

# Munich Cancer Registry



- ▶ Incidence and Mortality
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## cSCC: Squamous-cell skin ca.

### Survival

|                   |            |
|-------------------|------------|
| Year of diagnosis | 1998-2020  |
| Patients          | 14,787     |
| Diseases          | 17,761     |
| Cases evaluated   | 9,492      |
| Creation date     | 04/15/2022 |
| Database export   | 12/20/2021 |
| Population        | 4.92 m     |



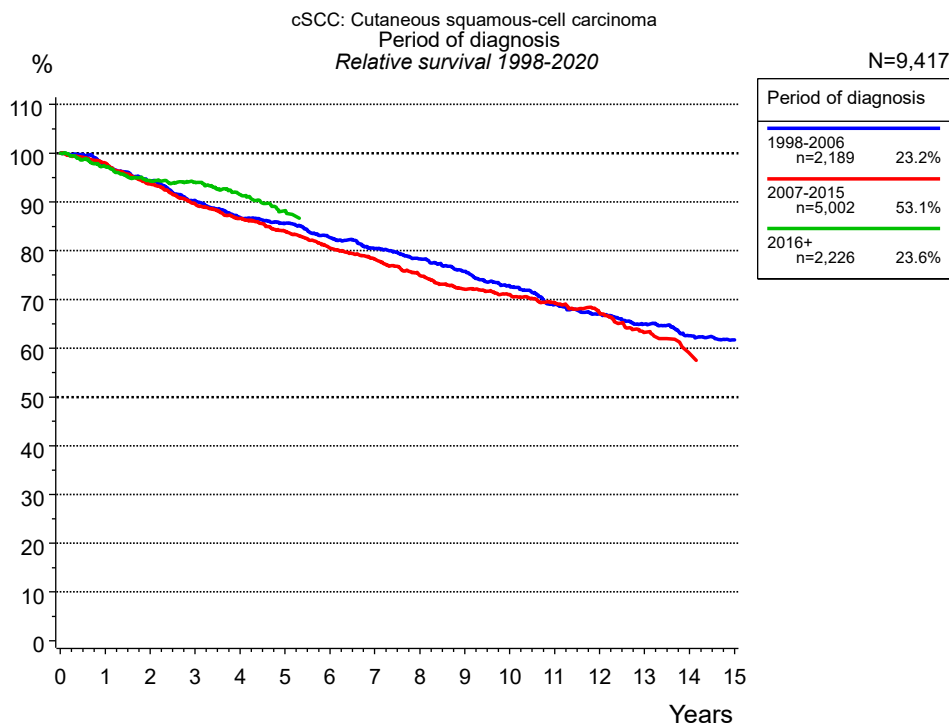
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<https://www.tumorregister-muenchen.de/en>

[https://www.tumorregister-muenchen.de/en/facts/surv/sCSCC\\_E-cSCC-Squamous-cell-skin-ca.-survival.pdf](https://www.tumorregister-muenchen.de/en/facts/surv/sCSCC_E-cSCC-Squamous-cell-skin-ca.-survival.pdf)

