

Munich Cancer Registry



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Munich Cancer Registry at Munich Cancer Center
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<http://www.tumorregister-muenchen.de/en>

Cancer statistics: Survival

C64-C66, C68: Urinary tract cancer

Year of diagnosis	1978-1987	1988-1997	1998-2011
Patients	892	3,088	9,123
Diseases	896	3,131	9,358
Creation date	04/01/2013		
Export date	01/03/2013		
Population	4.5 m		



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C6466E.pdf

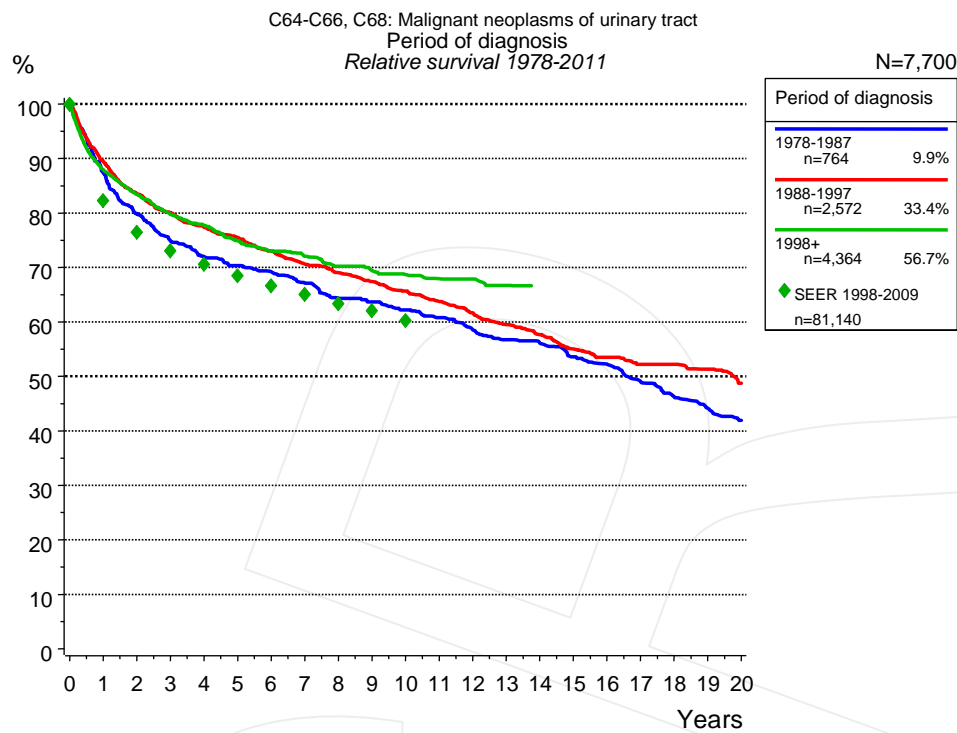


Figure 1a. Relative survival of patients with urinary tract cancer by period of diagnosis. Included in the evaluation are 7,700 cases diagnosed between 1978 and 2011.

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 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					
	1978-1987		1988-1997		1998+	
	n=764		n=2,572		n=4,364	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	85.5	87.3	87.1	89.4	85.6	87.9
2	76.7	79.9	79.3	83.5	79.3	83.4
3	70.5	74.8	74.2	80.0	73.9	79.7
4	66.1	71.9	70.0	77.4	70.3	77.7
5	63.3	70.3	66.5	75.5	66.1	74.9
6	60.8	69.2	62.7	73.0	62.8	73.0
7	57.7	67.2	59.1	70.6	60.3	72.1
8	53.9	64.3	56.3	69.0	57.3	70.3
9	52.3	63.7	53.5	67.4	55.0	69.4
10	49.7	62.2	50.8	65.6	52.9	68.7
11	47.5	60.8	47.9	63.7	50.9	67.9
12	44.7	58.5	45.1	61.6	49.9	67.9
13	42.0	56.7	42.3	59.5	47.8	66.7
14	40.5	56.1	39.8	57.6		
15	37.7	53.6	36.9	55.0		
16	35.7	52.3	34.8	53.5		
17	32.6	49.0	33.1	52.2		
18	29.9	46.2	32.2	52.2		
19	27.9	44.2	30.6	51.3		
20	25.7	41.9	27.9	48.8		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with urinary tract cancer by period of diagnosis for period 1978-2011 (N=7,700).

