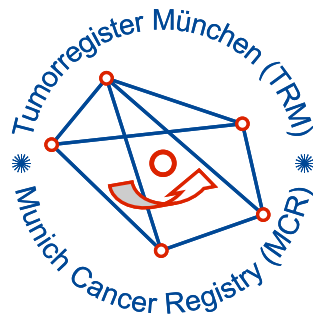


Munich Cancer Registry



- ▶ Baseline statistics
- ▶ Selection Matrix
- ▶ Homepage
- ▶ *Deutsch*

Munich Cancer Registry at Munich Cancer Center
Marchioninstr. 15
Munich, 81377
Germany

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

Cancer statistics: Survival

C33, C34: Small cell LC

Year of diagnosis	1988-2013
Patients	5,390
Diseases	5,392
Cases evaluated	3,364
Creation date	05/13/2015
Export date	12/30/2014
Population	4.64 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C34s_E.pdf

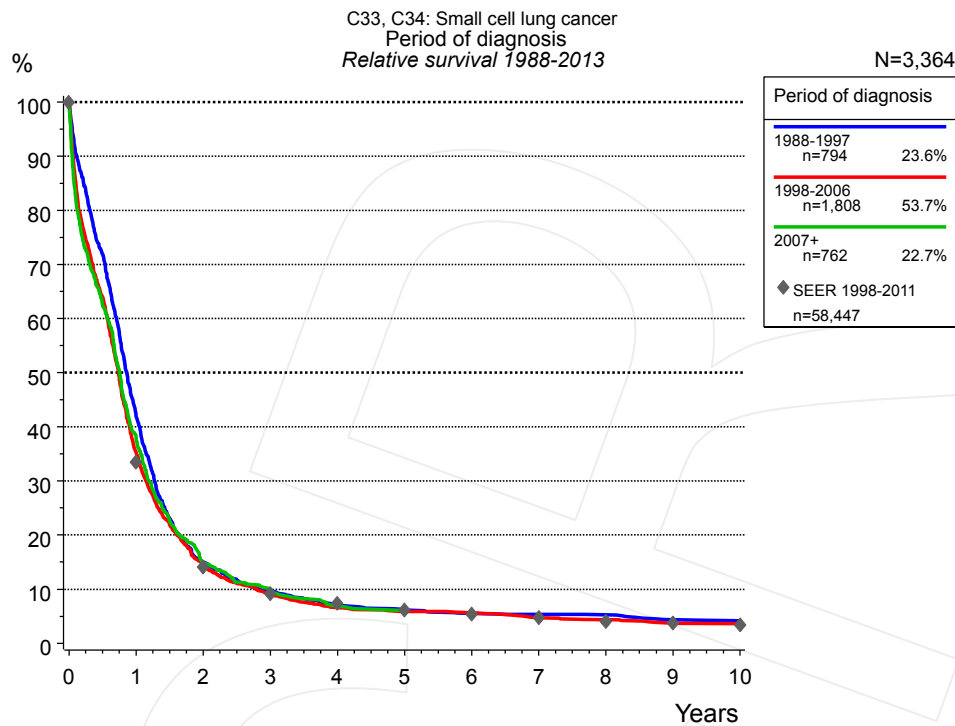


Figure 1a. Relative survival of patients with small cell LC by period of diagnosis. Included in the evaluation are 3,364 cases diagnosed between 1988 and 2013.

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 1998 to 2011, and are represented by gray 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 1988, 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=794		1998-2006 n=1,808		2007+ n=762	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	41.4	42.0	34.4	35.2	37.2	37.9
2	14.6	15.1	14.1	14.6	14.3	14.8
3	9.2	9.8	8.5	8.9	9.5	9.9
4	6.7	7.2	6.2	6.6	6.5	6.9
5	5.7	6.2	5.4	5.9	5.9	6.1
6	4.9	5.5	5.1	5.6		
7	4.7	5.3	4.3	4.8		
8	4.6	5.3	3.9	4.4		
9	3.6	4.3	3.3	3.7		
10	3.5	4.2	3.2	3.7		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with small cell LC by period of diagnosis for period 1988-2013 (N=3,364).

