

Munich Cancer Registry



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

Cancer statistics: Survival

C62: Testicular cancer

Year of diagnosis	1988-2013
Patients	3,958
Diseases	4,048
Cases evaluated	2,616
Creation date	05/13/2015
Export date	12/30/2014
Population (males)	2.28 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C62__E.pdf

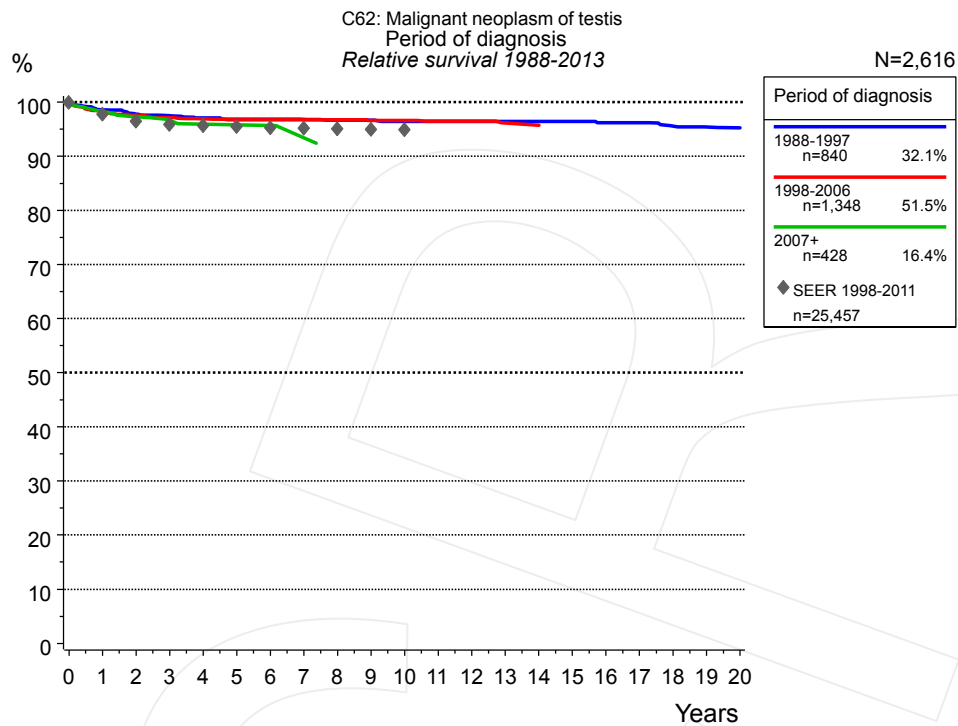


Figure 1a. Relative survival of patients with testicular cancer by period of diagnosis. Included in the evaluation are 2,616 cases diagnosed between 1988 and 2013.

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=840		1998-2006 n=1,348		2007+ n=428	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	98.3	98.6	98.0	98.2	98.2	98.3
2	97.2	97.8	97.1	97.6	97.0	97.3
3	96.6	97.5	96.5	97.2	96.2	96.7
4	96.0	97.1	95.9	96.9	95.3	95.9
5	95.5	96.8	95.5	96.7	95.3	95.8
6	95.3	96.8	95.3	96.7	95.3	95.7
7	94.7	96.8	95.3	96.7	94.1	93.4
8	94.3	96.7	94.7	96.7		
9	94.2	96.7	94.0	96.6		
10	93.3	96.4	94.0	96.6		
11	93.2	96.4	93.2	96.5		
12	93.0	96.4	93.2	96.5		
13	92.5	96.4	92.0	96.1		
14	92.0	96.4	92.0	95.7		
15	91.8	96.4				
16	90.6	96.2				
17	90.1	96.2				
18	88.9	95.6				
19	88.2	95.4				
20	87.7	95.2				

Table 1b. Observed (obs.) and relative (rel.) survival of patients with testicular cancer by period of diagnosis for period 1988-2013 (N=2,616).

