Munich Cancer Registry

ICD-10 C66: Ureteral cancer

Survival

Year of diagnosis	1988-1997	1998-2020
Patients	94	821
Diseases	94	832
Cases evaluated	64	353
Creation date	04/15/2022	
Database export	12/20/2021	
Population	4.92 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

https://www.tumorregister-muenchen.de/en/facts/surv/sC66__E-ICD-10-C66-Ureteral-cancer-survival.pdf

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ICD-10 C66: Malignant neoplasm of ureter
Period of diagnosis
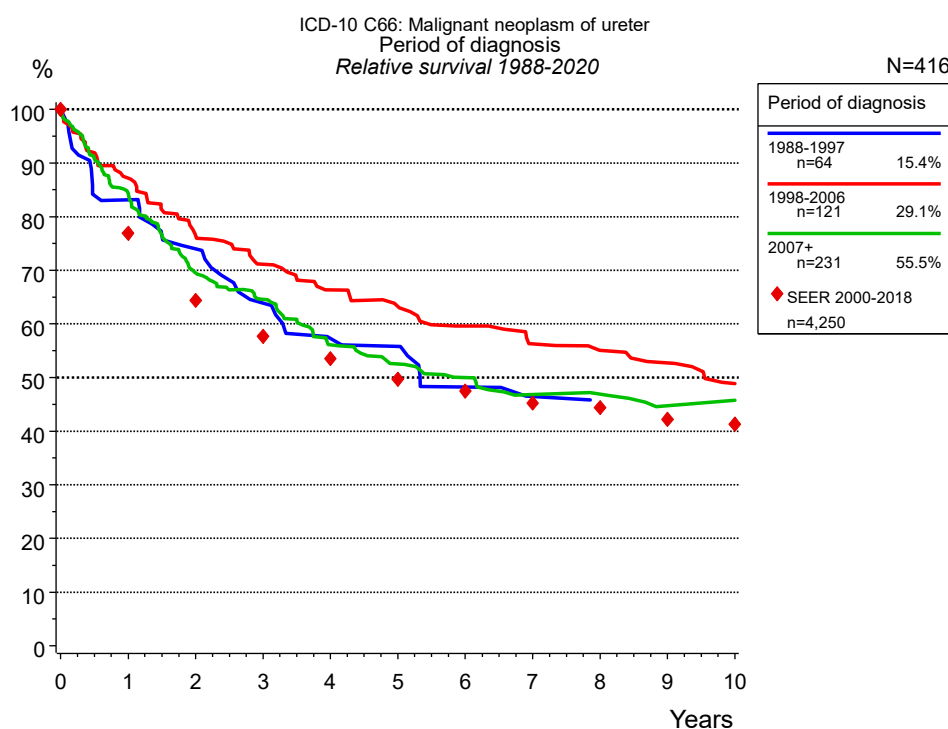*Relative survival 1988-2020*

Figure 1a. Relative survival of patients with ureteral cancer by period of diagnosis. Included in the evaluation are 416 cases diagnosed between 1988 and 2020.

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 2018, 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=64 | | 1998-2006 n=121 | | 2007+ n=231 | |
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	81.0	83.1	83.9	87.2	81.2	84.3
2	69.6	74.0	70.4	76.4	64.4	69.5
3	58.1	63.9	62.7	71.1	57.7	64.6
4	49.8	57.3	55.8	66.4	48.0	56.1
5	48.1	55.8	51.5	63.3	43.3	52.5
6	39.8	48.2	46.3	59.6	39.4	50.0
7	36.4	46.5	41.9	56.3	35.2	46.8
8	34.6	45.6	39.3	55.1	33.7	46.9
9			36.7	52.8	30.2	44.7
10			32.3	48.8	30.2	45.8
Median	4.0		5.2		3.7	