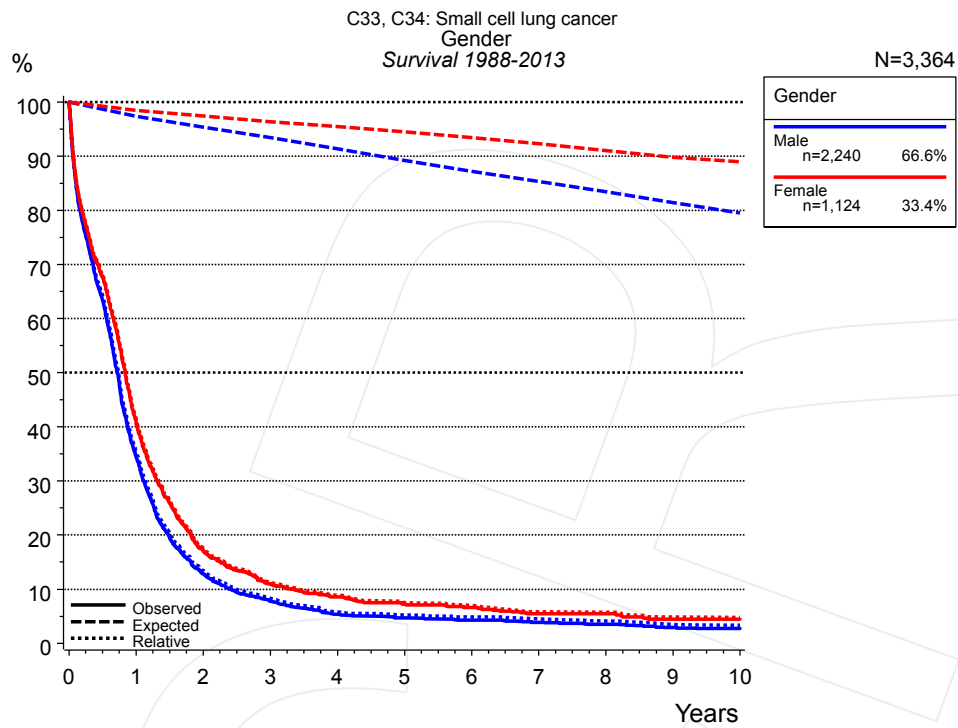


Figure 2a. Survival of patients with small cell LC by gender. Included in the evaluation are 3,364 cases diagnosed between 1988 and 2013.

Years	Gender			
	Male n=2,240		Female n=1,124	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	34.5	35.4	40.8	41.3
2	12.8	13.4	17.1	17.5
3	7.8	8.3	11.0	11.3
4	5.3	5.8	8.6	8.9
5	4.7	5.2	7.2	7.6
6	4.3	4.9	6.6	7.0
7	3.9	4.5	5.4	5.9
8	3.5	4.2	5.4	5.8
9	2.9	3.5	4.4	4.9
10	2.7	3.3	4.4	4.8

Table 2b. Observed (obs.) and relative (rel.) survival of patients with small cell LC by gender for period 1988-2013 (N=3,364).

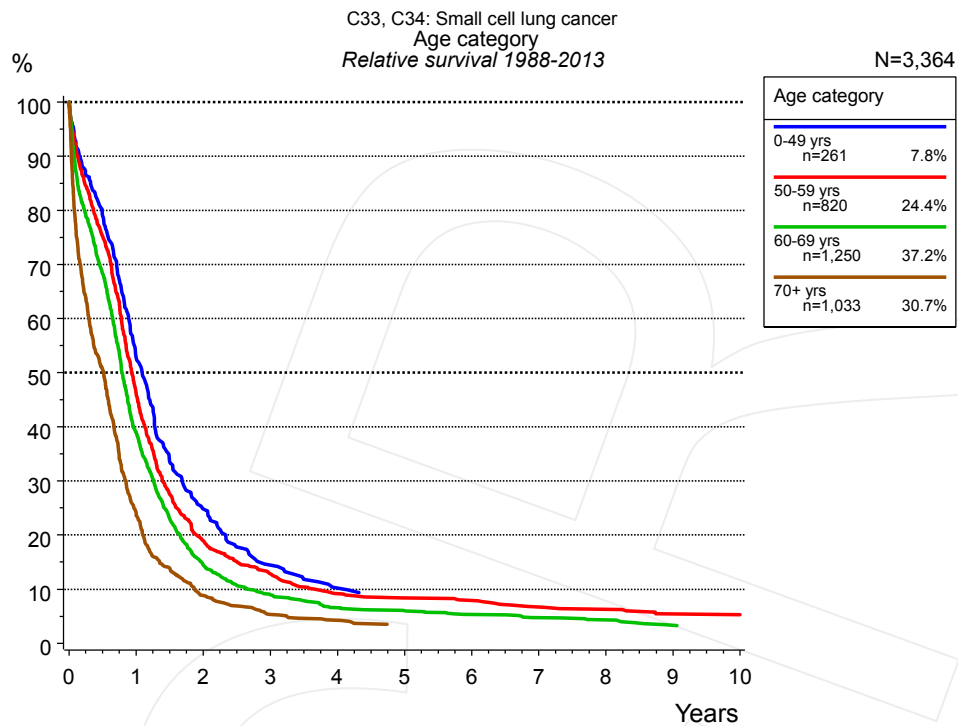


Figure 3a. Relative survival of patients with small cell LC by age category. Included in the evaluation are 3,364 cases diagnosed between 1988 and 2013.

