Munich Cancer Registry

ICD-10 D06: Ca. i.s. Cervix

Survival

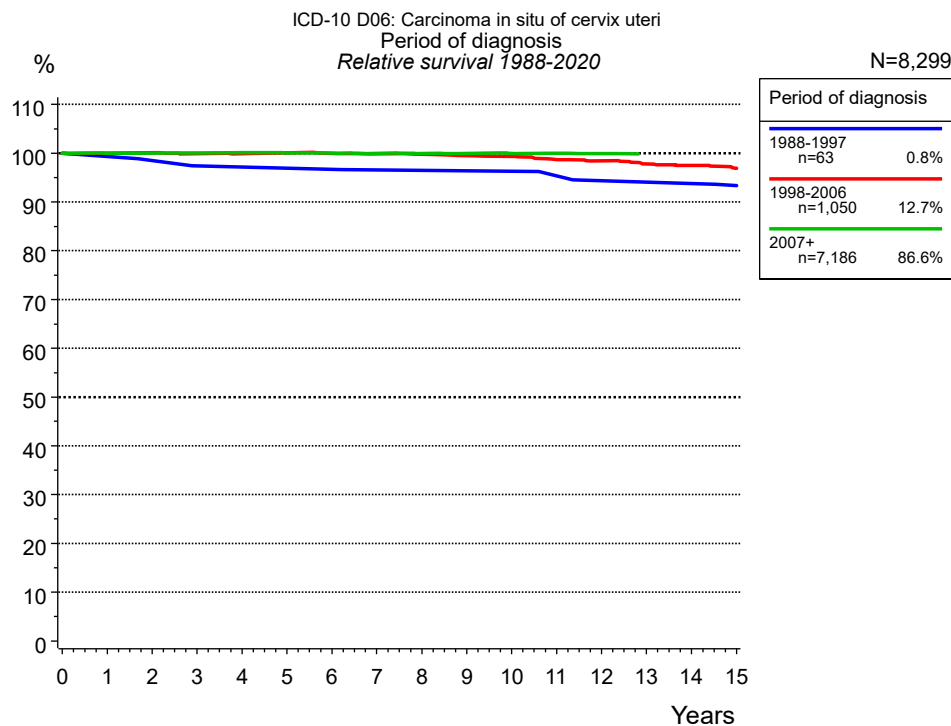| Year of diagnosis	1988-1997	1998-2020
Patients	74	8,601
Diseases	74	8,603
Cases evaluated	64	8,262
Creation date	04/15/2022	
Database export	12/20/2021	
Population (females)	2.48 m	

BERLIN

GERMANY

BAVARIA

MUNICH

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https://www.tumorregister-muenchen.de/en

https://www.tumorregister-muenchen.de/en/facts/surv/sD06__E-ICD-10-D06-Ca.-i.s.-Cervix-survival.pdf

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ICD-10 D06: Carcinoma in situ of cervix uteri
Period of diagnosis
Relative survival 1988-2020

Figure 1a. Relative survival of patients with ca. i.s. Cervix by period of diagnosis. Included in the evaluation are 8,299 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 to , 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.