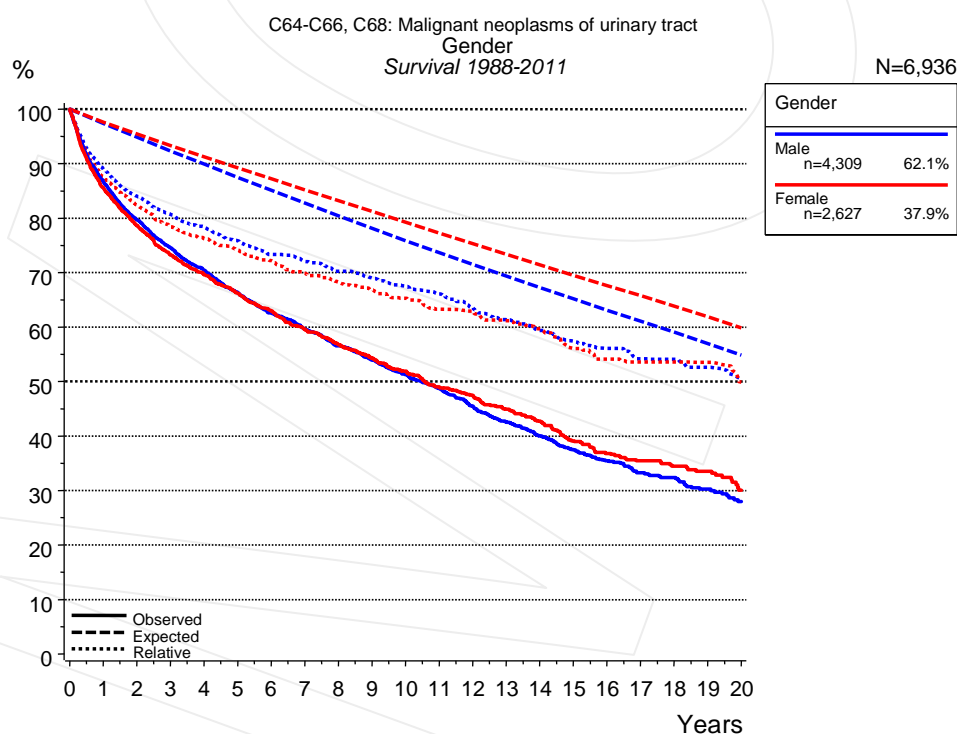


Figure 2a. Survival of patients with urinary tract cancer by gender. Included in the evaluation are 6,936 cases diagnosed between 1988 and 2011.

Years	Gender			
	Male n=4,309		Female n=2,627	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	86.6	88.9	85.6	87.7
2	79.6	84.0	78.6	82.4
3	74.5	80.7	73.2	78.4
4	70.4	78.3	69.7	76.2
5	66.3	75.8	66.2	74.1
6	62.5	73.4	62.9	72.2
7	59.6	72.0	59.6	69.9
8	56.6	70.2	56.8	68.3
9	53.9	69.0	54.3	66.8
10	51.2	67.5	51.9	65.3
11	48.6	66.0	49.0	63.3
12	45.5	63.6	47.4	62.9
13	42.6	61.3	44.9	61.2
14	40.0	59.4	42.7	59.7
15	37.4	57.4	39.1	56.1
16	35.5	56.1	36.8	54.2
17	33.2	54.2	35.4	53.6
18	32.4	54.1	34.4	53.6
19	30.2	52.6	33.5	53.6
20	27.9	50.7	30.0	49.9

Table 2b. Observed (obs.) and relative (rel.) survival of patients with urinary tract cancer by gender for period 1988-2011 (N=6,936).