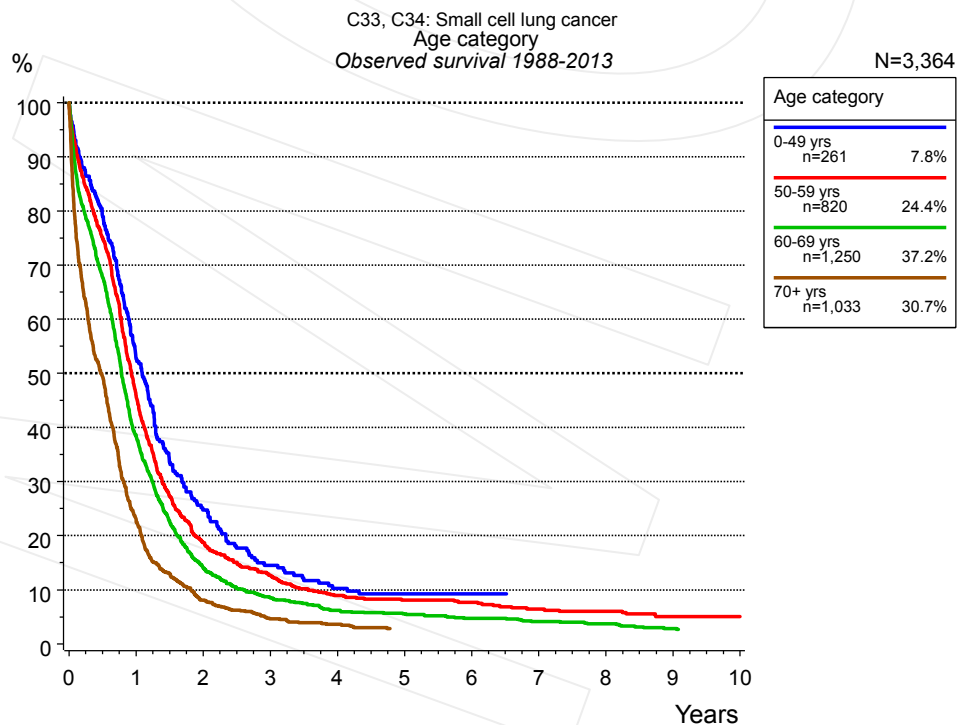


Figure 3b. Observed survival of patients with small cell LC by age category. Included in the evaluation are 3,364 cases diagnosed between 1988 and 2013.

Years	Age category							
	0-49 yrs n=261		50-59 yrs n=820		60-69 yrs n=1,250		70+ yrs n=1,033	
	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	52.6	52.7	45.9	46.2	38.5	39.0	23.0	24.0
2	24.8	24.9	18.8	19.0	14.0	14.4	8.1	8.8
3	14.6	14.5	12.6	12.8	8.6	9.0	4.6	5.3
4	10.3	10.2	9.0	9.2	6.2	6.6	3.6	4.2
5	9.3	9.3	8.1	8.4	5.6	6.0		
6	9.3	9.2	7.7	7.9	4.8	5.3		
7	9.3	9.1	6.4	6.7	4.2	4.7		
8	9.3	9.0	6.0	6.3	3.8	4.3		
9	9.3	9.0	5.1	5.4	2.9	3.3		
10	9.3	8.9	5.1	5.3				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with small cell LC by age category for period 1988-2013 (N=3,364).