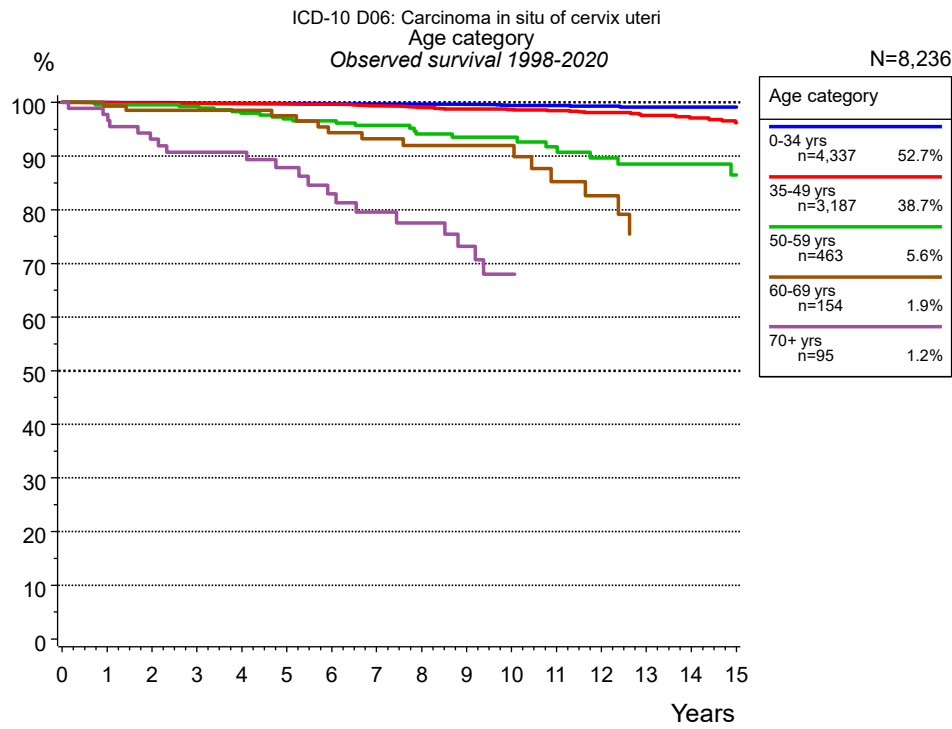|	Period of diagnosis					
	1988-1997 n=63		1998-2006 n=1,050		2007+ n=7,186	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	100.0	99.3	99.9	100.0	99.9	100.0
2	98.2	98.5	99.8	100.1	99.8	100.0
3	96.4	97.4	99.3	99.9	99.7	100.0
4	96.4	97.2	99.1	99.9	99.6	100.1
5	96.4	96.9	99.1	100.1	99.5	100.1
6	96.4	96.7	98.8	100.0	99.3	100.0
7	94.6	96.6	98.4	99.9	99.1	100.0
8	94.6	96.5	98.0	99.8	98.9	99.9
9	94.6	96.4	97.5	99.5	98.7	100.0
10	94.6	96.3	97.1	99.4	98.6	99.9
11	92.7	95.4	96.2	98.7	98.4	100.0
12	90.7	94.4	95.6	98.4	98.2	99.9
13	90.7	94.1	94.7	97.8		
14	90.7	93.8	94.0	97.5		
15	88.7	93.3	93.2	96.9		
Median						

Table 1b. Observed (obs.) and relative (rel.) survival of patients with ca. i.s. Cervix by period of diagnosis for period 1988-2020 (N=8,299).

ICD-10 D06: Carcinoma in situ of cervix uteri
Total cohort
Survival 1998-2020
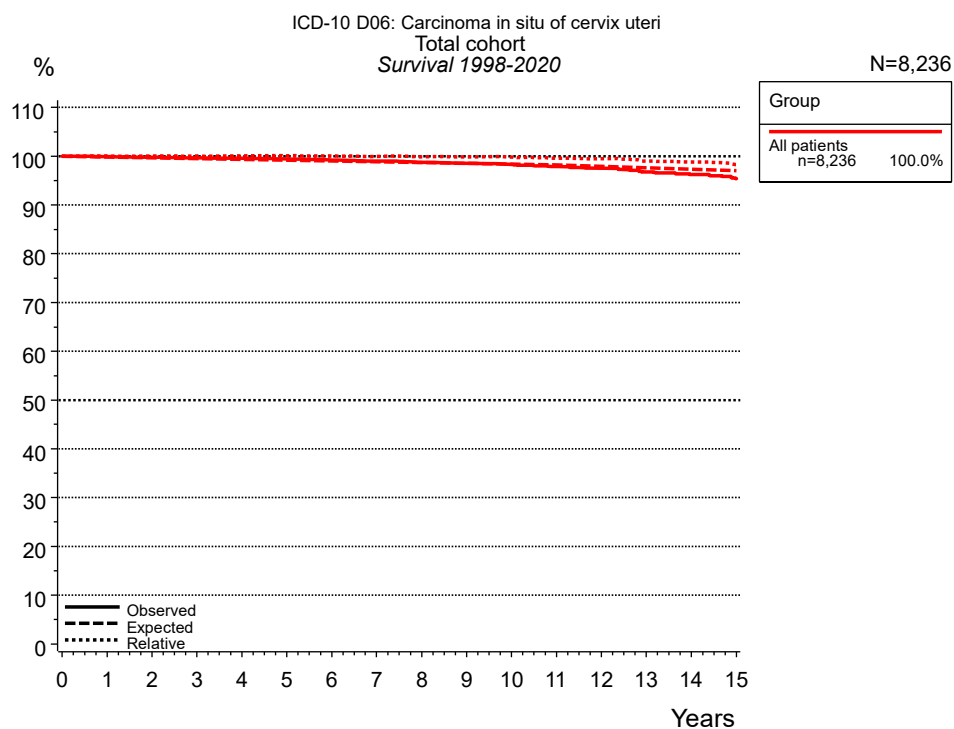
Figure 2a. Observed, expected and relative survival of the total cohort with ca. i.s. Cervix. Included in the evaluation are 8,236 cases diagnosed between 1998 and 2020.

