

Munich Cancer Registry



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ICD-10 C01: Base of tongue cancer

Survival

Year of diagnosis	1988-1997	1998-2019
Patients	140	896
Diseases	140	898
Cases evaluated	124	670
Creation date	01/27/2021	
Database export	01/07/2021	
Population	4.92 m	



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

https://www.tumorregister-muenchen.de/en/facts/surv/sC01__E-ICD-10-C01-Base-of-tongue-cancer-survival.pdf

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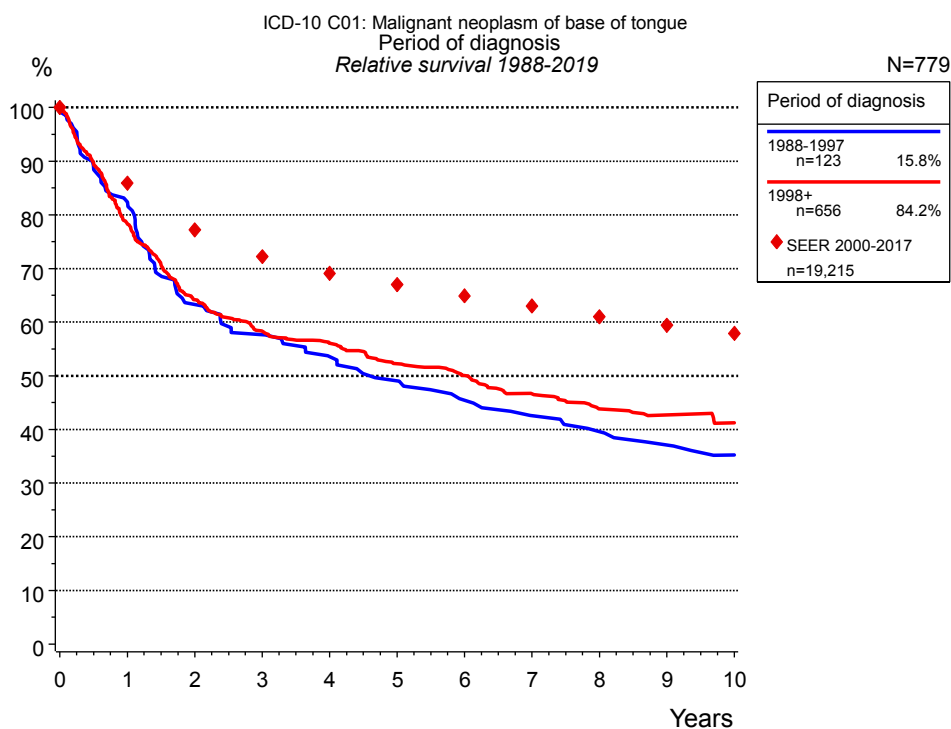


Figure 1a. Relative survival of patients with base of tongue cancer by period of diagnosis. Included in the evaluation are 779 cases diagnosed between 1988 and 2019.

The survival results of the SEER program (Surveillance, Epidemiology, and End Results) of the American National Cancer Institute (NCI) are summarized as the period of diagnosis from 2000 to 2017, and are represented by colored diamonds in order to facilitate comparisons between MCR and SEER.

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			
	1988-1997 n=123		1998+ n=656	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	82.0	82.4	77.0	78.3
2	62.1	63.3	62.2	64.2
3	56.1	57.6	55.5	58.3
4	50.9	53.6	52.5	56.1
5	46.5	49.0	48.1	52.3
6	42.0	45.4	45.2	50.0
7	38.4	42.5	41.3	46.6
8	35.8	39.6	38.0	43.8
9	33.1	37.1	36.4	42.7
10	30.4	35.2	34.4	41.2
Median	4.1		4.5	

Table 1b. Observed (obs.) and relative (rel.) survival of patients with base of tongue cancer by period of diagnosis for period 1988-2019 (N=779).