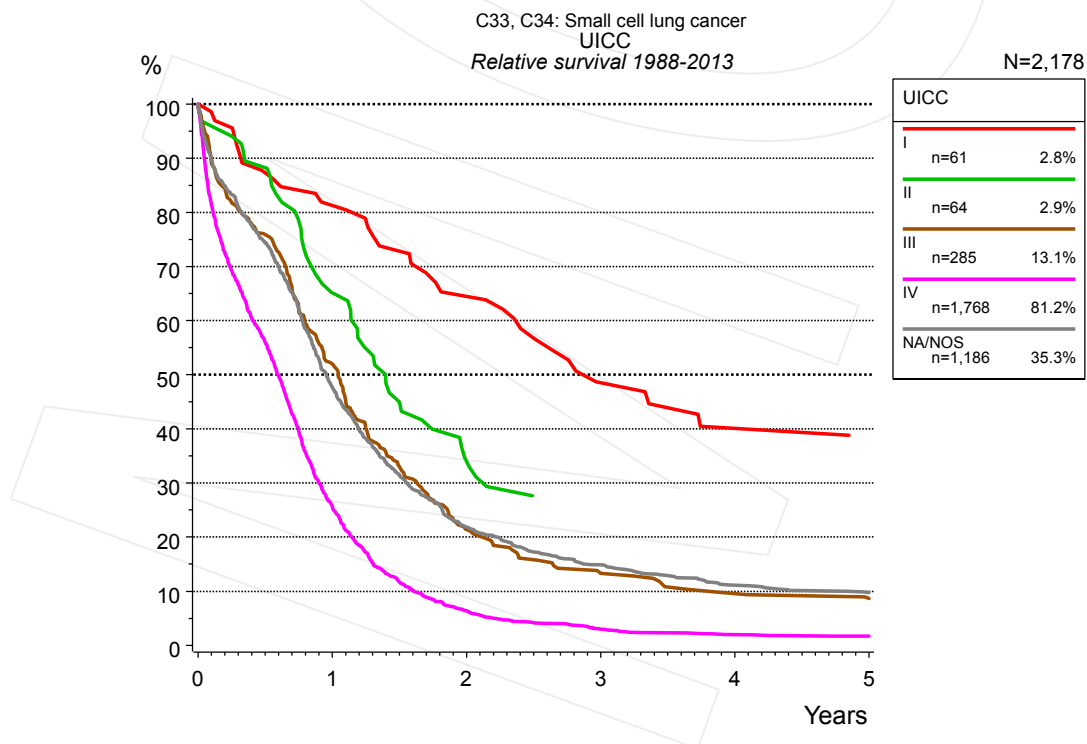


Figure 4a. Relative survival of patients with small cell LC by UICC. For 2,773 of 3,364 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 2,178 cases an evaluable classification was established. The grey line represents the subgroup of 1,186 patients with missing values regarding UICC (35.3% of 3,364 patients, the percent values of all other categories are related to n=2,178).

Years	UICC									
	I n=61		II n=64		III n=285		IV n=1,768		NA/NOS n=1,186	
	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
1	80.3	81.3	64.1	65.1	51.2	52.0	25.1	25.6	46.5	47.6
2	62.8	64.5	33.6	34.1	20.7	21.4	6.2	6.4	21.0	21.8
3	45.8	48.5			13.1	13.4	2.8	3.0	14.1	14.8
4	37.4	40.1			9.3	9.6	1.9	2.0	10.3	11.1
5	35.1	38.0			8.3	8.7	1.6	1.7	9.0	9.7

Table 4b. Observed (obs.) and relative (rel.) survival of patients with small cell LC by UICC for period 1988-2013 (N=2,178).