	Group	
	All patients	
	n=8,236	
Years	obs. %	rel. %
0	100.0	100.0
1	99.9	100.0
2	99.8	100.0
3	99.7	100.0
4	99.5	100.1
5	99.4	100.1
6	99.2	100.0
7	99.0	100.0
8	98.7	99.9
9	98.5	99.9
10	98.3	99.8
11	97.9	99.6
12	97.5	99.5
13	96.8	99.0
14	96.3	98.8
15	95.4	98.3
Median		

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with ca. i.s. Cervix for period 1998-2020 (N=8,236).

ICD-10 D06: Carcinoma in situ of cervix uteri
Age category
Observed survival 1998-2020

N=8,236

Age category		
0-34 yrs	n=4,337	52.7%
35-49 yrs	n=3,187	38.7%
50-59 yrs	n=463	5.6%
60-69 yrs	n=154	1.9%
70+ yrs	n=95	1.2%

Figure 3a. Observed survival of patients with ca. i.s. Cervix by age category. Included in the evaluation are 8,236 cases diagnosed between 1998 and 2020.

ICD-10 D06: Carcinoma in situ of cervix uteri
Age category
Relative survival 1998-2020

N=8,236

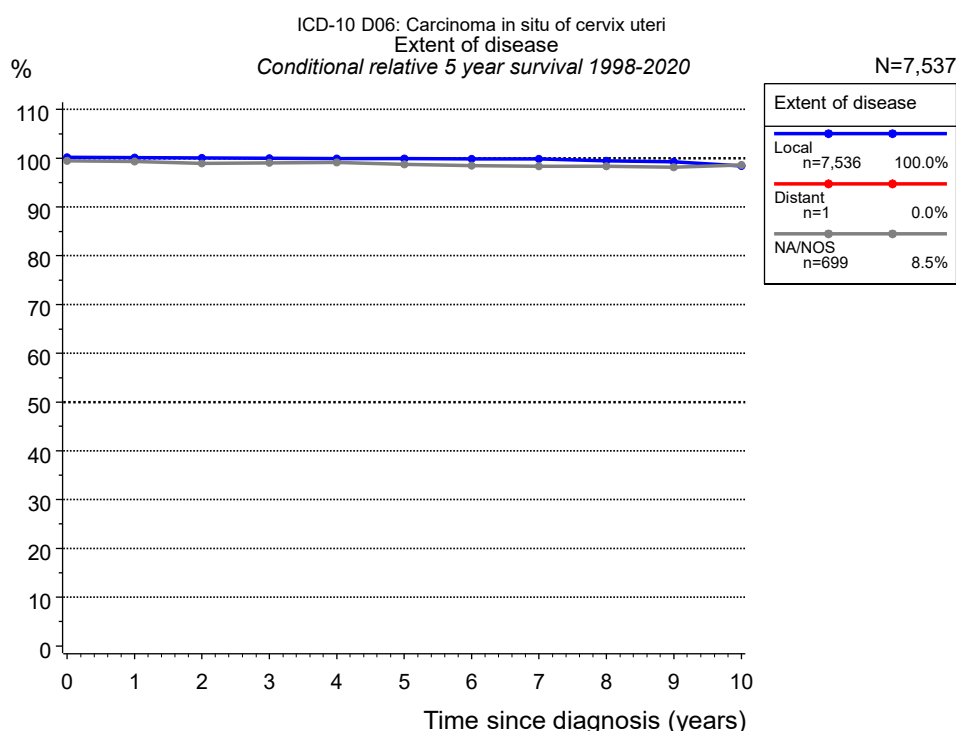| Age category		
0-34 yrs	n=4,337	52.7%
35-49 yrs	n=3,187	38.7%
50-59 yrs	n=463	5.6%
60-69 yrs	n=154	1.9%
70+ yrs	n=95	1.2%
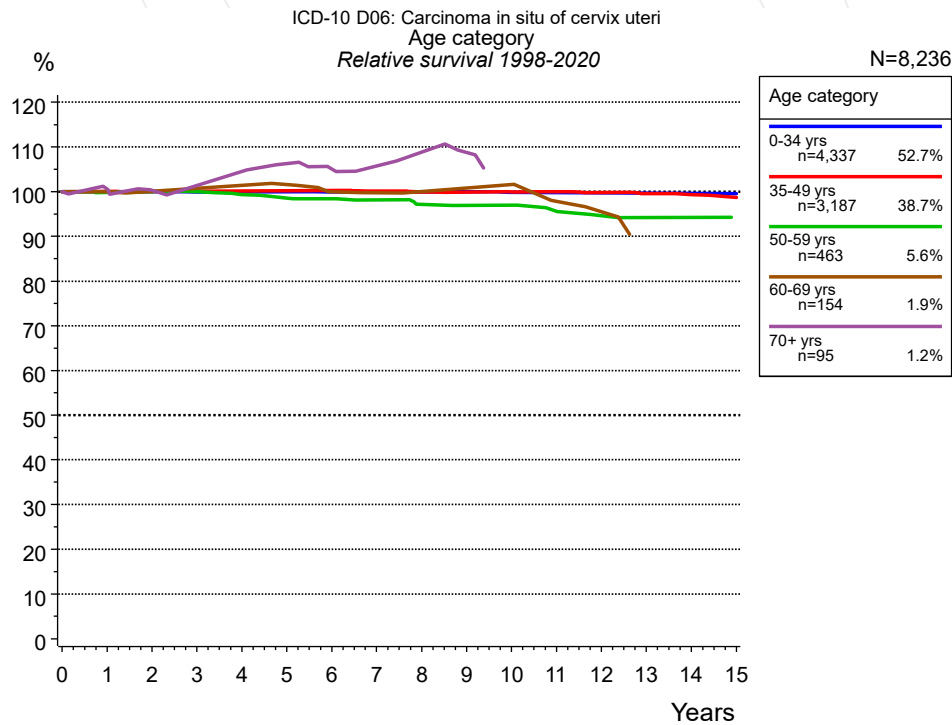
Figure 3b. Relative survival of patients with ca. i.s. Cervix by age category. Included in the evaluation are 8,236 cases diagnosed between 1998 and 2020.

