

Munich Cancer Registry



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ICD-10 C82: Follic. lymphoma

Survival

Year of diagnosis	1998-2019
Patients	2,308
Diseases	2,311
Cases evaluated	1,882
Creation date	01/27/2021
Database export	01/07/2021
Population	4.92 m



Munich Cancer Registry
Cancer Registry Bavaria - Upper Bavaria Regional Center
at Klinikum Grosshadern/IBE
Marchioninstr. 15
Munich, 81377
Germany

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

https://www.tumorregister-muenchen.de/en/facts/surv/sC82__E-ICD-10-C82-Follic.-lymphoma-survival.pdf

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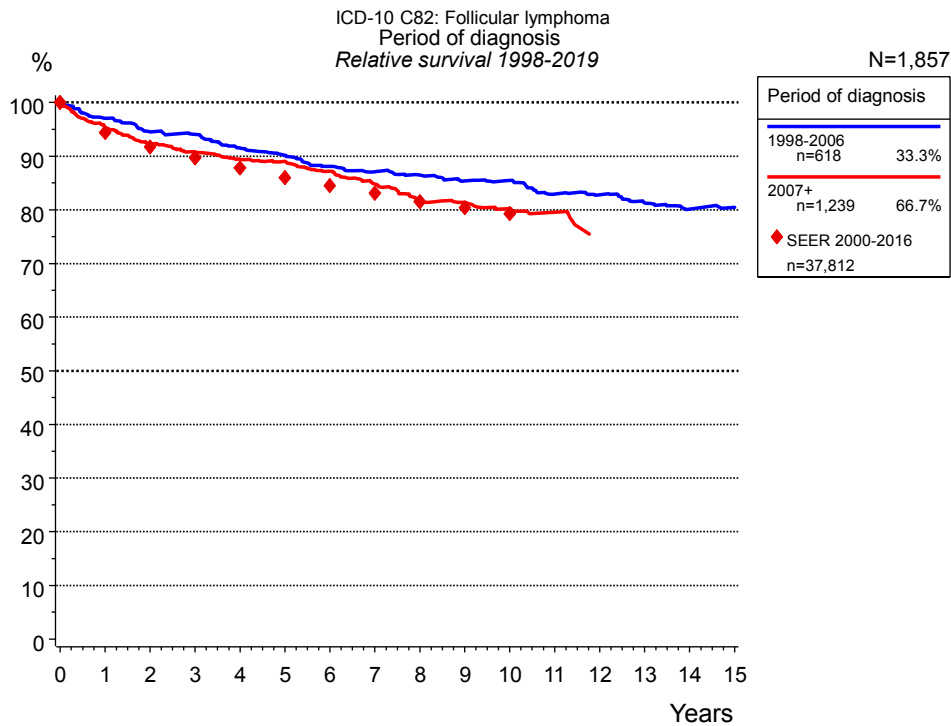


Figure 1a. Relative survival of patients with Follic. lymphoma by period of diagnosis. Included in the evaluation are 1,857 cases diagnosed between 1998 and 2019.

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 2016, 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			
	1998-2006 n=618		2007+ n=1,239	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	95.7	97.1	93.5	95.3
2	91.9	94.6	89.0	92.3
3	90.1	94.1	86.1	90.8
4	86.3	91.5	83.2	89.4
5	84.0	90.2	81.3	89.0
6	80.6	88.1	77.9	87.2
7	78.4	87.1	74.3	84.8
8	76.7	86.5	70.1	81.7
9	74.2	85.4	68.5	81.4
10	73.0	85.5	66.2	80.2
11	69.4	82.9	64.5	79.6
12	67.9	82.8		
13	65.3	81.3		
14	62.8	80.1		
15	62.0	80.4		
Median				

Table 1b. Observed (obs.) and relative (rel.) survival of patients with Follic. lymphoma by period of diagnosis for period 1998-2019 (N=1,857).

