

Munich Cancer Registry



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ICD-10 D09.0, D41.4: Bladder tumor

Survival

Year of diagnosis	1988-1997	1998-2014
Patients	1,998	8,633
Diseases	1,998	8,638
Cases evaluated	1,778	6,611
Creation date	04/11/2016	
Export date	12/23/2015	
Population	4.64 m	



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

<http://www.tumorregister-muenchen.de/en/facts/surv/sD0941E-ICD-10-D09.0-D41.4-Bladder-tumor-survival.pdf>

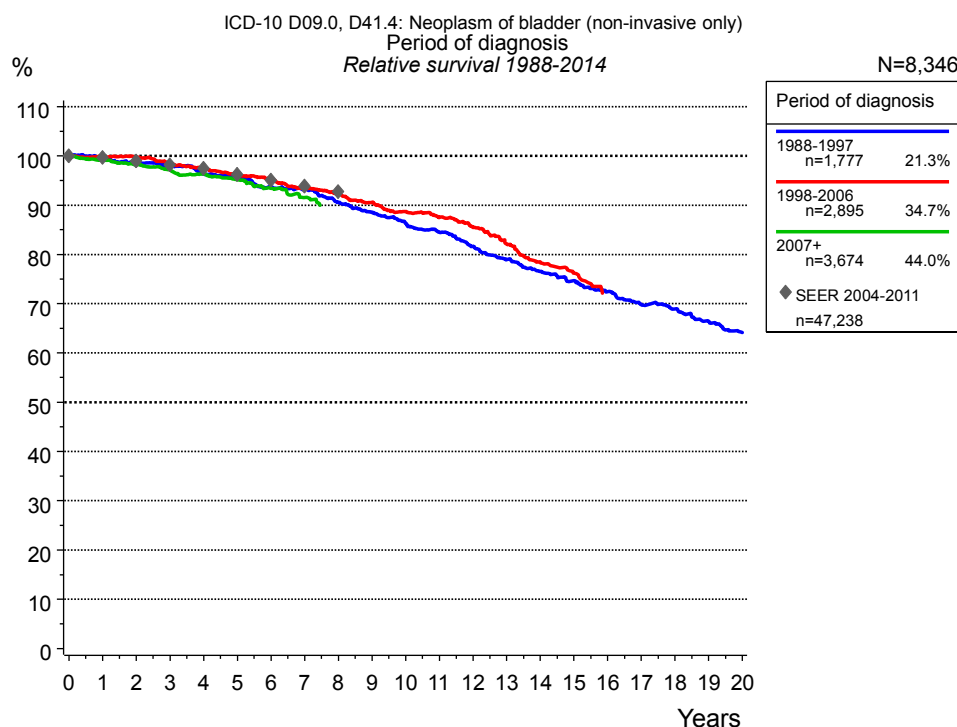


Figure 1a. Relative survival of patients with bladder tumor by period of diagnosis. Included in the evaluation are 8,346 cases diagnosed between 1988 and 2014.

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					
	1988-1997 n=1,777		1998-2006 n=2,895		2007+ n=3,674	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	95.5	99.7	96.2	99.6	95.6	99.0
2	90.4	98.4	92.7	99.6	91.4	98.2
3	86.3	97.9	88.2	98.5	87.3	97.1
4	81.6	96.3	84.1	97.5	83.7	96.0
5	77.9	95.7	80.0	96.1	79.6	95.1
6	73.4	93.5	76.3	95.0	75.4	93.4
7	70.2	93.1	72.1	93.3	71.4	91.5
8	65.7	90.6	68.7	92.2		
9	61.9	88.6	64.9	90.4		
10	58.1	86.3	61.2	88.5		
11	54.8	84.5	58.2	87.5		
12	51.1	81.6	54.7	85.5		
13	47.6	78.9	50.6	82.1		
14	44.5	76.5	46.4	78.4		
15	41.9	74.5	43.4	76.2		
16	39.1	72.4				
17	36.3	69.8				
18	34.5	68.9				
19	32.1	66.3				
20	29.7	64.2				

Table 1b. Observed (obs.) and relative (rel.) survival of patients with bladder tumor by period of diagnosis for period 1988-2014 (N=8,346).

