Munich Cancer Registry

- Incidence and Mortality
- Selection Matrix
- Homepage
- *Deutsch*

ICD-10 C88,C90: Immunoprolif. disease

Survival

Year of diagnosis	1988-1997	1998-2016
Patients	510	5,478
Diseases	510	5,487
Cases evaluated	448	3,612

Creation date	08/22/2018
Export date	08/09/2018
Population	4.81 m

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

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

Index of figures and tables

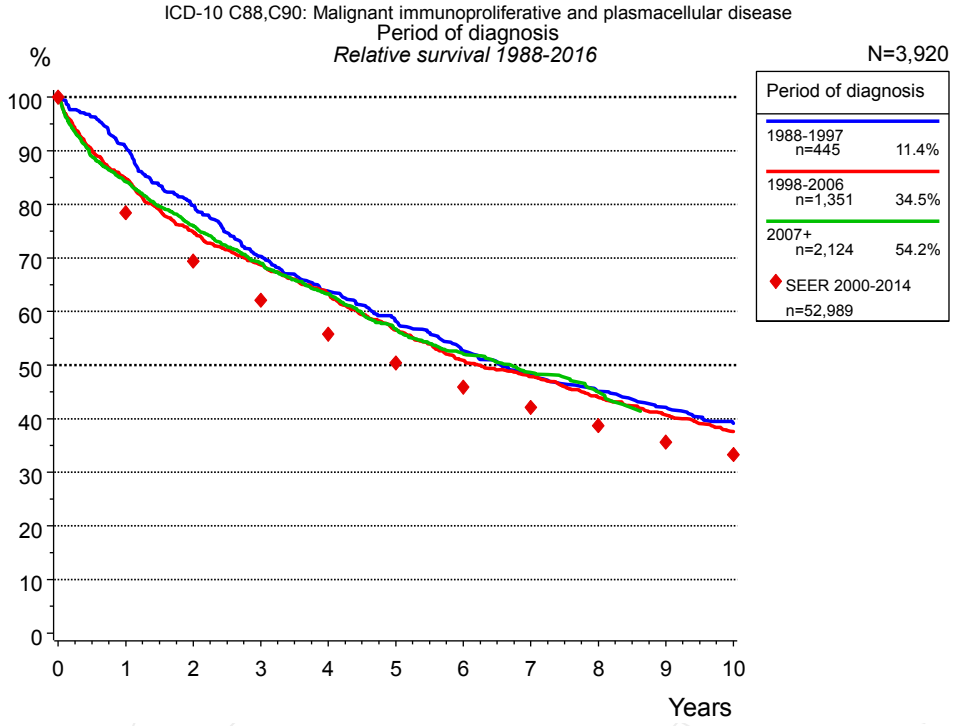

Figure 1a. Relative survival of patients with immunoprolif. disease by period of diagnosis. Included in the evaluation are 3,920 cases diagnosed between 1988 and 2016.

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 2014, 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.

	Period of diagnosis					
	1988-1997 n=445		1998-2006 n=1,351		2007+ n=2,124	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	88.6	90.7	82.7	84.8	82.0	84.2
2	76.3	79.8	71.1	74.8	72.4	76.0
3	65.7	70.3	63.9	68.8	64.1	69.0
4	58.3	63.8	57.4	63.3	57.5	63.3
5	52.1	58.2	50.0	56.5	50.3	56.7
6	46.0	52.6	44.0	50.9	45.2	52.1
7	41.6	48.5	40.4	47.8	41.1	48.6
8	37.9	45.1	36.3	44.0	37.2	45.0
9	34.8	42.1	32.8	40.7		
10	31.5	39.2	29.5	37.6		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with immunoprolif. disease by period of diagnosis for period 1988-2016 (N=3,920).

