

Munich Cancer Registry



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

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

Cancer statistics: Survival

C81: Hodgkin lymphoma

Year of diagnosis	1988-2012
Patients	1,887
Diseases	1,887
Cases evaluated	1,148
Creation date	03/25/2014
Export date	02/12/2014
Population	4.5 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C81__E.pdf

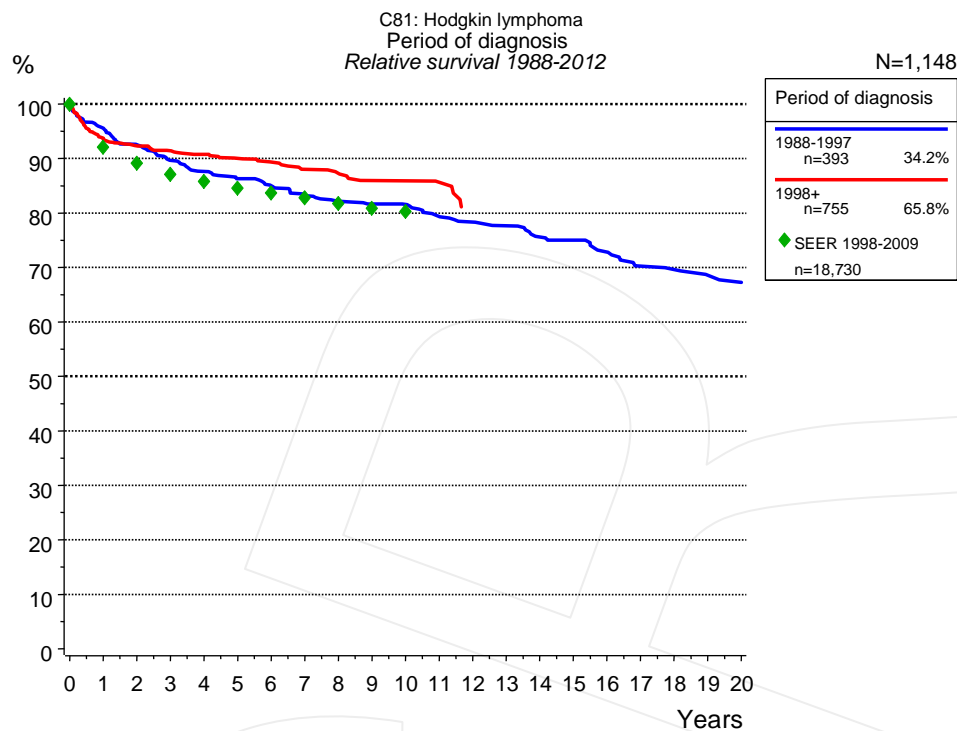


Figure 1a. Relative survival of patients with Hodgkin lymphoma by period of diagnosis. Included in the evaluation are 1,148 cases diagnosed between 1988 and 2012.

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=393		1998+ n=755	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	94.9	95.5	93.0	93.6
2	91.5	92.5	91.2	92.3
3	88.1	89.7	89.9	91.4
4	85.7	87.6	88.8	90.7
5	83.8	86.3	87.6	90.0
6	82.1	85.0	86.5	89.4
7	79.9	83.2	84.8	88.0
8	78.5	82.1	84.0	87.3
9	77.7	81.6	82.1	85.9
10	77.4	81.5	82.1	85.9
11	74.9	79.3	81.1	85.6
12	73.6	78.3		
13	72.5	77.6		
14	70.1	75.6		
15	69.3	75.0		
16	67.1	72.8		
17	64.1	70.2		
18	63.5	69.6		
19	61.9	68.5		
20	60.8	67.3		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with Hodgkin lymphoma by period of diagnosis for period 1988-2012 (N=1,148).