	0-34 yrs n=4,337		35-49 yrs n=3,187		50-59 yrs n=463		60-69 yrs n=154		70+ yrs n=95	
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	100.0	100.0	100.0	100.0	99.5	99.8	99.3	99.9	97.8	100.5
2	99.9	100.0	99.9	100.0	99.5	100.0	98.5	100.0	93.1	100.3
3	99.9	99.9	99.8	100.0	99.2	99.9	98.5	100.7	90.7	101.4
4	99.8	99.9	99.7	100.1	98.0	99.3	98.5	101.4	90.7	104.5
5	99.8	99.9	99.7	100.2	97.0	98.5	97.5	101.6	87.8	106.3
6	99.7	99.9	99.6	100.2	96.6	98.4	94.4	100.0	83.0	105.1
7	99.7	99.9	99.3	100.1	95.7	98.1	93.2	99.7	79.6	105.8
8	99.7	100.0	99.0	99.9	94.1	97.1	91.9	100.0	77.6	108.9
9	99.6	100.0	98.8	99.9	93.5	96.9	91.9	100.8	73.1	108.7
10	99.4	99.8	98.7	99.9	93.5	96.9	91.9	101.6	68.0	105.2
11	99.4	99.8	98.5	100.0	91.7	95.6	85.3	97.8		
12	99.3	99.7	98.1	99.8	89.6	94.6	82.6	95.5		
13	99.1	99.7	97.6	99.5	88.5	94.2				
14	99.1	99.6	97.1	99.3	88.5	94.2				
15	99.1	99.6	96.3	98.8	86.5	94.1				
Median										

Table 3c. Observed (obs.) and relative (rel.) survival of patients with ca. i.s. Cervix by age category for period 1998-2020 (N=8,236).