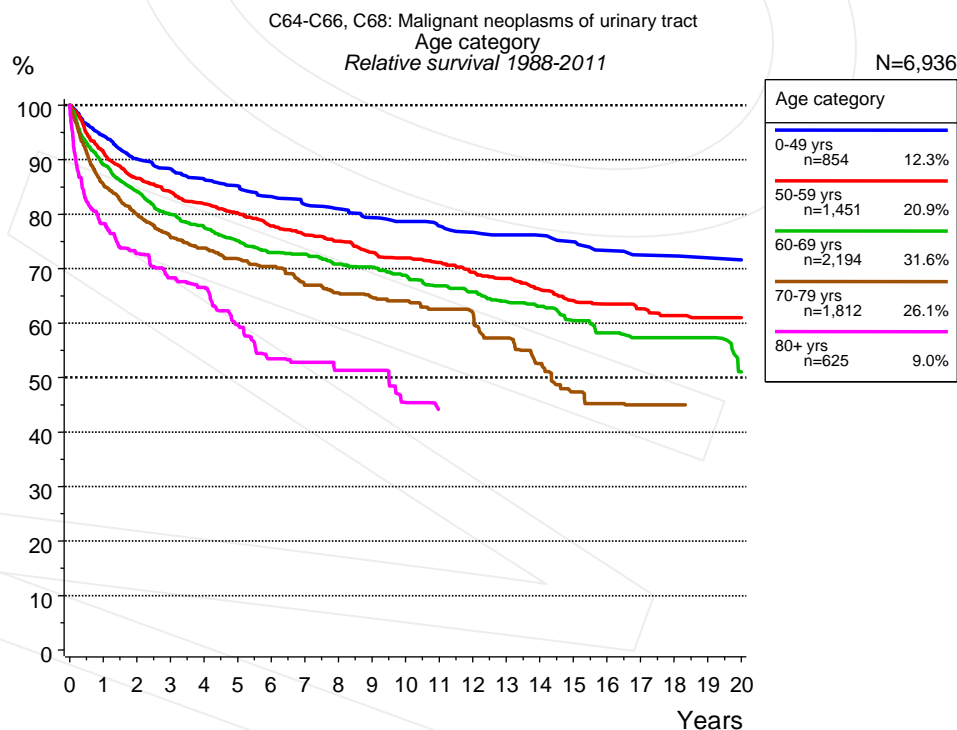


Figure 3a. Relative survival of patients with urinary tract cancer by age category. Included in the evaluation are 6,936 cases diagnosed between 1988 and 2011.