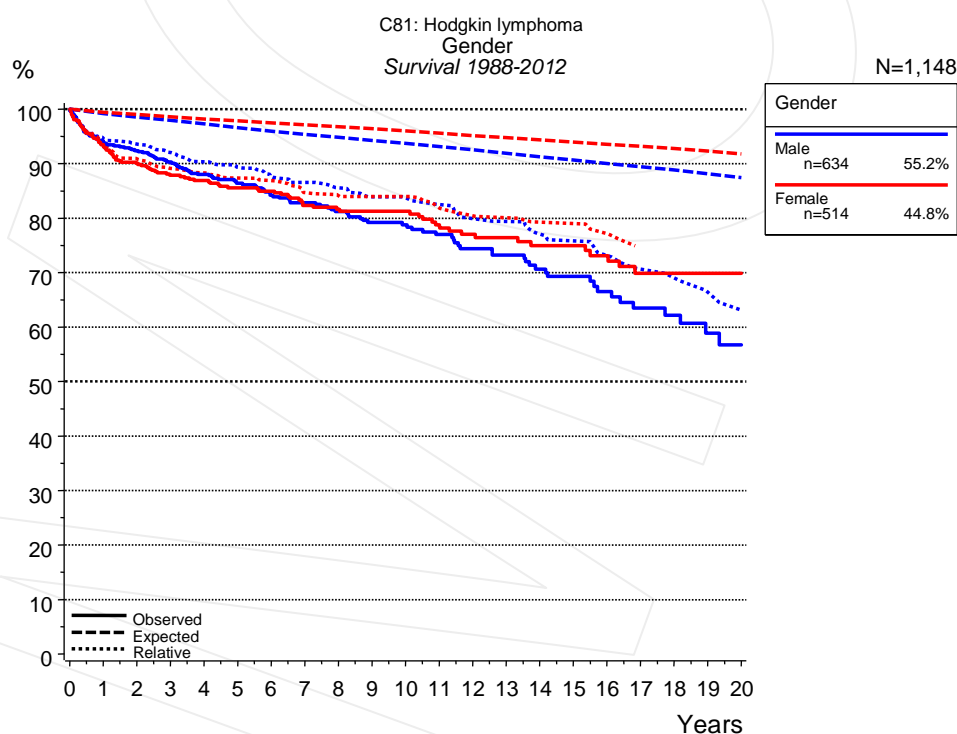


Figure 2a. Survival of patients with Hodgkin lymphoma by gender. Included in the evaluation are 1,148 cases diagnosed between 1988 and 2012.

Years	Gender		Gender	
	Male n=634		Female n=514	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	93.7	94.5	93.5	93.9
2	92.4	93.6	90.1	90.8
3	90.3	92.0	87.9	89.1
4	88.0	90.3	86.9	88.3
5	86.4	89.3	85.5	87.3
6	84.2	87.6	84.9	86.9
7	82.8	86.6	82.3	84.7
8	81.2	85.6	81.6	84.1
9	79.2	83.9	81.2	84.0
10	78.8	83.7	81.2	84.0
11	77.0	82.5	78.7	81.9
12	74.4	79.9	77.0	80.4
13	73.3	79.4	76.4	80.1
14	70.7	77.1	74.9	79.3
15	69.3	75.8	74.9	79.0
16	66.5	73.1	73.1	77.1
17	63.5	70.6		
18	62.2	69.0		
19	58.9	66.4		
20	56.7	63.1		

Table 2b. Observed (obs.) and relative (rel.) survival of patients with Hodgkin lymphoma by gender for period 1988-2012 (N=1,148).