ICD-10 D06: Carcinoma in situ of cervix uteri
Extent of disease
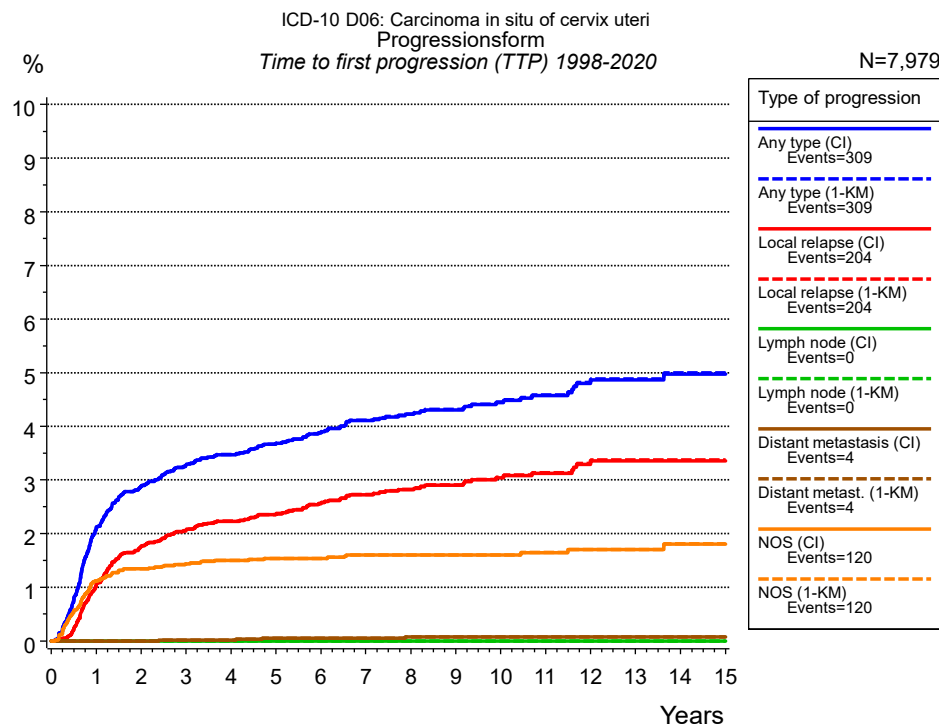*Conditional relative 5 year survival 1998-2020*   N=7,537

Figure 4c. Conditional relative 5-year survival of patients with ca. i.s. Cervix by extent of disease. For 7,538 of 8,236 cases diagnosed between 1998 and 2020 valid data could be obtained for this item. For a total of 7,537 cases an evaluable classification was established. The grey line represents the subgroup of 699 patients with missing values regarding extent of disease (8.5 % of 8,236 patients, the percent values of all other categories are related to n=7,537). Subgroups with sample size <20 are omitted from the chart.

	Extent of disease					
	Local		Distant		NA/NOS	
		Cond. surv. %		Cond. surv. %		Cond. surv. %
Years	n	5 yrs	n	5 yrs	n	5 yrs
0	7,536	100.2	1		699	99.4
1	6,724	100.1			628	99.3
2	6,194	100.0			610	99.0
3	5,726	100.0			573	99.1
4	5,317	99.9			539	99.2
5	4,849	99.9			527	98.8
6	4,449	99.8			504	98.5
7	3,920	99.9			486	98.3
8	3,264	99.5			462	98.3
9	2,595	99.2			440	98.2
10	2,123	98.4			403	98.6

Table 4d. Conditional relative 5-year survival of patients with ca. i.s. Cervix by extent of disease for period 1998-2020 (N=7,537).

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 4a). 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 100.0% (n=5,726).

ICD-10 D06: Carcinoma in situ of cervix uteri
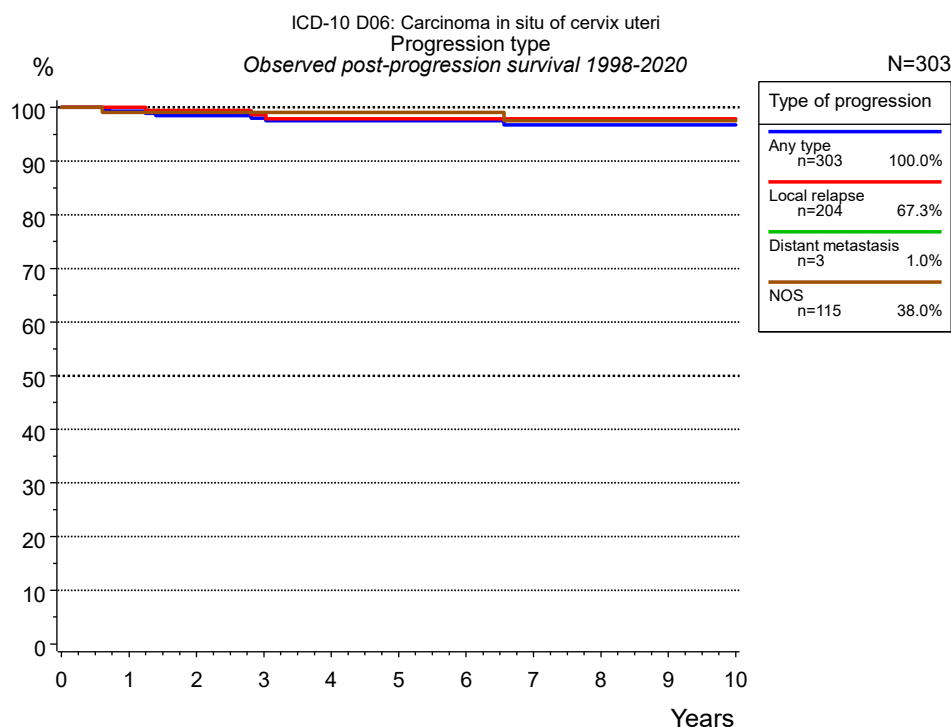Progressionsform
Time to first progression (TTP) 1998-2020