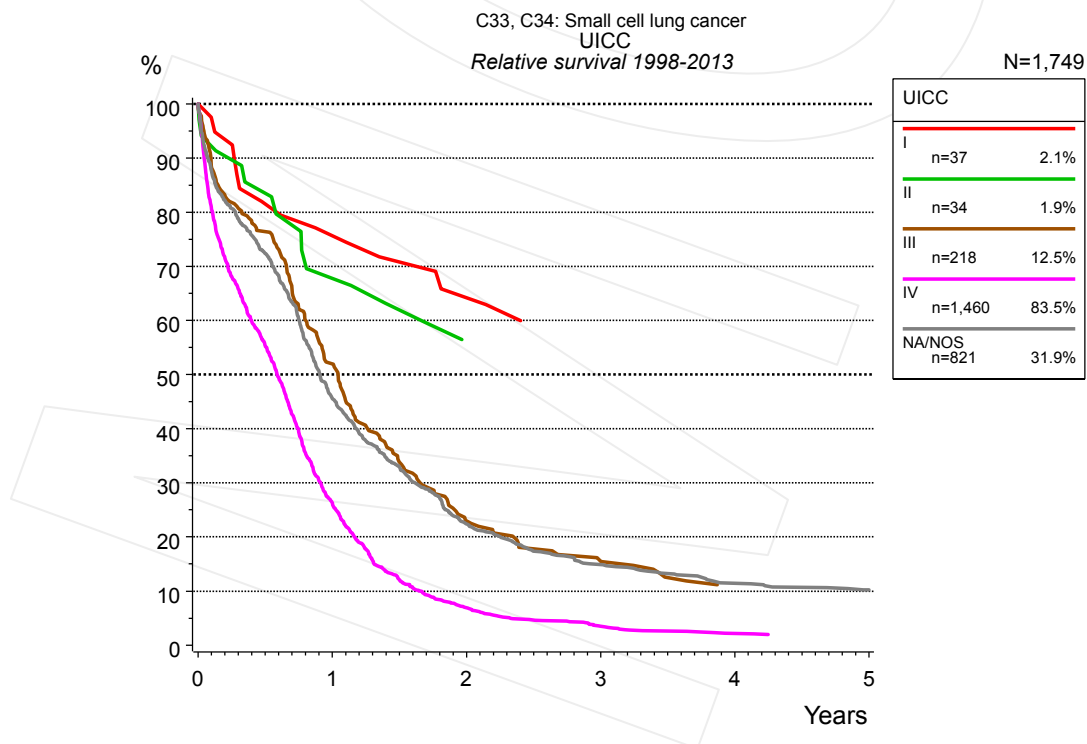


Figure 4c. Relative survival of patients with small cell LC by UICC. For 2,145 of 2,570 cases diagnosed between 1998 and 2013 valid data could be obtained for this item. For a total of 1,749 cases an evaluable classification was established. The grey line represents the subgroup of 821 patients with missing values regarding UICC (31.9% of 2,570 patients, the percent values of all other categories are related to n=1,749).

Years	UICC									
	I n=37		II n=34		III n=218		IV n=1,460		NA/NOS n=821	
	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
1	75.6	75.7	68.6	67.8	51.3	51.9	25.7	26.2	44.4	45.5
2	63.3	64.2			22.2	22.9	6.7	6.9	21.5	22.4
3					15.3	15.4	3.3	3.5	14.2	14.9
4					10.5	10.7	2.1	2.2	10.7	11.4
5									9.3	10.2

Table 4d. Observed (obs.) and relative (rel.) survival of patients with small cell LC by UICC for period 1998-2013 (N=1,749).

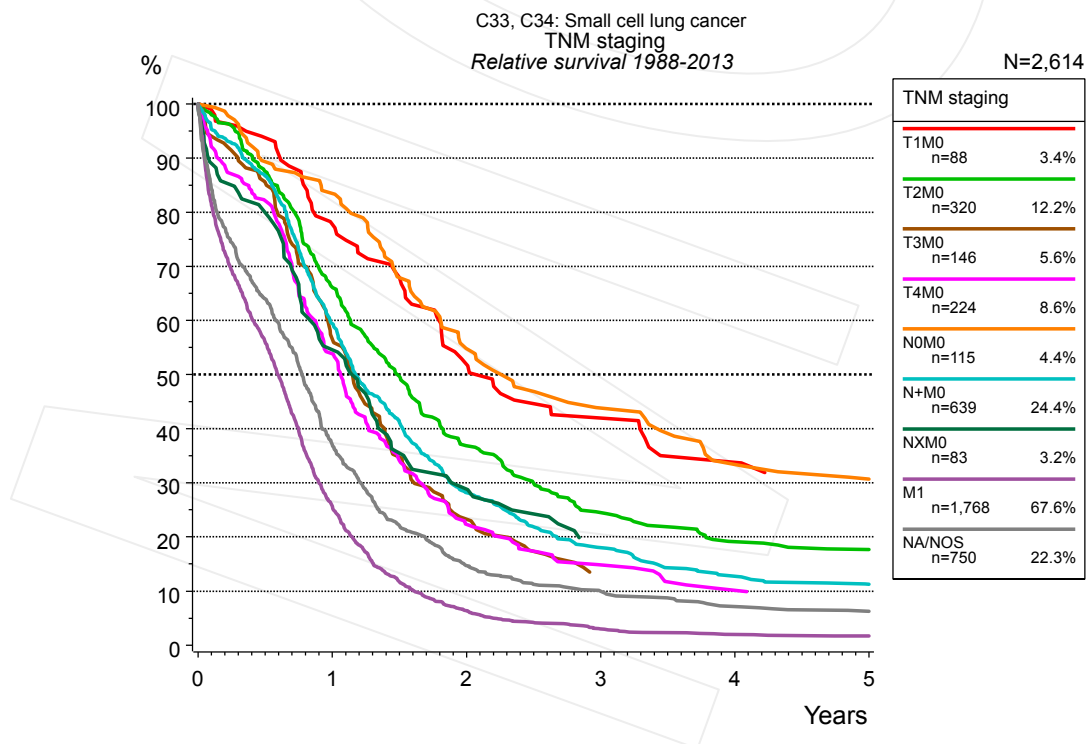


Figure 4e. Relative survival of patients with small cell LC by TNM staging. For 2,773 of 3,364 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 2,614 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 750 patients with missing values regarding TNM staging (22.3% of 3,364 patients, the percent values of all other categories are related to n=2,614).

