

Munich Cancer Registry



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

Cancer statistics: Survival

C15: Oesophagus cancer

Year of diagnosis	1988-2012
Patients	4,144
Diseases	4,146
Cases evaluated	2,255
Creation date	03/25/2014
Export date	02/12/2014
Population	4.5 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C15__E.pdf

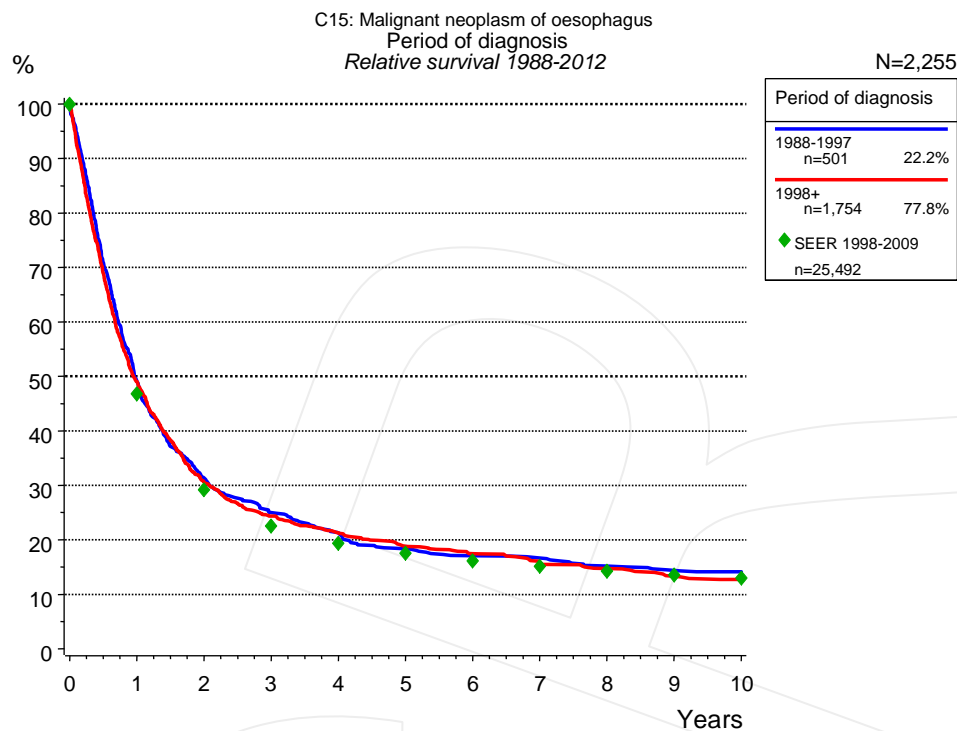


Figure 1a. Relative survival of patients with oesophagus cancer by period of diagnosis. Included in the evaluation are 2,255 cases diagnosed between 1988 and 2012.

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 2009, and are represented by green 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=501		1998+ n=1,754	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	48.0	49.1	47.8	49.0
2	30.1	31.4	29.3	30.6
3	23.4	25.0	22.8	24.4
4	19.5	21.3	19.5	21.3
5	16.5	18.3	17.0	18.9
6	15.1	17.1	15.4	17.5
7	14.2	16.7	13.6	15.8
8	12.6	15.2	12.5	14.8
9	11.7	14.4	11.0	13.3
10	11.3	14.2	10.2	12.7

Table 1b. Observed (obs.) and relative (rel.) survival of patients with oesophagus cancer by period of diagnosis for period 1988-2012 (N=2,255).