Table 1b. Observed (obs.) and relative (rel.) survival of patients with ureteral cancer by period of diagnosis for period 1988-2020 (N=416).
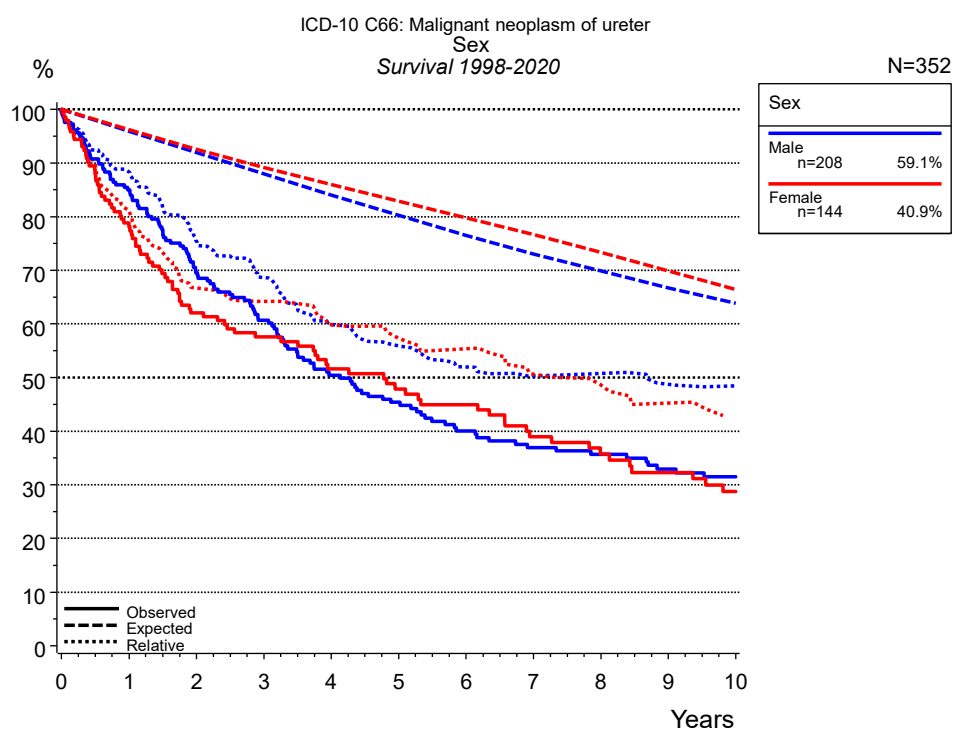
ICD-10 C66: Malignant neoplasm of ureter
Sex
Survival 1998-2020

Figure 2a. Survival of patients with ureteral cancer by sex. Included in the evaluation are 352 cases diagnosed between 1998 and 2020.

	Sex			
	Male n=208		Female n=144	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	84.9	88.3	78.1	81.0
2	69.5	75.4	62.1	66.7
3	60.7	68.6	57.6	64.2
4	50.4	59.9	51.6	59.8
5	45.4	55.9	47.9	57.4
6	40.0	51.9	45.0	55.4
7	36.9	50.3	39.0	50.6
8	35.6	50.7	35.7	48.6
9	32.9	48.7	32.3	45.3
10	31.5	48.5	28.8	42.9
Median	4.1		4.8	

Table 2b. Observed (obs.) and relative (rel.) survival of patients with ureteral cancer by sex for period 1998-2020 (N=352).