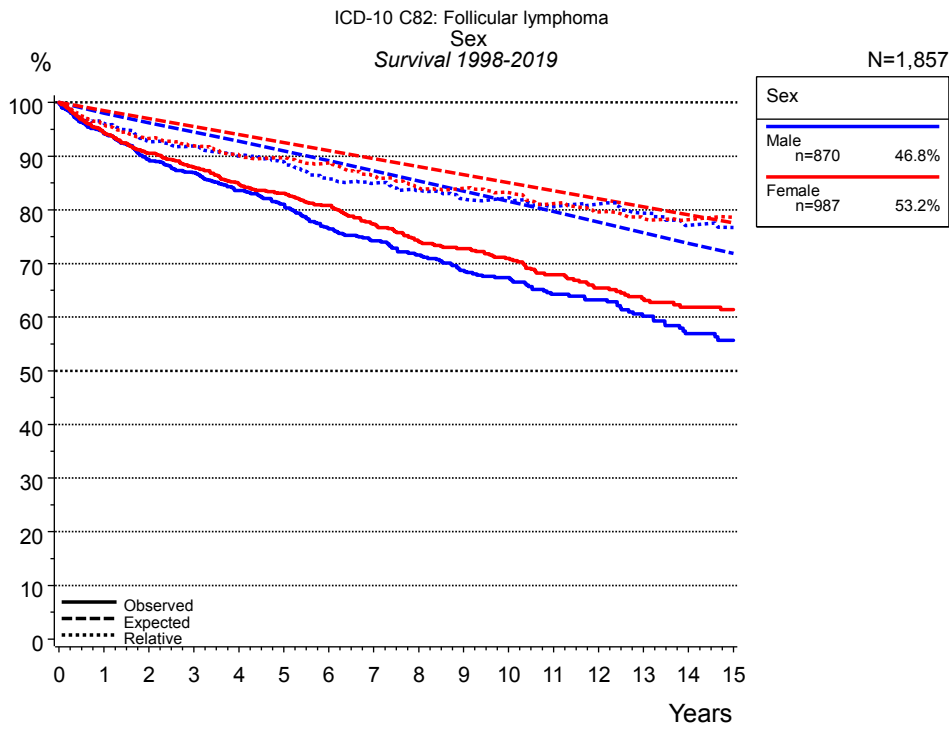


Figure 2a. Survival of patients with Follic. lymphoma by sex. Included in the evaluation are 1,857 cases diagnosed between 1998 and 2019.

Years	Sex			
	Male n=870		Female n=987	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	94.2	96.0	94.4	95.8
2	89.4	92.7	90.5	93.3
3	86.9	91.9	88.0	92.0
4	83.6	90.0	84.8	90.2
5	81.1	89.0	83.1	89.7
6	76.5	85.8	80.8	88.7
7	74.2	84.9	77.3	86.3
8	71.5	83.6	74.2	84.2
9	68.7	82.1	72.8	84.0
10	67.3	82.2	70.9	83.2
11	64.3	80.6	67.9	81.2
12	63.2	81.1	65.4	79.6
13	60.2	79.4	63.4	78.4
14	56.9	77.1	61.9	78.2
15	55.7	76.7	61.4	78.6
Median	18.8			

Table 2b. Observed (obs.) and relative (rel.) survival of patients with Follic. lymphoma by sex for period 1998-2019 (N=1,857).

