Munich Cancer Registry

ICD-10 C66: Ureteral cancer

Survival

Year of diagnosis	1988-1997	1998-2014
Patients	93	534
Diseases	93	541
Cases evaluated	63	259
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/sC66__E-ICD-10-C66-Ureteral-cancer-survival.pdf

ICD-10 C66: Malignant neoplasm of ureter
Period of diagnosis
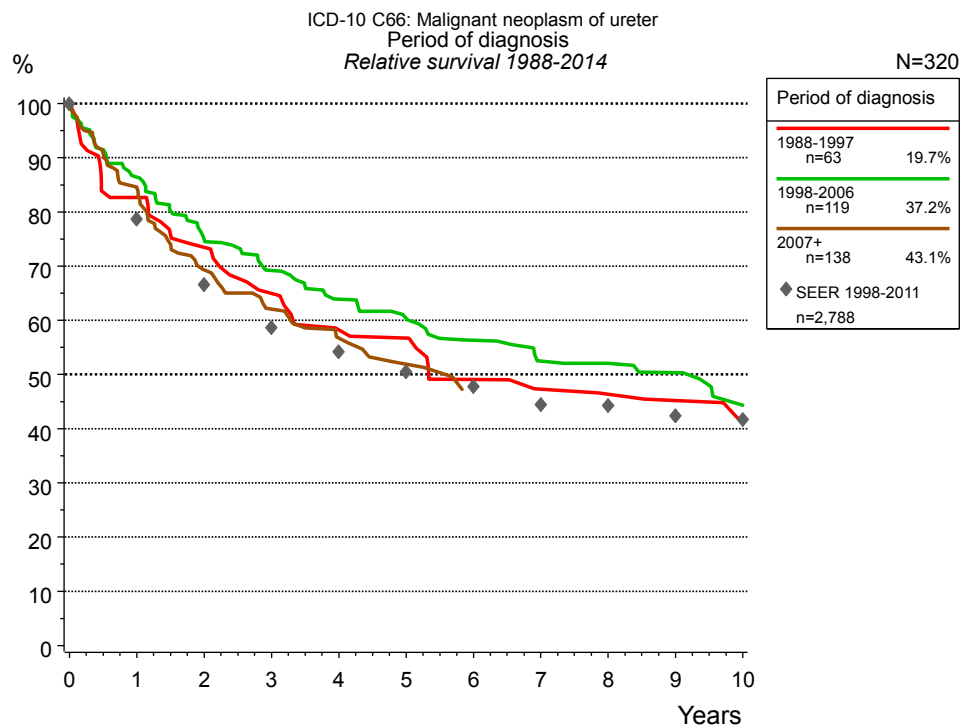*Relative survival 1988-2014*

Figure 1a. Relative survival of patients with ureteral cancer by period of diagnosis. Included in the evaluation are 320 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.

	Period of diagnosis					
	1988-1997 n=63		1998-2006 n=119		2007+ n=138	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	80.6	82.7	83.3	86.4	81.2	84.5
2	69.1	73.5	69.1	75.0	64.1	69.3
3	59.1	65.0	61.0	69.2	55.3	62.1
4	50.6	58.3	53.7	63.9	48.5	56.7
5	49.0	56.8	49.1	60.4	43.1	51.9
6	40.5	49.1	43.7	56.3		
7	37.0	47.3	39.0	52.5		
8	35.2	46.4	37.2	52.1		
9	33.5	45.2	35.2	50.3		
10	29.7	41.0	29.5	44.3		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with ureteral cancer by period of diagnosis for period 1988-2014 (N=320).