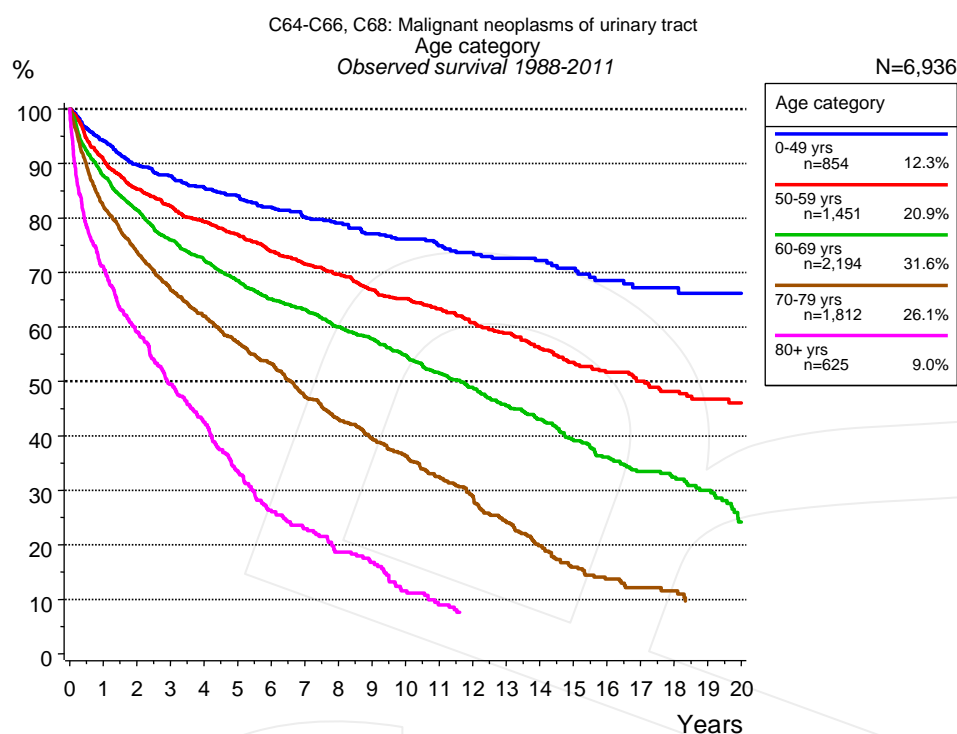


Figure 3b. Observed survival of patients with urinary tract cancer by age category. Included in the evaluation are 6,936 cases diagnosed between 1988 and 2011.

Years	Age category									
	0-49 yrs n=854		50-59 yrs n=1,451		60-69 yrs n=2,194		70-79 yrs n=1,812		80+ yrs n=625	
	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	94.1	94.3	90.7	91.4	87.7	89.1	82.2	85.4	71.0	78.3
2	89.7	90.1	85.3	86.6	81.4	84.1	73.8	80.0	59.1	72.8
3	87.7	88.3	82.2	84.1	76.0	79.9	66.8	75.7	49.4	68.3
4	85.6	86.4	79.3	81.9	72.3	77.6	61.9	73.7	42.5	66.5
5	84.1	85.2	76.8	80.2	68.5	75.1	57.2	71.8	33.6	59.7
6	82.0	83.2	73.8	77.8	65.1	72.9	53.2	70.4	26.4	53.4
7	80.1	81.7	71.5	76.2	63.2	72.6	47.1	66.9	22.9	52.8
8	79.0	81.0	69.6	75.1	60.0	70.8	43.1	65.5	18.7	51.3
9	77.1	79.3	66.8	73.0	57.8	70.2	39.4	64.7	16.8	51.3
10	76.1	78.7	65.2	72.0	54.8	68.7	36.3	64.1	11.6	45.4
11	74.9	77.8	63.3	71.1	51.5	66.8	32.5	62.5	9.0	44.1
12	73.6	76.7	60.8	69.3	48.9	65.7	28.9	61.8		
13	72.6	76.2	58.8	68.2	45.5	63.9	24.3	57.3		
14	72.1	76.1	56.2	66.1	43.0	63.0	19.9	52.5		
15	70.8	74.9	53.5	64.1	39.1	60.4	15.9	47.4		
16	68.6	73.3	51.7	63.4	36.1	58.2	13.7	45.2		
17	67.2	72.5	50.0	62.6	33.5	57.3	12.2	45.0		
18	67.2	72.3	48.2	61.4	32.4	57.3	11.6	45.0		
19	66.2	71.9	46.7	61.0	30.0	57.3				
20	66.2	71.6	46.0	61.0	24.2	51.0				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with urinary tract cancer by age category for period 1988-2011 (N=6,936).

