**Supplementary Table 10. Comparison of cytokine levels before the first, and after the first, treatment using ALSS**

|  |  |  |
| --- | --- | --- |
| Survival group (n=5) Death or LT group (n=5) | 　 | Non-responders (N=5) |
| Cytokines(pg/ml) | Before first ALSS | After second ALSS | Before first ALSS | After second ALSS |
| Pro-inflammatory |  |  |  |  |
| Eotaxin | 122(93, 165) | 83(61, 111) | 147 (84, 167) | 103(82, 138) |
| Fractalkine | 156(133, 455) | 136(118, 295) | 171 (116, 347) | 228(78, 361) |
| GROa | 35(16, 84) | 27(5, 58) | 31(13, 89) | 26(15, 91) |
| IL-8 | 179(86, 346) | 87(43, 633) | 48 (38, 109) | 91(54, 136) |
| CXCL9 | 9577(5184, 13275) | 11307(6396, 32607) | 8212(4372, 67171) | 32247(16751, 47809) |
| IP-10 | 2497(1144, 6367) | 3233(1144, 6367) | 3201(1261, 16939) | 6106(4586, 8966) |
| MCP-1 | 811(554, 937) | 408(393, 743) | 374 (309, 680) | 477(304, 687) |
| MCP-3 | 66(30, 109) | 36(24, 110) | 41(26, 91) | 54(21, 80) |
| MDC | 584(300, 838) | 479(198, 521) | 449(159, 587) | 325(178,499) |
| MIP-1A | 31(20, 58) | 32(22, 51) | 34 (25, 80) | 32(24, 87) |
| MIP-1B | 86(48, 113) | 83(39, 100) | 71(55, 95) | 84(60, 119) |
| RANTES | 2980(2659, 3957) | 2496(2229, 4109) | 2013(1333.5, 3934) | 2536(1468, 3193) |
| IFNa2 | 64(62, 146) | 46(41, 130) | 91 (70, 248) | 91(58, 279) |
| IFNy | 12(5, 23) | 2(1, 10) | 5.9(2.7, 41.0) | 6.6(1.2, 46.0) |
| IL-1α | 19(12, 68) | 20(6,37) | 19 (14, 116) | 19(14, 116) |
| IL-1β | 26(14, 112) | 21(6, 52) | 15(12, 114) | 16(6, 148) |
| IL-5 | 11.4(6.0, 19.3) | 5.4(3.3,13.4) | 6(4, 12) | 7.5(4.7, 11.1) |
| IL-6 | 21(9, 20) | 14(9, 20) | 13 (12, 26) | 17.4(13.0, 20.4) |
| IL-12(p40) | 49(28, 127) | 25(19, 64) | 88(66, 133) | 72( 45, 101) |
| IL-12(p70) | 5(3, 11) | 3(2,7) | 7(3.7, 22.3) | 6.1(2.7, 20.1) |
| IL-15 | 31(20, 42) | 20(15, 27) | 27(15, 39) | 23(20, 62) |
| IL-17A | 5(4,35) | 3(3, 14) | 6.1(4.4, 60.8) | 7(4.5, 89.5) |
| IL-17E | 424(296, 1245) | 341(287, 1010) | 587(423, 2790) | 546(386, 1912) |
| IL-18 | 178(82, 205) | 95(48, 106) | 124(90, 150) | 71(57, 125) |
| IL-27 | 14064(5890, 15535) | 7347(4470, 9432) | 9426(7053, 10560) | 6106(4586, 8966) |
| TNF-α | 70(49, 87) | 44(36, 76) | 55.93(37.805, 76.415) | 53(40, 111) |
| TNF-β | 20(15, 47) | 11(7, 24) | 14(9, 26) | 22(3, 26) |
| sCD40L | 10578(8854, 26683) | 8279(4256, 20974) | 3050(1456.975, 17565) | 9178(6200, 12914) |
| Anti-inflammatory |  |  |  |  |
| IL-1RA | 8(4, 39) | 8(3, 22) | 9(7, 50) | 10.2(9.8, 48.5) |
| IL-2 | 2,3(0.8, 11.8) | 0.8(0.4, 4.3) | 2.4(0.6, 18.8) | 1.2(0.4, 22.7) |
| IL-4 | 2.5(1.2, 8.2) | 1.7(0.8, 4.3) | 2.9(2.1, 13.5) | 7.3(0.9, 24.8) |
| IL-7 | 8.5(3.2, 60.4) | 3.2(0.7, 64.1) | 5.6(3.4, 20.7) | 8.6(4.9, 12.6) |
| IL-9 | 24.5(7.7, 47.6) | 7.9(2.7,41.8) | 7.4(4.3, 45.1) | 17.3(2.8, 52.6) |
| IL-10 | 21(8, 2361) | 44(18, 1535) | 29(5, 54) | 31(4, 46) |
| IL-13 | 193(117, 690) | 88(79, 411) | 169 (78, 207) | 193(43, 202) |
| Growth factors |  |  |  |  |
| EGF | 134(87, 456) | 107(77, 299) | 44 (35, 85) | 52(36, 138) |
| FGF2 | 58(43, 236) | 46(38, 142) | 99(72, 363) | 65(53, 381) |
| FLT3L | 11.4(4.6, 24.9) | 5.7(3.0, 32.9) | 13.8(5.8, 18.8) | 13.9(6.6, 27.7) |
| GCSF | 38.1(14.4, 86.8) | 20.5(10.3, 33.2) | 24(8, 81) | 33(16, 57.0) |
| MCSF | 475(285, 682) | 158(102, 377) | 257(120, 390) | 135(91, 328) |
| PDGF-AA | 4087(3304, 8370) | 2717(2181, 6465) | 3853(1971, 5785) | 4681(3951, 5890) |
| PDGF-ABBB | 34730(22888, 43003) | 21428(18629, 36341) | 20224(12287, 30660) | 25368(27783, 27074) |
| TGF-α | 70(49, 87) | 44(36, 76) | 11(7, 32) | 13(7, 42) |
| VEGF-A | 286(40, 685) | 22(11, 229) | 125(31, 383) | 27(19, 77) |

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.