ICD-10 C66: Malignant neoplasm of ureter
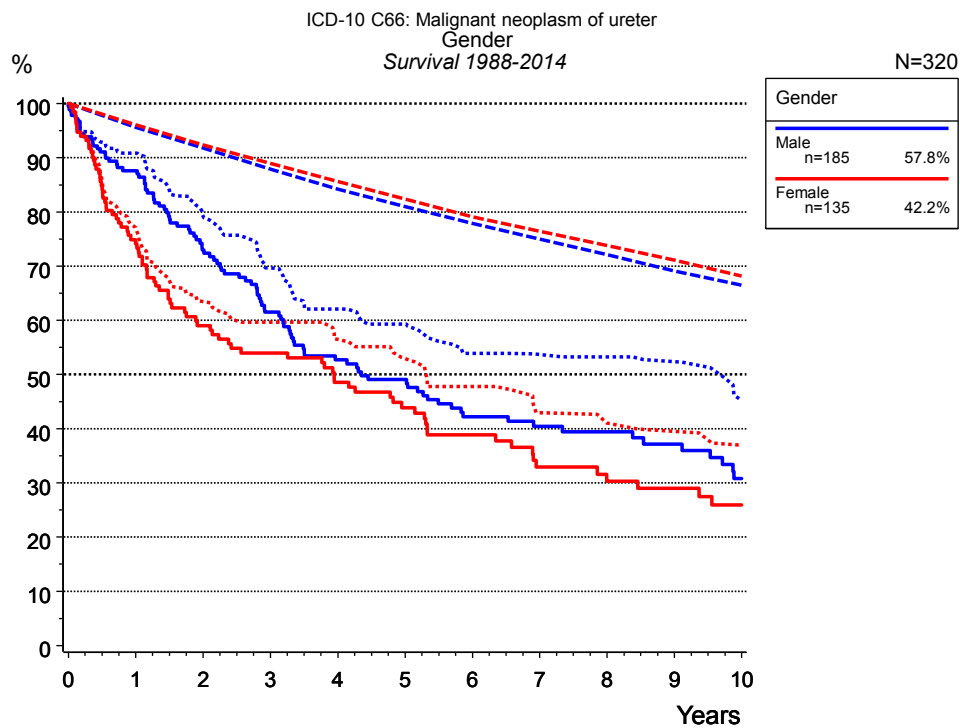Gender
Survival 1988-2014

Figure 2a. Survival of patients with ureteral cancer by gender. Included in the evaluation are 320 cases diagnosed between 1988 and 2014.

	Gender			
	Male n=185		Female n=135	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	87.6	90.8	74.1	77.0
2	73.0	79.2	59.0	63.5
3	61.5	69.7	54.0	59.7
4	52.7	62.1	48.6	56.5
5	49.1	59.3	43.9	52.9
6	42.2	53.9	38.8	47.8
7	40.5	53.7	32.9	43.0
8	39.4	53.3	30.3	41.0
9	37.2	52.4	29.0	39.5
10	30.8	45.2	25.9	36.9

Table 2b. Observed (obs.) and relative (rel.) survival of patients with ureteral cancer by gender for period 1988-2014 (N=320).

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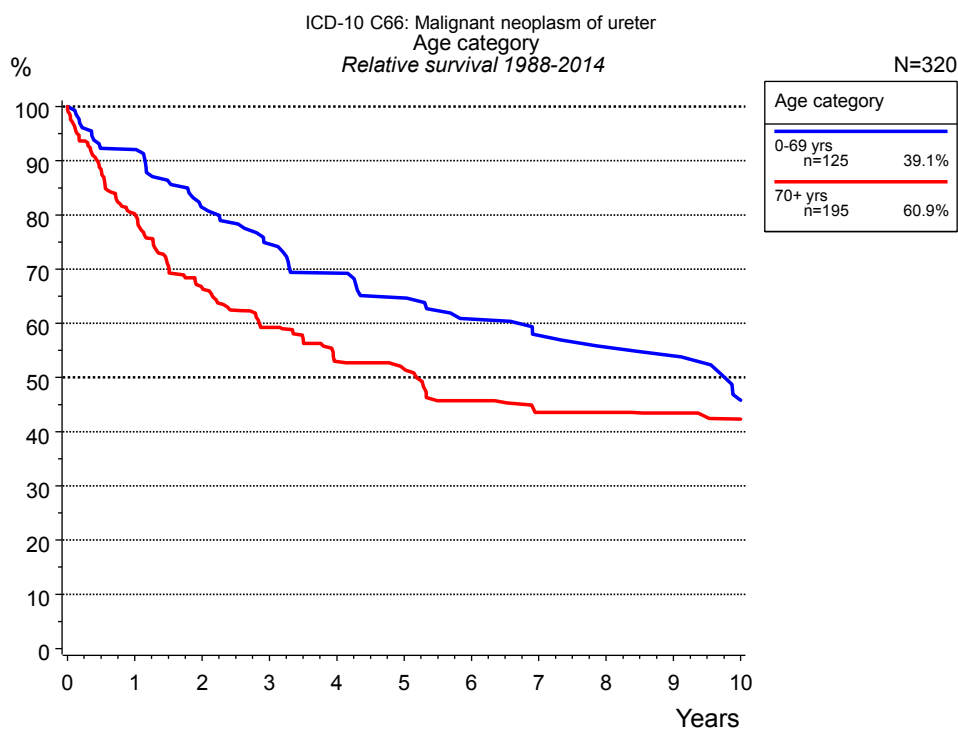Age category
Relative survival 1988-2014

