**Table 1. Clinical and demographic patient characteristics**

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| --- | --- | --- | --- | --- |
| **Parameter** | **Total study group (n = 71)** | **ММ (n = 32)** | **LPD (n = 39)** | **P value** |
| Age, years | 43.8 ± 12.6 | 53 ± 10 | 36.1 ± 10.4 | < 0.001 |
| Gender, M/F, n (%) | 40/31 (56.3/43.7) | 17/15 (53.1/46.9) | 23/16 (58.9/41.1) | 0.623 |
| AH, n (%) | 23 (32.3) | 19 (59.3) | 4 (10.3) | < 0.001 |
| Type 2 DM, n (%) | 3 (4.22) | 3 (9.3) | 0 | 0.048 |
| Obesity (BMI > 30 kg/m2), n (%) | 16 (22.5) | 8 (25) | 8 (20.5) | 0.655 |
| Smokers, n (%) | 15 (21.1) | 9 (28.1) | 6 (15.4) | 0.194 |
| Coronary intervention, n (%) | 2 (2.8) | 2 (6.25) | 0 | 0.116 |
| Treatment with ACE inhibitors beta-blockers, n (%) | 29 (40.8) | 19 (59.3) | 10 (25.7) | 0.004 |
| Treatment with statins | 4 (5.6) | 4 (12.5) | 0 | 0.024 |
| BMI, kg/m2 | 26.9 ± 4.2 | 26.0 ± 3.8 | 25.7 ± 3.8 | 0.019 |
| HR, bpm | 76.7 ± 12.1 | 75 ± 11.1 | 78.1 ± 13.3 | 0.477 |
| SBP, mm Hg | 119.8 ± 15.8 | 125.9 ± 15.6 | 114.7 ± 14.4 | 0.002 |
| DBP, mm Hg | 76.7 ± 8.7 | 79.69 ± 8.6 | 74.4 ± 8.2 | 0.004 |
| Troponin Т, pg/mL | 4.4 [0.1; 8.0] | 5.0 [0.1; 8.3] | 3.0 [0.1; 7.6] | 0.702 |
| Baseline high troponin T (> 14 ng/mL), n (%) | 1 (14) | 0 | 1 (2.6) | 0.888 |
| NT-proBNP, pg/mL | 72.0 [28.0; 125.0] | 60.8 [29.1; 137.0] | 78.8 [27.5; 122.0] | 0.786 |
| Baseline high NT-proBNP (> 125 pg/mL), n (%) | 17 (23.9) | 8 (25) | 9 (25) | 0.851 |
| Duration of the disease, years | 2.3 ± 2.5 | 1.7 ± 1.6 | 2.9 ± 3 | 0.024 |
| Number of PCT cycles, N | 8.5 ± 0.8 | 4.8 ± 0.5 | 11.5 ± 11.5 | < 0.001 |
| PCT with anthracyclines, n (%) | 36 (50.7) | 2 (6.25) | 34 (87.2) | < 0.001 |
| Mean dose of anthracyclines (doxorubicin), mg | 224 ± 110 | 126 ± 18 | 230 ± 110 | < 0.001 |
| PCT with anthracyclines and cyclophosphamide, n (%) | 27 (38.0) | 1 (3.125) | 26 (66.6) | < 0.001 |
| Mean dose of cyclophosphamide, mg | 5927.4 ± 4468.3 | 6681.8 ± 3671.3 | 5327.8 ± 4977.9 | 0.144 |
| Radiation therapy on the sternum, n (%) | 17 (23.9) | 2 (6.25) | 15 (38.5) | 0.002 |

ACE, angiotensin converting enzyme; AH, arterial hypertension; BMI, body mass index; DM, diabetes mellitus; DBP, diastolic blood pressure; HR, heart rate; LPD, lymphoproliferative disorders; MM, multiple myeloma; NT-proBNP, N-terminal pro-peptide of brain natriuretic peptide; PCT, polychemotherapy; SBP, systolic blood pressure

The values are given as absolute patient numbers (n) and proportion of the number of patients in the group (%), or as mean values and standard deviations (М ± SD), or as medians and quartiles (Me [Q1; Q3])