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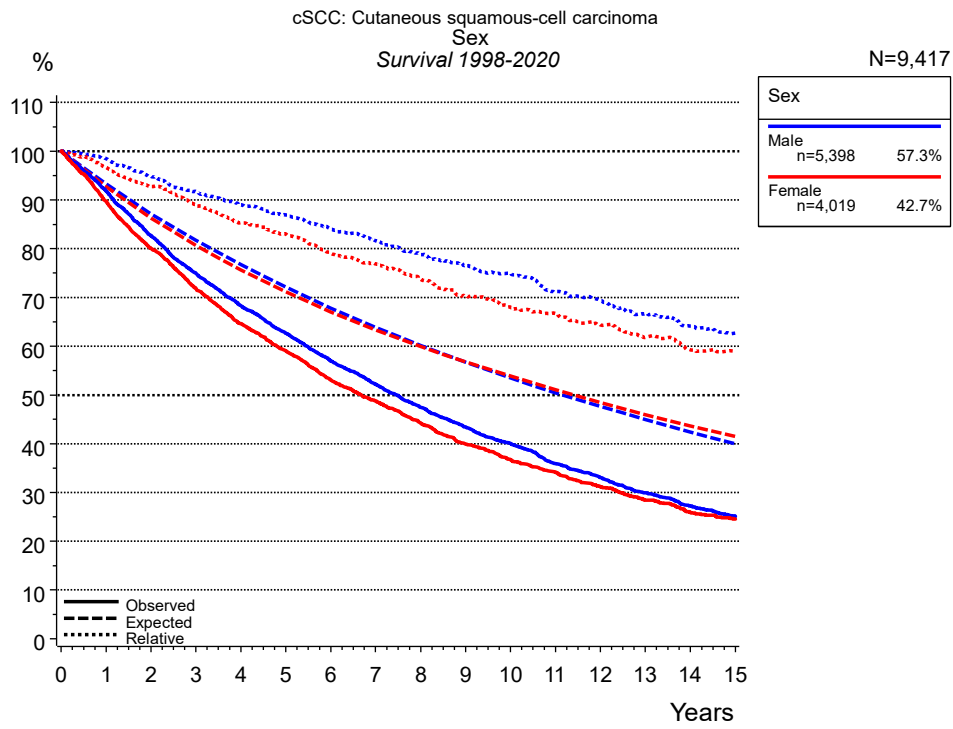


**Figure 1a.** Relative survival of patients with Squamous-cell skin ca. by period of diagnosis. Included in the evaluation are 9,417 cases diagnosed between 1998 and 2020.

The presented survival curves are derived from clinical records with valid follow-up informations, which means that death certificate cases (DCO) cases are omitted from the analysis. With this one restriction, the MCR has provided population-based statistics since 1998, collecting data on all cancer cases in the region of southern Bavaria. Historical data of previous time periods can be heavily selected, therefore, univariate survival comparisons of the presented time periods must be carefully considered. Nonetheless, all calculable survival curves are depicted to facilitate the comparison of long time follow-up analyses of relative survival between particular cancers.

| Years  | Period of diagnosis  |        |                      |        |                  |        |
|--------|----------------------|--------|----------------------|--------|------------------|--------|
|        | 1998-2006<br>n=2,189 |        | 2007-2015<br>n=5,002 |        | 2016+<br>n=2,226 |        |
|        | obs. %               | rel. % | obs. %               | rel. % | obs. %           | rel. % |
| 0      | 100.0                | 100.0  | 100.0                | 100.0  | 100.0            | 100.0  |
| 1      | 90.8                 | 97.8   | 91.1                 | 98.0   | 90.7             | 97.3   |
| 2      | 81.6                 | 94.3   | 81.2                 | 93.7   | 82.4             | 94.3   |
| 3      | 73.1                 | 90.3   | 72.7                 | 89.7   | 77.3             | 94.0   |
| 4      | 65.9                 | 86.8   | 65.9                 | 86.6   | 70.6             | 91.5   |
| 5      | 61.2                 | 85.6   | 60.1                 | 84.0   | 64.3             | 88.2   |
| 6      | 55.8                 | 82.7   | 54.2                 | 80.6   |                  |        |
| 7      | 51.2                 | 80.4   | 49.6                 | 78.3   |                  |        |
| 8      | 47.1                 | 78.3   | 44.8                 | 74.9   |                  |        |
| 9      | 43.1                 | 75.7   | 40.7                 | 72.1   |                  |        |
| 10     | 39.2                 | 72.8   | 37.8                 | 71.0   |                  |        |
| 11     | 35.2                 | 69.0   | 35.0                 | 69.4   |                  |        |
| 12     | 32.3                 | 67.0   | 32.0                 | 67.3   |                  |        |
| 13     | 29.7                 | 64.9   | 28.4                 | 63.3   |                  |        |
| 14     | 27.1                 | 62.6   | 25.0                 | 59.0   |                  |        |
| 15     | 25.3                 | 61.7   |                      |        |                  |        |
| Median | 7.3                  |        | 6.9                  |        |                  |        |