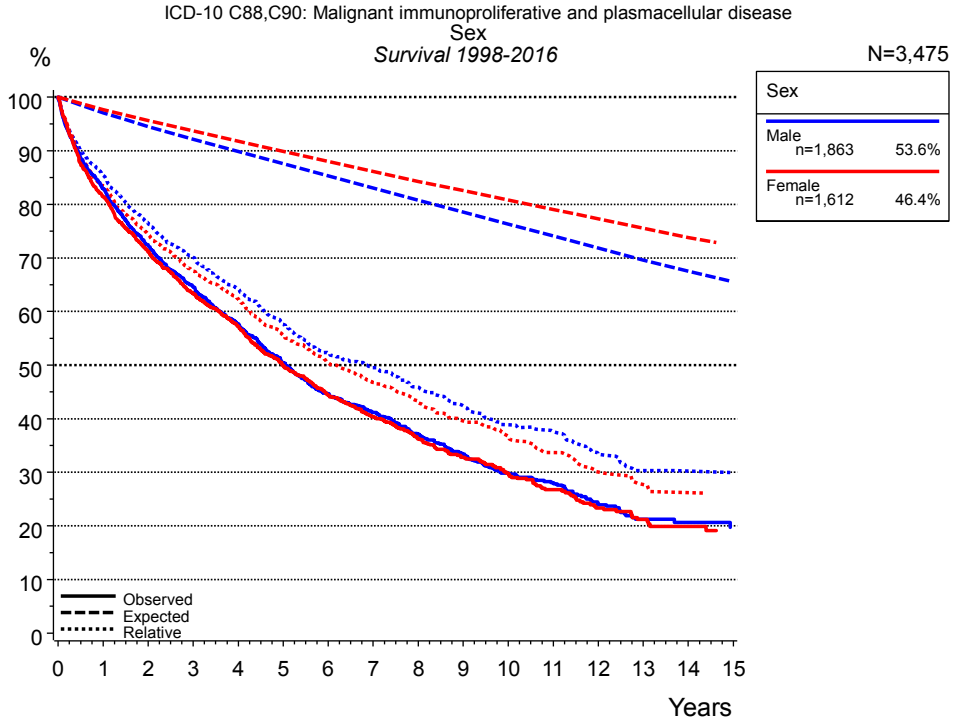

Figure 2a. Survival of patients with immunoprolif. disease by sex. Included in the evaluation are 3,475 cases diagnosed between 1998 and 2016.

	Sex			
	Male n=1,863		Female n=1,612	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	82.9	85.4	81.5	83.4
2	72.4	76.5	71.2	74.4
3	64.6	70.1	63.3	67.6
4	57.7	64.2	57.2	62.3
5	50.5	57.6	49.9	55.5
6	44.6	52.3	44.4	50.4
7	41.1	49.5	40.3	46.8
8	37.1	45.9	36.3	42.9
9	33.4	42.4	32.8	39.6
10	29.8	38.9	29.9	36.7
11	28.1	37.6	26.7	33.7
12	23.9	33.3	23.3	30.0
13	21.2	30.3	21.2	27.7
14	20.7	30.3	19.9	26.2

Table 2b. Observed (obs.) and relative (rel.) survival of patients with immunoprolif. disease by sex for period 1998-2016 (N=3,475).