Figure 3a. Relative survival of patients with ureteral cancer by age category. Included in the evaluation are 320 cases diagnosed between 1988 and 2014.

	Age category			
	0-69 yrs n=125		70+ yrs n=195	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	91.7	92.1	75.4	80.2
2	79.4	81.4	59.0	66.6
3	72.1	74.6	49.3	59.2
4	66.4	69.3	40.7	53.0
5	61.3	64.7	37.3	51.6
6	56.0	60.8	30.7	45.8
7	52.4	57.8	27.2	43.6
8	49.5	55.6	26.1	43.6
9	48.0	54.0	23.9	43.4
10	39.8	45.8	21.5	42.3

Table 3b. Observed (obs.) and relative (rel.) survival of patients with ureteral cancer by age category for period 1988-2014 (N=320).

ICD-10 C66: Malignant neoplasm of ureter
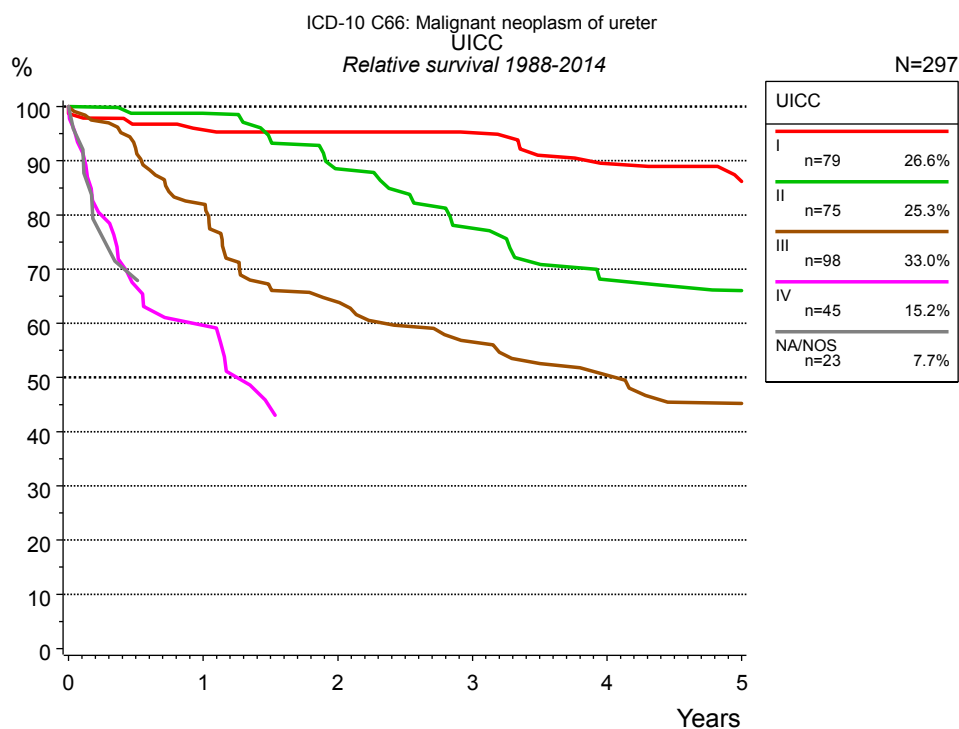UICC
Relative survival 1988-2014

Figure 4a. Relative survival of patients with ureteral cancer by UICC. For 299 of 320 cases diagnosed between 1988 and 2014 valid data could be obtained for this item. For a total of 297 cases an evaluable classification was established. The grey line represents the subgroup of 23 patients with missing values regarding UICC (7.2% of 320 patients, the percent values of all other categories are related to n=297).