ICD-10 C66: Malignant neoplasm of ureter
Age category
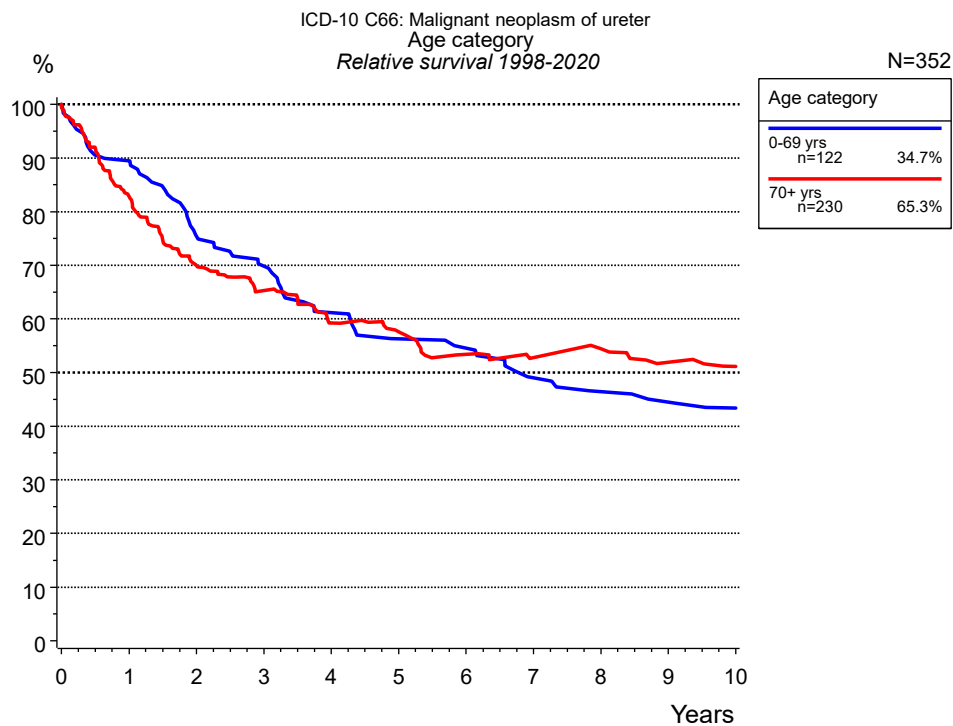*Relative survival 1998-2020*

Figure 3a. Relative survival of patients with ureteral cancer by age category. Included in the evaluation are 352 cases diagnosed between 1998 and 2020.

	Age category			
	0-69 yrs n=122		70+ yrs n=230	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	89.3	89.5	78.3	82.9
2	73.9	75.4	62.5	69.9
3	67.7	69.8	55.0	65.3
4	58.5	61.1	46.7	59.2
5	52.8	56.3	42.9	57.6
6	50.7	54.6	37.0	53.4
7	44.6	49.0	33.9	52.8
8	41.5	46.5	32.5	54.5
9	39.4	44.5	28.8	51.9
10	37.3	43.3	26.4	51.1
Median	6.1		3.7	

Table 3b. Observed (obs.) and relative (rel.) survival of patients with ureteral cancer by age category for period 1998-2020 (N=352).

ICD-10 C66: Malignant neoplasm of ureter
UICC
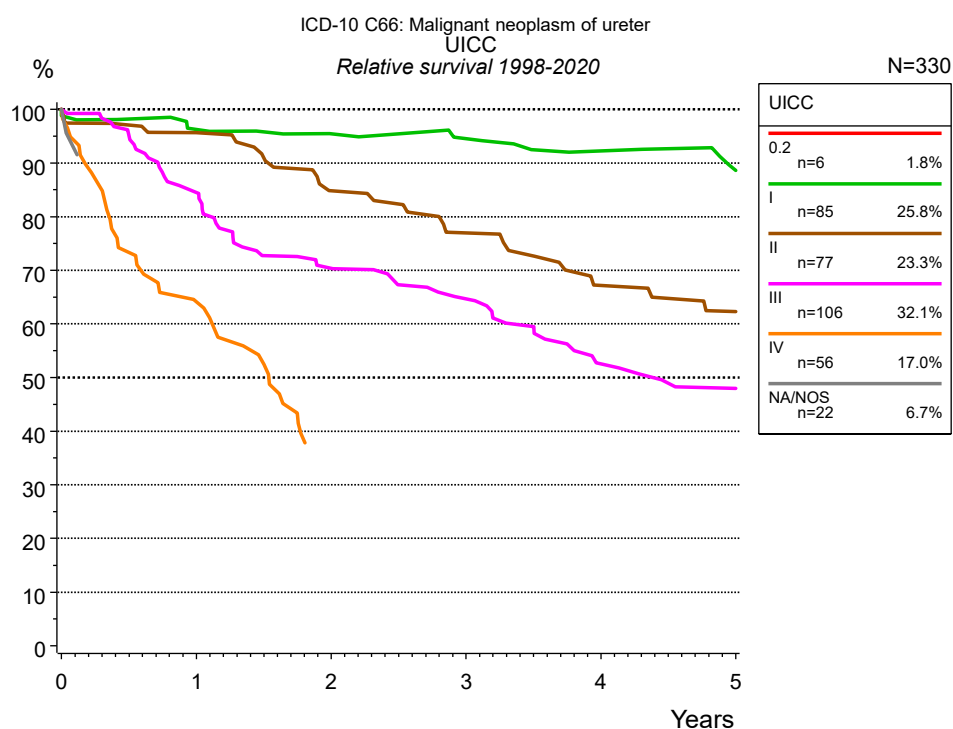*Relative survival 1998-2020*

