3.7, 22.3) | 6.5(3.0, 7.0) |
| IL-15 | 31(20, 42) | 20(17, 29) | 27(1, 39) | 19(13, 28) |
| IL-17A | 5.2(4.0, 35.2) | 3.8(1.9, 6.8) | 6.1(4.4 60.8) | 4.5(3.8,15.2) |
| IL-17E | 424(250, 735) | 374(250, 735) | 5876(423, 2790) | 391(366, 1187) |
| IL-18 | 178(82, 205) | 52(43, 108) | 124(90, 150) | 57(35,108 ) |
| IL-27 | 14064(5890, 15535) | 5501(5257, 9401) | 9426(7053, 10560) | 5328(4634, 6280) |
| TNF-α | 70(49, 87) | 72(42, 112) | 56(38, 76) | 43(32, 45) |
| TNF-β | 20(14, 47) | 22(5, 40) | 13.75(8.78, 26.24) | 4.9(3.4, 5.7) |
| sCD40L | 10578(8854, 26682) | 8492(5919, 33856) | 3050(1456.975, 17565 ) | 8419(634, 14872) |
| Anti-inflammatory  |  |  |  |  |
| IL-1RA | 7.6(4.4, 38.9) | 6.0(3.3, 8.2) | 9.2(6.8, 50) | 7.7(6.6, 16.8) |
| IL-2 | 2.3(0.8, 11.8) | 1.5(0.3, 2.1) | 2.4(0.6, 18.8) | 0.9(0.7, 3.7) |
| IL-4 | 2.5(1.2, 8.2) | 2.2(0.4, 4.0) | 2.9(2.1, 13.5) | 1.5(1.1, 3.3) |
| IL-7 | 8.5(3.2, 60.4) | 4.7(2.2, 44.3) | 5.6(3.4, 20.7) | 6(2.6, 7.6) |
| IL-9 | 24.5(7.7, 47.6) | 24.5(7.7, 47.6) | 7.4(4.3, 45.1) | 7.7(5.8, 17.5) |
| IL-10 | 21(8, 2361) | 10(4, 795) | 29(5, 54) | 6(2, 26) |
| IL-13 | 193(117, 689) | 140(50, 393) | 169(78, 207 ) | 72(9, 7) |
| Growth factors |  |  |  |  |
| EGF | 134(87, 456) | 85(61, 388) | 45(35, 8) | 89(19, 97) |
| FGF2 | 58(43, 236) | 48(35, 88) | 99 (72, 363) | 54(47, 143) |
| FLT3L | 11.4(4.6, 25.0) | 6.0(2.0, 10.9) | 13.8(5.8, 18.8) | 7.1(2.8, 12.5) |
| GCSF | 38(14, 87) | 13(4. 23) | 24(8, 81) | 17 (10, 21) |
| MCSF | 474(258, 682) | 347(90, 665) | 258(121, 390) | 93(34, 247) |
| PDGF-AA | 4087(2499, 8369) | 3151(2499, 6095) | 3853(1971, 5785) | 2594(1202, 7083) |
| PDGF-ABBB | 34730(22888, 43004) | 22158(20422, 38931) | 20224(12287, 30660) | 20672(9979, 27322) |
| TGF-α | 59(20, 188) | 19(11, 56) | 12(7, 32) | 12 (6,18) |
| VEGF-A | 286(40, 685) | 65(18, 346) | 125(31, 383) | 18(13, 43) |

Non-normally distributed continuous variables are presented as median (interquartile range) and were compared between groups using the Mann-Whitney *U* test. LT, liver transplantation; ALSS, artificial liver support system; IL, interleukin; MCP, monocyte chemoattractant protein; FLT3L, fms-like tyrosine kinase 3 ligand; M-CSF, macrophage colony stimulating factor; TNF-α, tumor necrosis factor alpha; CXCL9, chemokine (C-X-C motif) ligand 9; IP, interferon gamma-induced protein; MDC, macrophage-derived chemokine; MIP, macrophage inflammatory protein; RANTES, regulated upon activation, normal T cell expressed and presumably secreted; EGF; epidermal growth factor; FGF, fibroblast growth factor; GCSF, colony-stimulating factor; PDGF, platelet-derived growth factor; TGF-α, transforming growth factor alpha; VEGF, vascular endothelial growth factor.