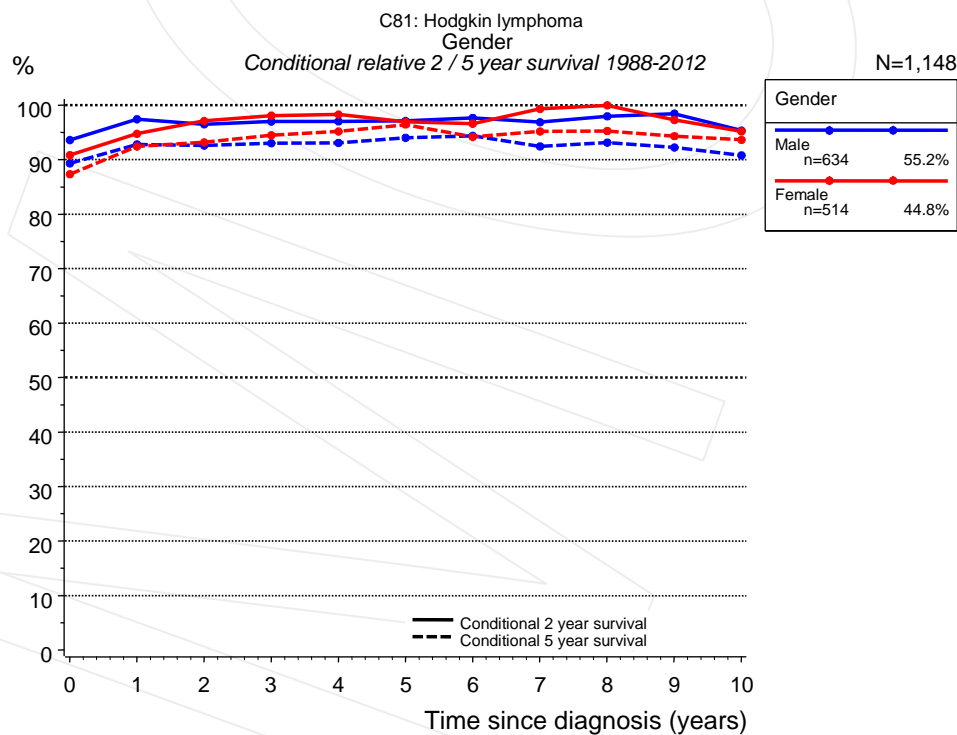


Figure 2c. Conditional relative 2 / 5-year survival of patients with Hodgkin lymphoma by gender. For 1,148 of 1,148 cases diagnosed between 1988 and 2012 valid data could be obtained for this item.

Years	Gender					
	Male			Female		
	n	Cond. surv. % 2 yrs	5 yrs	n	Cond. surv. % 2 yrs	5 yrs
0	634	93.6	89.3	514	90.8	87.3
1	564	97.4	92.8	466	94.8	92.4
2	516	96.5	92.6	428	97.1	93.2
3	454	97.0	93.0	382	98.1	94.5
4	398	97.0	93.1	330	98.3	95.2
5	345	97.1	94.0	295	96.9	96.4
6	306	97.7	94.4	275	96.6	94.2
7	283	96.9	92.4	243	99.3	95.2
8	249	98.0	93.1	225	100.0	95.3
9	224	98.4	92.2	199	97.3	94.3
10	185	95.3	90.8	173	95.2	93.6

Table 2d. Conditional relative 2 / 5-year survival of patients with Hodgkin lymphoma by gender for period 1988-2012 (N=1,148).

Conditional relative survival rates refer to the relative survival probability, in this case for 2 and 5 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 2a). 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 gender="Male", who are alive at least 3 years after cancer diagnosis, the conditional relative 2-year survival rate is 97.0% (n=454).