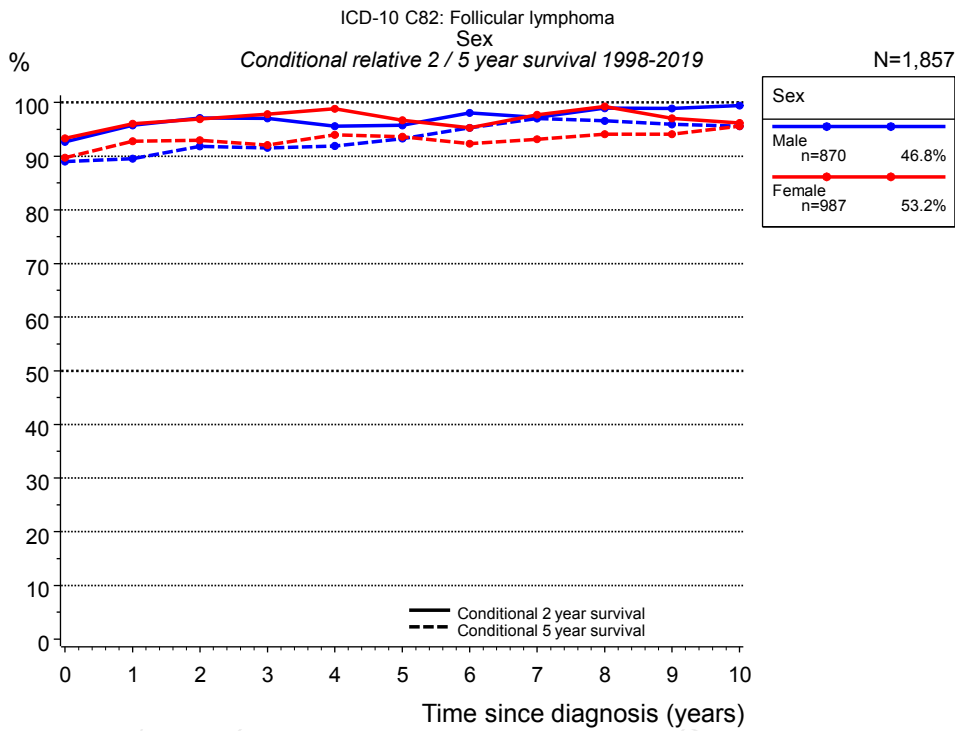


Figure 2c. Conditional relative 2 / 5-year survival of patients with Follic. lymphoma by sex. For 1,857 of 1,857 cases diagnosed between 1998 and 2019 valid data could be obtained for this item.

Years	Sex					
	n	Male		n	Female	
		Cond. surv. % 2 yrs	5 yrs		Cond. surv. % 2 yrs	5 yrs
0	870	92.7	89.0	987	93.3	89.7
1	769	95.8	89.5	896	96.1	92.8
2	694	97.1	91.8	832	96.9	93.0
3	647	97.1	91.6	775	97.8	92.1
4	587	95.6	91.9	701	98.8	94.0
5	531	95.8	93.3	636	96.7	93.6
6	459	98.1	95.3	573	95.3	92.3
7	412	97.2	97.0	505	97.7	93.1
8	355	98.9	96.6	434	99.3	94.1
9	303	98.9	95.9	380	97.1	94.1
10	259	99.4	95.6	318	96.1	95.6

Table 2d. Conditional relative 2 / 5-year survival of patients with Follic. lymphoma by sex for period 1998-2019 (N=1,857).

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 sex="Male", who are alive at least 3 years after cancer diagnosis, the conditional relative 2-year survival rate is 97.1% (n=647).