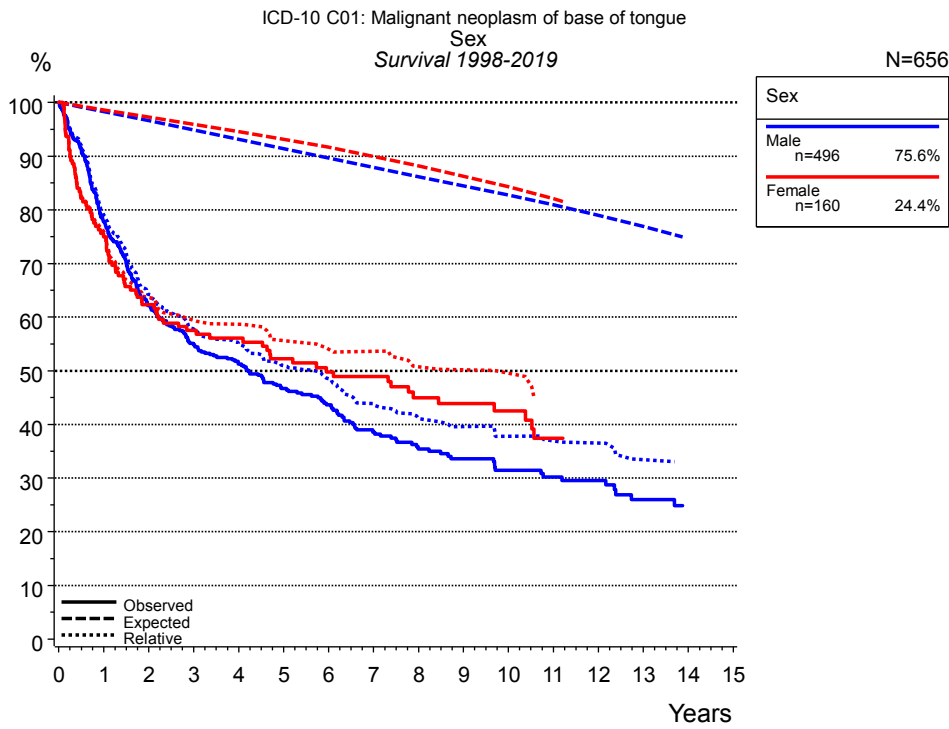


Figure 2a. Survival of patients with base of tongue cancer by sex. Included in the evaluation are 656 cases diagnosed between 1998 and 2019.

Years	Sex			
	Male n=496		Female n=160	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	77.6	79.0	74.9	76.0
2	62.2	64.2	62.3	63.7
3	54.9	57.8	57.5	59.4
4	51.2	55.0	56.1	58.6
5	46.7	51.0	52.3	55.6
6	43.6	48.5	49.8	54.0
7	38.6	43.7	48.9	53.6
8	35.4	41.1	45.0	50.8
9	33.6	39.6	43.9	50.2
10	31.4	37.8	42.5	49.5
11	30.2	36.9	37.4	44.3
12	29.6	36.5		
13	26.0	33.4		
Median	4.2		5.9	

Table 2b. Observed (obs.) and relative (rel.) survival of patients with base of tongue cancer by sex for period 1998-2019 (N=656).

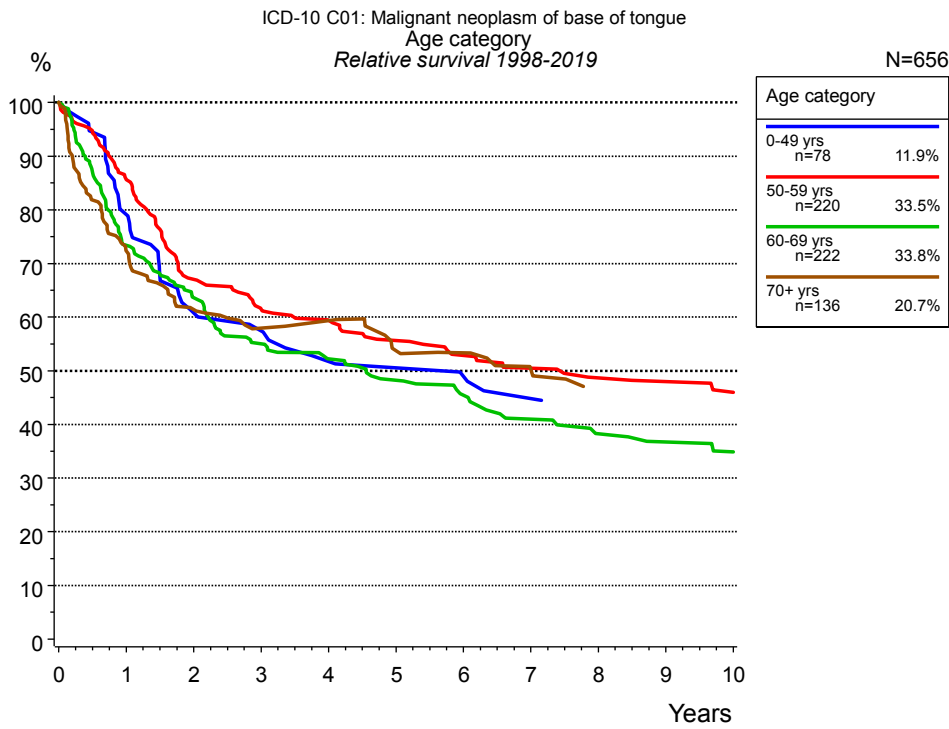


Figure 3a. Relative survival of patients with base of tongue cancer by age category. Included in the evaluation are 656 cases diagnosed between 1998 and 2019.