Figure 5a. Time to first progression of 7,979 patients with ca. i.s. Cervix 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)	Local relapse (CI)	Local relapse (1-KM)	Lymph node (CI)	Lymph node (1-KM)	Distant metastasis (CI)
N	7,978	7,978	7,979	7,979	7,979	7,979	7,978
Events	307	307	203	203	0	0	4
compet.	104		115		120		116
Years	%	%	%	%	%	%	%
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	2.1	2.1	1.1	1.1	0.0	0.0	0.0
2	2.9	2.9	1.8	1.8	0.0	0.0	0.0
3	3.3	3.3	2.0	2.1	0.0	0.0	0.0
4	3.5	3.5	2.2	2.2	0.0	0.0	0.0
5	3.7	3.7	2.4	2.4	0.0	0.0	0.1
6	3.9	3.9	2.6	2.6	0.0	0.0	0.1
7	4.1	4.1	2.7	2.7	0.0	0.0	0.1
8	4.2	4.2	2.8	2.8	0.0	0.0	0.1
9	4.3	4.3	2.9	2.9	0.0	0.0	0.1
10	4.4	4.5	3.0	3.0	0.0	0.0	0.1
11	4.6	4.6	3.1	3.1	0.0	0.0	0.1
12	4.8	4.8	3.3	3.3	0.0	0.0	0.1
13	4.9	4.9	3.4	3.4	0.0	0.0	0.1
14	5.0	5.0	3.4	3.4	0.0	0.0	0.1
15	5.0	5.0	3.4	3.4	0.0	0.0	0.1

	Type of progression		
cont'd	Distant metast. (1-KM)	NOS (CI)	NOS (1-KM)
N	7,978	7,979	7,979
Events	4	119	119
compet.		113	
Years	%	%	%
0	0.0	0.0	0.0
1	0.0	1.1	1.1
2	0.0	1.3	1.3
3	0.0	1.4	1.4
4	0.0	1.5	1.5
5	0.1	1.5	1.5
6	0.1	1.5	1.5
7	0.1	1.6	1.6
8	0.1	1.6	1.6
9	0.1	1.6	1.6
10	0.1	1.6	1.6
11	0.1	1.6	1.6
12	0.1	1.7	1.7
13	0.1	1.7	1.7
14	0.1	1.8	1.8
15	0.1	1.8	1.8

Table 5b. Time to first progression of patients with ca. i.s. Cervix for period 1998-2020 (N=7,979), also showing the total of progression events (Events) and of deaths as competing risk (compet.).

ICD-10 D06: Carcinoma in situ of cervix uteri
Progression type
Observed post-progression survival 1998-2020

N=303

Type of progression		
Any type		
n=303	100.0%	
Local relapse		
n=204	67.3%	
Distant metastasis		
n=3	1.0%	
NOS		
n=115	38.0%	

Figure 5c. Observed post-progression survival of 303 patients with ca. i.s. Cervix diagnosed between 1998 and 2020. These 303 patients with documented progression events during their course of disease represent 3.8 % of the totally 7,979 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=7, 0.1 %). 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. Subgroups with sample size <20 are omitted from the chart.

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	Local relapse	NOS
	n=303	n=204	n=115
Years	%	%	%
0	100.0	100.0	100.0
1	99.3	100.0	99.1
2	98.5	99.4	99.1
3	98.0	98.7	99.1
4	97.5	97.9	99.1
5	97.5	97.9	99.1
6	97.5	97.9	99.1
7	96.8	97.9	97.5
8	96.8	97.9	97.5
9	96.8	97.9	97.5
10	96.8	97.9	97.5

Table 5d. Observed post-progression survival of patients with ca. i.s. Cervix for period 1998-2020 (N=303).

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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