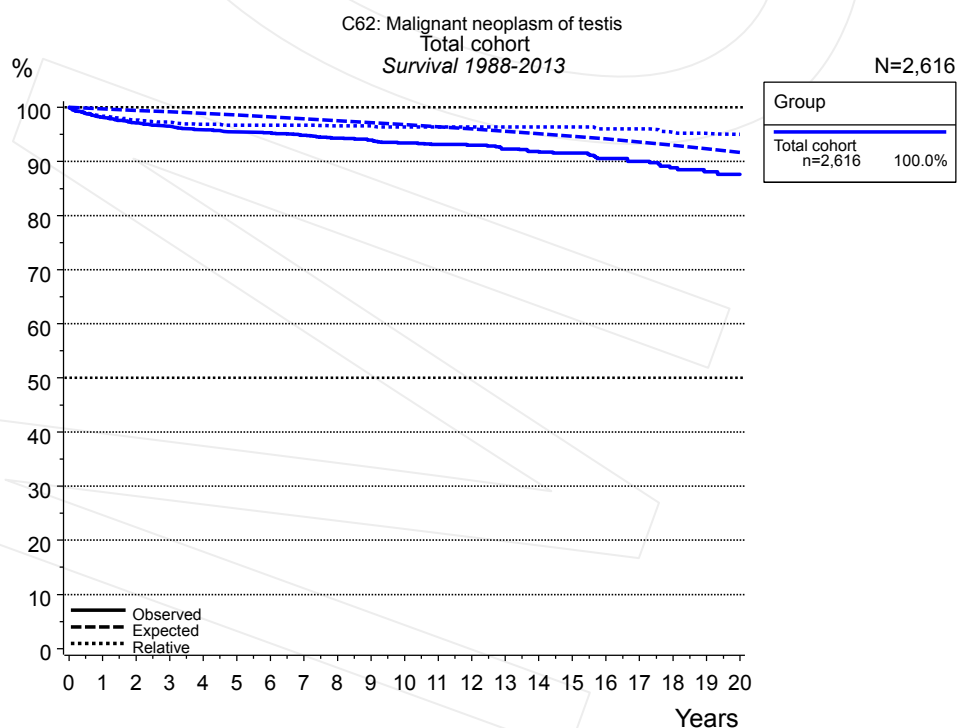


Figure 2a. Observed, expected and relative survival of the total cohort with testicular cancer. Included in the evaluation are 2,616 cases diagnosed between 1988 and 2013.

Years	Group	
	Total cohort n=2,616	
	obs. %	rel. %
0	100.0	100.0
1	98.1	98.4
2	97.1	97.6
3	96.5	97.3
4	95.9	96.9
5	95.4	96.7
6	95.3	96.7
7	94.9	96.7
8	94.3	96.6
9	94.0	96.6
10	93.4	96.3
11	93.1	96.3
12	93.0	96.3
13	92.3	96.3
14	91.9	96.3
15	91.5	96.3
16	90.5	96.0
17	90.0	96.0
18	88.8	95.4
19	88.1	95.2
20	87.6	95.0

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with testicular cancer for period 1988-2013 (N=2,616).