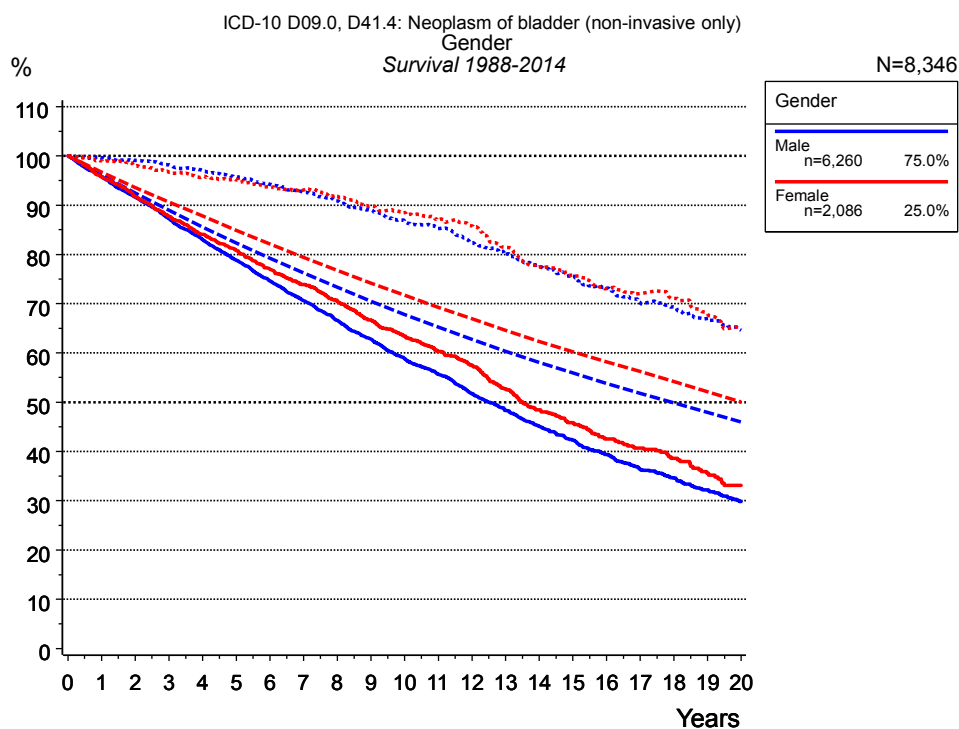


Figure 2a. Survival of patients with bladder tumor by gender. Included in the evaluation are 8,346 cases diagnosed between 1988 and 2014.

Years	Gender			
	Male n=6,260		Female n=2,086	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	95.8	99.5	95.8	99.0
2	91.6	99.0	91.8	98.0
3	87.3	98.2	87.6	96.7
4	83.0	97.0	84.1	95.6
5	78.8	95.7	80.7	95.1
6	74.6	94.2	77.0	93.6
7	70.6	92.6	73.9	92.8
8	66.6	90.7	70.4	91.8
9	62.8	89.0	66.6	89.7
10	58.8	86.7	63.4	88.4
11	55.7	85.3	60.4	87.0
12	51.7	82.4	57.6	85.8
13	48.3	80.0	52.7	81.4
14	45.1	77.5	48.4	77.4
15	42.2	75.5	45.8	75.7
16	39.4	73.1	42.6	73.0
17	36.4	70.2	40.7	71.9
18	34.6	69.3	38.6	71.1
19	32.2	66.8	35.6	67.8
20	29.9	64.6	33.2	64.9

Table 2b. Observed (obs.) and relative (rel.) survival of patients with bladder tumor by gender for period 1988-2014 (N=8,346).