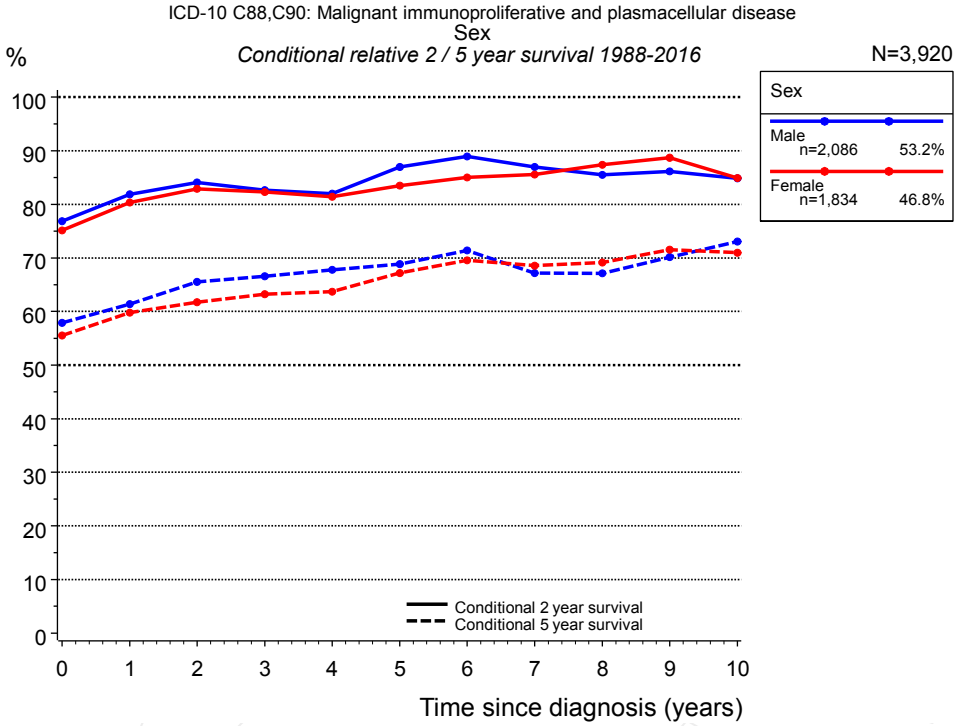

Figure 2c. Conditional relative 2 / 5-year survival of patients with immunoprolif. disease by sex. For 3,920 of 3,920 cases diagnosed between 1988 and 2016 valid data could be obtained for this item.

	Sex					
	Male			Female		
		Cond. surv. %			Cond. surv. %	
Years	n	2 yrs	5 yrs	n	2 yrs	5 yrs
0	2,086	76.9	57.9	1,834	75.1	55.5
1	1,655	81.9	61.4	1,445	80.3	59.8
2	1,357	84.0	65.5	1,185	82.9	61.7
3	1,140	82.7	66.6	972	82.3	63.2
4	941	82.0	67.8	808	81.4	63.7
5	759	87.0	68.9	647	83.5	67.2
6	603	88.9	71.4	515	85.0	69.5
7	501	87.0	67.2	417	85.5	68.5
8	393	85.5	67.1	333	87.4	69.1
9	312	86.2	70.2	250	88.7	71.5
10	235	84.8	73.1	208	84.9	71.0

Table 2d. Conditional relative 2 / 5-year survival of patients with immunoprolif. disease by sex for period 1988-2016 (N=3,920).

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 82.7% (n=1,140).