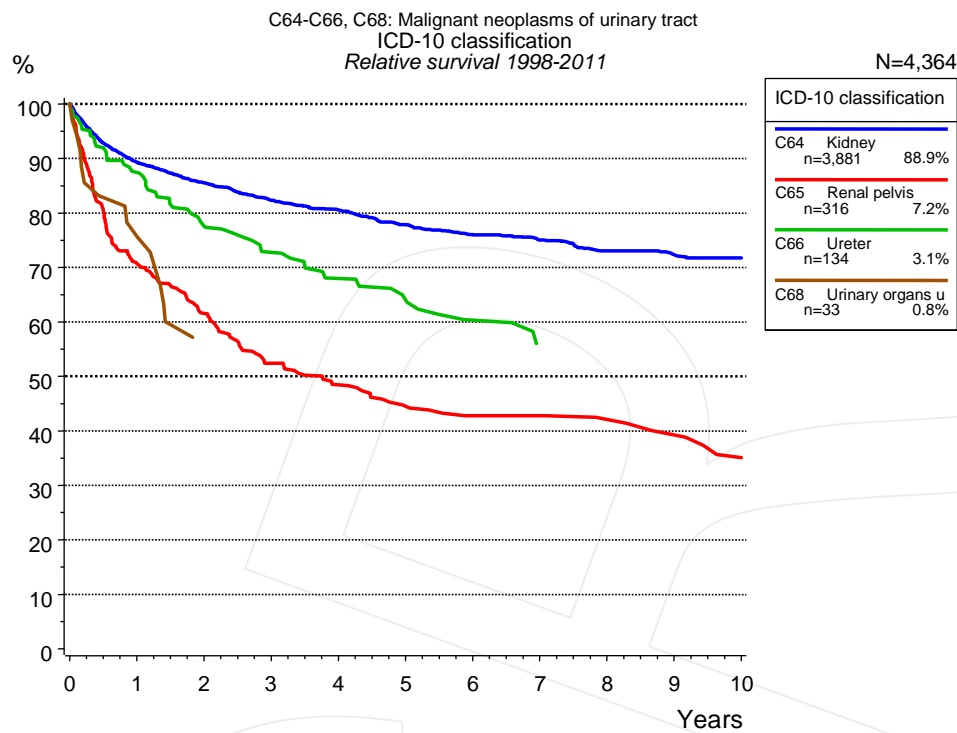


Figure 4a. Relative survival of patients with urinary tract cancer by ICD-10 classification. Included in the evaluation are 4,364 cases diagnosed between 1998 and 2011.

ICD-10 classification								
Years	C64 Kidney n=3,881		C65 Renal pelvis n=316		C66 Ureter n=134		C68 Urinary organs unspec. n=33	
	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	87.2	89.3	68.1	70.7	84.4	87.4	75.8	75.7
2	81.6	85.5	56.9	61.5	72.2	77.6		
3	76.7	82.3	46.5	52.5	65.0	72.8		
4	73.3	80.6	41.4	48.5	58.5	67.9		
5	69.1	77.8	36.7	44.5	53.6	64.0		
6	65.8	76.0	34.0	42.8	48.1	60.3		
7	63.3	75.0	34.0	42.8	42.8	56.0		
8	60.1	73.1	31.9	42.1	42.8	56.0		
9	57.8	72.3	29.4	39.3	42.8	56.0		
10	55.8	71.7	25.4	35.1	42.8	56.0		

Table 4b. Observed (obs.) and relative (rel.) survival of patients with urinary tract cancer by ICD-10 classification for period 1998-2011 (N=4,364).

