**Supporting information**

**Table S1.** Patient description based on the group data after the 1st day of trials

**Table S2.** Changes in ferritin, ng/ml, before and after (Day 1 and Day 6) in groups A– and B +

**Table S3**. Changes in ferritin, ng/ml, levels (delta) according to severity of the disease
COVID-19

**Table S4.** Changes in IL-6, pg/ml, before and after (Day 1 and Day 6) in groups A– and B +

**Table SV.** Changes in IL-6, pg/ml, levels (delta) according to severity of the disease COVID-19

Supplementary Material

**Table S1.** Patient (all) description based on the group data after the 1st day of trials

| **Group** | **Indicator** | **Statistical analysis** |
| --- | --- | --- |
| **Mean** | **SD** | **Min** | **Max** | **CI 95%** | **Median** | **IQR** | **PN** | **PT or MV** | **η** |
| Age, years |
| A (placebo) | 67.08 | 13.53 | 34.00 | 88.00 | 63.15 | 71.01 | 68.00 | 20.50 | >0.05 | 0.15 | 0.15 |
| B (Vitamin D) | 63.10 | 13.88 | 34.00 | 90.00 | 59.23 | 66.96 | 61.00 | 19.50 | >0.05 |
| BMI, kg/m2 |
| A (placebo) | 28.85 | 5.86 | 19.59 | 47.75 | 27.14 | 30.55 | 27.09 | 7.69 | <0.05 | 0.38 | 0.10 |
| B (Vitamin D) | 30.17 | 7.26 | 20.96 | 62.28 | 28.15 | 32.19 | 28.66 | 9.48 | >0.05 |
| GFR, ml/min/1.73m2 |
| A (placebo) | 78.33 | 28.44 | 36.00 | 138.50 | 70.07 | 86.59 | 72.60 | 41.70 | >0.05 | 0.60 | 0.06 |
| B (Vitamin D) | 81.77 | 30.21 | 34.30 | 165.50 | 73.36 | 90.19 | 78.55 | 38.33 | >0.05 |
| Vitamin D, ng/ml (norm: >30 ng/ml) |
| A (placebo) | 17.11 | 7.04 | 6.44 | 27.83 | 15.07 | 19.16 | 15.54 | 14.22 | <0.05 | 0.23 | 0.12 |
| B (Vitamin D) | 15.54 | 6.34 | 7.02 | 26.62 | 13.77 | 17.30 | 13.29 | 12.15 | <0.05 |
| C-reactive protein, mg/l (norm: < 8 mg/l) |
| A (placebo) | 66.30 | 43.82 | 3.99 | 174.26 | 53.57 | 79.02 | 59.83 | 69.69 | >0.05 | 0.12 | 0.24 |
| B (Vitamin D) | 96.80 | 76.88 | 3.99 | 279.52 | 75.40 | 118.20 | 72.94 | 106.15 | <0.05 |
| Ferritin, ng/ml (norm: 12 – 122 ng/ml or 20 – 250 ng/ml) |
| A (placebo) | 623.60 | 461.54 | 47.70 | 1 741.00 | 489.59 | 757.62 | 505.10 | 630.93 | <0.05 | 0.66 | 0.03 |
| B (Vitamin D) | 647.92 | 461.04 | 17.70 | 1 808.00 | 519.57 | 776.28 | 570.50 | 568.40 | >0.05 |
| IL-6, pg/ml (norm <3.4 pg/mL) |
| A (placebo) | 50.10 | 94.34 | 0.10 | 634.00 | 22.71 | 77.49 | 25.00 | 52.13 | <0.05 | 0.86 | 0.08 |
| B (Vitamin D) | 39.39 | 42.36 | 0.50 | 235.10 | 27.59 | 51.18 | 27.95 | 49.50 | <0.05 |
| Leukocyte level, number x109/l (norm: 4.0 – 9.8 x 109/l) |
| A (placebo) | 6.95 | 3.43 | 1.40 | 16.20 | 5.95 | 7.94 | 6.55 | 4.33 | <0.05 | 0.79 | 0.00 |
| B (Vitamin D) | 6.93 | 3.12 | 2.00 | 15.20 | 6.06 | 7.80 | 6.95 | 4.58 | >0.05 |
| Fibrinogen, g/l (norm: 2.0 – 4.0 g/l) |
| A (placebo) | 5.05 | 1.37 | 2.48 | 8.28 | 4.64 | 5.45 | 4.90 | 2.25 | <0.05 | 4.67 x10-2 | 0.16 |
| B (Vitamin D) | 6.78 | 7.46 | 2.24 | 57.60 | 4.71 | 8.86 | 5.34 | 2.39 | <0.05 |