Figure 4a. Relative survival of patients with ureteral cancer by UICC. For 331 of 352 cases diagnosed between 1998 and 2020 valid data could be obtained for this item. For a total of 330 cases an evaluable classification was established. The grey line represents the subgroup of 22 patients with missing values regarding UICC (6.3 % of 352 patients, the percent values of all other categories are related to n=330). Subgroups with sample size <20 are omitted from the chart.

	UICC									
	I		II		III		IV		NA/NOS	
	n=85		n=77		n=106		n=56		n=22	
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	92.7	96.3	92.1	95.6	82.7	84.5	62.5	64.1		
2	87.6	95.4	78.8	84.8	65.4	70.3				
3	83.7	94.5	69.1	76.9	57.3	64.7				
4	78.3	92.3	57.8	67.2	44.1	52.5				
5	72.4	88.6	51.9	62.3	39.3	48.0				
Median	10.4		5.5		3.5		1.5			

Table 4b. Observed (obs.) and relative (rel.) survival of patients with ureteral cancer by UICC for period 1998-2020 (N=330).

ICD-10 C66: Malignant neoplasm of ureter
TNM staging
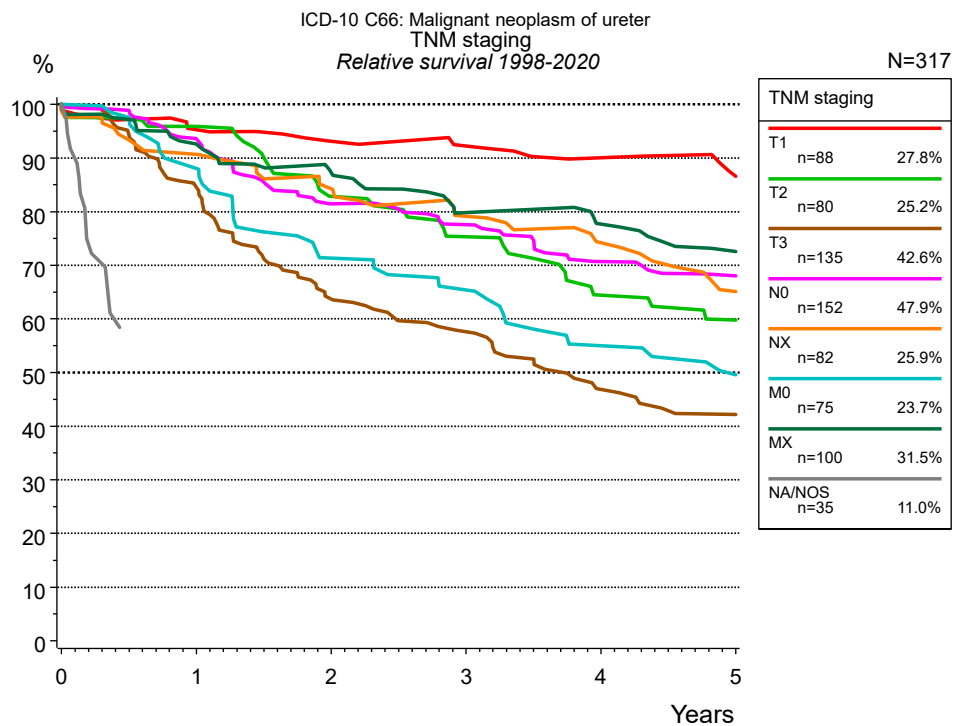*Relative survival 1998-2020*

Figure 4c. Relative survival of patients with ureteral cancer by TNM staging. For 331 of 352 cases diagnosed between 1998 and 2020 valid data could be obtained for this item. For a total of 317 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 35 patients with missing values regarding TNM staging (9.9 % of 352 patients, the percent values of all other categories are related to n=317).