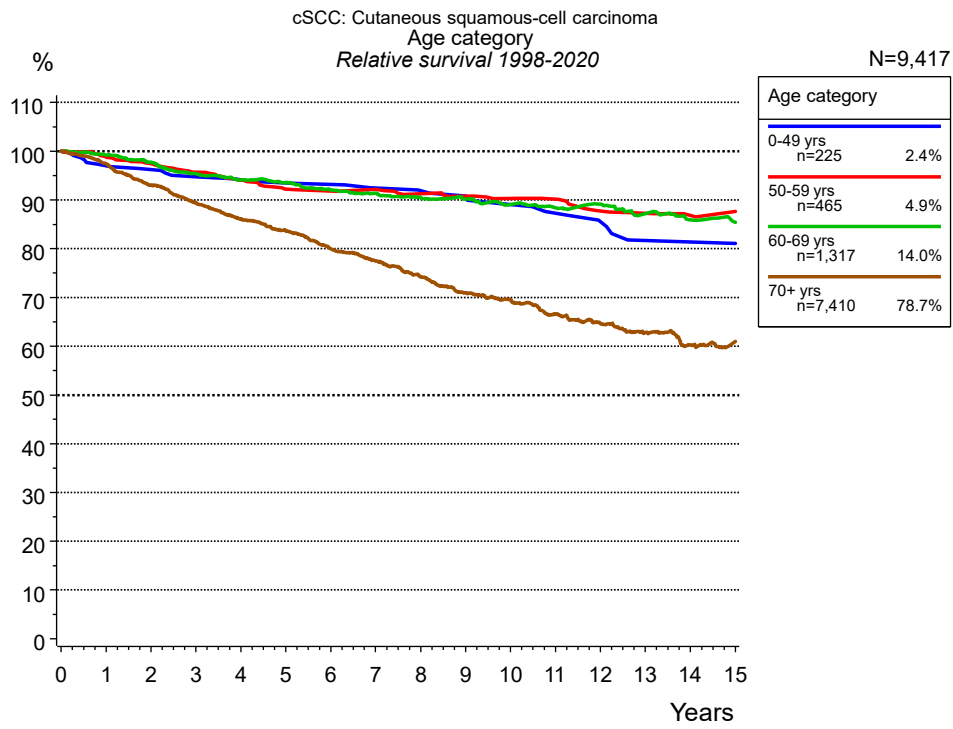
**Table 1b.** Observed (obs.) and relative (rel.) survival of patients with Squamous-cell skin ca. by period of diagnosis for period 1998-2020 (N=9,417).



**Figure 2a.** Survival of patients with Squamous-cell skin ca. by sex. Included in the evaluation are 9,417 cases diagnosed between 1998 and 2020.

| Years  | Sex             |        |                   |        |
|--------|-----------------|--------|-------------------|--------|
|        | Male<br>n=5,398 |        | Female<br>n=4,019 |        |
|        | obs. %          | rel. % | obs. %            | rel. % |
| 0      | 100.0           | 100.0  | 100.0             | 100.0  |
| 1      | 91.9            | 98.5   | 89.7              | 96.8   |
| 2      | 82.6            | 94.8   | 80.1              | 92.8   |
| 3      | 75.0            | 91.7   | 71.9              | 89.1   |
| 4      | 68.3            | 89.0   | 64.6              | 85.4   |
| 5      | 62.7            | 86.9   | 59.1              | 83.0   |
| 6      | 56.9            | 83.9   | 53.2              | 79.2   |
| 7      | 52.2            | 81.6   | 48.7              | 76.9   |
| 8      | 47.4            | 78.8   | 44.3              | 73.8   |
| 9      | 43.4            | 76.6   | 39.9              | 70.3   |
| 10     | 40.1            | 74.9   | 36.7              | 68.0   |
| 11     | 35.9            | 71.2   | 34.2              | 66.7   |
| 12     | 33.1            | 69.4   | 31.2              | 64.4   |
| 13     | 30.0            | 66.7   | 28.4              | 61.8   |
| 14     | 27.2            | 64.1   | 25.9              | 59.3   |
| 15     | 25.1            | 62.7   | 24.6              | 58.9   |
| Median | 7.5             |        | 6.7               |        |