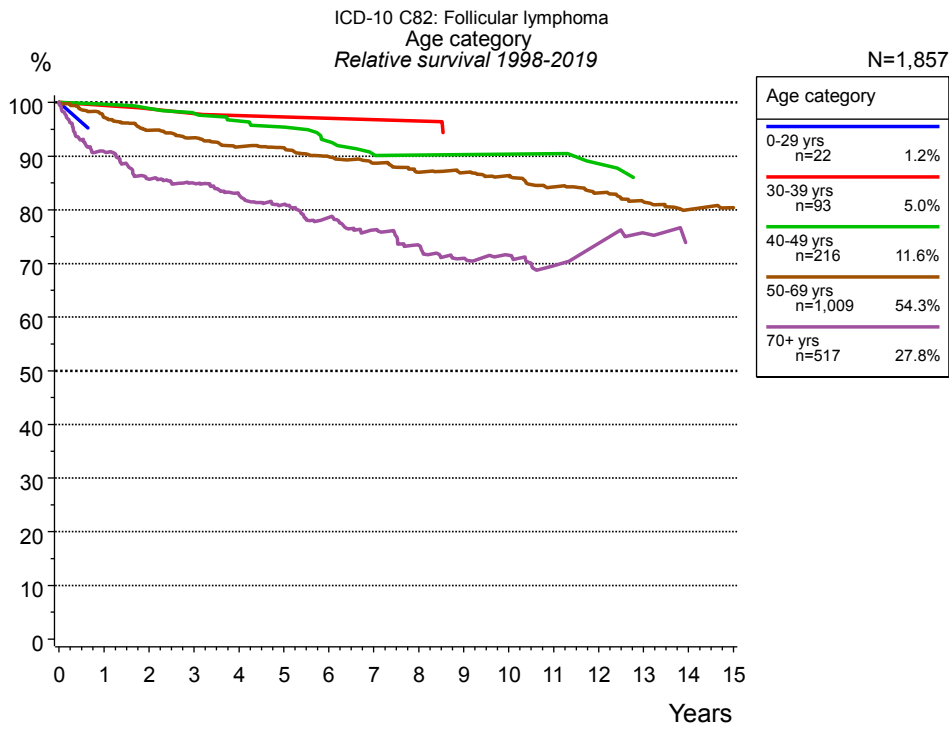


Figure 3a. Relative survival of patients with Follic. lymphoma by age category. Included in the evaluation are 1,857 cases diagnosed between 1998 and 2019.

Years	Age category									
	0-29 yrs n=22		30-39 yrs n=93		40-49 yrs n=216		50-69 yrs n=1,009		70+ yrs n=517	
	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	95.2	92.3	100.0	99.4	99.5	99.7	96.4	97.2	86.9	90.9
2			98.8	98.8	98.5	98.9	93.1	94.8	78.7	85.7
3			98.8	98.0	97.5	98.0	90.9	93.4	74.4	85.0
4			97.5	97.6	95.9	96.5	88.2	91.7	68.9	82.9
5			97.5	97.3	94.8	95.4	87.1	91.5	64.0	81.0
6			97.5	97.1	91.7	92.7	84.3	89.9	58.8	78.6
7			97.5	96.8	89.1	90.3	82.2	88.7	53.8	76.3
8			97.5	96.5	88.4	90.2	79.5	87.0	48.7	73.3
9					88.4	90.3	78.1	86.9	44.5	71.0
10					88.4	90.4	76.4	86.3	41.7	71.5
11					88.4	90.4	73.1	84.3	37.3	69.5
12					85.5	88.6	70.7	83.1	36.6	73.8
13							67.9	81.5	33.8	75.7
14							65.0	80.0		
15							64.0	80.4		
Median									7.7	

Table 3b. Observed (obs.) and relative (rel.) survival of patients with Follic. lymphoma by age category for period 1998-2019 (N=1,857).