	UICC									
	I		II		III		IV		NA/NOS	
	n=79		n=75		n=98		n=45		n=23	
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	92.1	95.7	95.8	98.8	79.3	82.0	59.8	59.6		
2	88.0	95.3	82.8	88.5	59.3	63.9				
3	83.6	95.2	70.7	77.6	49.8	56.5				
4	74.6	89.5	59.4	68.0	42.2	50.4				
5	69.8	86.2	55.9	66.0	37.1	45.2				

Table 4b. Observed (obs.) and relative (rel.) survival of patients with ureteral cancer by UICC for period 1988-2014 (N=297).

ICD-10 C66: Malignant neoplasm of ureter
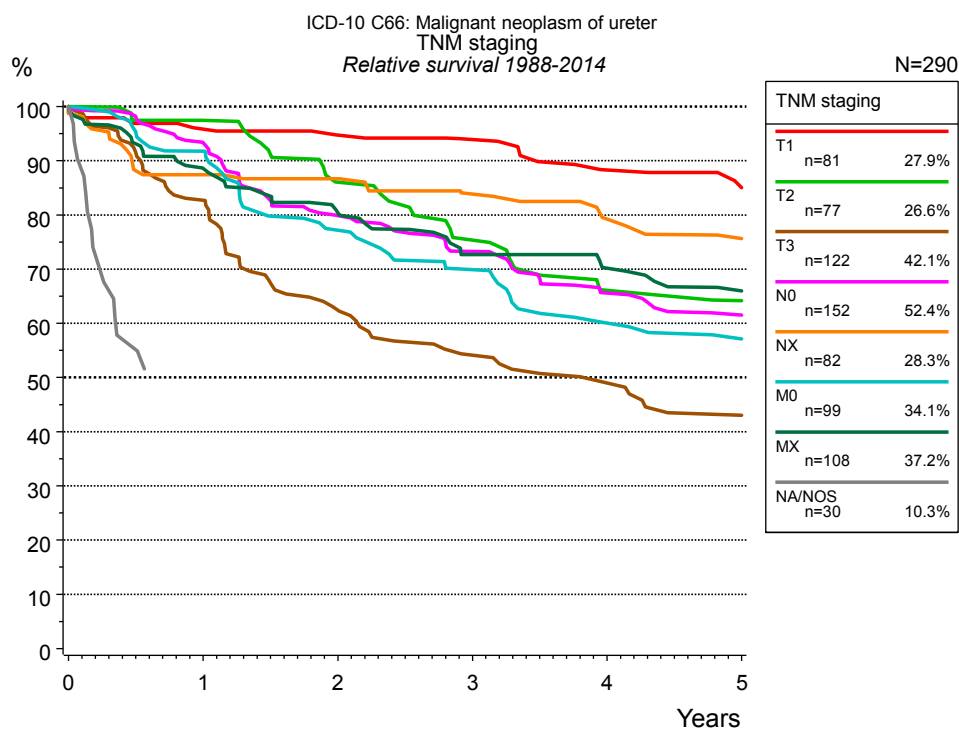TNM staging
Relative survival 1988-2014

Figure 4c. Relative survival of patients with ureteral cancer by TNM staging. For 299 of 320 cases diagnosed between 1988 and 2014 valid data could be obtained for this item. For a total of 290 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potientially considered in more than one subgroup. The grey line represents the subgroup of 30 patients with missing values regarding TNM staging (9.4 % of 320 patients, the percent values of all other categories are related to n=290).