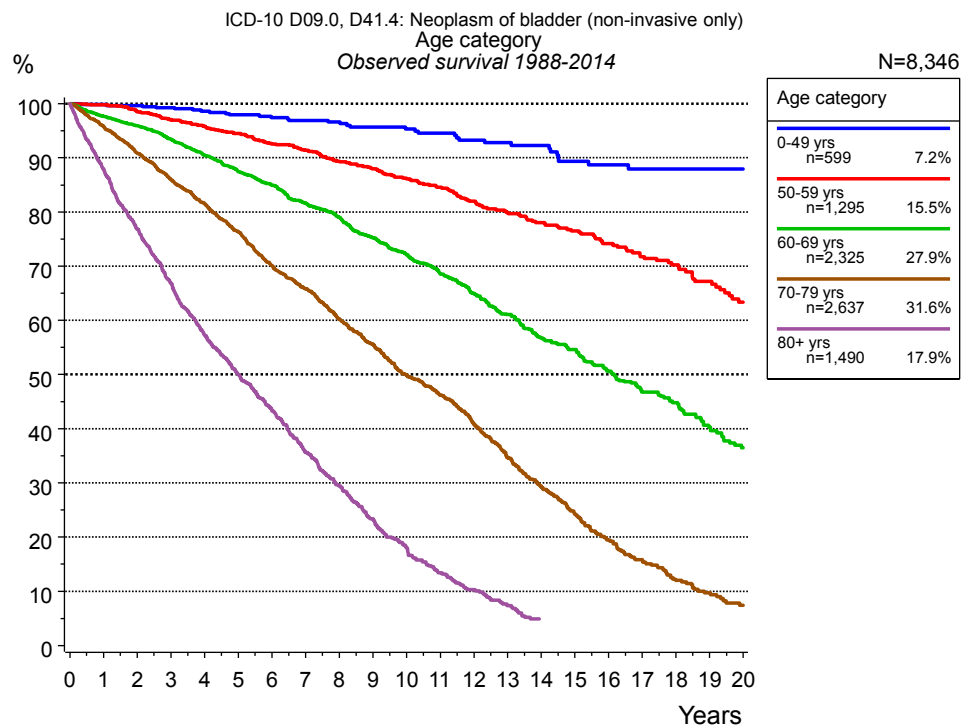


Figure 3a. Observed survival of patients with bladder tumor by age category. Included in the evaluation are 8,346 cases diagnosed between 1988 and 2014.

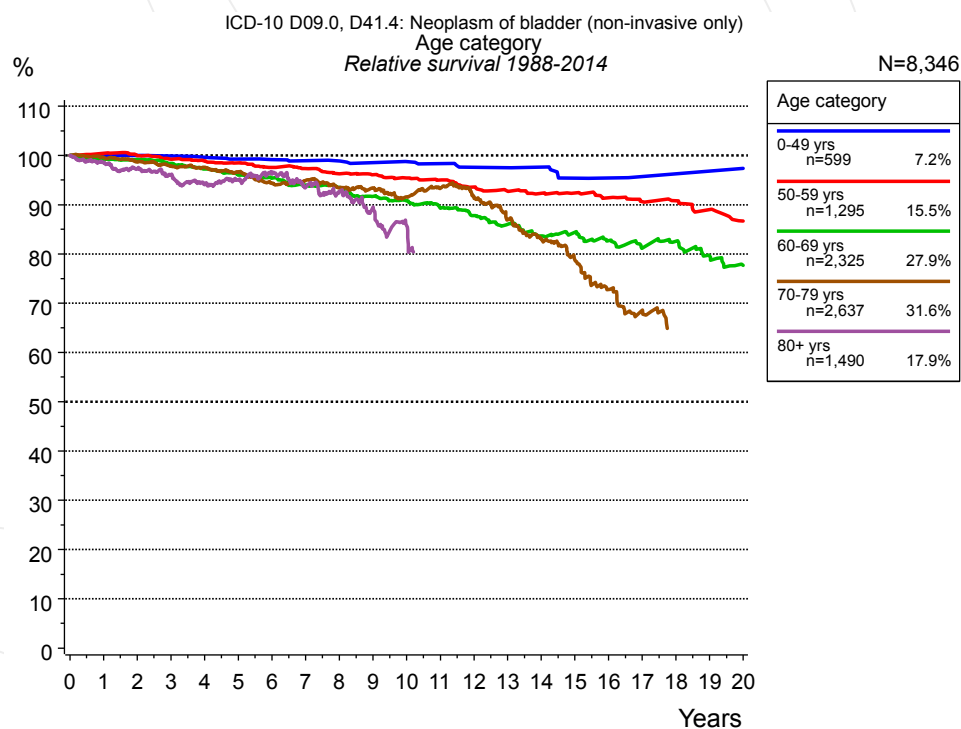


Figure 3b. Relative survival of patients with bladder tumor by age category. Included in the evaluation are 8,346 cases diagnosed between 1988 and 2014.