Years	Age category							
	0-49 yrs n=78		50-59 yrs n=220		60-69 yrs n=222		70+ yrs n=136	
	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	80.0	79.1	85.1	85.6	72.6	73.4	69.1	72.4
2	61.1	60.8	66.5	67.0	62.0	63.6	56.3	61.4
3	58.3	57.4	60.4	61.5	53.1	55.0	50.2	58.0
4	52.3	51.7	57.8	59.4	49.2	52.2	49.3	59.3
5	50.7	50.5	54.0	55.6	45.1	48.2	41.8	53.7
6	49.0	48.9	50.8	52.9	41.6	45.5	39.6	53.4
7	45.5	44.8	48.1	50.5	36.9	41.0	34.5	50.1
8	43.6	42.8	45.7	48.7	33.4	38.3		
9			44.8	48.0	31.5	36.7		
10			42.5	46.0	29.3	34.9		
Median	5.9		6.2		3.9		3.4	

Table 3b. Observed (obs.) and relative (rel.) survival of patients with base of tongue cancer by age category for period 1998-2019 (N=656).

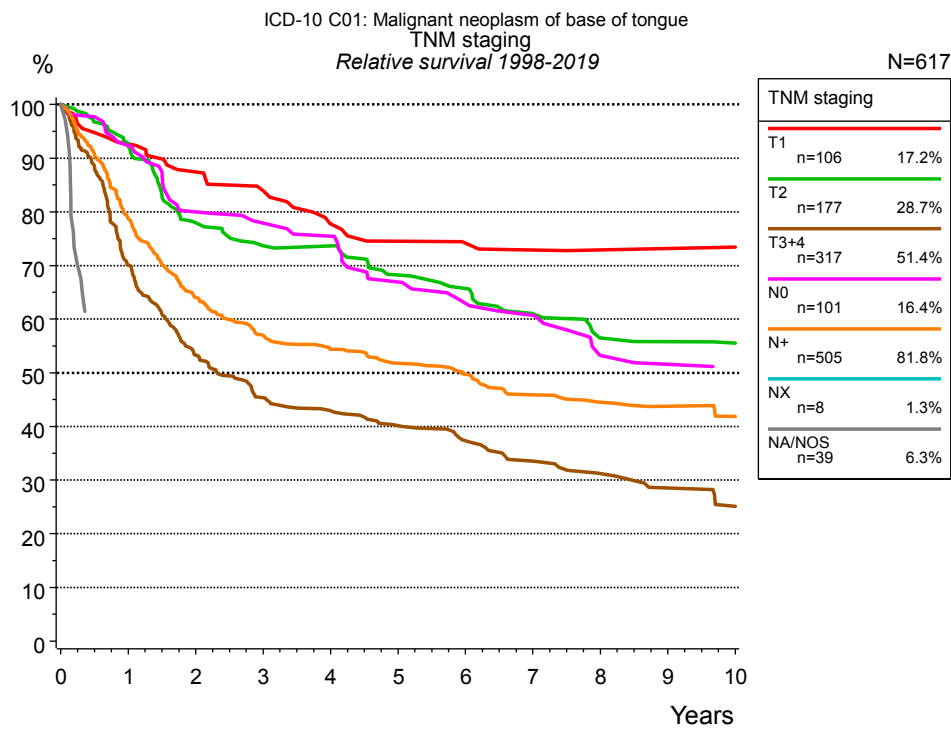


Figure 4a. Relative survival of patients with base of tongue cancer by TNM staging. For 619 of 656 cases diagnosed between 1998 and 2019 valid data could be obtained for this item. For a total of 617 cases an evaluable classification was established. The accumulated percentage exceeds the 100 % value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 39 patients with missing values regarding TNM staging (5.9 % of 656 patients, the percent values of all other categories are related to n=617). Subgroups with sample size <20 are omitted from the chart.