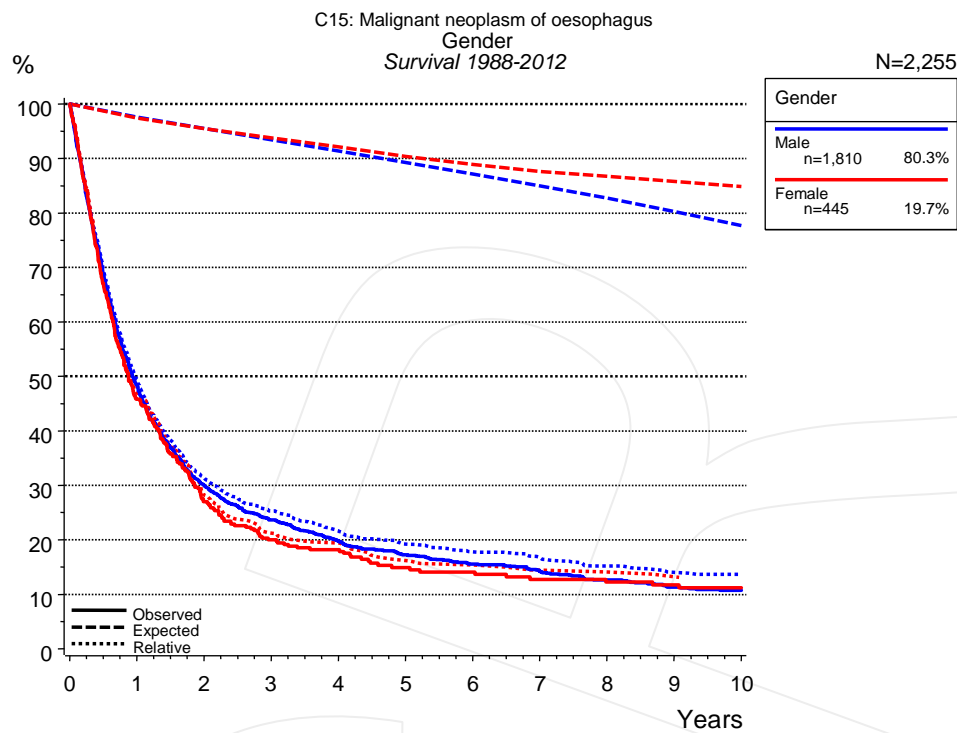


Figure 2a. Survival of patients with oesophagus cancer by gender. Included in the evaluation are 2,255 cases diagnosed between 1988 and 2012.

Years	Gender			
	Male n=1,810		Female n=445	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	48.3	49.5	45.8	46.9
2	30.1	31.4	27.0	28.2
3	23.7	25.3	20.0	21.2
4	19.8	21.6	18.2	19.4
5	17.2	19.2	14.9	16.2
6	15.5	17.8	14.1	15.4
7	14.2	16.7	12.7	14.4
8	12.6	15.2	12.2	14.1
9	11.3	14.0	11.8	13.2
10	10.7	13.7	11.2	12.8

Table 2b. Observed (obs.) and relative (rel.) survival of patients with oesophagus cancer by gender for period 1988-2012 (N=2,255).

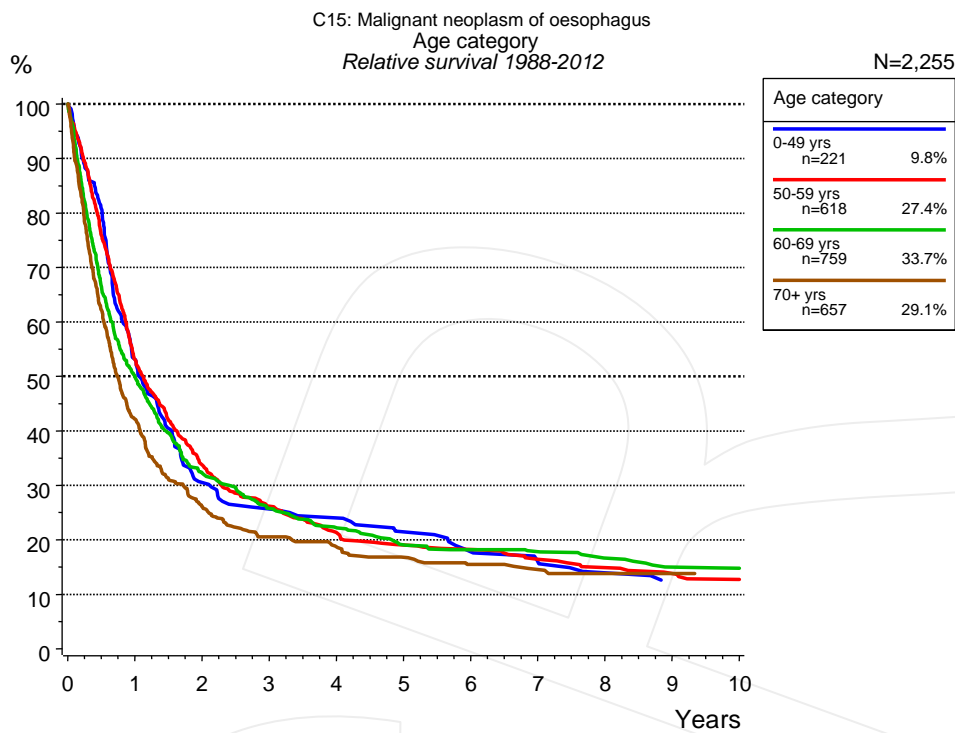


Figure 3a. Relative survival of patients with oesophagus cancer by age category. Included in the evaluation are 2,255 cases diagnosed between 1988 and 2012.