Years	Age category									
	0-49 yrs n=599		50-59 yrs n=1,295		60-69 yrs n=2,325		70-79 yrs n=2,637		80+ yrs n=1,490	
	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	99.8	99.9	99.8	99.9	97.6	99.2	95.8	99.6	87.9	98.4
2	99.6	99.9	98.5	99.9	95.9	99.0	90.9	98.6	76.9	96.7
3	99.2	99.9	97.1	99.2	93.4	98.3	86.0	97.8	66.8	95.8
4	98.6	99.6	95.8	98.9	90.5	97.2	81.6	97.4	57.3	93.8
5	97.9	99.2	94.5	98.4	87.5	96.0	76.3	96.4	50.0	93.8
6	97.4	99.2	92.5	97.5	84.9	95.4	70.1	94.3	43.5	93.8
7	96.9	98.8	91.3	97.3	81.6	93.8	65.8	94.0	35.7	93.4
8	96.6	98.8	89.4	96.3	79.0	93.5	60.2	93.4	29.4	91.7
9	95.6	98.4	88.0	96.1	75.3	91.5	55.5	92.8	23.4	88.2
10	95.3	98.4	86.1	95.3	72.1	90.7	49.9	91.1	18.0	83.4
11	94.5	98.2	84.6	95.0	68.6	89.3	46.2	91.1		
12	93.3	97.6	82.0	93.5	65.0	87.8	40.9	91.1		
13	92.8	97.5	79.9	92.7	61.0	85.6	34.7	86.9		
14	92.2	97.5	78.0	92.2	56.8	83.6	29.3	83.1		
15	89.3	95.4	76.5	92.1	54.6	83.4	24.3	78.7		
16	88.7	95.4	74.1	91.3	50.6	82.5	19.5	72.7		
17	87.9	95.4	71.8	90.6	46.7	81.1	15.8	67.2		
18	87.9	95.4	70.2	90.5	44.8	81.1				
19	87.9	95.4	67.2	88.5	40.3	79.5				
20	87.9	95.4	63.3	86.7	36.5	77.3				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with bladder tumor by age category for period 1988-2014 (N=8,346).

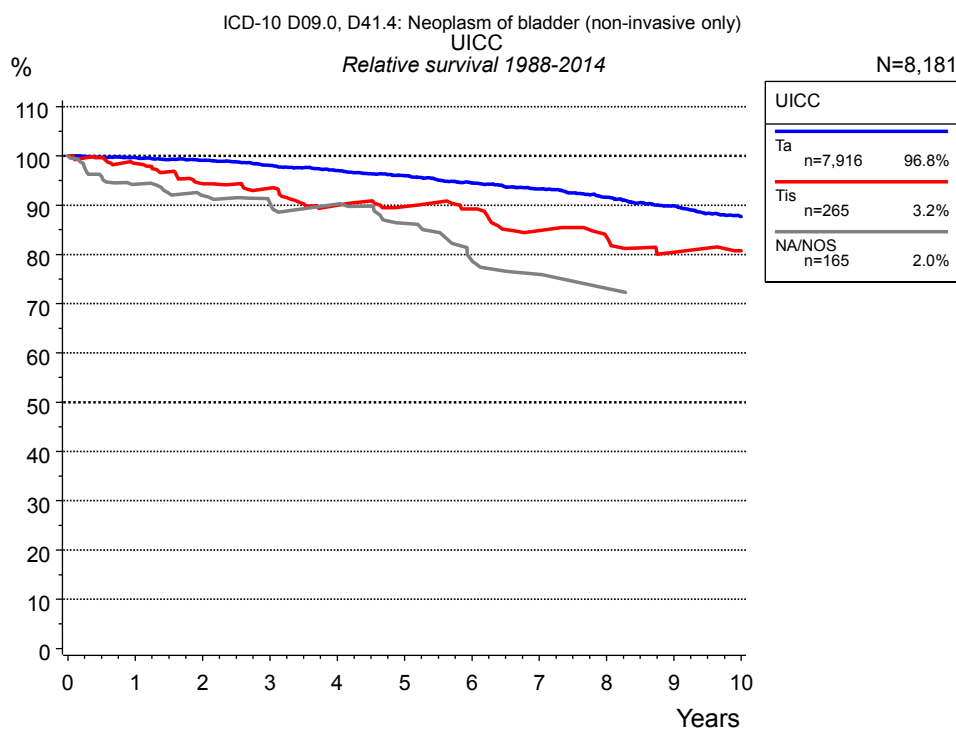


Figure 4a. Relative survival of patients with bladder tumor by UICC. For 8,210 of 8,346 cases diagnosed between 1988 and 2014 valid data could be obtained for this item. For a total of 8,181 cases an evaluable classification was established. The grey line represents the subgroup of 165 patients with missing values regarding UICC (2.0% of 8,346 patients, the percent values of all other categories are related to n=8,181).