	TNM staging												
	T1 n=81		T2 n=77		T3 n=122		N0 n=152		NX n=82		M0 n=99		MX n=108	
Years	obs. %	rel. %	obs. %	rel. %	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	100.0	100.0	100.0	100.0
1	92.3	95.8	94.6	97.5	80.1	82.8	90.3	93.3	84.7	87.4	89.5	91.8	84.5	88.6
2	86.9	94.7	80.5	86.0	58.2	62.5	74.6	79.9	79.1	86.7	72.3	77.2	73.6	80.5
3	82.6	93.9	68.8	75.4	48.2	54.1	66.5	73.3	71.4	83.9	63.5	69.9	63.2	72.7
4	73.9	88.3	57.8	66.1	41.7	49.0	57.3	65.6	63.3	79.2	52.3	60.0	58.0	70.2
5	69.2	85.0	54.4	64.2	36.2	43.1	52.5	61.5	57.9	75.6	48.9	57.2	52.7	66.0

	TNM staging	
cont'd	NA/NOS n=30	
Years	obs. %	rel. %
0	100.0	100.0

Table 4d. Observed (obs.) and relative (rel.) survival of patients with ureteral cancer by TNM staging for period 1988-2014 (N=290).
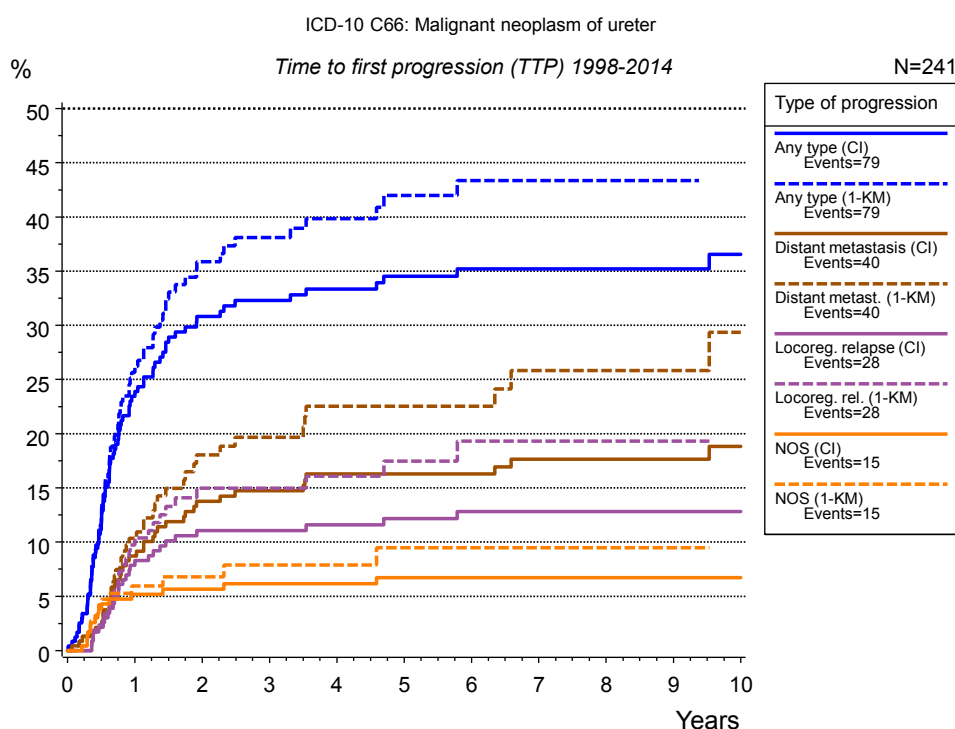
ICD-10 C66: Malignant neoplasm of ureter

Figure 5a. Time to first progression of 241 patients with ureteral cancer diagnosed between 1998 and 2014 (M0 only in solid cancers) 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)	Distant metastasis (CI)	Distant metast. (1-KM)	Locoreg. relapse (CI)	Locoreg. rel. (1-KM)	NOS (CI)
	n=241	n=241	n=241	n=241	n=241	n=241	n=241
Years	%	%	%	%	%	%	%
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	23.9	26.2	8.7	10.3	8.3	10.4	5.2
2	30.8	35.9	13.8	18.1	11.1	15.0	5.7
3	32.3	38.1	14.7	19.7	11.1	15.0	6.2
4	33.4	39.8	16.3	22.6	11.6	16.1	6.2
5	34.5	42.0	16.3	22.6	12.2	17.5	6.7
6	35.2	43.4	16.3	22.6	12.8	19.3	6.7
7	35.2	43.4	17.6	25.8	12.8	19.3	6.7
8	35.2	43.4	17.6	25.8	12.8	19.3	6.7
9	35.2	43.4	17.6	25.8	12.8	19.3	6.7
10	36.6		18.8	29.4	12.8	19.3	6.7