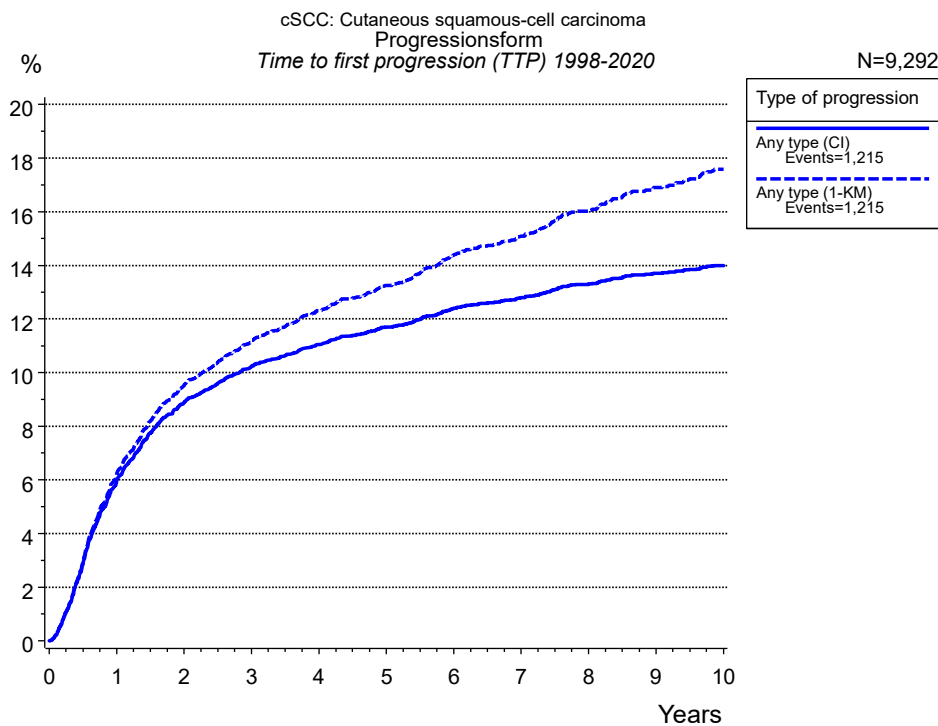
**Table 2b.** Observed (obs.) and relative (rel.) survival of patients with Squamous-cell skin ca. by sex for period 1998-2020 (N=9,417).



**Figure 3a.** Relative survival of patients with Squamous-cell skin ca. by age category. Included in the evaluation are 9,417 cases diagnosed between 1998 and 2020.

| Years  | Age category      |        |                    |        |                      |        |                    |        |
|--------|-------------------|--------|--------------------|--------|----------------------|--------|--------------------|--------|
|        | 0-49 yrs<br>n=225 |        | 50-59 yrs<br>n=465 |        | 60-69 yrs<br>n=1,317 |        | 70+ yrs<br>n=7,410 |        |
|        | obs. %            | rel. % | obs. %             | rel. % | obs. %               | rel. % | obs. %             | rel. % |
| 0      | 100.0             | 100.0  | 100.0              | 100.0  | 100.0                | 100.0  | 100.0              | 100.0  |
| 1      | 97.1              | 97.0   | 98.4               | 98.8   | 97.9                 | 99.2   | 89.1               | 97.5   |
| 2      | 96.1              | 96.3   | 96.6               | 97.5   | 95.0                 | 97.8   | 77.9               | 93.0   |
| 3      | 94.6              | 94.7   | 94.1               | 95.7   | 91.1                 | 95.4   | 68.7               | 89.5   |
| 4      | 93.5              | 94.1   | 91.9               | 94.1   | 88.3                 | 94.1   | 60.6               | 86.1   |
| 5      | 92.9              | 93.5   | 89.3               | 92.2   | 86.2                 | 93.5   | 54.1               | 83.7   |
| 6      | 92.3              | 93.1   | 88.3               | 91.8   | 83.0                 | 92.0   | 47.3               | 80.0   |
| 7      | 90.9              | 92.5   | 88.0               | 92.1   | 80.6                 | 91.4   | 41.9               | 77.5   |
| 8      | 90.2              | 91.9   | 86.1               | 91.3   | 77.9                 | 90.4   | 36.7               | 74.2   |
| 9      | 89.4              | 90.8   | 84.8               | 90.8   | 75.6                 | 90.2   | 31.8               | 71.0   |
| 10     | 86.9              | 89.0   | 83.4               | 90.3   | 72.6                 | 89.1   | 28.2               | 69.6   |
| 11     | 84.9              | 87.3   | 82.4               | 90.2   | 69.8                 | 88.4   | 24.3               | 66.6   |
| 12     | 82.6              | 85.5   | 78.7               | 87.7   | 68.1                 | 89.1   | 21.0               | 64.6   |
| 13     | 78.4              | 81.7   | 77.4               | 87.3   | 64.1                 | 87.2   | 18.1               | 62.8   |
| 14     | 78.4              | 81.4   | 75.7               | 86.9   | 60.6                 | 85.9   | 15.3               | 60.3   |
| 15     | 78.4              | 81.1   | 74.8               | 87.7   | 57.6                 | 85.4   | 13.5               | 61.0   |
| Median |                   |        |                    |        | 17.3                 |        | 5.6                |        |