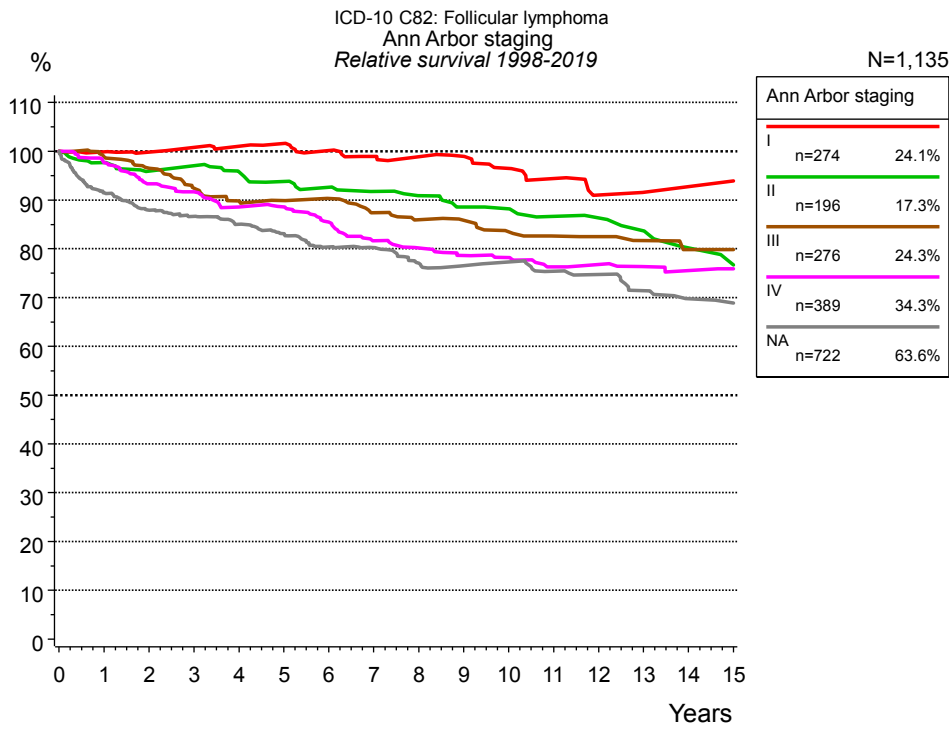


Figure 4a. Relative survival of patients with Follic. lymphoma by Ann Arbor staging. For 1,135 of 1,857 cases diagnosed between 1998 and 2019 valid data could be obtained for this item. The grey line represents the subgroup of 722 patients with missing values regarding Ann Arbor staging (38.9 % of 1,857 patients, the percent values of all other categories are related to n=1,135).

Years	Ann Arbor staging									
	I n=274		II n=196		III n=276		IV n=389		NA n=722	
	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	98.9	99.9	96.4	97.7	97.4	98.9	96.3	97.7	89.6	91.5
2	97.3	99.8	92.6	95.9	94.0	96.5	90.9	93.4	84.5	87.9
3	96.9	100.8	92.6	97.0	88.5	92.4	88.3	91.7	81.6	86.7
4	95.6	101.0	89.5	95.8	84.8	89.8	83.9	88.6	78.4	85.0
5	94.7	101.6	86.4	93.8	83.5	89.9	83.0	88.6	75.2	83.1
6	91.8	100.2	83.8	92.6	82.1	90.3	78.6	85.5	71.2	80.4
7	89.1	98.9	80.9	91.8	78.1	87.4	74.0	81.7	69.6	80.2
8	87.4	98.9	78.6	90.9	75.3	85.9	71.6	80.2	65.6	77.1
9	86.0	98.9	75.3	88.6	74.1	85.8	69.1	78.7	63.6	76.5
10	82.3	96.5	74.5	88.2	70.7	83.5	67.7	78.2	63.3	77.3
11	78.9	94.4	71.2	86.7	68.3	82.6	64.6	76.3	60.1	75.4
12	74.1	91.1	69.9	86.4	67.3	82.5	64.0	76.8	58.1	74.7
13	72.8	91.6	67.1	83.7	65.0	81.7	61.9	76.4	54.7	71.4
14	72.8	92.8	62.0	80.2	62.0	79.8	60.3	75.6	51.8	69.7
15	72.8	93.9	59.7	76.7	62.0	79.8	59.3	75.9	50.8	68.9
Median									15.1	

Table 4b. Observed (obs.) and relative (rel.) survival of patients with Follic. lymphoma by Ann Arbor staging for period 1998-2019 (N=1,135).