Years	Age category							
	0-49 yrs n=221		50-59 yrs n=618		60-69 yrs n=759		70+ yrs n=657	
	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	53.4	53.1	52.7	53.1	49.2	49.9	39.8	42.2
2	30.5	30.5	33.3	33.7	31.4	32.3	23.4	26.1
3	25.8	25.7	25.6	26.2	24.5	25.8	17.6	20.6
4	24.2	24.0	20.7	21.3	20.9	22.2	15.0	18.7
5	21.2	21.4	18.3	19.0	17.6	19.1	12.8	16.8
6	17.9	17.8	17.5	18.2	16.3	18.2	10.9	15.5
7	15.9	15.9	15.4	16.4	15.8	17.8	9.7	14.5
8	13.8	14.0	14.0	14.9	14.2	16.7	8.9	13.8
9	12.2	12.5	12.8	13.8	12.4	15.0	8.9	13.8
10	12.2	11.9	11.7	12.7	12.0	14.8	8.4	13.8

Table 3b. Observed (obs.) and relative (rel.) survival of patients with oesophagus cancer by age category for period 1988-2012 (N=2,255).

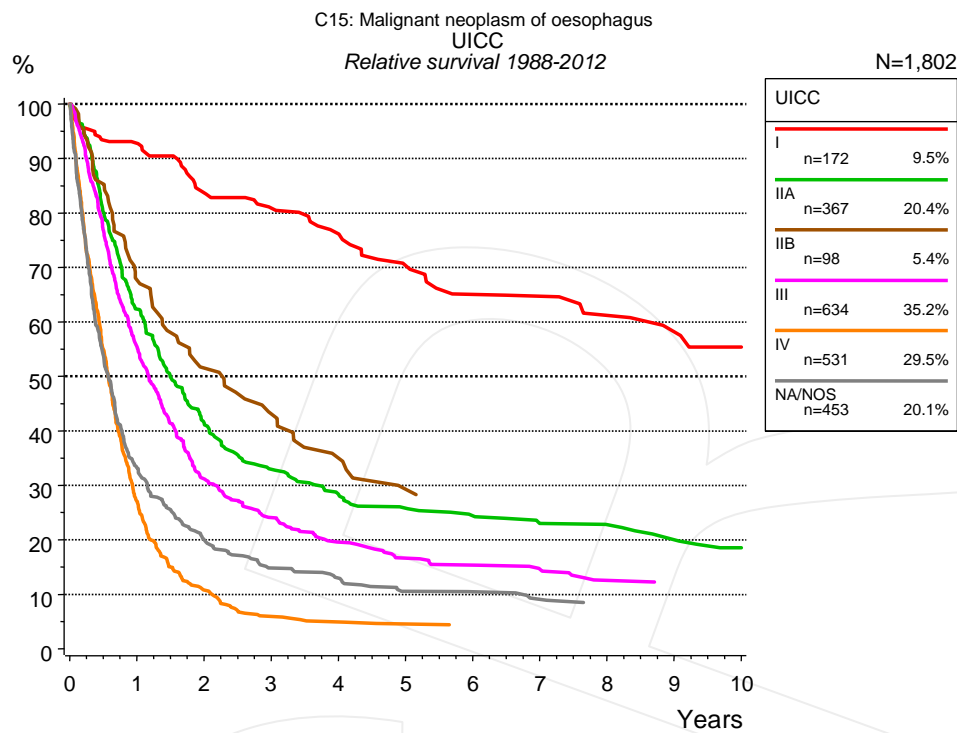


Figure 4a. Relative survival of patients with oesophagus cancer by UICC. For 1,856 of 2,255 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 1,802 cases an evaluable classification was established. The grey line represents the subgroup of 453 patients with missing values regarding UICC (20.1% of 2,255 patients, the percent values of all other categories are related to n=1,802).