	TNM staging													
	T1		T2		T3		N0		NX		M0		MX	
	n=88		n=80		n=135		n=152		n=82		n=75		n=100	
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	91.8	95.2	92.4	95.9	82.0	84.5	90.6	93.5	88.8	90.7	87.6	88.1	88.7	92.6
2	85.6	93.1	77.0	82.9	59.3	63.7	76.3	81.5	77.2	84.3	66.8	71.4	80.4	87.3
3	81.9	92.2	67.7	75.3	51.4	57.6	70.7	77.5	67.9	79.1	59.7	65.4	70.1	79.9
4	76.6	90.1	55.5	64.4	39.8	46.9	62.1	70.7	59.9	74.2	48.4	55.0	65.0	77.6
5	71.1	86.6	49.9	59.8	34.9	42.2	58.2	68.0	50.1	65.1	42.3	49.6	58.8	72.6
Median	10.3		4.8		3.2		6.2		5.2		3.7		6.3	

cont'd	TNM staging	
	NA/NOS	
	n=35	
Years	obs. %	rel. %
0	100.0	100.0
Median		

Table 4d. Observed (obs.) and relative (rel.) survival of patients with ureteral cancer by TNM staging for period 1998-2020 (N=317).

ICD-10 C66: Malignant neoplasm of ureter
Progressionsform
Time to first progression (TTP) 1998-2020   N=350
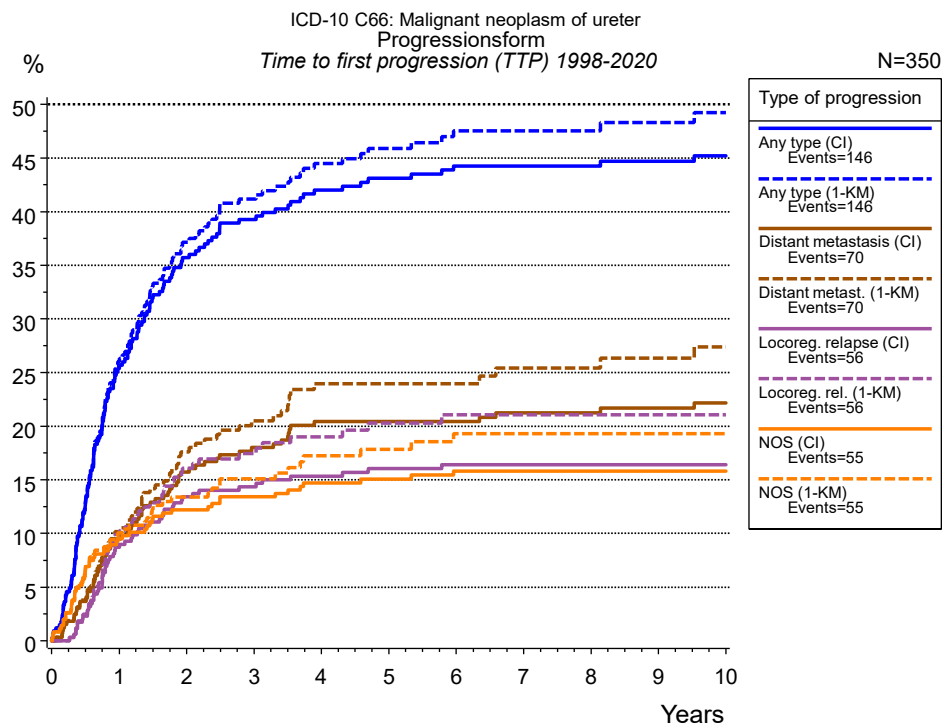

Figure 5a. Time to first progression of 350 patients with ureteral cancer diagnosed between 1998 and 2020 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

