**Supplementary Methods: Algorithm for cut-off point definition**

Differences in OS for continuous variables were analyzed using a modified approach of maximally selected rank statistics based on log rank tests at different cut-off points to finally divide the discovery cohort for each factor into two or three groups. Cut-off point(s) were determined as follows: First, only central cut-off points were analyzed resulting in two balanced groups. A central cut-off point was considered for survival analysis, if the resulting smaller group comprised at least 25% of all patients. Of all analyzed cut-off points, that resulting in the lowest significant log-rank p-value was chosen as cut-off candidate 1. If no significant log-rank p-value was observed for any analyzed central cut-off, potential eccentric cut-offs (the resulting smaller group comprised at least 10% of patients) were analyzed. Of all analyzed eccentric cut-off points the one with the lowest significant log-rank p-value was chosen as cut-off 1. The cut-off point resulting in the lowest non-significant log-rank p-value is shown if neither a central nor an eccentric cut-off could be established. For factors with an established cut-off 1, the definition of a second cut-off point resulting in three groups (LO, MED, HI) was attempted. First, only central second cut-off points were analyzed. A central second cut-off point was considered for survival analysis, if the smallest of the resulting three groups comprised at least 25% of discovery cohort patients. Differences in OS between the three groups were analyzed using pairwise comparison and only cut-off points resulting in significant differences for each group-combination were further considered. Of those, the cut-off point resulting in the lowest significant log-rank p-value was chosen as cut-off 2. If no central second cut-off point could be established potential eccentric second cut-off points were considered for survival analysis, if the smallest of the resulting three groups comprised at least 10% of discovery cohort patients. Differences in OS between the three groups were analyzed using pairwise comparison and only cut-off points resulting in significant differences for each group-combination were further considered. Of those, the cut-off point resulting in the lowest significant log-rank p-value was chosen as cut-off 2. The following cut-off points were tested in the discovery cohort:

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| **Continuous variable** | **Lowest cut-off point** | **Highest cut-off point** | **Interval** |
| Age | ≤41 years vs >41 years | ≤74 years vs >74 years | 1 year |
| LDH-ratio | ≤0.7 vs >0.7 | ≤3.4 vs <3.4 | 0.1 |
|
| Abs. leucocyte counts | <4450/µL vs ≥4450/µL | <10850/µL vs ≥10850/µL | 100/µL |
| Abs. lymphocyte counts | <650/µL vs ≥650/µL | <2250/µL vs ≥2250/µL | 100/µL |
|
| Abs. monocyte counts | <350/µL vs ≥350/µL | <950/µL vs ≥950/µL | 100/µL |
| Abs. neutrophil counts | <2950/µL vs ≥2950/µL | <7650/µL vs ≥7650/µL | 100/µL |
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| Abs. eosinophil counts | <50/µL vs ≥50/µL | <350/µL vs ≥350/µL | 100/µL |
| Abs. basophil counts | <50/µL vs ≥50/µL | <50/µL vs ≥50/µL | 100/µL |
| Rel. lymphocyte counts | <9.5% vs ≥0.5% | <33.5% vs ≥33.5% | 1% |
|
| Rel. monocyte counts | <5.5% vs ≥5.5% | <11.5% vs ≥11.5% | 1% |
| Rel. neutrophil counts | <55.5% vs ≥55.5% | <81.5% vs ≥81.5% | 1% |
|
| Rel. eosinophil counts | <1.5% vs ≥1.5% | <4.5% vs ≥4.5% | 1% |
| Rel. basophil counts | <0.5% vs ≥0.5% | <0.5% vs ≥0.5% | 1% |

The usage of cut-off points like ≥1.5% or ≥1250/µL instead of ≥1% or ≥1200/µl for blood count related factors was chosen, because it allows the definite alignment independent from the resolution of lab results reporting. E.g. the reporting of a theoretical true absolute lymphocyte count value of 1580/µL is reported as 1580/µL or 1.6x103/µl depending on the local lab. Considering the cut-off point ≥1600/µL, the group alignment of this exemplary patient would be correct if results are reported in high resolution (1580/µL 🡪 alignment to group “low”) but wrong if results are reported in low resolution (1.6x103/µL 🡪 alignment to group “high”). In contrast, this problem is avoided by using the “in-between cut-off points” like ≥1750/µL. Independent from the resolution of result reporting (e.g. 1.8x103/µL or 1770/µL) a patient is aligned to the same category.