Years	UICC											
	I n=172		IIA n=367		IIB n=98		III n=634		IV n=531		NA/NOS n=453	
	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	91.1	92.8	61.1	62.4	66.7	67.7	54.4	55.4	26.7	27.1	31.9	33.2
2	80.2	83.7	40.0	41.5	49.7	51.5	30.3	31.2	10.4	10.8	18.7	20.0
3	75.6	80.9	31.0	32.9	41.0	43.1	22.8	24.1	5.8	5.9	13.4	14.8
4	70.1	76.2	26.2	28.3	33.1	35.0	18.2	19.6	4.8	4.9	11.5	13.0
5	62.9	70.4	23.7	25.8	27.1	29.3	15.2	16.7	4.3	4.5	8.9	10.5
6	56.7	65.0	22.0	24.4			13.9	15.3			8.6	10.5
7	55.3	64.7	20.1	23.0			12.8	14.6			7.4	9.1
8	50.9	61.2	19.5	22.8			10.7	12.5			6.6	8.4
9	47.6	58.2	17.1	20.0			10.2	12.2				
10	43.9	55.4	15.2	18.5			10.2	12.1				

Table 4b. Observed (obs.) and relative (rel.) survival of patients with oesophagus cancer by UICC for period 1988-2012 (N=1,802).

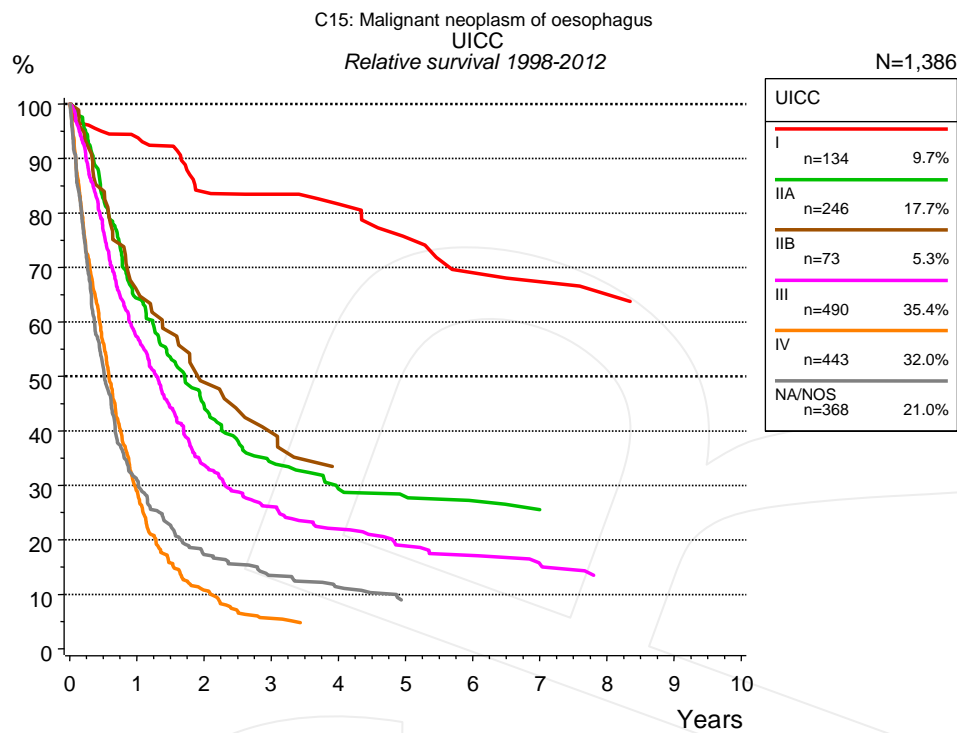


Figure 4c. Relative survival of patients with oesophagus cancer by UICC. For 1,428 of 1,754 cases diagnosed between 1998 and 2012 valid data could be obtained for this item. For a total of 1,386 cases an evaluable classification was established. The grey line represents the subgroup of 368 patients with missing values regarding UICC (21.0% of 1,754 patients, the percent values of all other categories are related to n=1,386).