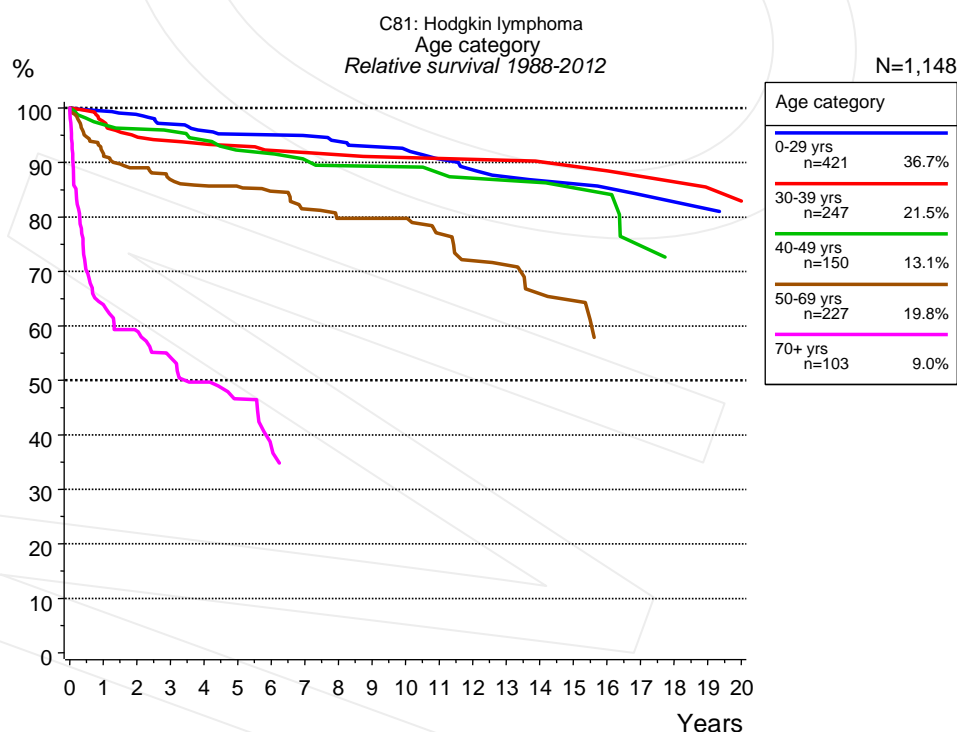


Figure 3a. Relative survival of patients with Hodgkin lymphoma by age category. Included in the evaluation are 1,148 cases diagnosed between 1988 and 2012.

Years	Age category									
	0-29 yrs n=421		30-39 yrs n=247		40-49 yrs n=150		50-69 yrs n=227		70+ yrs n=103	
	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	99.5	99.4	97.5	97.5	97.3	97.0	90.7	91.5	61.7	63.9
2	98.7	98.8	94.9	94.7	96.0	96.1	87.4	89.0	54.3	59.1
3	97.0	97.0	94.0	94.0	95.2	95.8	84.3	86.8	47.6	54.3
4	95.8	95.8	93.5	93.4	93.7	94.1	82.6	85.7	41.4	49.7
5	95.1	95.2	92.9	93.0	90.9	92.2	81.3	85.6	35.8	46.6
6	95.1	95.1	91.6	92.2	90.9	91.6	79.2	84.7	27.8	37.9
7	94.6	94.9	91.6	91.8	88.7	90.4	75.2	81.4		
8	93.7	93.9	90.9	91.4	87.4	89.4	72.5	79.8		
9	92.7	92.9	90.1	91.1	87.4	89.3	71.6	79.8		
10	92.1	92.3	90.1	90.9	87.4	89.2	71.6	79.8		
11	90.2	90.6	90.1	90.7	85.6	88.0	66.8	76.9		
12	88.7	88.6	90.1	90.6	83.5	87.1	61.6	72.0		
13	87.1	87.3	90.1	90.4	83.5	86.7	60.1	71.2		
14	86.2	86.7	88.3	90.2	83.5	86.3	54.8	65.9		
15	86.2	86.1	88.3	89.3	80.7	85.3	52.8	64.6		
16	84.9	85.3	88.3	88.5	80.7	84.2	45.2	57.1		
17	83.4	84.0	85.9	87.5	70.2	74.7				
18	83.4	82.7	85.9	86.5						
19	83.4	81.4	82.2	85.4						
20			82.2	82.9						

Table 3b. Observed (obs.) and relative (rel.) survival of patients with Hodgkin lymphoma by age category for period 1988-2012 (N=1,148).