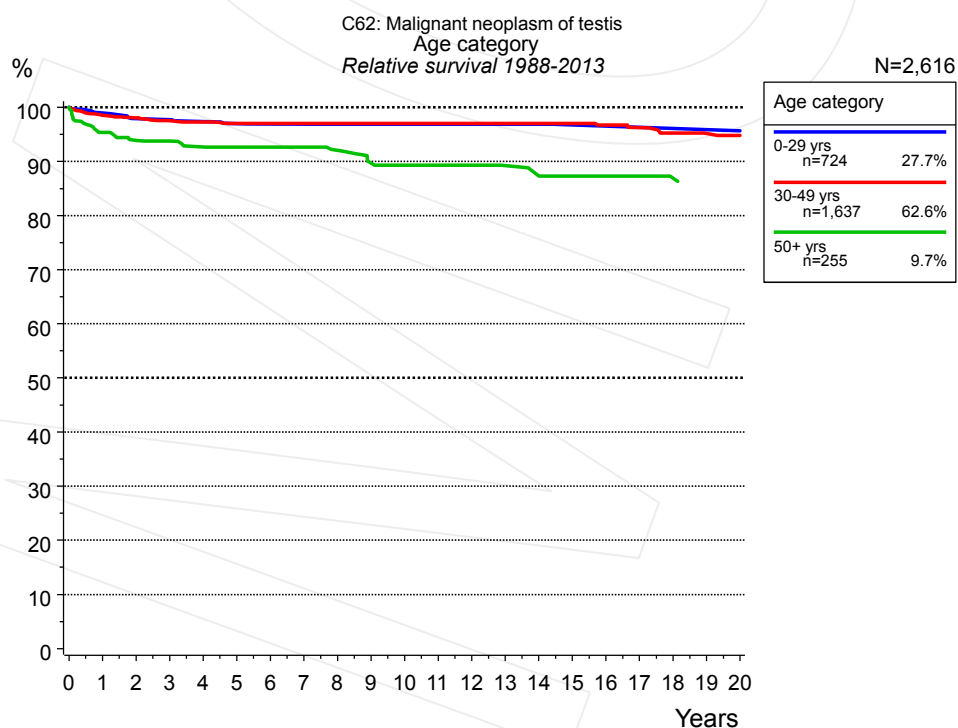


Figure 3a. Relative survival of patients with testicular cancer by age category. Included in the evaluation are 2,616 cases diagnosed between 1988 and 2013.

Years	Age category					
	0-29 yrs n=724		30-49 yrs n=1,637		50+ yrs n=255	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	99.0	99.0	98.4	98.5	94.1	95.4
2	97.8	97.9	97.8	98.1	91.1	93.9
3	97.6	97.7	97.0	97.5	89.7	93.8
4	97.1	97.4	96.6	97.3	87.7	92.7
5	96.7	97.0	96.1	97.0	87.1	92.7
6	96.5	96.9	96.0	97.0	87.1	92.7
7	96.5	96.9	95.8	97.0	84.2	92.7
8	96.3	96.9	95.6	97.0	81.1	92.1
9	96.3	96.9	95.6	97.0	77.5	89.7
10	96.3	96.9	94.8	97.0	76.5	89.3
11	96.3	96.9	94.4	97.0	75.4	89.3
12	96.3	96.9	94.2	97.0	75.4	89.3
13	96.3	96.9	93.8	97.0	70.8	89.3
14	96.3	96.9	93.3	97.0	69.1	87.3
15	95.7	96.7	93.3	97.0	67.3	87.3
16	95.7	96.5	91.8	96.7	65.2	87.3
17	95.7	96.3	91.0	96.3	65.2	87.3
18	95.7	96.1	89.4	95.3	62.5	86.9
19	95.7	95.9	88.7	95.2	59.3	86.1
20	95.7	95.7	87.8	94.8	59.3	85.9

Table 3b. Observed (obs.) and relative (rel.) survival of patients with testicular cancer by age category for period 1988-2013 (N=2,616).