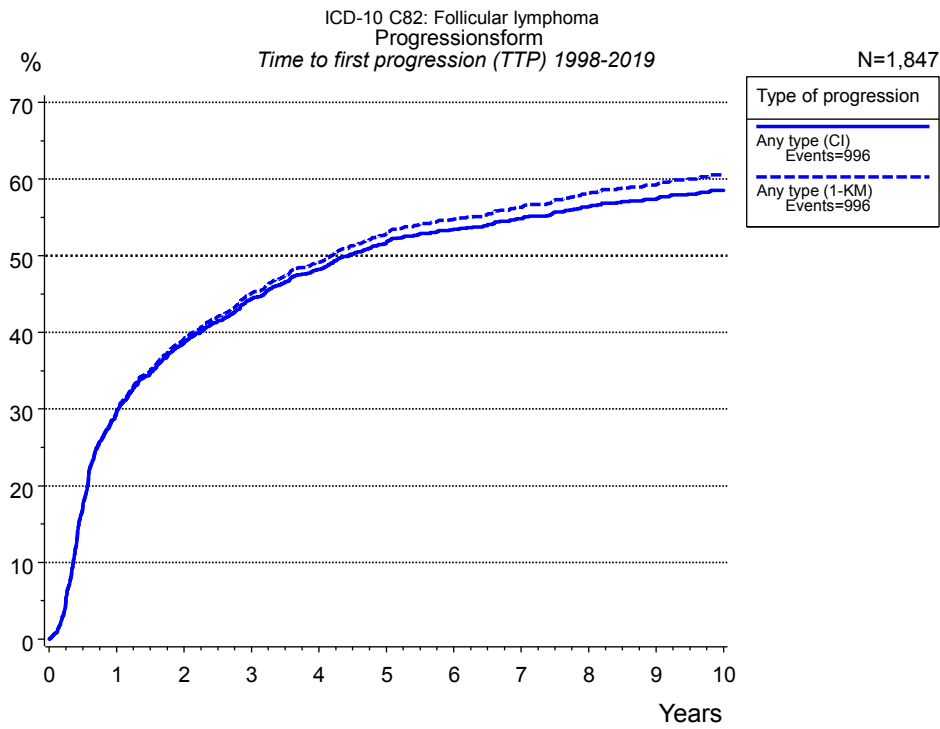


Figure 5a. Time to first progression of 1,847 patients with Follic. lymphoma diagnosed between 1998 and 2019 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

	Type of progression	
	Any type (CI)	Any type (1-KM)
N	1,847	1,847
Events	975	975
compet.	115	
Years	%	%
0	0.0	0.0
1	29.5	29.8
2	38.7	39.1
3	44.4	45.1
4	48.2	49.1
5	51.7	52.9
6	53.4	54.8
7	54.8	56.3
8	56.5	58.2
9	57.4	59.2
10	58.5	60.6

Table 5b. Time to first progression of patients with Follic. lymphoma for period 1998-2019 (N=1,847), also showing the total of progression events (Events) and of deaths as competing risk (compet.).

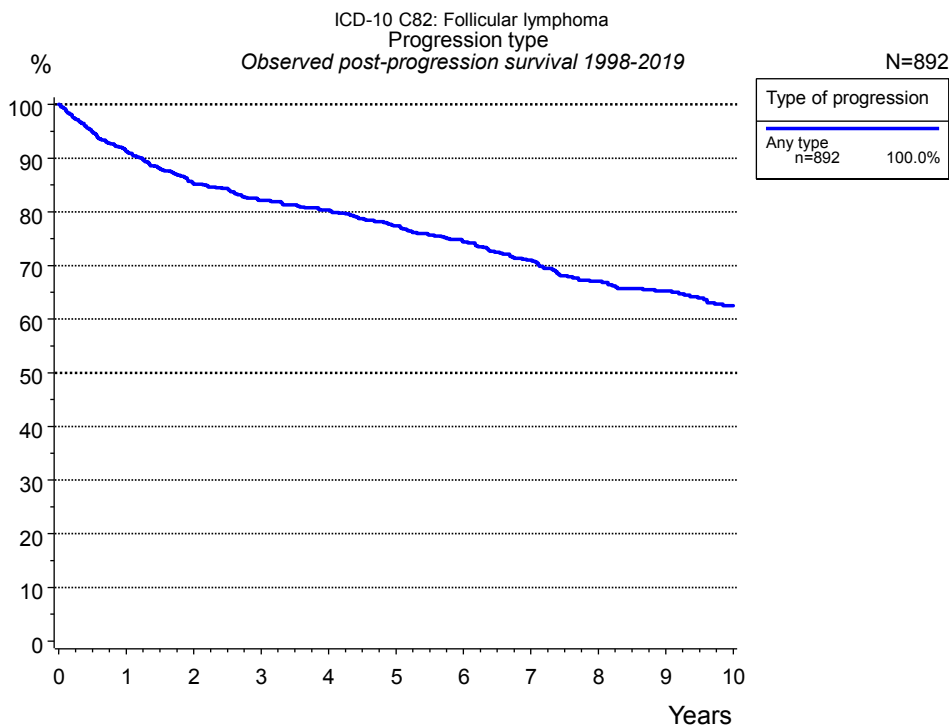


Figure 5c. Observed post-progression survival of 892 patients with Follic. lymphoma diagnosed between 1998 and 2019. These 892 patients with documented progression events during their course of disease represent 48.3 % of the totally 1,847 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=104, 5.6 %).