SD – standard deviation; IQR - interquartile range; CI 95% - confidential interval of 95%; PN - statistically significant of normality of data in group; PT – statistical reliability of the difference in delta mean between the two groups (A vs B) using the T-test (underline value); PMV – statistical reliability of the difference in delta medians between the two groups (A vs B) using the Mann-Whitney U test; η - eta or relationship between the nominal and numerical indicators.

**Table S2.** Changes in ferritin, ng/ml, before and after (Day 1 and Day 6) in groups A - and B +

|  |  |  |
| --- | --- | --- |
| **Measurement** | **Ferritin, ng/ml, level** | **Statistical analysis** |
| **Mean** | **SD** | **Min** | **Max** | **CI 95%** | **Median** | **IQR** | **PN** | **PV** |
| A– (placebo) |
| Day 1  | 589.38 | 423.57 | 47.70 | 1549.90 | 441.59 | 737.17 | 500.90 | 649.58 | <0.05 | 0.21 |
| Day 6 | 537.87 | 346.94 | 114.40 | 1283.60 | 416.81 | 658.92 | 440.65 | 398.95 | <0.05 |
| Delta | -51.51 | 288.02 | -632.00 | 616.60 | -152.00 | 48.98 | -82.80 | 402.73 | >0.05 | - |
| B+ (Vitamin D) |
| Day 1  | 673.46 | 473.50 | 50.60 | 1 808.00 | 532.84 | 814.07 | 570.50 | 774.75 | <0.05 | 0.56 |
| Day 6 | 764.43 | 672.51 | 49.10 | 3 339.00 | 564.72 | 964.15 | 466.60 | 965.03 | <0.05 |
| Delta | 90.98 | 493.76 | -745.80 | 1 603.00 | -55.65 | 237.61 | -26.40 | 469.93 | <0.05 |  - |

SD – standard deviation; IQR - interquartile range; CI 95% - confidential interval of 95%; PN - statistically significant of normality of data in group; PV - statistical reliability for paired data with Wilcoxon signed-rank test;

**Table S3.** Changes in ferritin, ng/ml, levels (delta) according to severity of the disease COVID-19

|  |  |  |
| --- | --- | --- |
| **Severity of COVID-19** | **Delta values of ferritin, ng/ml, level** | **Statistical analysis** |
| **Mean** | **SD** | **Min** | **Max** | **CI 95%** | **Median** | **IQR** | **PN** | **PF or KV\*** | **PKV****PT or MV^** |
| A– (placebo) | 0,11Mi: 0,13Mo: 0,31S: 0,14 |
| Mild | -148.30 | 196.75 | -506.10 | 175.00 | -312.79 | 16.19 | -127.45 | 200.20 | >0.05 | 0.50 |
| Medium | -7.11 | 324.96 | -632.00 | 616.60 | -155.03 | 140.81 | -7.60 | 464.35 | >0.05 |
| Severe | -83.12 | 241.45 | -349.00 | 274.30 | -382.92 | 216.68 | -92.40 | 436.70 | >0.05 |
| B+ (Vitamin D) |
| Mild | 88.13 | 362.80 | -357.40 | 744.70 | -215.18 | 391.43 | -16.50 | 576.18 | >0.05 | 0.051 |
| Medium | -40.59 | 561.74 | -745.80 | 1 603.00 | -303.49 | 222.32 | -129.55 | 541.48 | <0.05 |
| Severe | 238.43 | 441.70 | -430.20 | 1 060.70 | 18.78 | 458.08 | 158.90 | 729.53 | >0.05 |