Years	UICC											
	I n=134		IIA n=246		IIB n=73		III n=490		IV n=443		NA/NOS n=368	
	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	92.4	93.9	63.1	64.3	64.8	65.7	56.3	57.2	28.5	28.9	29.7	30.9
2	80.5	83.9	43.3	44.6	47.2	48.9	32.9	33.7	10.4	10.8	16.1	17.3
3	78.4	83.5	32.6	34.2	38.3	39.7	24.9	26.1	5.5	5.6	12.1	13.5
4	75.6	81.7	27.4	29.3	30.7	32.1	20.6	22.0			9.9	11.3
5	67.3	75.5	26.1	27.9			17.3	18.9			7.5	8.9
6	60.8	69.0	24.6	27.2			15.7	17.1				
7	58.2	67.4	22.6	25.6			13.7	15.5				
8	55.4	65.1	22.6	24.7			11.5	13.3				

Table 4d. Observed (obs.) and relative (rel.) survival of patients with oesophagus cancer by UICC for period 1998-2012 (N=1,386).

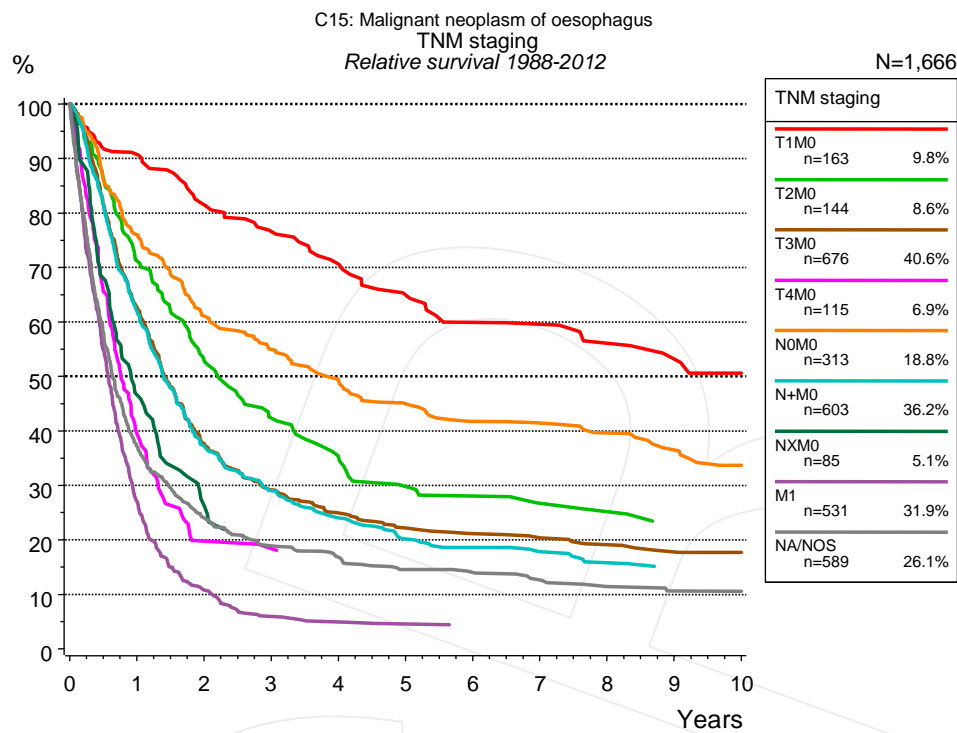


Figure 4e. Relative survival of patients with oesophagus cancer by TNM staging. For 1,856 of 2,255 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 1,666 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 589 patients with missing values regarding TNM staging (26.1% of 2,255 patients, the percent values of all other categories are related to n=1,666).

TNM staging															
	T1M0 n=163		T2M0 n=144		T3M0 n=676		T4M0 n=115		N0M0 n=313		N+M0 n=603		NXM0 n=85		
Years	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	89.4	90.7	69.8	71.2	61.5	62.7	39.3	39.4	74.6	76.0	60.8	62.0	45.7	46.6	
2	78.5	81.5	51.0	52.8	36.5	37.7	19.2	19.8	58.7	61.1	36.0	37.2	26.2	26.3	
3	72.1	76.6	39.8	42.3	27.7	29.2	18.2	18.4	51.7	55.0	27.5	29.0			
4	65.7	70.7	32.3	35.2	23.2	24.9			45.5	49.4	22.2	24.0			
5	58.7	64.9	27.0	29.8	20.3	22.1			40.6	45.0	18.3	20.2			
6	53.1	59.9	25.0	28.0	18.8	21.1			36.7	41.7	16.6	18.6			
7	51.9	59.6	22.7	26.7	17.8	20.4			35.6	41.5	15.4	17.8			
8	47.7	56.1	21.5	25.2	16.6	19.1			33.3	39.6	13.6	15.8			
9	44.4	53.2	18.9	22.9	15.2	17.7			30.2	36.5	12.5	15.1			
10	41.0	50.6			14.7	17.6			27.0	33.7	12.5	15.1			