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.

Type of progression	
Any type n=892	
Years	%
0	100.0
1	91.2
2	85.3
3	82.1
4	80.3
5	77.4
6	74.4
7	71.0
8	67.1
9	65.2
10	62.5

Table 5d. Observed post-progression survival of patients with Follic. lymphoma for period 1998-2019 (N=892).

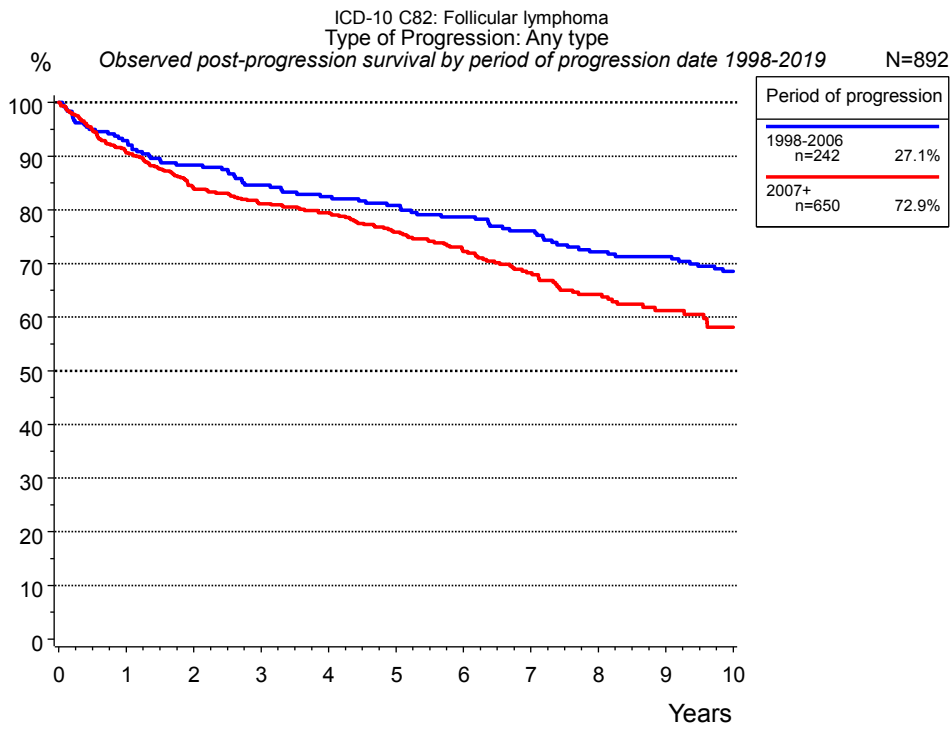


Figure 5e. Observed post-progression (any type) survival of 892 patients with Follic. lymphoma diagnosed between 1998 and 2019 by period of progression.

Years	Period of progression	
	1998-2006 n=242 %	2007+ n=650 %
0	100.0	100.0
1	92.9	90.6
2	88.3	84.0
3	84.6	81.1
4	82.5	79.5
5	80.8	75.8
6	78.7	72.2
7	76.1	68.2
8	72.2	64.2
9	71.3	61.2
10	68.6	58.1

Table 5f. Observed post-progression (any type) survival of patients with Follic. lymphoma for period 1998-2019 by period of progression (N=892).

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

Recommended Citation

Munich Cancer Registry. Survival ICD-10 C82: Follic. lymphoma [Internet]. 2021 [updated 2021 Jan 27; cited 2021 Mar 1]. Available from: https://www.tumorregister-muenchen.de/en/facts/surv/sC82__E-ICD-10-C82-Follic.-lymphoma-survival.pdf

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