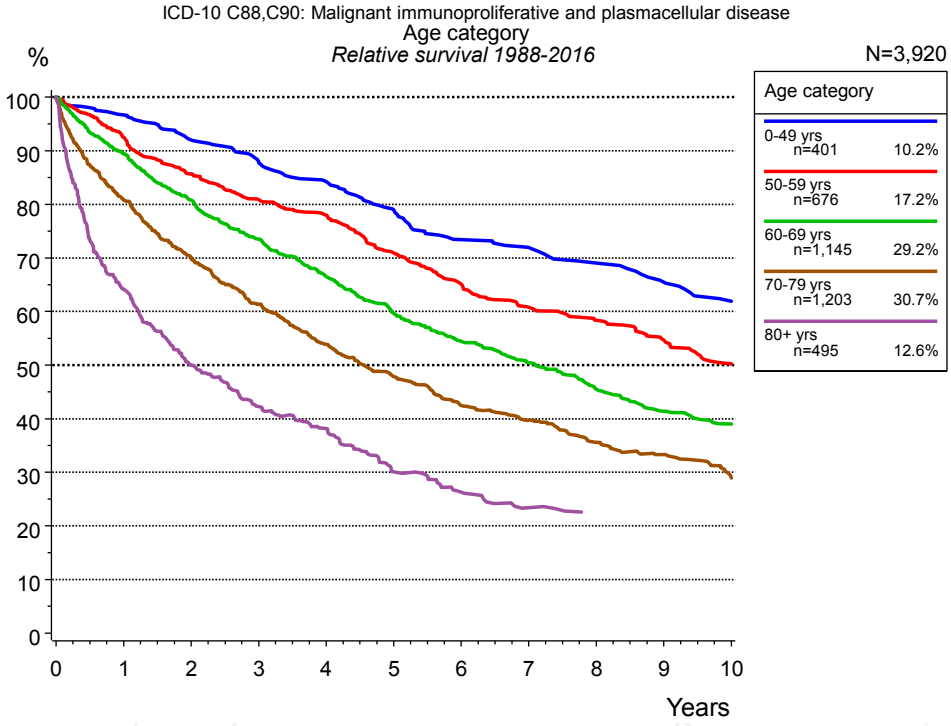

Figure 3a. Relative survival of patients with immunoprolif. disease by age category. Included in the evaluation are 3,920 cases diagnosed between 1988 and 2016.

	Age category									
	0-49 yrs n=401		50-59 yrs n=676		60-69 yrs n=1,145		70-79 yrs n=1,203		80+ yrs n=495	
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	96.6	96.7	92.1	92.5	88.3	89.4	78.3	80.8	58.5	64.2
2	91.8	92.0	84.7	85.7	78.6	80.8	65.6	70.1	41.3	50.0
3	87.4	87.8	79.4	80.9	70.4	73.5	55.3	61.3	31.4	42.3
4	83.5	84.2	76.1	78.0	62.6	66.5	46.7	53.9	25.2	38.1
5	78.1	78.9	68.6	70.9	55.3	59.7	39.6	47.8	17.6	30.1
6	72.4	73.4	62.3	65.1	49.5	54.5	33.4	42.5	13.5	26.3
7	70.6	71.9	57.7	60.8	44.9	50.5	29.6	39.7	10.3	23.4
8	67.9	69.0	54.8	58.4	39.6	45.5	25.0	35.6		
9	64.1	65.5	51.0	54.6	35.2	41.4	22.0	33.3		
10	60.5	61.9	46.3	50.2	32.4	39.1	17.8	28.9		

Table 3b. Observed (obs.) and relative (rel.) survival of patients with immunoprolif. disease by age category for period 1988-2016 (N=3,920).