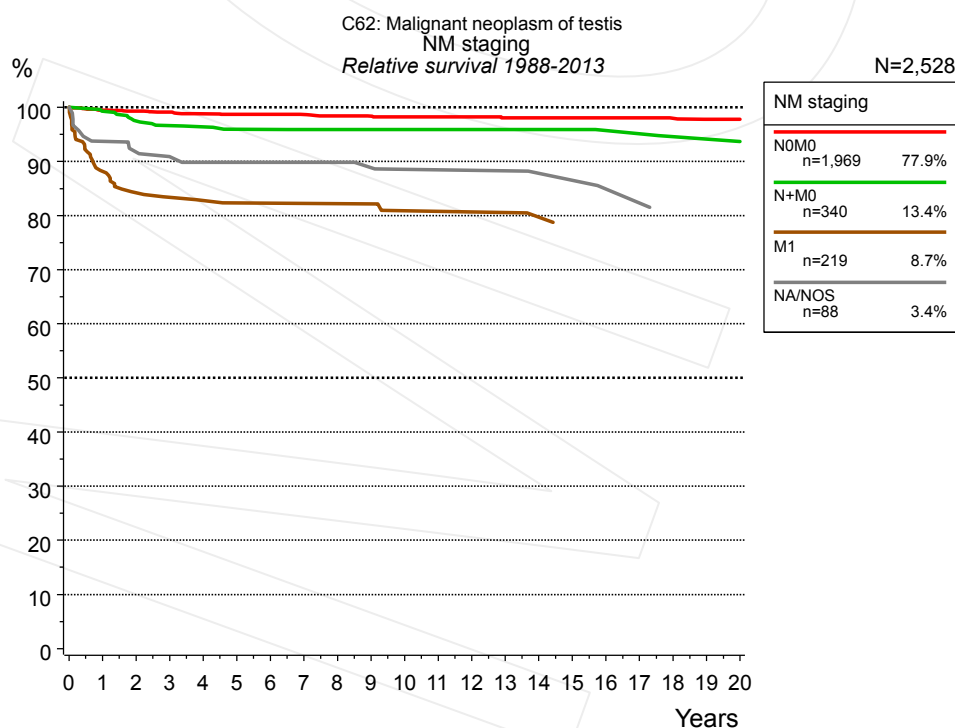


Figure 4a. Relative survival of patients with testicular cancer by NM staging. For 2,529 of 2,616 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 2,528 cases an evaluable classification was established. The grey line represents the subgroup of 88 patients with missing values regarding NM staging (3.4% of 2,616 patients, the percent values of all other categories are related to n=2,528).

Years	NM staging							
	NOM0 n=1,969		N+M0 n=340		M1 n=219		NA/NOS n=88	
	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	99.3	99.5	99.1	99.3	88.2	88.2	93.1	93.7
2	98.8	99.3	97.2	97.5	84.0	84.2	90.8	91.7
3	98.4	99.1	96.2	96.6	82.9	83.4	88.3	90.9
4	97.8	98.8	95.9	96.4	82.2	82.8	87.0	89.8
5	97.4	98.7	95.0	95.9	81.5	82.4	87.0	89.8
6	97.2	98.7	95.0	95.9	81.5	82.3	87.0	89.8
7	96.7	98.7	94.5	95.9	81.5	82.3	87.0	89.8
8	96.1	98.4	94.5	95.9	81.5	82.2	85.2	89.8
9	95.8	98.4	94.5	95.9	81.5	82.2	83.4	88.9
10	95.4	98.2	94.5	95.9	79.1	80.9	81.5	88.5
11	95.0	98.2	94.5	95.9	79.1	80.8	81.5	88.5
12	94.8	98.2	94.5	95.9	79.1	80.7	81.5	88.4
13	93.9	98.1	94.5	95.9	79.1	80.6	81.5	88.3
14	93.6	98.1	94.5	95.9	77.5	79.7	78.5	87.8
15	93.4	98.1	94.5	95.9	75.5	78.1	78.5	86.5
16	92.9	98.1	91.8	95.7	75.5	76.9	75.1	84.9
17	92.2	98.1	91.8	95.1	75.5	75.7	75.1	82.3
18	91.3	98.0	89.7	94.6	75.5	74.6		
19	90.3	97.8	89.7	94.1	75.5	73.4		
20	90.3	97.8	89.7	93.7				

Table 4b. Observed (obs.) and relative (rel.) survival of patients with testicular cancer by NM staging for period 1988-2013 (N=2,528).

