**Supplementary material**

*Definitions of endpoints*

Progression-free survival (PFS) was defined as the time from diagnosis until relapse, progression or death as a result of any cause or for patients censored until the date of last follow-up; overall survival (OS) was defined as the time from diagnosis until death as a result of any cause or until the date of last follow-up for patients censored. Duration of complete response was defined as the time from the date of attainment of the first complete response to the date of relapse (then only for patients who achieved complete response and subsequently relapsed). Time to next treatment was defined as time from the end of primary treatment until the institution of the next therapy.

Early and late progression of disease (POD) was defined as relapse or progression within and after 24 months of lymphoma diagnosis, respectively.

OS from relapse/progression (OS-2) was deﬁned as time from POD until death due any cause.

**Supplementary figures**

Figure S1. Comparison of progression-free survival of 14 patients with blastoid/pleomorphic cytology in MALT mantle cell lymphoma and 18 patients in classic mantle cell lymphoma.



**Supplementary Tables**

Table S1.Histological and molecular characteristics of 127 patients with MALT mantle cell lymphoma.

|  |  |  |
| --- | --- | --- |
| Parameter | **n** | **%** |
| Cyclin D1 | Negative | 4 | 3 |
| Positive | 122 | 97 |
| Missing | 1 |  |
| CD5 | Negative | 14 | 11 |
| Positive | 112 | 89 |
| Missing | 1 |  |
| SOX11 | Negative | 0 | 0 |
| Positive | 21 | 100 |
| Missing | 106 |  |
| FISH (11,14) | Negative | 2 | 1 |
| Positive | 20 | 99 |
| Missing | 105 |  |
| Ki-67 proliferation index | Low (<30%) | 45 | 63 |
| High (≥30%) | 27 | 37 |
| Missing | 55 |   |
| Cytology | Blastoid/pleomorphic  | 14 | 11 |
| Classic | 111 | 89 |
| Missing | 2 |  |

In four cyclin D1-negative patients, two showed t(11,14) with FISH, one had a negative FISH with CD5 and SOX11 expression and one had CD5 expression without the available data of FISH and SOX11.

In two FISH-negative patients, one was cyclin D1-negative with CD5 and SOX11 expression, in the other one cyclin D1 and SOX11 were expressed.

Table S2. Univariable analysis for progression-free survival and overall survival in 128 patients with nodal classic mantle cell lymphoma.

|  |  |  |
| --- | --- | --- |
| **Factor** | **PFS** | **OS** |
| ***5-year (%)*** | ***p-value*** | ***5-year (%)*** | ***p-value*** |
| All | 27.9 |   | 62.9 |   |
| Sex | Male | 30.5 | 0.819 | 68.5 | 0.075 |
| Female | 19.9 |   | 46.8 |   |
| Age | ≤65 years | 39.3 | <0.001 | 81.3 | <0.001 |
| >65 years | 17 |   | 45.6 |   |
| sMIPI | Low | 46.1 | <0.001\* | 91.1 | <0.001\* |
| Intermediate | 21.1 |   | 60.9 |   |
| High | 11.4 |   | 22.2 |   |
| Ann Arbor stage | I/II | 27.3 | 0.992 | 72.7 | 0.768 |
| III/IV | 28 |   | 61.8 |   |
| Bone marrow involvement | Negative | 23.4 | 0.834 | 77.3 | 0.248 |
| Positive | 31.2 |   | 60.5 |   |
| ECOG PS | 0 | 32.6 | <0.001 | 72.7 | <0.001 |
| ≥1 | 7.3 |   | 21 |   |
| Ki-67 proliferation index | Low (<30%) | 46.9 | <0.001 | 79.2 | 0.003 |
| High (≥30%) | 10.6 |   | 52.6 |   |
| Cytology | Blastoid/pleomorphic | 7.5 | 0.004 | 27.1 | 0.002 |
| Classic | 30.7 |   | 70.9 |   |
| B symptoms | No | 28.4 | 0.352 | 65.8 | 0.009 |
| Yes | 30.2 |   | 51.3 |   |
| ASCT§ |  | 0.50 (0.32–0.80) | 0.004 | 0.36 (0.20–0.65) | <0.001 |

MALT: mucosa-associated lymphoid tissue; MCL: mantle cell lymphoma; PFS: progression-free survival; MIPI: Mantle Cell Lymphoma International Prognostic Index; ECOG: Eastern Cooperative Oncology Group; PS: performance status; ASCT: autologous stem cell transplantation

\*Trend test.

§HR (95% CI).

**Table S3.** Univariable analysis for progression-free survival and overall survival in the whole mantle cell lymphoma population (127 patients with MALT mantle cell lymphoma and in 128 patients with nodal classic mantle cell lymphoma).

|  |  |  |
| --- | --- | --- |
| **Parameter** | **PFS** | **OS** |
| ***5-year (%)*** | ***p-value*** | ***5-year (%)*** | ***p-value*** |
| All | 36.1 |  | 66.9 |  |
| Clinical MCL variant | MALT MCL | 44.8 | <0.001 | 71.1 | 0.019 |
| Nodal cMCL | 27.9 |  | 62.9 |  |
| Sex | Male | 36 | 0.855 | 68.9 | 0.268 |
| Female | 36.3 |   | 62.6 |   |
| Age | ≤65 years | 48.9 | <0.001 | 85 | <0.001 |
| >65 years | 24 |   | 49.8 |   |
| sMIPI | Low | 51.1 | <0.001\* | 91.4 | <0.001\* |
| Intermediate | 31.7 |   | 59.1 |   |
| High | 13.6 |   | 29.1 |   |
| Ann Arbor stage | I/II | 49 | 0.002 | 72.7 | 0.095 |
| III/IV | 29.4 |   | 63.9 |   |
| Bone marrow involvement | Negative | 43.1 | 0.002 | 76.1 | 0.006 |
| Positive | 29.4 |   | 59.9 |   |
| ECOG PS | 0 | 43.5 | <0.001 | 76.5 | <0.001 |
| ≥1 | 10.7 |   | 34.3 |   |
| Ki-67 proliferation index | Low (<30%) | 45.4 | <0.001 | 79.6 | <0.001 |
| High (≥30%) | 20.4 |   | 53.4 |   |
| Cytology | Blastoid/pleomorphic | 25.8 | 0.048 | 39 | 0.004 |
| Classic | 37.4 |   | 71.8 |   |
| B symptoms | No | 35.4 | 0.745 | 69.8 | 0.059 |
| Yes | 39 |   | 57.7 |   |
| ASCT§ |  | 0.64 (0.44–0.94) | 0.022 | 0.52 (0.32–0.83) | <0.006 |

MALT: mucosa-associated lymphoid tissue; MCL: mantle cell lymphoma; PFS: progression-free survival; MIPI: Mantle Cell Lymphoma International Prognostic Index; ECOG: Eastern Cooperative Oncology Group; PS: performance status; ASCT: autologous stem cell transplantation

\*Trend test.

§HR (95% CI).