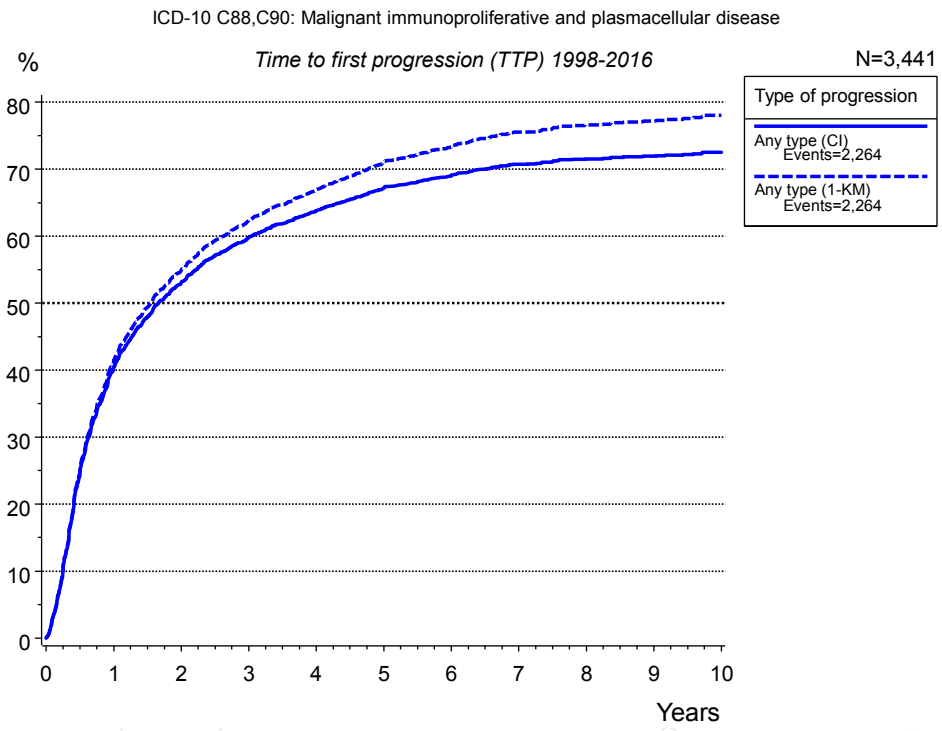

Figure 5a. Time to first progression of 3,441 patients with immunoprolif. disease diagnosed between 1998 and 2016 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

	Type of progression	
	Any type (CI) n=3,441	Any type (1-KM) n=3,441
Years	%	%
0	0.0	0.0
1	40.4	41.4
2	52.9	54.8
3	59.8	62.3
4	63.7	66.8
5	67.2	71.0
6	69.1	73.4
7	70.7	75.5
8	71.6	76.6
9	71.9	77.2
10	72.5	78.0

Table 5b. Time to first progression of patients with immunoprolif. disease for period 1998-2016 (N=3,441).

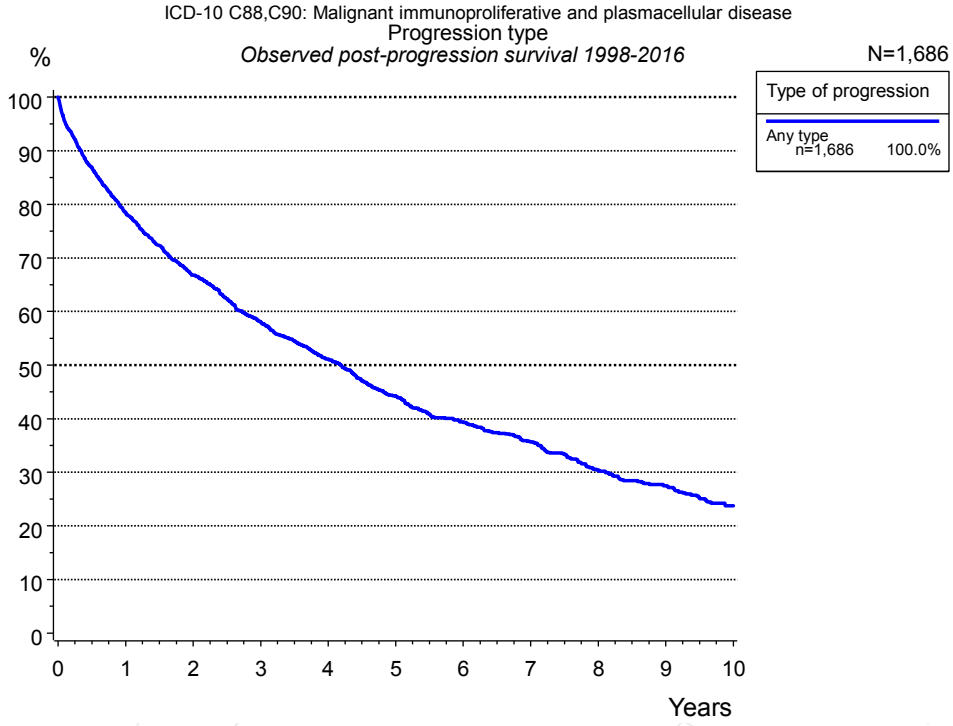

Figure 5c. Observed post-progression survival of 1,686 patients with immunoprolif. disease diagnosed between 1998 and 2016. These 1,686 patients with documented progression events during their course of disease represent 49.0 % of the totally 3,444 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=581, 16.9 %).