Years	TNM staging											
	T1 n=106		T2 n=177		T3+4 n=317		N0 n=101		N+ n=505		NA/NOS n=39	
	obs. %	rel. %	obs. %	rel. %	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	100.0	100.0	100.0	100.0
1	92.3	92.7	90.7	92.2	69.0	70.1	91.8	92.4	77.4	78.7		
2	86.2	87.4	75.7	77.9	51.6	53.3	78.2	80.0	62.1	64.0		
3	82.0	83.9	70.0	73.7	43.3	45.4	75.0	77.9	54.3	56.9		
4	74.3	77.7	69.3	73.7	40.0	42.9	71.7	75.5	51.0	54.4		
5	70.6	74.5	62.7	68.2	36.8	40.1	62.7	66.9	47.8	51.8		
6	69.2	74.1	59.5	65.7	33.5	37.3	57.7	62.9	45.1	49.7		
7	67.7	72.9	53.5	61.0	29.9	33.5	55.1	60.7	40.8	45.9		
8	66.1	72.9	48.3	56.5	26.9	31.2	46.1	53.2	38.8	44.5		
9	66.1	73.2	47.2	55.8	24.3	28.5	44.4	51.6	37.5	43.7		
10	66.1	73.4	45.7	55.5	21.1	25.1	42.6	50.7	35.3	41.9		
Median			7.9		2.2		7.8		4.5			

Table 4b. Observed (obs.) and relative (rel.) survival of patients with base of tongue cancer by TNM staging for period 1998-2019 (N=617).

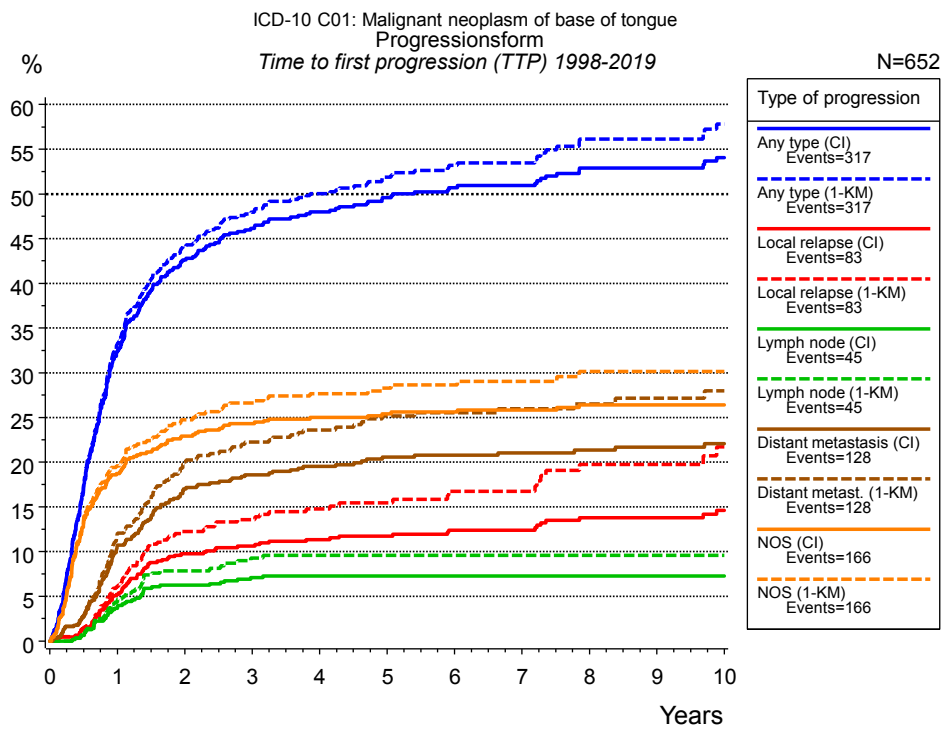


Figure 5a. Time to first progression of 652 patients with base of tongue cancer diagnosed between 1998 and 2019 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

	Type of progression							Distant metastasis (CI)
	Any type (CI)	Any type (1-KM)	Local relapse (CI)	Local relapse (1-KM)	Lymph node (CI)	Lymph node (1-KM)		
N	627	627	652	652	652	652	627	
Events	312	312	82	82	45	45	126	
compet.	82		301		333		225	
Years	%	%	%	%	%	%	%	
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1	32.4	33.2	5.2	6.1	3.7	4.3	10.6	
2	42.6	44.1	9.8	12.3	6.2	7.9	17.0	
3	46.1	48.0	10.6	13.6	7.1	9.3	18.6	
4	48.0	50.0	11.3	14.8	7.3	9.6	19.5	
5	49.6	51.9	11.7	15.5	7.3	9.6	20.6	
6	50.7	53.2	12.4	16.8	7.3	9.6	20.8	
7	50.9	53.5	12.4	16.8	7.3	9.6	21.1	
8	52.9	56.1	13.8	19.8	7.3	9.6	21.3	
9	52.9	56.1	13.8	19.8	7.3	9.6	21.7	
10	54.1	57.8	14.6	21.7	7.3	9.6	22.1	