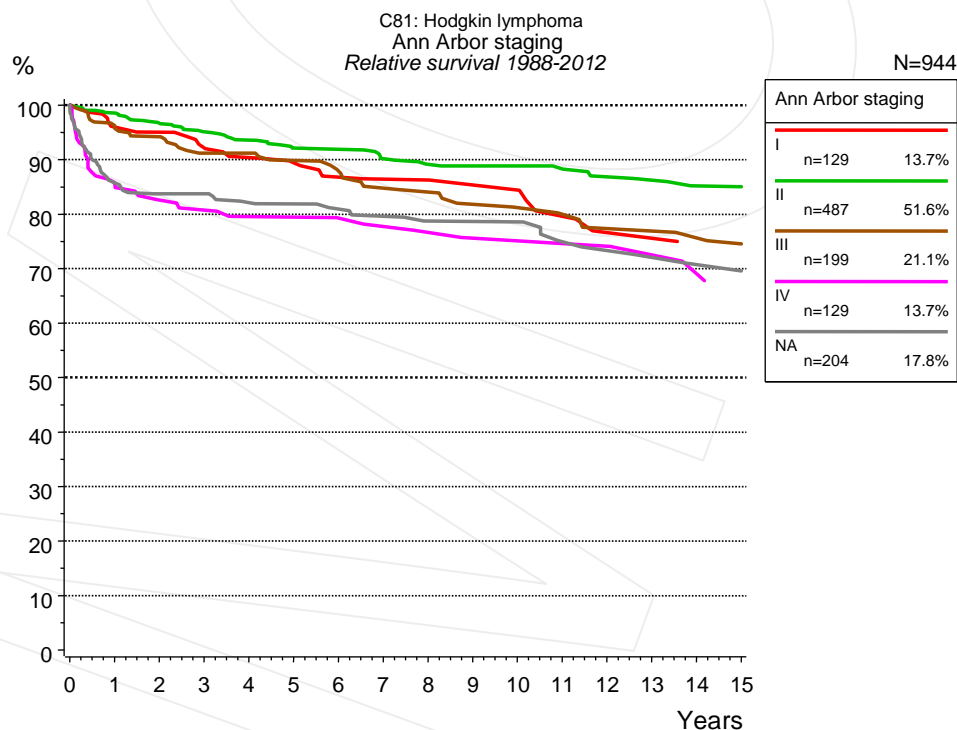


Figure 4a. Relative survival of patients with Hodgkin lymphoma by Ann Arbor staging. For 944 of 1,148 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. The grey line represents the subgroup of 204 patients with missing values regarding Ann Arbor staging (17.8% of 1,148 patients, the percent values of all other categories are related to n=944).

Ann Arbor staging										
Years	I n=129		II n=487		III n=199		IV n=129		NA n=204	
	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	95.3	96.0	98.3	98.5	95.4	96.1	84.8	85.6	85.0	85.8
2	93.7	95.0	96.1	96.7	93.4	94.2	81.4	82.6	82.4	83.7
3	90.1	92.2	94.2	95.1	89.4	91.2	79.6	80.7	82.4	83.7
4	87.4	90.4	92.5	93.6	89.4	91.2	77.5	79.5	80.1	82.1
5	85.4	89.4	90.6	92.1	87.4	89.8	77.5	79.4	79.4	81.9
6	82.1	86.8	90.2	91.9	85.0	87.9	76.2	79.2	77.9	80.9
7	80.9	86.4	88.2	90.2	81.7	84.7	74.8	77.7	76.4	79.6
8	80.9	86.3	87.0	89.1	80.8	84.0	73.3	76.7	74.7	78.8
9	78.0	85.3	86.5	88.8	78.0	81.8	71.5	75.6	74.7	78.7
10	78.0	84.4	86.5	88.8	76.9	81.1	71.5	75.1	74.7	78.6
11	72.5	79.6	85.8	88.3	75.6	80.0	71.5	74.6	70.0	74.9
12	68.3	76.6	83.7	86.8	72.8	77.3	71.5	74.1	68.7	73.3
13	68.3	75.5	82.9	86.2	72.8	76.9	68.7	72.5	66.9	72.0
14	65.6	73.9	81.1	85.2	71.3	75.6	65.5	69.0	64.9	70.7
15	65.6	71.5	81.1	85.0	69.6	74.5	62.1	65.0	64.9	69.6