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 potientially considered in more than one subgroup.

	Type of progression
	Any type n=1,686
Years	%
0	100.0
1	78.4
2	66.8
3	58.0
4	51.1
5	44.2
6	39.4
7	35.7
8	30.4
9	27.5
10	23.7

Table 5d. Observed post-progression survival of patients with immunoprolif. disease for period 1998-2016 (N=1,686).

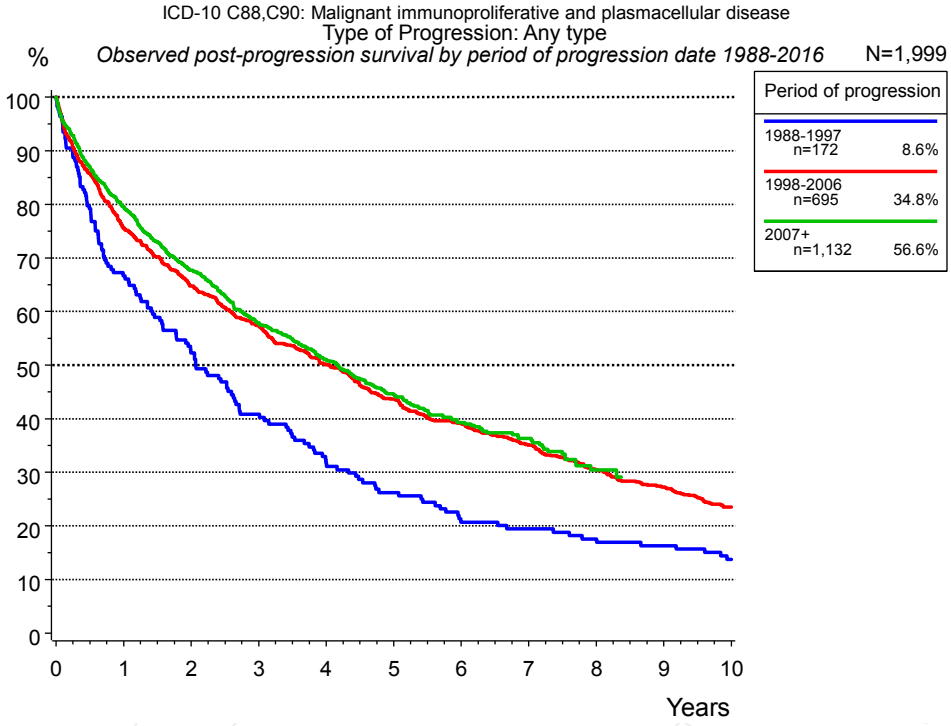

Figure 5e. Observed post-progression (any type) survival of 1,999 patients with immunoprolif. disease diagnosed between 1988 and 2016 by period of progression.

	Period of progression		
	1988-1997 n=172	1998-2006 n=695	2007+ n=1,132
Years	%	%	%
0	100.0	100.0	100.0
1	66.7	75.6	79.5
2	52.3	64.8	67.7
3	40.8	57.3	57.8
4	31.7	50.0	51.1
5	26.2	43.6	44.5
6	20.7	39.1	39.3
7	19.4	35.1	36.3
8	17.5	30.5	30.5
9	16.3	27.3	
10	13.7	23.5	

Table 5f. Observed post-progression (any type) survival of patients with immunoprolif. disease for period 1988-2016 by period of progression (N=1,999).

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 C88,C90: Immunoprolif. disease [Internet]. 2018 [updated 2018 Aug 22; cited 2018 Oct 1]. Available from: https://www.tumorregister-muenchen.de/en/facts/surv/sC8890E-ICD-10-C88-C90-Immunoprolif.-disease-survival.pdf

Copyright

Disclaimer