Years	UICC					
	Ta n=7,916		Tis n=265		NA/NOS n=165	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	95.9	99.6	94.9	98.5	90.8	94.2
2	91.9	99.1	87.7	94.3	85.6	91.9
3	87.6	98.1	83.6	93.4	81.4	90.3
4	83.6	97.0	77.3	89.9	79.3	90.2
5	79.6	95.9	74.0	89.7	73.0	86.3
6	75.5	94.5	70.8	89.2	65.3	78.8
7	71.8	93.3	64.3	84.8	61.4	75.9
8	68.0	91.6	60.7	83.5	57.8	73.1
9	64.2	89.8	55.7	80.5	55.2	72.3
10	60.3	87.7	53.5	80.7	55.2	72.4

Table 4b. Observed (obs.) and relative (rel.) survival of patients with bladder tumor by UICC for period 1988-2014 (N=8,181).

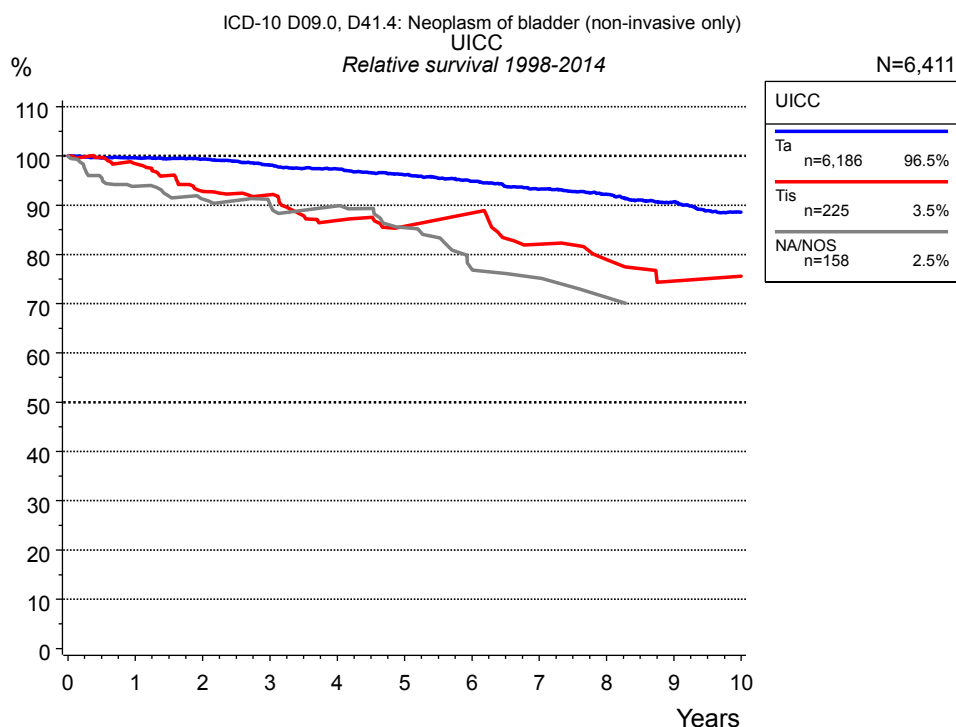


Figure 4c. Relative survival of patients with bladder tumor by UICC. For 6,438 of 6,569 cases diagnosed between 1998 and 2014 valid data could be obtained for this item. For a total of 6,411 cases an evaluable classification was established. The grey line represents the subgroup of 158 patients with missing values regarding UICC (2.4% of 6,569 patients, the percent values of all other categories are related to n=6,411).