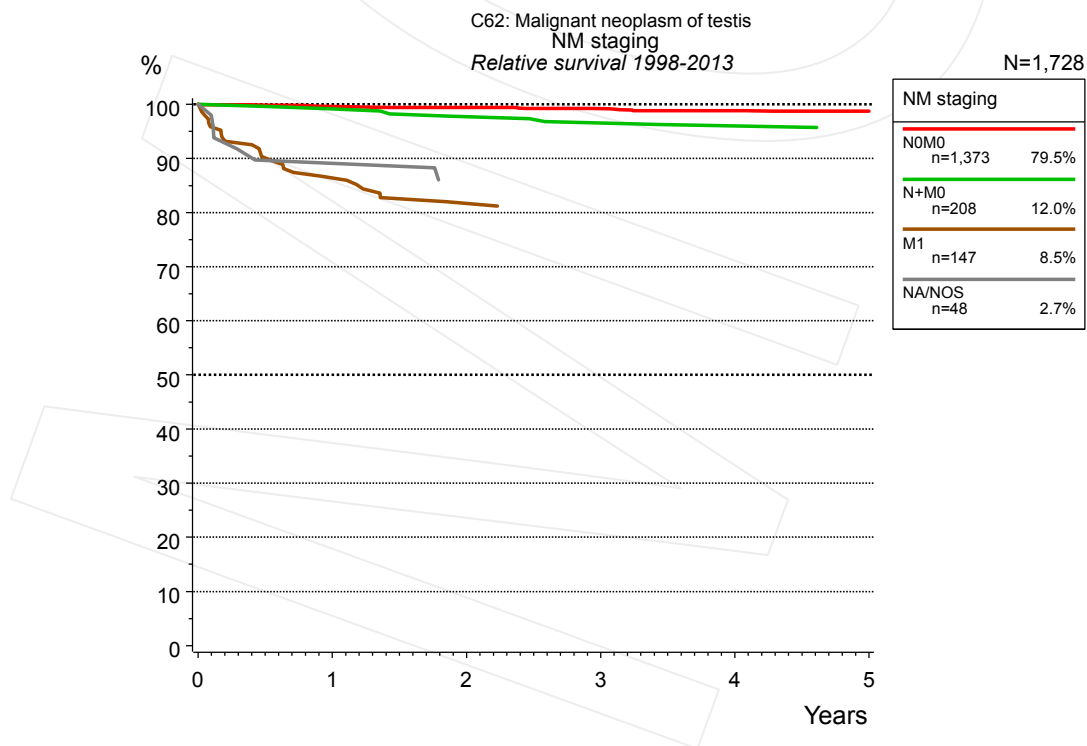


Figure 4c. Relative survival of patients with testicular cancer by NM staging. For 1,728 of 1,776 cases diagnosed between 1998 and 2013 valid data could be obtained for this item. The grey line represents the subgroup of 48 patients with missing values regarding NM staging (2.7% of 1,776 patients, the percent values of all other categories are related to n=1,728).

Years	NM staging							
	N0M0 n=1,373		N+M0 n=208		M1 n=147		NA/NOS n=48	
	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	99.4	99.6	99.0	99.2	86.5	86.4	89.5	89.1
2	99.1	99.4	97.4	97.7	81.6	81.7		
3	98.5	99.2	96.3	96.6				
4	97.9	98.8	95.6	96.0				
5	97.5	98.7						

Table 4d. Observed (obs.) and relative (rel.) survival of patients with testicular cancer by NM staging for period 1998-2013 (N=1,728).

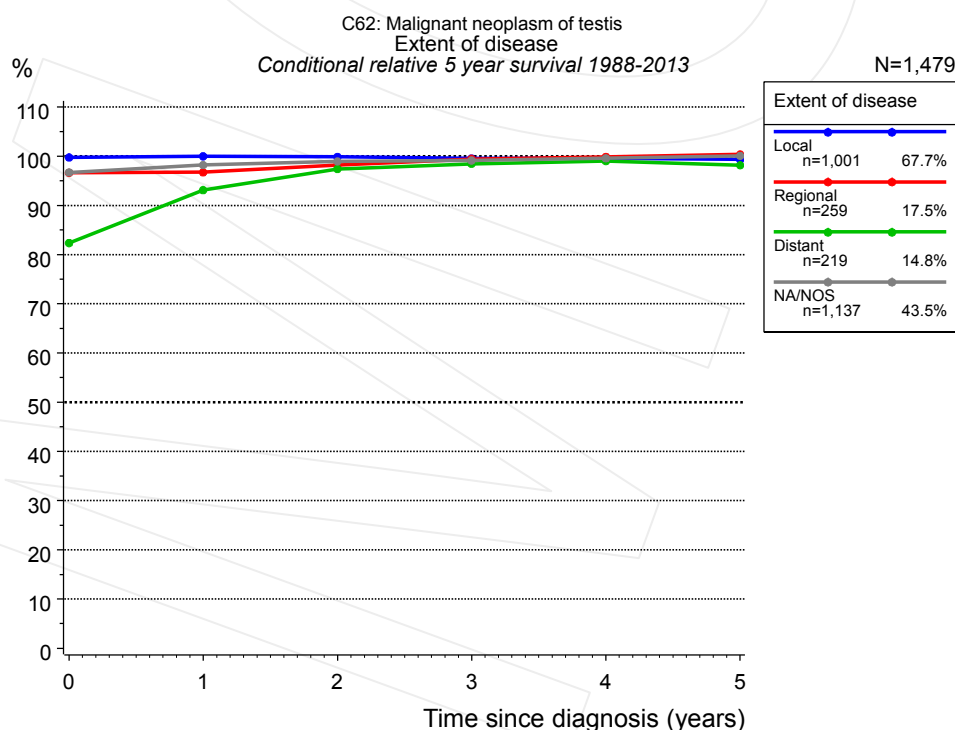


Figure 4e. Conditional relative 5-year survival of patients with testicular cancer by extent of disease. For 2,529 of 2,616 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 1,479 cases an evaluable classification was established. The grey line represents the subgroup of 1,137 patients with missing values regarding extent of disease (43.5% of 2,616 patients, the percent values of all other categories are related to n=1,479).