Table 4b. Observed (obs.) and relative (rel.) survival of patients with Hodgkin lymphoma by Ann Arbor staging for period 1988-2012 (N=944).

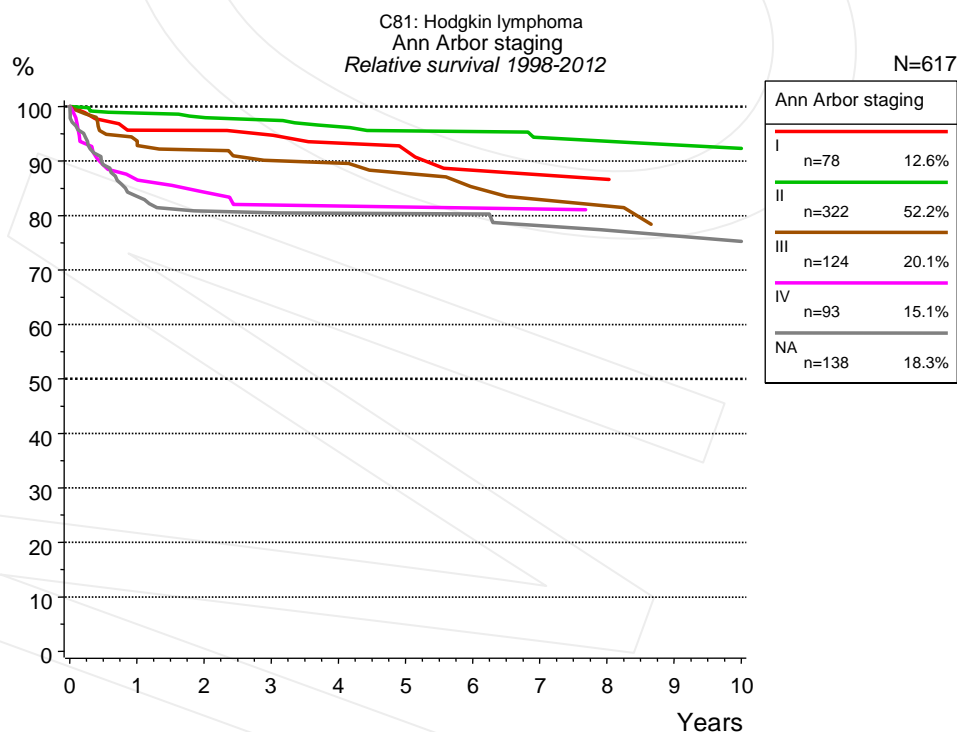


Figure 4c. Relative survival of patients with Hodgkin lymphoma by Ann Arbor staging. For 617 of 755 cases diagnosed between 1998 and 2012 valid data could be obtained for this item. The grey line represents the subgroup of 138 patients with missing values regarding Ann Arbor staging (18.3% of 755 patients, the percent values of all other categories are related to n=617).