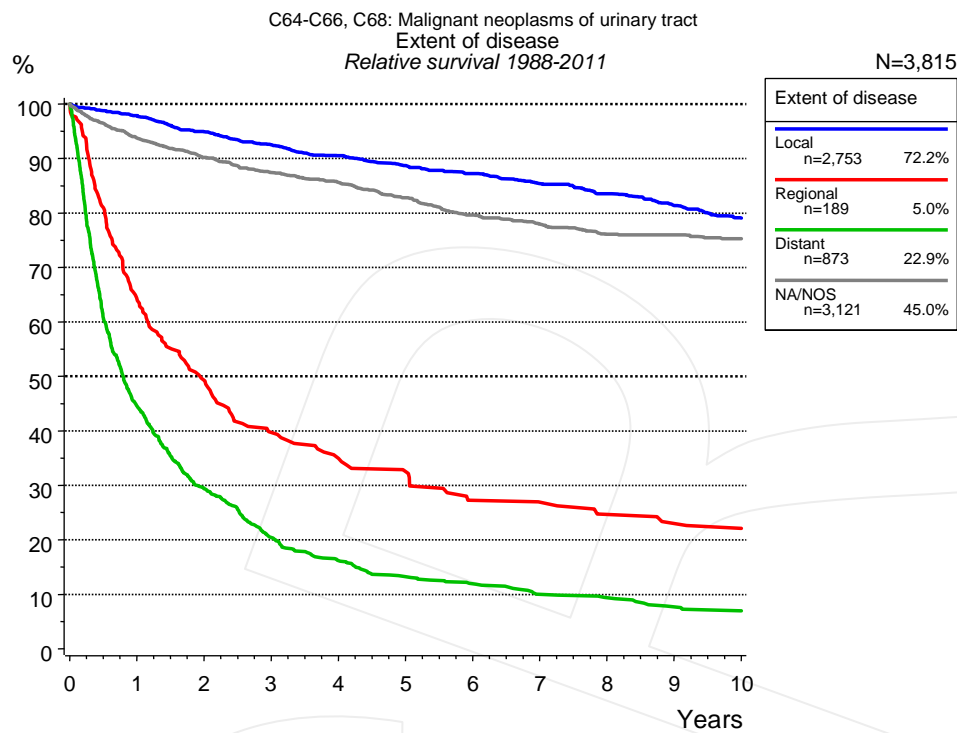


Figure 4c. Relative survival of patients with urinary tract cancer by extent of disease. For 6,677 of 6,936 cases diagnosed between 1988 and 2011 valid data could be obtained for this item. For a total of 3,815 cases an evaluable classification was established. The grey line represents the subgroup of 3,121 patients with missing values regarding extent of disease (45.0% of 6,936 patients, the percent values of all other categories are related to n=3,815).

Years	Extent of disease							
	Local n=2,753		Regional n=189		Distant n=873		NA/NOS n=3,121	
	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	95.5	97.8	62.7	64.2	43.4	44.5	91.3	93.8
2	90.4	94.8	47.2	49.3	28.0	29.4	85.5	90.2
3	86.1	92.5	36.9	39.7	19.1	20.4	80.8	87.4
4	82.2	90.5	32.2	35.0	14.8	16.2	77.1	85.6
5	78.6	88.7	29.1	32.5	11.8	13.2	72.6	82.8
6	75.4	87.2	23.6	27.2	10.5	11.9	68.0	79.6
7	71.9	85.3	22.9	26.9	8.6	10.0	64.7	77.9
8	68.6	83.5	20.7	24.7	7.9	9.4	61.4	76.1
9	65.0	81.4	19.2	23.0	6.5	7.7	59.7	76.0
10	61.5	79.1	18.4	22.1	5.6	7.0	57.6	75.3

Table 4d. Observed (obs.) and relative (rel.) survival of patients with urinary tract cancer by extent of disease for period 1988-2011 (N=3,815).