cont'd Years	TNM staging			
	M1 n=531		NA/NOS n=589	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	26.7	27.1	35.9	37.2
2	10.4	10.8	22.7	24.0
3	5.8	5.9	17.3	18.9
4	4.8	4.9	15.0	16.8
5	4.3	4.5	12.5	14.5
6			11.9	14.0
7			10.5	12.6
8			9.0	11.4
9			8.1	10.6
10			8.1	10.5

Table 4f. Observed (obs.) and relative (rel.) survival of patients with oesophagus cancer by TNM staging for period 1988-2012 (N=2,630).

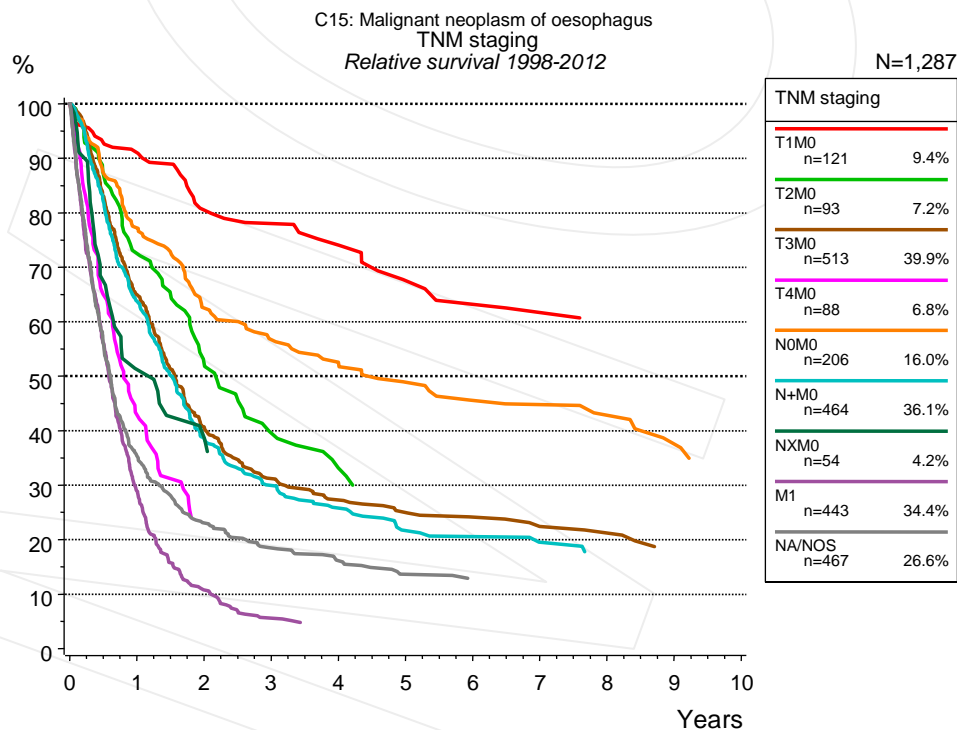


Figure 4g. Relative survival of patients with oesophagus cancer by TNM staging. For 1,428 of 1,754 cases diagnosed between 1998 and 2012 valid data could be obtained for this item. For a total of 1,287 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 467 patients with missing values regarding TNM staging (26.6% of 1,754 patients, the percent values of all other categories are related to n=1,287).