Years	UICC					
	Ta n=6,186		Tis n=225		NA/NOS n=158	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	96.0	99.6	94.9	98.4	90.4	93.8
2	92.4	99.3	86.4	92.8	84.9	91.2
3	88.0	98.1	82.6	92.1	81.3	90.1
4	84.3	97.4	74.8	86.9	79.0	89.9
5	80.2	96.1	70.6	85.7	72.3	85.5
6	76.3	94.8	70.6	88.4	63.9	76.9
7	72.3	93.2	62.5	82.0	61.0	75.2
8	68.9	92.2	58.5	79.0	56.7	71.3
9	65.3	90.6	52.0	74.6		
10	61.4	88.6	52.0	75.6		

Table 4d. Observed (obs.) and relative (rel.) survival of patients with bladder tumor by UICC for period 1998-2014 (N=6,411).

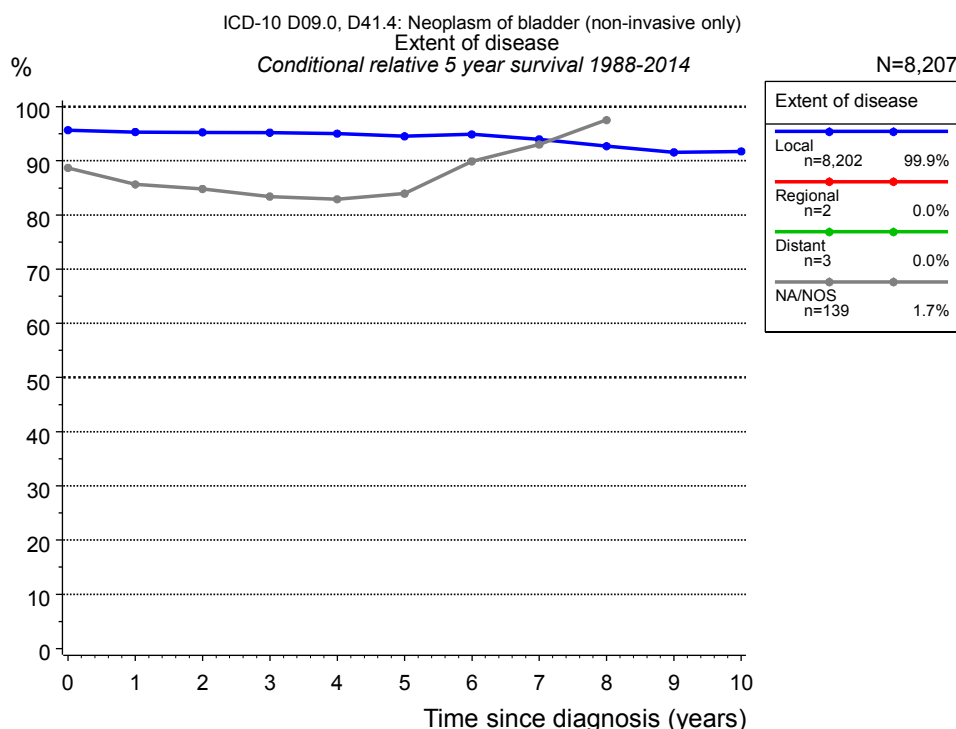


Figure 4i. Conditional relative 5-year survival of patients with bladder tumor by extent of disease. For 8,210 of 8,346 cases diagnosed between 1988 and 2014 valid data could be obtained for this item. For a total of 8,207 cases an evaluable classification was established. The grey line represents the subgroup of 139 patients with missing values regarding extent of disease (1.7% of 8,346 patients, the percent values of all other categories are related to n=8,207). Subgroups with sample size <15 are dropped from the chart.

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	8,202	95.7	2		3		139	88.7
1	7,411	95.3					125	85.7
2	6,659	95.3					112	84.8
3	5,946	95.2					101	83.4
4	5,245	95.0					88	82.9
5	4,629	94.5					65	84.0
6	4,016	94.9					47	89.9
7	3,496	94.0					36	93.0
8	2,937	92.7					22	97.5
9	2,542	91.5						
10	2,162	91.7						

Table 4j. Conditional relative 5-year survival of patients with bladder tumor by extent of disease for period 1988-2014 (N=8,207).

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 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 5-year survival rate is 95.2% (n=5,946).

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 D09.0, D41.4: Bladder tumor [Internet]. 2016 [updated 2016 Apr 11; cited 2016 Jun 1]. Available from: <http://www.tumorregister-muenchen.de/en/facts/surv/sD0941E-ICD-10-D09.0-D41.4-Bladder-tumor-survival.pdf>

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