Years	Extent of disease							
	Local		Regional		Distant		NA/NOS	
	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs
0	1,001	99.8	259	96.6	219	82.4	1,137	96.7
1	941	100.0	250	96.7	176	93.1	1,048	98.2
2	876	99.9	237	98.2	154	97.4	936	98.9
3	801	99.6	219	99.4	138	98.5	843	99.2
4	728	99.5	197	99.9	122	99.0	737	99.6
5	649	99.3	173	100.4	105	98.2	656	100.1

Table 4f. Conditional relative 5-year survival of patients with testicular cancer by extent of disease for period 1988-2013 (N=1,479).

Conditional relative survival rates refer to the relative survival probability, in this case for 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 4c). 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 5-year survival rate is 99.6% (n=801).

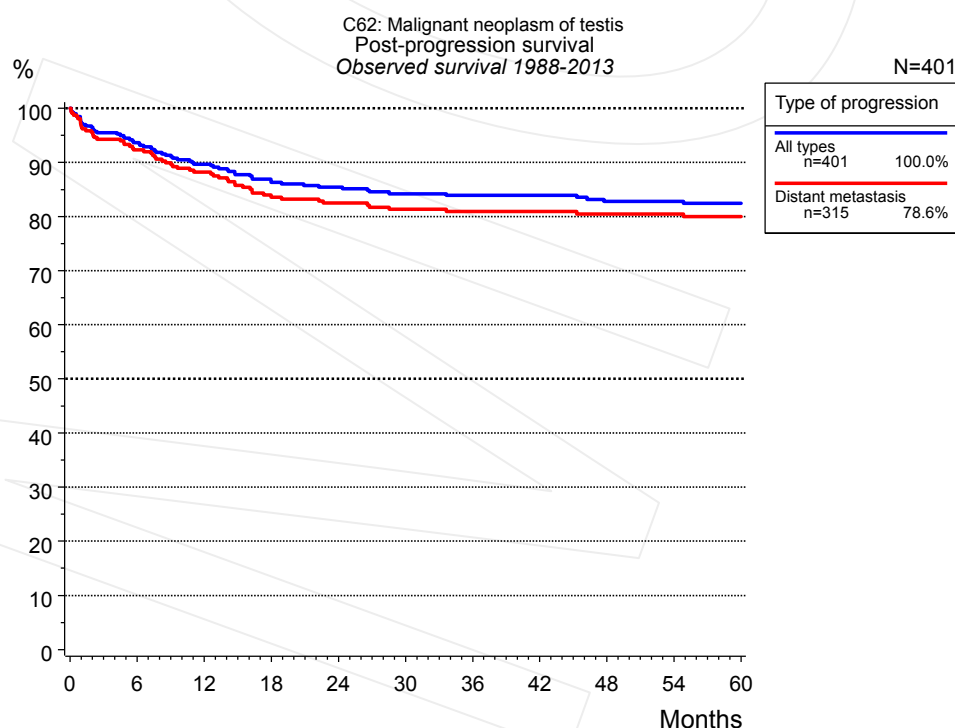


Figure 5a. Observed post-progression survival of 401 patients with testicular cancer diagnosed between 1988 and 2013 (incl. M1). These 401 patients with documented progression events during their course of disease represent 15.3% of the totally 2,616 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=10, 0.4%). Multiple progression types on different sites are included in the evaluation even when not occurring synchronously.

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=401	Distant metastasis n=315
	%	%
0	100.0	100.0
12	89.7	88.2
24	85.5	82.5
36	83.9	80.9
48	82.8	80.5
60	82.4	80.0

Table 5b. Observed post-progression survival of patients with testicular cancer for period 1988-2013 (N=401).

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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