	Type of progression						
	Any type (CI)	Any type (1-KM)	Distant metastasis (CI)	Distant metast. (1-KM)	Locoreg. relapse (CI)	Locoreg. rel. (1-KM)	NOS (CI)
N	331	331	331	331	350	350	350
Events	143	143	69	69	55	55	53
compet.	78		133		175		169
Years	%	%	%	%	%	%	%
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	25.7	26.3	9.5	10.2	9.0	10.3	9.5
2	35.7	37.1	15.7	17.6	13.4	16.1	12.2
3	39.2	41.2	18.0	20.5	14.4	17.4	13.4
4	42.0	44.5	20.4	24.0	15.3	19.0	14.7
5	43.1	45.9	20.4	24.0	16.0	20.3	15.1
6	44.3	47.6	20.4	24.0	16.4	21.1	15.8
7	44.3	47.6	21.2	25.4	16.4	21.1	15.8
8	44.3	47.6	21.2	25.4	16.4	21.1	15.8
9	44.7	48.3	21.7	26.3	16.4	21.1	15.8
10	45.2	49.2	22.2	27.4	16.4	21.1	15.8

Type of progression	
cont'd	NOS (1-KM)
N	350
Events compet.	53
Years	%
0	0.0
1	10.1
2	13.4
3	15.1
4	17.2
5	17.9
6	19.3
7	19.3
8	19.3
9	19.3
10	19.3

Table 5b. Time to first progression of patients with ureteral cancer for period 1998-2020 (N=350), also showing the total of progression events (Events) and of deaths as competing risk (compet.).
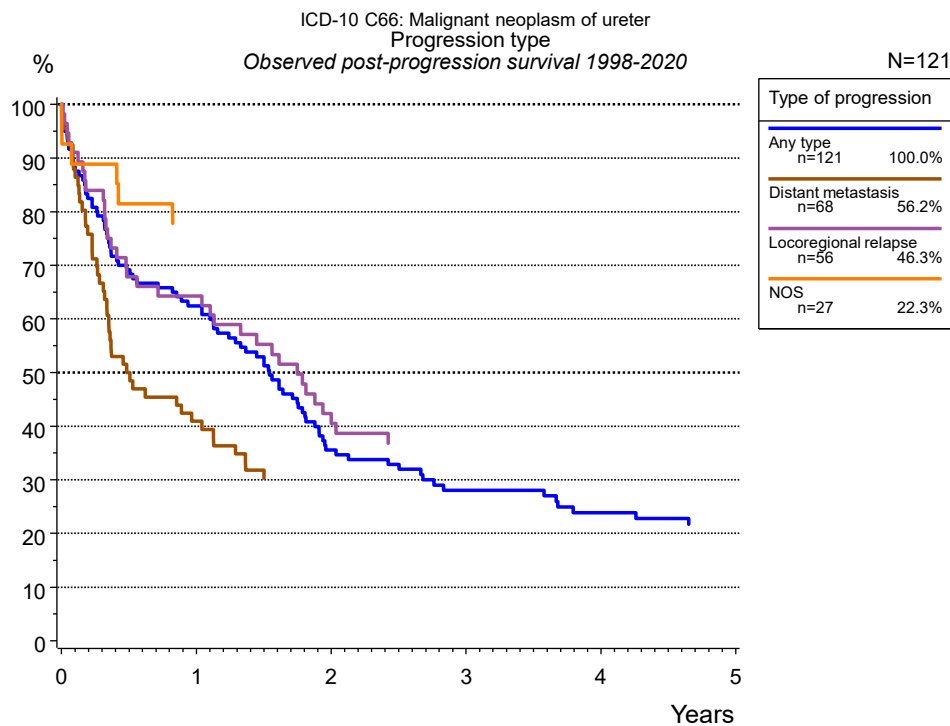
ICD-10 C66: Malignant neoplasm of ureter
Progression type
Observed post-progression survival 1998-2020

Figure 5c. Observed post-progression survival of 121 patients with ureteral cancer diagnosed between 1998 and 2020. These 121 patients with documented progression events during their course of disease represent 34.6 % of the totally 350 evaluated cases (incl. M1, n=19, 5.4 %). Patients with cancer relapse documented via death certificates only were excluded (n=44, 12.6 %). 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	Distant metastasis	Locoregional relapse	NOS
	n=121	n=68	n=56	n=27
Years	%	%	%	%
0	100.0	100.0	100.0	100.0
1	62.5	40.9	64.3	
2	35.6		40.5	
3	28.0			
4	23.9			

Table 5d. Observed post-progression survival of patients with ureteral cancer for period 1998-2020 (N=121).

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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