P, the significance of the difference between MM and LPD groups

**Table 2. Arterial function parameters in the patients with hemoblastoses before high dose chemotherapy with autologous hematopoietic stem cell transplantation**

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| --- | --- | --- | --- | --- |
| **Parameter** | **Total study group (n = 71)** | **ММ (n = 32)** | **LPD (n = 39)** | **P value** |
| SI, m/s | 7.4 [7.1; 7.7] | 7.5 [7.3; 7.9] | 7.2 [7.1; 7.5] | 0.002 |
| RI, % | 34.9 [24.5; 50.6] | 42.9 [32.1; 53.6] | 30.6 [22.4; 38.9] | 0.003 |
| AIp75, % | -1.5 [-11.6; 8.9] | 6.3 [-1.65; 13.8] | -8.1 [-21.2; 1.2] | < 0.001 |
| PS, ms | 6.7 [3.9; 8.9] | 5.0 [2.1; 8.5] | 7.3 [5.8; 10.3] | 0.009 |
| OI | 1.5 [1.25; 1.80] | 1.6 [1.20; 1.90] | 1.4 [1.275; 1.8] | 0.434 |

AIp75, augmentation index normalized by heart rate of 75 beats per minute; LPD, lymphoproliferative disorders; ММ, multiple myeloma; OI, occlusion index; PS, phase shift; RI, reflection index; SI, stiffness index

The values are given as medians and quartiles (Me [Q1; Q3])

P, the significance of the difference between MM and LPD groups

**Table 3. Changes over time in the parameters of arterial function before and after high dose chemotherapy with autologous hematopoietic stem cell transplantation**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parameter** | **Total study group (n = 71)** | **ММ (n = 32)** | **LPD (n = 39)** |
| SI, m/s |
| Before autoSCT | 7.4 [7.1; 7.7] | 7.5 [7.3; 7.9] | 7.2 [7.1; 7.5] |
| After autoSCT | 7.5 [7.1; 7.9] | 7.8 [7.3; 8.275] | 7.3 [7; 7.7] |
| P value | 0.193 | 0.152 | 0.646 |
| RI, % |
| Before autoSCT | 34.9 [24.5; 50.6] | 42.9 [32.1; 53.6] | 30.6 [22.4; 38.9] |
| After autoSCT | 34.2 [21.9; 50.3] | 42.3 [32.4; 54.8] | 26.4 [17.8; 40.3] |
| P value | 0.900 | 0.708 | 0.567 |
| AIp75, % |
| Before autoSCT | -1.5 [-11.6; 8.9] | 6.3 [-1.65; 13.8] | -8.1 [-21.2; 1.2] |
| After autoSCT | -1.7 [-14.3; 7.6] | 2.75 [-5.1; 13.3] | -9.5 [-17.2; 1.2] |
| P value | 0.469 | 0.394 | 0.856 |
| PS, ms |
| Before autoSCT | 6.7 [3.9; 8.9] | 5.0 [2.1; 8.5] | 7.3 [5.8; 10.3] |
| After autoSCT | 8.4 [5; 12.4] | 7.2 [4.8; 11.4] | 8.6 [6.2; 14.5] |
| P value | 0,001 | 0,002 | 0,152 |
| OI |
| Before autoSCT | 1.5 [1.25; 1.80] | 1.6 [1.20; 1.90] | 1.4 [1.275; 1.8] |
| After autoSCT | 1.7 [1.30; 2.20] | 1.6 [1.30; 2.30] | 1.7 [1.375; 2.1] |
| P value | 0.007 | 0.183 | 0.003 |

AIp75, augmentation index normalized by heart rate of 75 beats per minute; autoSCT, autologous stem cell transplantation; LPD, lymphoproliferative disorders; ММ, multiple myeloma; OI, occlusion index; PS, phase shift; RI, reflection index; SI, stiffness index

The values are given as medians and quartiles (Me [Q1; Q3])

P, the significant of the difference between baseline parameters and parameters after high dose chemotherapy with autoSCT