**Supplemental Table 1.** Laboratory tests of patients with non-tuberculous mycobacteria and/or invasive fungal infections at the diagnosis

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Patients | Hb g/dl | White Blood cellscells/mm3 | Neutrophilscells/mm3 | Lymphocytescells/mm3 | Monocytescells/mm3 | CD4+cells/mm3 | CD4+/CD8+ Ratio  | Platelets/mm3 |
| 1. | 10.4 | 1,650 | 1,171 | 445 | 33 | 96 | 0.53 | 43,000 |
| 2. | 7.7 | 3,000 | - | - | 60 | 369 | 0.64 | 95,000 |
| 3. | 8.4 | 23,500 | 21,385 | 1,410 | 366 | - | - | 121,000 |
| 4. | 7.9 | 13,530 | 12,176 | 811 | 541 | - | - | 508,000 |
| 5. | 15.0 | 5,930 | 4,150 | 889 | 296 | 19 | 0.57 | 201,000 |
| 6. | 11.9 | 3,640 | 1,100 | 2,210 | 260 | 1,050 | 1.59 | 254,000 |
| 7. | 5.5 | 5,560 | 3,280 | 1,670 | 360 | 982 | 2.15 | 218,000 |
| 8. | 11.5 | 6,350 | 3,174 | 2,032 | 635 | 604 | 1.41 | 320,000 |
| 9. | 8.8 | 10,550 | 9,178 | 1,055 | 316 | - | - | 512,000 |
| 10. | 13.4 | 10,200 | 8,180 | 1,330 | 470 | - | - | 327,000 |
| 11. | 9.8 | 4,190 | 2,429 | 1,089 | 209 | 1,014 | 4.42 | 141,000 |
| 12. | 13.0 | 10,000 | 6,960 | 1,720 | 1,140 | 1,424 | 3.31 | 287,000 |
| 13. | 10.4 | 6,000 | 3,780 | 1,740 | 420 | 810 | 1.03 | 94,000 |
| 14. | 11.9 | 7,280 | 4,513 | 2,038 | 509 | 1,126 | 1.93 | 296,000 |
| 15. | 14.7 | 9,150 | 6,679 | 1,738 | 640 | 683 | 1.26 | 250,000 |
| 16. | 15.1 | 6,150 | 4,489 | 1,107 | 430 | 434 | 1.06 | 178,000 |
| 17. | 13.0 | 9,070 | 6,711 | 1,269 | 907 | 941 | 3.16 | 399,000 |
| 18. | 15.3 | 6,830 | 4,370 | 1,884 | 546 | 857 | 1.11 | 297,000 |
| 19. | 10.2 | 6,500 | 4,225 | 1,495 | 585 | - | - | 430,000 |
| 20. | 14.3 | 7,940 | 4,763 | 1,905 | 635 | 855 | 0.96 | 305,000 |
| 21. | 15.0 | 7,350 | 4,440 | 2,012 | 416 | 892 | 1.84 | 215,000 |
| 22. | 10.2 | 9,100 | 3,749 | 3,513 | 121 | 524 | 3.5 | 81,000 |

Hb – Hemoglobin.

**Supplemental Table 2**. Features of the bone marrow of the patients

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| --- | --- | --- | --- | --- |
| PatientIdentification | Myelogram | Immunophenotyping | Histopathological | Cytogenetic |
| 1. | Hypercellular, with granulocytic hyperplasia (probably by the use of GCSF) with dysgenesis and dyseritropoiesis, compatible with MDS type RCMD, secondary causes of MDS, presence of hemophagocytosis figures | Mild dysplastic signs, CD4 + / CD8 + T cell inversion, low percentage of B lymphocytes, low percentage of monocytes | 90% of cellularity, numerous histiocytes, sometimes with red blood cells in their interior, granulocytic series with maturation delay, frequent small and hypolobulated megakaryocytes  | 46, XY, del (6) (q21) [10]/ 46, XY [20] |
| 2. | Hypocellular with approximately 10-12% of blasts and intense dysplastic signs in the three hematological lines | Presence of 18.5% myeloid blasts with expression of CD7 and CD4, without expression of MPO and with aberrant expression of CD4 + and CD7 + T lymphoid markers | Moderately hypercellular bone marrow (70% of cellularity) showing extensive fibrosis and a stromal component of spindle cells, negative Ziehl and Grocott stains | No metaphases |
| 5. | Normocellular, discrete erythroid hyperplasia, 1.2% of blasts | No cell population with anomalous immunophenotype was detected. Significant CD4 / CD8 inversion with percentage increase of CD3 + / CD57 + T lymphocytes | Discretely hypercellular for age with 60% of cellularity, some small and hypolobulated megakaryocytes, absence of granulomas, absence of fungi or mycobacteria | 46, XY |
| 8. | Normocellular bone marrow, pleomorphic, with erythroid and normal myeloid series, presence of micromegakaryocytes. Absence of parasites or leukemic infiltration in the analyzed sample. | - | Chronic granulomatous inflammatory process. The impregnation by silver reveals rare small, relatively uniform rounded structures with apparently budding figure, which could correspond to fungal forms, specifically *Histoplasma capsulatum* | - |
| 13. | Normocellular, presence of hypossegmented micromegakaryocytes | Bone marrow with signs of hemodilution without detection of anomalous population | Hypocellular for age with 40% hematopoietic cellularity, G: E ratio 2: 1, normoblastic erythroid series, preserved number of megakaryocytes, some of them small and hypolobulated, normal blasts, absence of granulomas, absence of reticulin fibrosis | 46, XY |