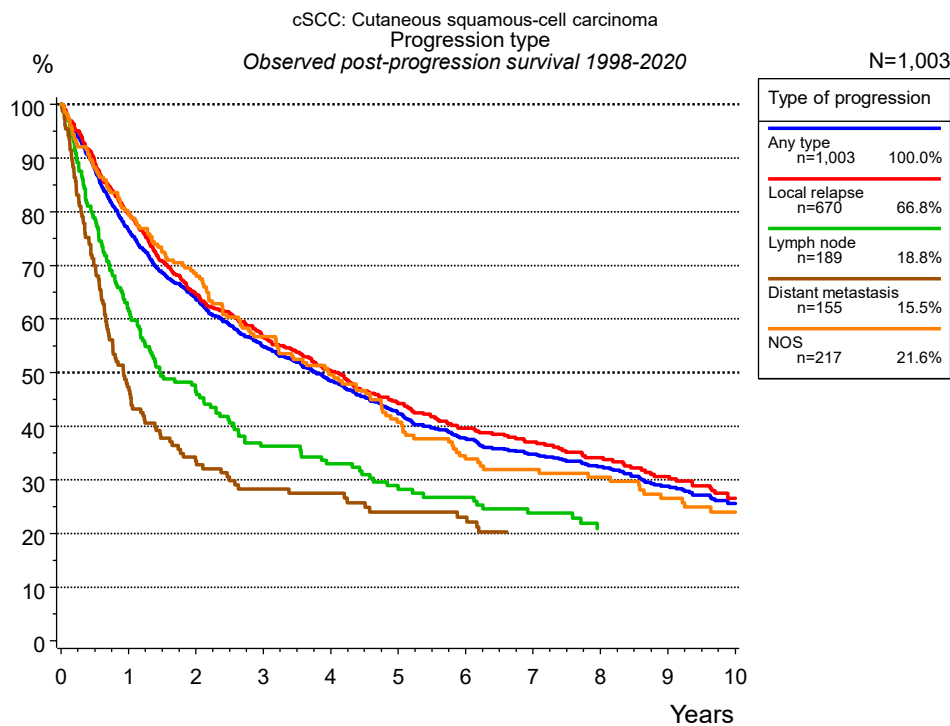
**Table 3b.** Observed (obs.) and relative (rel.) survival of patients with Squamous-cell skin ca. by age category for period 1998-2020 (N=9,417).



**Figure 5a.** Time to first progression of 9,292 patients with Squamous-cell skin ca. diagnosed between 1998 and 2020 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

|         | Type of progression |                 |
|---------|---------------------|-----------------|
|         | Any type (CI)       | Any type (1-KM) |
| N       | 9,292               | 9,292           |
| Events  | 1,178               | 1,178           |
| compet. | 3,875               |                 |
| Years   | %                   | %               |
| 0       | 0.0                 | 0.0             |
| 1       | 6.0                 | 6.2             |
| 2       | 8.9                 | 9.5             |
| 3       | 10.2                | 11.2            |
| 4       | 11.1                | 12.3            |
| 5       | 11.7                | 13.2            |
| 6       | 12.4                | 14.4            |
| 7       | 12.8                | 15.1            |
| 8       | 13.3                | 16.0            |
| 9       | 13.7                | 16.9            |
| 10      | 14.0                | 17.6            |

**Table 5b.** Time to first progression of patients with Squamous-cell skin ca. for period 1998-2020 (N=9,292), also showing the total of progression events (Events) and of deaths as competing risk (compet.).