<i>cont'd</i>	Type of progression		
	Distant metast. (1- KM)	NOS (CI)	NOS (1-KM)
N	627	652	652
Events	126	163	163
compet.		226	
Years	%	%	%
0	0.0	0.0	0.0
1	11.9	18.7	19.6
2	20.0	22.9	24.7
3	22.2	24.3	26.6
4	23.6	25.0	27.7
5	25.2	25.4	28.3
6	25.5	25.6	28.6
7	26.0	25.8	29.0
8	26.5	26.4	30.1
9	27.1	26.4	30.1
10	28.0	26.4	30.1

Table 5b. Time to first progression of patients with base of tongue cancer for period 1998-2019 (N=652), also showing the total of progression events (Events) and of deaths as competing risk (compet.).

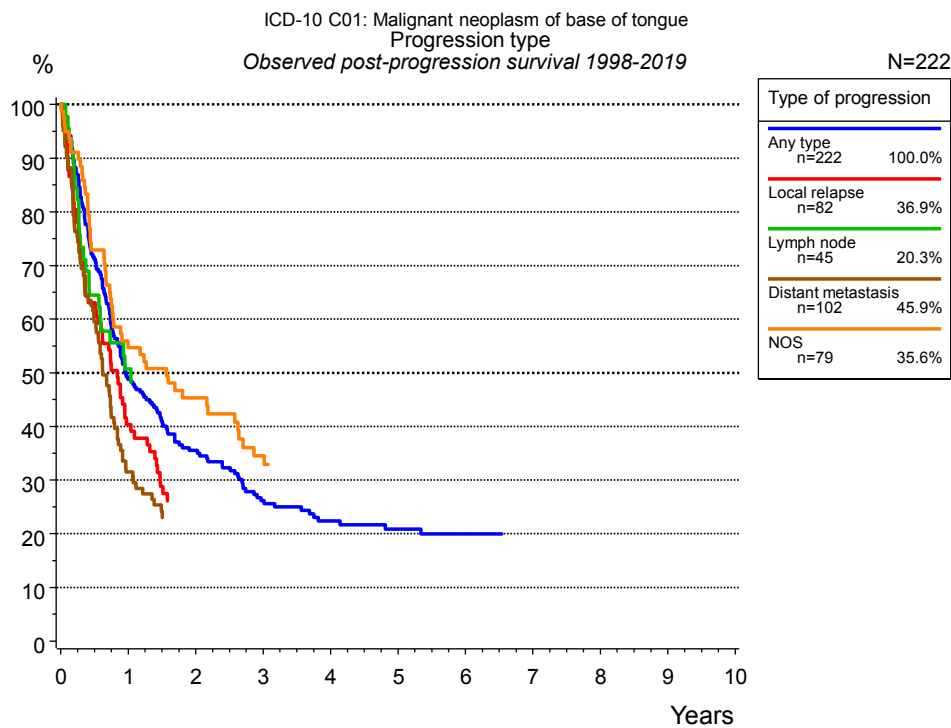


Figure 5c. Observed post-progression survival of 222 patients with base of tongue cancer diagnosed between 1998 and 2019. These 222 patients with documented progression events during their course of disease represent 34.0 % of the totally 652 evaluated cases (incl. M1, n=25, 3.8 %). Patients with cancer relapse documented via death certificates only were excluded (n=120, 18.4 %). 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 n=222 %	Local relapse n=82 %	Lymph node n=45 %	Distant metastasis n=102 %	NOS n=79 %
0	100.0	100.0	100.0	100.0	100.0
1	48.8	40.3	50.7	31.5	54.7
2	35.5				45.3
3	26.1				34.5
4	22.4				
5	20.8				
6	20.0				

Table 5d. Observed post-progression survival of patients with base of tongue cancer for period 1998-2019 (N=222).

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) Date of entry: diagnosis Event: death from any cause
RS	Relative survival	Survival compared to “general population”, ratio of observed to expected survival (Ederer II method), reflecting cancer specific survival
AS	Assembled survival	Assembled chart of observed, expected, relative survival
CS	Conditional survival	Survival probability under the condition of surviving a given period of time
TTP	Time to progression	Time to first progression / relapse Date of entry: diagnosis Event: (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression
1-KM		1 minus Kaplan-Meier estimator ("inverse" Kaplan-Meier estimator)
CI		Cumulative incidence Death as competing risk (according to Kalbfleisch und Prentice)
PPS	Post-progression survival	Survival since first progression / relapse (Kaplan-Meier estimate) Date of entry (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression Event: death from any cause

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