Years	TNM staging													
	T1M0 n=88		T2M0 n=320		T3M0 n=146		T4M0 n=224		N0M0 n=115		N+M0 n=639		NXM0 n=83	
	obs. %	rel. %	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	100.0	100.0
1	76.9	77.8	65.0	66.1	56.3	56.5	53.2	53.9	82.5	83.5	58.4	59.4	54.3	54.6
2	51.0	51.9	35.5	36.9	22.9	23.3	21.6	22.3	52.7	54.8	27.3	28.2	29.1	28.8
3	40.6	42.0	23.4	24.5	12.8	13.1	14.2	14.9	41.4	43.8	17.2	18.0		
4	32.9	33.7	17.9	19.1			9.9	10.2	31.6	33.4	12.0	12.7		
5			16.4	17.6					28.2	30.7	10.4	11.3		

Years	TNM staging			
	M1 n=1,768		NA/NOS n=750	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	25.1	25.6	36.0	37.0
2	6.2	6.4	14.1	14.7
3	2.8	3.0	9.5	10.0
4	1.9	2.0	6.7	7.2
5	1.6	1.7	5.8	6.3

Table 4f. Observed (obs.) and relative (rel.) survival of patients with small cell LC by TNM staging for period 1988-2013 (N=3,383).

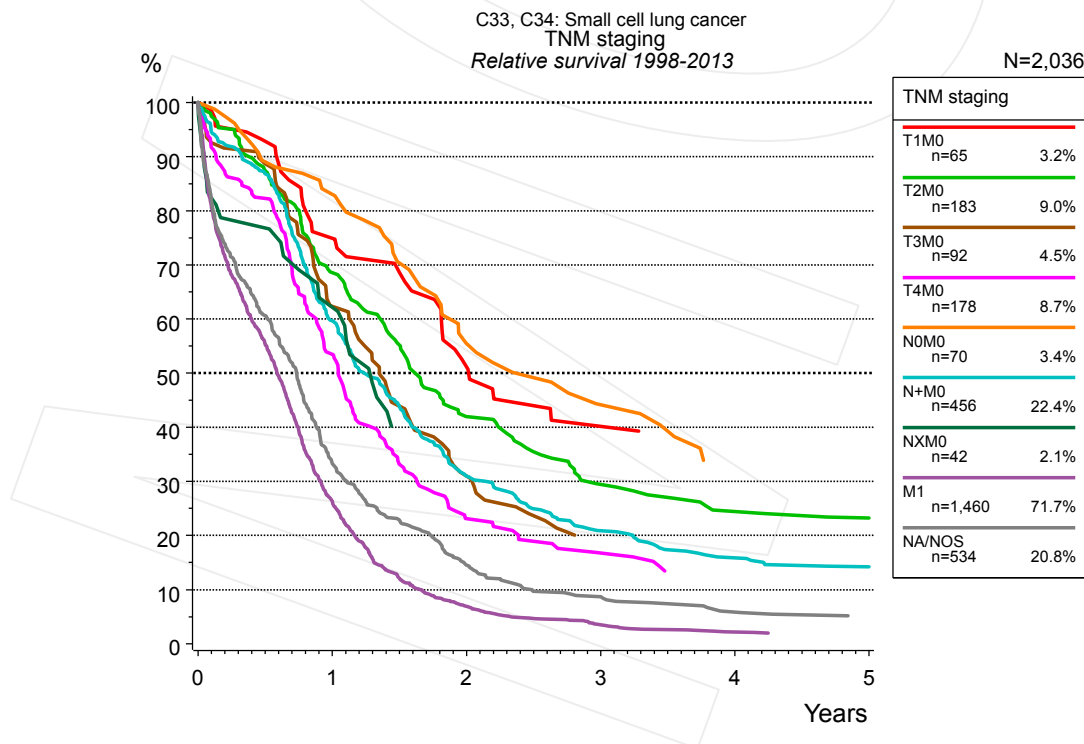


Figure 4g. Relative survival of patients with small cell LC by TNM staging. For 2,145 of 2,570 cases diagnosed between 1998 and 2013 valid data could be obtained for this item. For a total of 2,036 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 534 patients with missing values regarding TNM staging (20.8% of 2,570 patients, the percent values of all other categories are related to n=2,036).