GCSF- Granulocyte colony-stimulating factor; MDS – Myelodysplastic syndrome; RCMD – Refractory cytopenia with multilinear dysplasia; MPO – Myeloperoxidase; Ratio G:E – Ratio granulocyte: erythrocyte; Del - Deletion.

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| **Supplemental Table 3.** PCR primers and conditions of the *GATA2* gene |
| Gene amplicon/ Size PCR product (bp) | Primers | Sequence oligonucleotidesForward e Reverse 5`-3` |  PCR conditions |
| Exon 2400 bp | Ex2 Forward | ACCTCGTGGTGGGACTTTG | 94°C for 4 min, 35 cycles of denaturation at 94°C for 20 sec, annealing at 60ºC for 30 sec, and 72°C for 1 min; and a final extension at 72°C for 3 min |
| Ex2 Reverse | GATCCTACATCCGGGGAAGC |
| Exon 3A412 bp | Ex3A Forward | GTCCCTAGCTCTGCCTACCC | 94°C for 4 min, 35 cycles of denaturation at 94°C for 20 sec, annealing at 60ºC for 30 sec, and 72°C for 1 min; and a final extension at 72°C for 3 min |
| Ex3A Reverse | CTCCTCGGGCTGCACTAC |
| Exon 3B406 bp | Ex3B Forward | ACCTTTTCGGCTTCCCAC | 94°C for 4 min, 35 cycles of denaturation at 94°C for 20 sec, annealing at 60ºC for 30 sec, and 72°C for 1 min; and a final extension at 72°C for 3 min |
| Ex3B Reverse | CTCTCCCAAGTCACAGCTCC |
| Exon 4229 bp | Ex4 Forward | GACTCCCTCCCGAGAACTTG | 94°C for 4 min, 35 cycles of denaturation at 94°C for 20 sec, annealing at 58ºC for 30 sec, and 72°C for 1 min; and a final extension at 72°C for 3 min |
| Ex4 Reverse | TGTAATTAACCGCCAGCTCC |
| Intron 4217 bp | In4 Forward | ATGGAGTCACCTATACTGTGTATTT | 94°C for 4 min, 35 cycles of denaturation at 94°C for 20 sec, annealing at 58ºC for 30 sec, and 72°C for 1 min; and a final extension at 72°C for 3 min |
| In4 Reverse | TTTGCAGAGTGGAGGGTATTAG |
| Exon 5223 bp | Ex5 Forward | GTGGAGCGAGGGTCAGG | 94°C for 1 min, 35 cycles of denaturation at 94°C for 30 sec, annealing at 64°C for 30sec, and 72°C for 1 min; and a final extension at 72°C for 3 min |
| Ex5 Reverse | CACAAAGCGCAGAGGTCC |
| Exon 6415 bp | Ex6 Forward | AGGAATGTTGCTGGAGGAAG | 94°C for 2 min, 35 cycles of denaturation at 95°C for 30 sec, annealing at 60ºC for 30 sec, and 72°C for 45 sec; and a final extension at 72°C for 3 min |
| Ex6 Reverse | GCTGGCAGGAGTGGTGTC |

PCR- Polymerase chain reaction; bp- base pairs; Ex- exon; In- intron; min- minute.