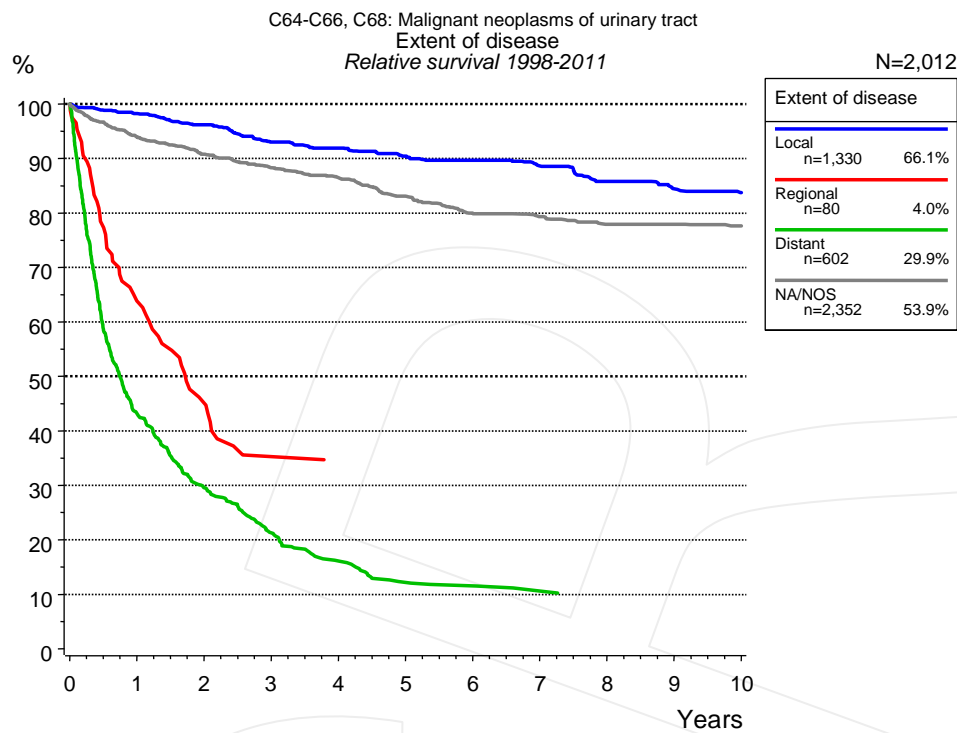


Figure 4e. Relative survival of patients with urinary tract cancer by extent of disease. For 4,245 of 4,364 cases diagnosed between 1998 and 2011 valid data could be obtained for this item. For a total of 2,012 cases an evaluable classification was established. The grey line represents the subgroup of 2,352 patients with missing values regarding extent of disease (53.9% of 4,364 patients, the percent values of all other categories are related to n=2,012).

Years	Extent of disease							
	Local n=1,330		Regional n=80		Distant n=602		NA/NOS n=2,352	
	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	96.1	98.3	61.9	63.8	42.1	43.2	91.5	94.0
2	91.9	96.2	43.7	45.1	28.1	29.6	86.2	90.8
3	86.7	93.0	33.0	35.3	19.9	21.3	81.7	88.3
4	83.8	91.9	31.3	34.4	14.8	16.1	78.0	86.5
5	80.4	90.4	31.3	32.9	11.0	12.2	72.9	83.1
6	77.9	89.6			10.4	11.5	68.4	79.9
7	74.8	88.6			9.2	10.6	66.0	79.4
8	70.8	85.8			8.8	9.8	63.1	77.9
9	67.5	84.4					61.5	77.9
10	65.1	83.7					59.4	77.7

Table 4f. Observed (obs.) and relative (rel.) survival of patients with urinary tract cancer by extent of disease for period 1998-2011 (N=2,012).

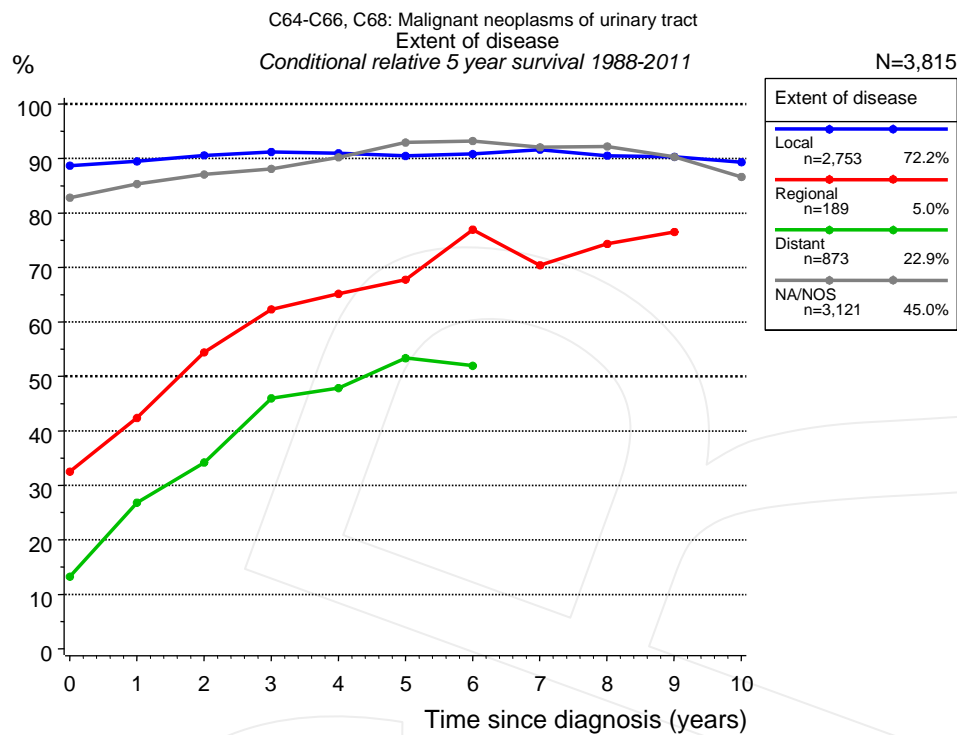


Figure 4g. Conditional relative 5-year survival of patients with urinary tract cancer by extent of disease. For 6,677 of 6,936 cases diagnosed between 1988 and 2011 valid data could be obtained for this item. For a total of 3,815 cases an evaluable classification was established. The grey line represents the subgroup of 3,121 patients with missing values regarding extent of disease (45.0% of 6,936 patients, the percent values of all other categories are related to n=3,815).