TNM staging														
Years	T1M0 n=65		T2M0 n=183		T3M0 n=92		T4M0 n=178		N0M0 n=70		N+M0 n=456		NXM0 n=42	
	obs. %	rel. %	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	100.0	100.0
1	74.8	74.9	67.4	68.5	61.4	62.3	52.9	53.4	82.7	83.0	58.7	59.6	63.1	62.2
2	50.5	51.1	40.5	42.0	30.7	31.0	22.3	23.1	53.6	55.5	30.0	31.0		
3	39.3	40.1	28.1	29.4			16.0	16.8	42.1	44.2	19.9	20.9		
4			23.2	24.5							15.0	15.9		
5			21.7	23.2							13.2	14.2		

TNM staging				
Years	M1 n=1,460		NA/NOS n=534	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	25.7	26.2	32.3	33.2
2	6.7	6.9	13.9	14.5
3	3.3	3.5	8.4	8.7
4	2.1	2.2	5.6	5.8
5			4.7	4.8

Table 4h. Observed (obs.) and relative (rel.) survival of patients with small cell LC by TNM staging for period 1998-2013 (N=2,546).

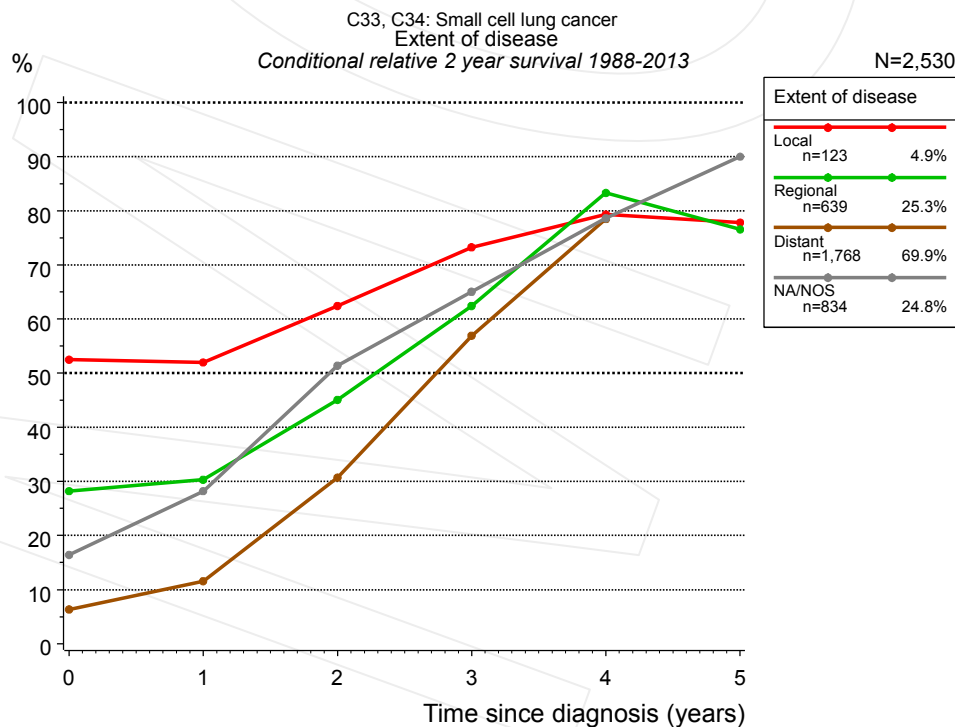


Figure 4i. Conditional relative 2-year survival of patients with small cell LC by extent of disease. For 2,773 of 3,364 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 2,530 cases an evaluable classification was established. The grey line represents the subgroup of 834 patients with missing values regarding extent of disease (24.8% of 3,364 patients, the percent values of all other categories are related to n=2,530).

Years	Extent of disease							
	Local		Regional		Distant		NA/NOS	
	n	Cond. surv. % 2 yrs	n	Cond. surv. % 2 yrs	n	Cond. surv. % 2 yrs	n	Cond. surv. % 2 yrs
0	123	52.5	639	28.2	1,768	6.4	834	16.4
1	94	52.0	351	30.3	415	11.6	297	28.2
2	54	62.4	153	45.0	92	30.7	116	51.4
3	40	73.3	86	62.4	38	56.9	72	65.0
4	30	79.3	55	83.3	21	78.5	52	78.6
5	25	77.8	41	76.6			42	90.0

Table 4j. Conditional relative 2-year survival of patients with small cell LC by extent of disease for period 1988-2013 (N=2,530).