SD – standard deviation; IQR - interquartile range; CI 95% - confidential interval of 95%;

\* - PF - statistical reliability with ANOVA (underline value) of mean; PKV - statistical reliability with Kruskal–Walli test of median;

^ - PT – statistical reliability of the difference in delta mean between the two groups (A- vs B+) using the T-test (underline value); PMV – statistical reliability of the difference in delta medians between the two groups (A- vs B+) using the Mann-Whitney U test;

Mi - Mild; Mo - Moderate; S - Severe

**Table S4.** Changes in IL-6, pg/ml, before and after (Day 1 and Day 6) in groups A– and B +

|  |  |  |
| --- | --- | --- |
| **Measurement** | **IL-6, pg/ml, level** | **Statistical analysis** |
| **Mean** | **SD** | **Min** | **Max** | **CI 95%** | **Median** | **IQR** | **PN** | **PV** |
| A– (placebo) |
| Day 1  | 38.82 | 40.77 | 0.10 | 166.80 | 24.36 | 53.27 | 24.90 | 56.00 | <0.05 | **7.41 x10-2** |
| Day 6 | 27.82 | 41.82 | 0.90 | 193.80 | 13.00 | 42.65 | 11.20 | 35.55 | <0.05 |
| Delta | -10.99 | 54.93 | -121.80 | 141.50 | -30.47 | 8.48 | -4.20 | 43.95 | >0.05 | - |
| B+ (Vitamin D) |
| Day 1  | 37.30 | 33.05 | 0.50 | 127.70 | 27.48 | 47.11 | 28.95 | 49.85 | <0.05 | **1.39 x10-3** |
| Day 6 | 20.61 | 29.24 | 0.20 | 121.90 | 11.72 | 29.50 | 8.75 | 24.73 | <0.05 |
| Delta | -17.29 | 37.18 | -88.00 | 105.60 | -28.46 | -6.12 | -20.90 | 41.60 | >0.05 |  - |

SD – standard deviation; IQR - interquartile range; CI 95% - confidential interval of 95%; PN - statistically significant of normality of data in group; PV - statistical reliability for paired data with Wilcoxon signed-rank test;

**Table S5.** Changes in IL-6, pg/ml, levels (delta) according to severity of the disease COVID-19

|  |  |  |
| --- | --- | --- |
| **Severity of COVID-19** | **Delta values of IL-6, pg/ml, level** | **Statistical analysis** |
| **Mean** | **SD** | **Min** | **Max** | **CI 95%** | **Median** | **IQR** | **PN** | **PKV** | **PKV****PT or MV^** |
| A– (placebo) | 0.92Mi: 0.92Mo: 0.35S: 0.79 |
| Mild | -6.46 | 54.31 | -71.80 | 112.40 | -51.86 | 38.94 | -8.50 | 42.38 | >0.05 | 0.96 |
| Medium | -11.84 | 55.80 | -121.80 | 141.50 | -37.24 | 13.56 | -4.20 | 40.05 | <0.05 |
| Severe | -14.88 | 57.83 | -95.00 | 61.30 | -86.68 | 56.92 | -6.00 | 101.20 | >0.05 |
| B+ (Vitamin D) |
| Mild | -19.33 | 30.88 | -88.00 | 8.40 | -45.14 | 6.49 | -10.00 | 32.45 | <0.05 | 0.82 |
| Medium | -13.39 | 37.40 | -60.30 | 105.60 | -30.90 | 4.12 | -18.05 | 38.78 | <0.05 |
| Severe | -20.91 | 41.10 | -87.80 | 70.10 | -42.04 | 0.22 | -21.00 | 63.35 | >0.05 |

SD – standard deviation; IQR - interquartile range; CI 95% - confidential interval of 95%;

PKV - statistical reliability with Kruskal–Walli test of median;

^ - PT – statistical reliability of the difference in delta mean between the two groups (A- vs B+) using the T-test (underline value); PMV – statistical reliability of the difference in delta medians between the two groups (A- vs B+) using the Mann-Whitney U test;

Mi - Mild; Mo - Moderate; S - Severe