**Figure 5c.** Observed post-progression survival of 1,003 patients with Squamous-cell skin ca. diagnosed between 1998 and 2020. These 1,003 patients with documented progression events during their course of disease represent 10.7 % of the totally 9,417 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=228, 2.4 %). Multiple progression types on different sites are included in the evaluation even when not occurring synchronously. The NOS (not otherwise specified) class is included under the condition, that it is the one and only progression type during the course of disease.

Medical record documentation often lacks the linguistic severity to distinguish between local relapse, regional lymph node metastasis and distant spread in solid cancers. Frequently, the statement “not specified” is the only information in registries regarding relapse of the disease. The category “Any type” denotes all cases who suffered from at least one relapse during the course of disease (incl. primary M1-status). Although, the real number of relapsed patients is likely to be much higher. The accumulated percentage of patients with local relapse or distant metastasis exceeds the 100 % value because patients are potentially considered in more than one subgroup.

| Years | Type of progression      |                             |                          |                                  |                   |
|-------|--------------------------|-----------------------------|--------------------------|----------------------------------|-------------------|
|       | Any type<br>n=1,003<br>% | Local relapse<br>n=670<br>% | Lymph node<br>n=189<br>% | Distant metastasis<br>n=155<br>% | NOS<br>n=217<br>% |
| 0     | 100.0                    | 100.0                       | 100.0                    | 100.0                            | 100.0             |
| 1     | 76.7                     | 79.6                        | 62.0                     | 47.3                             | 79.7              |
| 2     | 63.8                     | 64.5                        | 46.5                     | 33.5                             | 68.5              |
| 3     | 54.8                     | 56.6                        | 36.3                     | 28.3                             | 56.7              |
| 4     | 48.5                     | 50.4                        | 33.0                     | 27.5                             | 49.6              |
| 5     | 42.3                     | 44.2                        | 28.2                     | 24.0                             | 40.7              |
| 6     | 37.7                     | 39.6                        | 26.8                     | 23.0                             | 33.9              |
| 7     | 34.8                     | 37.1                        | 23.8                     | 20.3                             | 31.9              |
| 8     | 32.4                     | 34.1                        | 20.9                     |                                  | 30.5              |
| 9     | 28.9                     | 30.6                        |                          |                                  | 26.6              |
| 10    | 25.6                     | 26.6                        |                          |                                  | 24.0              |

**Table 5d.** Observed post-progression survival of patients with Squamous-cell skin ca. for period 1998-2020 (N=1,003).

## Shortcuts

|      |  |   |
|------|--|---|
| MCR  | Munich Cancer Registry, Germany                  |   |
| NCI  | National Cancer Institute, USA                   |   |
| SEER | Surveillance, Epidemiology, and End Results, USA |   |
| UICC | Union for International Cancer Control, Geneva   |   |
| DCO  | Death certificate only                           | Death certificate provides the only notification to the registry.   |
| NA   | Not available                                    |   |
| NOS  | Not otherwise specified                          |   |
| OS   | Overall/Observed survival                        | Overall/Observed survival (Kaplan-Meier estimate)<br>Date of entry: diagnosis<br>Event: death from any cause  |
| RS   | Relative survival                                | Survival compared to “general population”,<br>ratio of observed to expected survival (Ederer II method),<br>reflecting cancer specific survival   |
| AS   | Assembled survival                               | Assembled chart of<br>observed, expected, relative survival   |
| CS   | Conditional survival                             | Survival probability under the condition of surviving<br>a given period of time   |
| TTP  | Time to progression                              | Time to first progression / relapse<br>Date of entry: diagnosis<br>Event: (progression / relapse): first local-, lymph node recurrence,<br>distant metastasis or unspecified progression  |
| 1-KM |  | 1 minus Kaplan-Meier estimator<br>("inverse" Kaplan-Meier estimator)  |
| CI   |  | Cumulative incidence<br>Death as competing risk (according to Kalbfleisch und Prentice)   |
| PPS  | Post-progression survival                        | Survival since first progression / relapse (Kaplan-Meier estimate)<br>Date of entry (progression / relapse): first local-, lymph node<br>recurrence, distant metastasis or unspecified progression<br>Event: death from any cause |

## Recommended Citation

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