Ann Arbor staging											
	I n=78		II n=322		III n=124		IV n=93		NA n=138		
Years	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	94.8	95.6	98.7	98.8	92.6	93.5	86.7	86.5	82.9	83.5	
2	94.8	95.6	97.7	98.0	91.0	92.0	83.0	84.3	79.8	80.8	
3	93.3	94.8	96.9	97.5	88.0	90.1	80.4	81.9	79.8	80.5	
4	90.0	93.3	95.5	96.3	88.0	89.6	80.4	81.8	78.9	80.4	
5	88.0	91.9	94.3	95.5	85.3	87.7	80.4	81.6	78.9	80.4	
6	83.7	88.3	94.3	95.4	81.6	85.2	80.4	81.4	78.9	80.3	
7	83.7	87.5	92.4	94.3	79.6	82.9	80.4	81.2	75.8	78.1	
8	83.7	86.6	92.4	93.6	79.6	81.8			74.0	77.3	
9	79.9	84.4	91.1	93.0	73.9	77.4			74.0	76.3	
10	79.9	82.2	91.1	92.3	73.9	74.5			74.0	75.2	

Table 4d. Observed (obs.) and relative (rel.) survival of patients with Hodgkin lymphoma by Ann Arbor staging for period 1998-2012 (N=617).

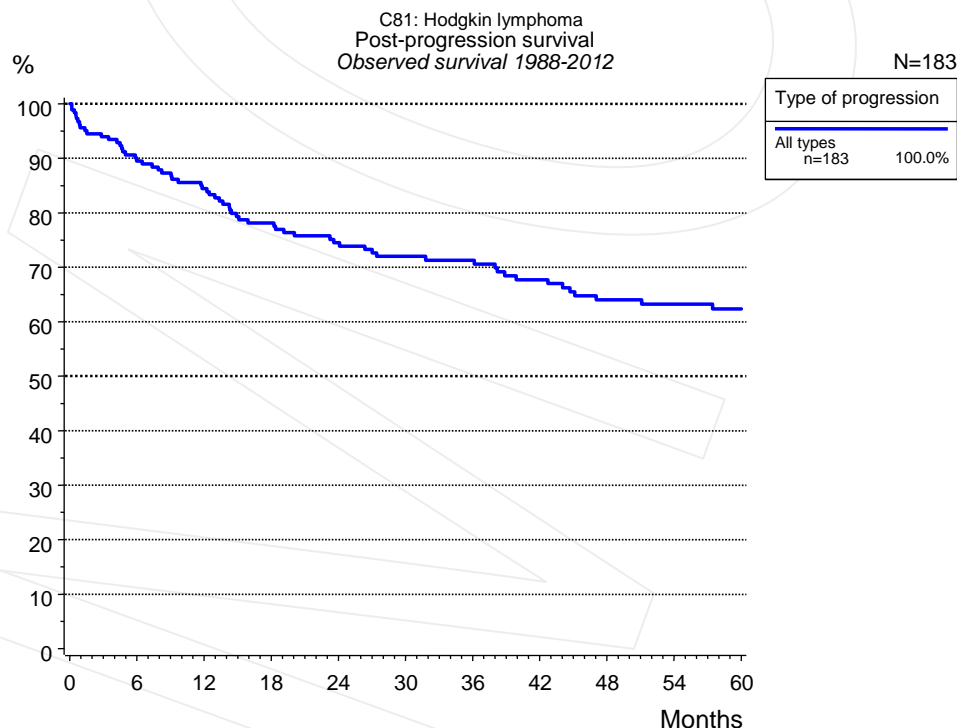


Figure 5a. Observed post-progression survival of 183 patients with Hodgkin lymphoma diagnosed between 1988 and 2012 (incl. M1). These 183 patients with documented progression events during their course of disease represent 15.9% of the totally 1,148 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=40, 3.5%).

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.

Type of progression	
All types n=183	
Months	%
0	100.0
12	84.4
24	74.5
36	71.3
48	64.0
60	62.4

Table 5b. Observed post-progression survival of patients with Hodgkin lymphoma for period 1988-2012 (N=183).

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

Munich Cancer Registry. Survival C81: Hodgkin lymphoma [Internet]. 2014 [updated 2014 Mar 25; cited 2014 May 1]. Available from: http://www.tumorregister-muenchen.de/en/facts/surv/surv_C81__E.pdf

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