Conditional relative survival rates refer to the relative survival probability, in this case for 2 years after cancer diagnosis, compared to the age- and sex-matched population (=100%) under the condition of being alive for a certain time period (x-axis in Figure 4g). The results illustrate to what extent the cancer induced mortality of particular subgroups declines in the subsequent years after detection of the malignancy. For instance, according to the presented survival statistics, patients in the subgroup extent of disease="Local", who are alive at least 3 years after cancer diagnosis, the conditional relative 2-year survival rate is 73.3% (n=40).

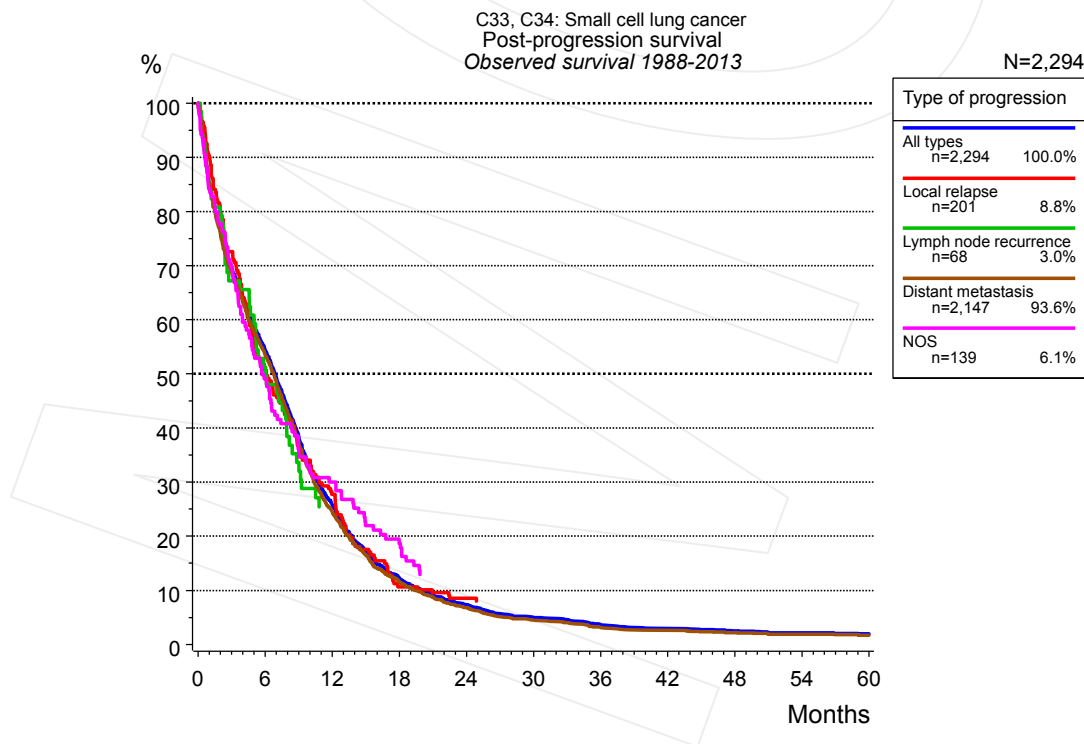


Figure 5a. Observed post-progression survival of 2,294 patients with small cell LC diagnosed between 1988 and 2013 (incl. M1). These 2,294 patients with documented progression events during their course of disease represent 68.2% of the totally 3,364 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=627, 18.6%). 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 "All types" 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.

Months	Type of progression				
	All types n=2,294 %	Local relapse n=201 %	Lymph node recurrence n=68 %	Distant metastasis n=2,147 %	NOS n=139 %
0	100.0	100.0	100.0	100.0	100.0
12	25.8	27.7	25.4	24.5	30.0
24	7.4	8.5		6.8	
36	3.7			3.1	
48	2.5			2.2	
60	2.0			1.7	

Table 5b. Observed post-progression survival of patients with small cell LC for period 1988-2013 (N=2,294).

Shortcuts

MCR	Munich Cancer Registry, Germany (Tumorregister München)
NCI	National Cancer Institute, USA
SEER	Surveillance, Epidemiology, and End Results, USA
UICC	Union for International Cancer Control, Geneva
DCO	Death certificate only. The death certificate provides the only notification to the registry.
NA	Not available
NOS	Not otherwise specified
OS	Observed/overall survival (Kaplan-Meier estimate)
RS	Relative survival, compared to the general population, ratio of observed to expected survival (Ederer II method), reflecting excess mortality among cancer patients
AS	Assembled survival chart (observed, expected, relative)
PPS	Post-progression survival, survival since first relapse (Kaplan-Meier estimate)
progression	Date of entry: Date of first locoregional recurrence, distant metastasis, unspecified
	Event: Death of all causes
CS	Conditional survival, survival probability under the condition of surviving a given period of time

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