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	2,753	88.7	189	32.5	873	13.2	3,121	82.8
1	2,532	89.5	116	42.4	355	26.8	2,693	85.3
2	2,281	90.6	83	54.4	211	34.2	2,277	87.1
3	2,045	91.2	63	62.3	134	46.0	1,928	88.1
4	1,880	91.0	54	65.2	99	47.9	1,613	90.2
5	1,692	90.5	43	67.8	72	53.4	1,339	92.9
6	1,536	90.8	34	76.9	58	52.0	1,101	93.2
7	1,403	91.6	32	70.4			930	92.1
8	1,277	90.5	27	74.3			783	92.2
9	1,132	90.3	25	76.5			658	90.3
10	981	89.3					570	86.6

Table 4h. Conditional relative 5-year survival of patients with urinary tract cancer by extent of disease for period 1988-2011 (N=3,815).

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 4e). 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 91.2% (n=2,045).

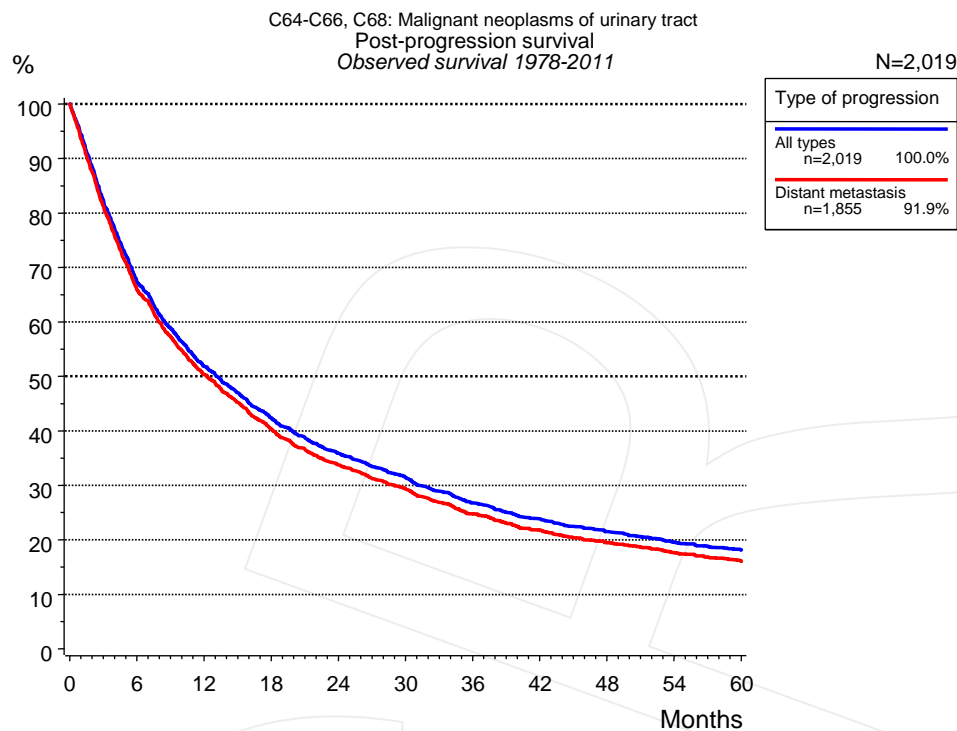


Figure 5a. Observed post-progression survival of 2,019 patients with urinary tract cancer diagnosed between 1978 and 2011 (incl. M1). These 2,019 patients with documented progression events during their course of disease represent 26.2% of the totally 7,700 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=312, 4.1%). 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=2,019	Distant metastasis n=1,855
	%	%
0	100.0	100.0
12	51.9	50.3
24	35.9	33.8
36	26.8	24.8
48	21.5	19.5
60	18.1	16.0

Table 5b. Observed post-progression survival of patients with urinary tract cancer for period 1978-2011 (N=2,019).

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

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