cont'd	Type of progression NOS (1-KM) n=241
Years	%
0	0.0
1	6.0
2	6.8
3	7.9
4	7.9
5	9.5
6	9.5
7	9.5
8	9.5
9	9.5
10	9.5

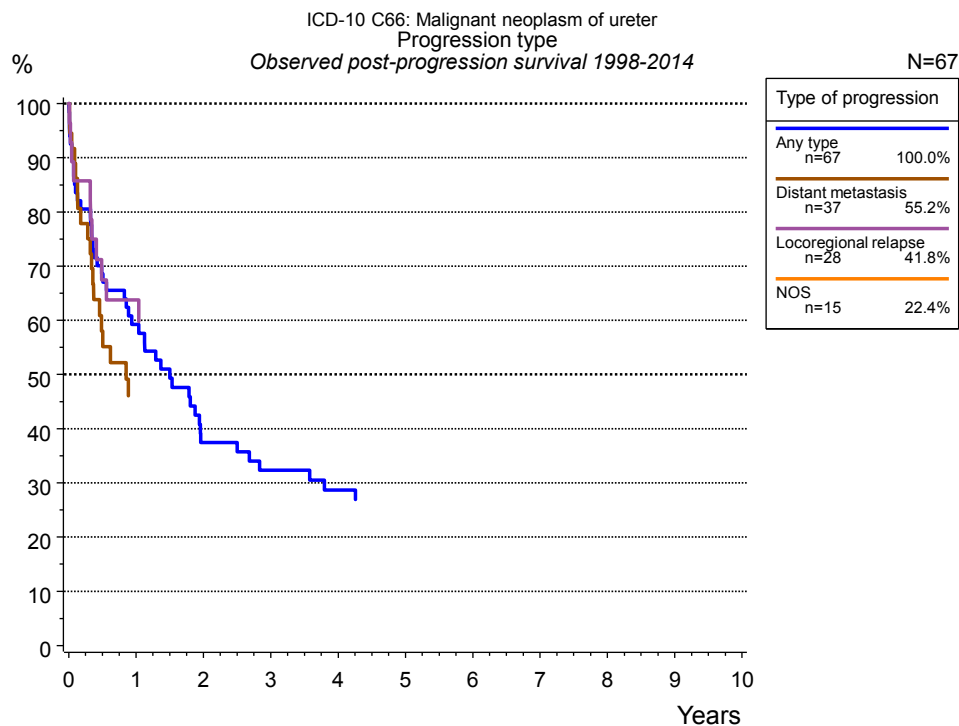**Table 5b.** Time to first progression of patients with ureteral cancer for period 1998-2014 (N=241).

ICD-10 C66: Malignant neoplasm of ureter
Progression type
Observed post-progression survival 1998-2014

Figure 5c. Observed post-progression survival of 67 patients with ureteral cancer diagnosed between 1998 and 2014. These 67 patients with documented progression events during their course of disease represent 26.3 % of the totally 255 evaluated cases (incl. M1, n=14, 5.5 %). Patients with cancer relapse documented via death certificates only were excluded (n=26, 10.2 %). Multiple progression types on different sites are included in the evaluation even when not occuring synchronously. The NOS (not otherwise specified) class is included under the condition, that it is the one and only progression type during the course of disease.

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=67	Distant metastasis n=37	Locoregional relapse n=28	NOS n=15
Years	%	%	%	%
0	100.0	100.0	100.0	100.0
1	59.3	46.1	63.8	
2	37.4			
3	32.3			
4	28.7			

Table 5d. Observed post-progression survival of patients with ureteral cancer for period 1998-2014 (N=67).

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

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