Years	TNM staging													
	T1M0 n=121		T2M0 n=93		T3M0 n=513		T4M0 n=88		N0M0 n=206		N+M0 n=464		NXM0 n=54	
	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	89.8	91.0	71.6	72.5	63.8	65.0	42.6	42.9	76.0	77.2	62.6	63.7	50.1	51.2
2	77.4	80.5	50.8	52.1	39.4	40.7	23.3	23.9	60.1	62.5	37.2	38.4	39.2	38.7
3	73.8	78.0	37.4	39.5	29.7	31.2	23.3	23.0	53.5	56.7	28.4	29.9		
4	69.5	74.1	30.4	33.2	25.7	27.3			48.4	52.3	24.0	25.8		
5	61.0	67.5	27.3	29.9	23.2	25.0			44.2	48.9	19.7	21.6		
6	56.9	63.2	27.3	29.7	21.7	24.1			40.4	45.6	18.5	20.6		
7	54.5	61.7	27.3	29.5	19.7	22.4			39.3	44.8	16.9	19.6		
8	51.6	59.0			18.9	21.2			36.7	42.8	15.1	17.5		
9					15.9	18.6			32.1	37.5				
10					15.9	18.3								

Years	TNM staging			
	M1 n=443		NA/NOS n=467	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	28.5	28.9	34.1	35.3
2	10.4	10.8	21.6	23.1
3	5.5	5.6	16.8	18.5
4			14.2	16.1
5			11.6	13.6
6			10.6	12.9

Table 4h. Observed (obs.) and relative (rel.) survival of patients with oesophagus cancer by TNM staging for period 1998-2012 (N=1,982).

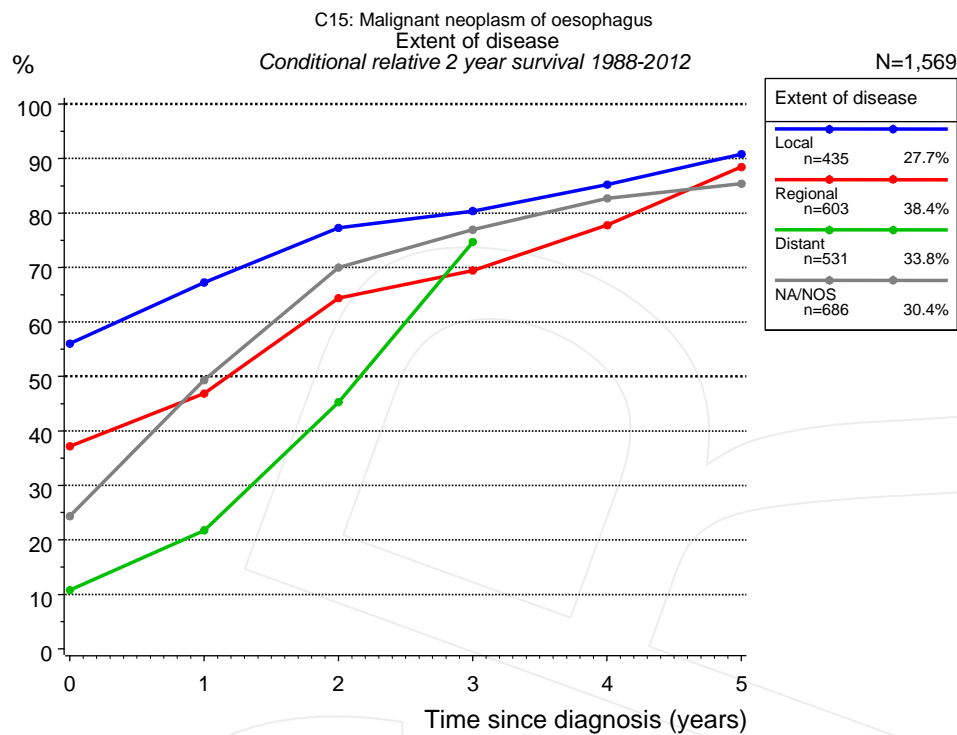


Figure 4i. Conditional relative 2-year survival of patients with oesophagus cancer by extent of disease. For 1,856 of 2,255 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 1,569 cases an evaluable classification was established. The grey line represents the subgroup of 686 patients with missing values regarding extent of disease (30.4% of 2,255 patients, the percent values of all other categories are related to n=1,569).

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	435	56.0	603	37.2	531	10.8	686	24.3
1	294	67.2	342	46.8	132	21.7	243	49.3
2	198	77.3	187	64.4	48	45.3	135	70.0
3	155	80.4	124	69.4	25	74.7	95	76.9
4	124	85.2	84	77.8			72	82.7
5	99	90.8	55	88.4			52	85.4

Table 4j. Conditional relative 2-year survival of patients with oesophagus cancer by extent of disease for period 1988-2012 (N=1,569).

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 80.4% (n=155).

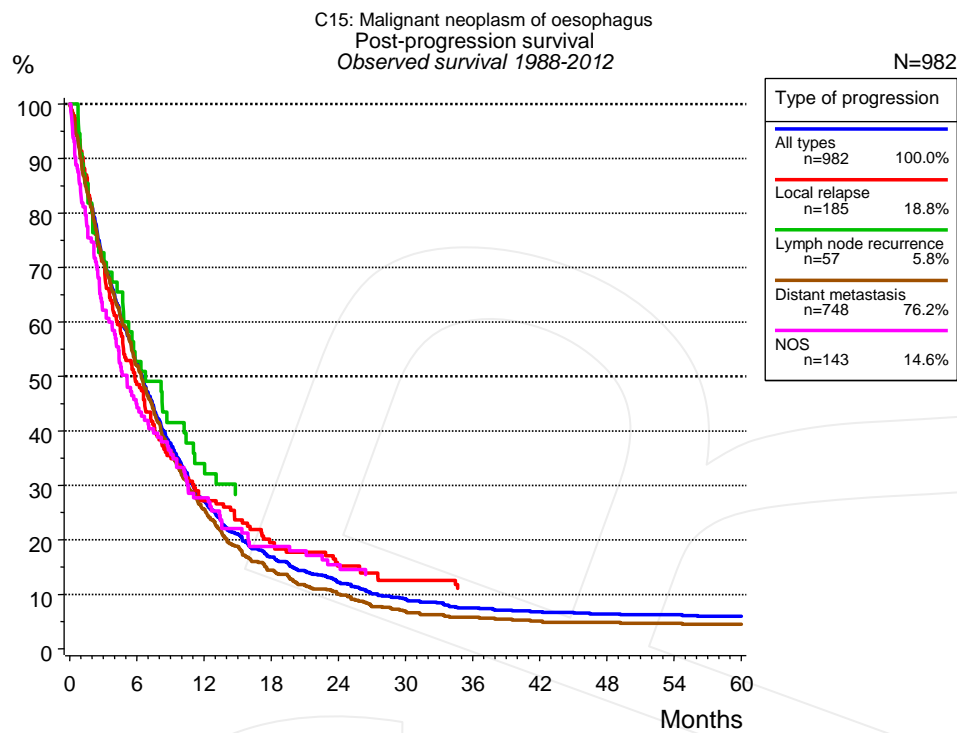


Figure 5a. Observed post-progression survival of 982 patients with oesophagus cancer diagnosed between 1988 and 2012 (incl. M1). These 982 patients with documented progression events during their course of disease represent 43.5% of the totally 2,255 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=562, 24.9%). 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=982 %	Local relapse n=185 %	Lymph node recurrence n=57 %	Distant metastasis n=748 %	NOS n=143 %
0	100.0	100.0	100.0	100.0	100.0
12	27.2	27.2	34.0	25.6	27.7
24	12.2	15.2		10.0	15.4
36	7.5	11.1		5.8	
48	6.4			4.9	
60	6.0			4.5	

Table 5b. Observed post-progression survival of patients with oesophagus cancer for period 1988-2012 (N=982).

Shortcuts

AS	Assembled survival chart (observed, expected, relative)
CS	Conditional survival
DCO	Death certificate only. The death certificate provides the only notification to the registry.
MCR	Munich Cancer Registry, Germany (Tumorregister München)
NA	Not available
NCI	National Cancer Institute, USA
NOS	Not otherwise specified
OS	Observed/overall survival (Kaplan-Meier estimate)
PPS	Post-progression survival
RS	Relative Survival. Ratio of observed and expected survival (derived from the normal population)
SEER	Surveillance, Epidemiology, and End Results, USA
TTP	Time to progression Date of entry: Date of diagnosis Event (Progression): First local recurrence, lymph node relapse or distant metastasis, unspecified recurrence First all-cause recurrence is illustrated by survival curves (Kaplan-Meier estimate). First local recurrence, lymph node relapse or distant metastasis are depicted cumulatively, where applicable ("reverse" Kaplan-Meier estimate).
UICC	Union for International Cancer Control, Geneva

Recommended Citation

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