Munich Cancer Registry

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

Cancer statistics: Survival

C54: Corpus cancer

Year of diagnosis	1978-1987	1988-1997	1998-2011
Patients	1,372	2,130	6,800
Diseases	1,372	2,130	6,801

Creation date	04/01/2013
Export date	01/03/2013
Population (females)	2.3 m

C54: Malignant neoplasm of corpus uteri
Period of diagnosis
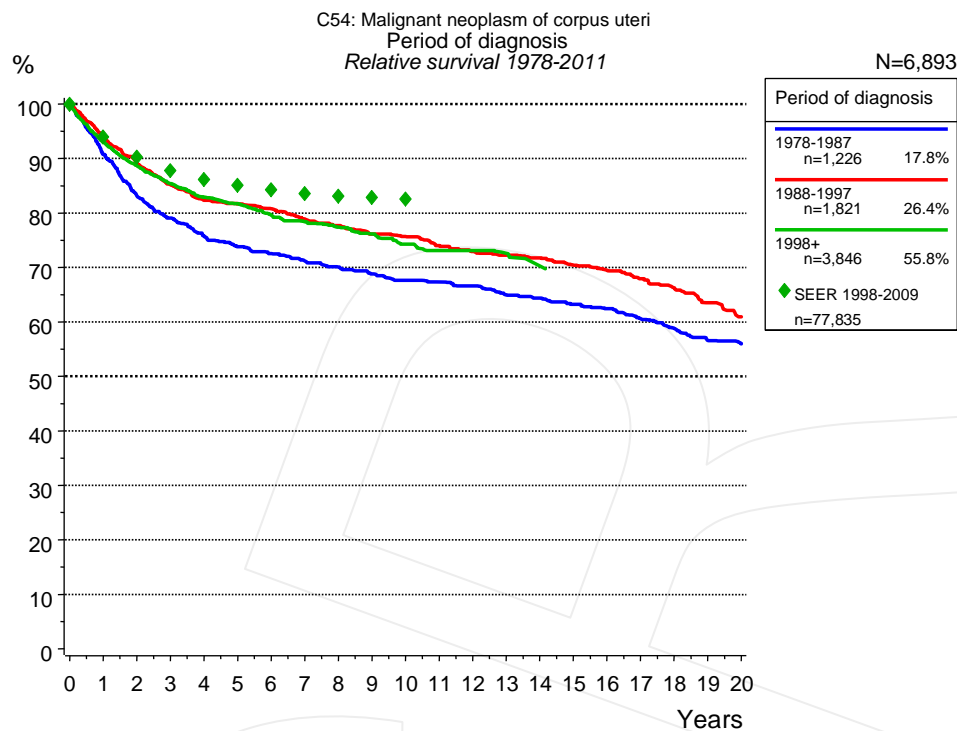*Relative survival 1978-2011*

Figure 1a. Relative survival of patients with corpus cancer by period of diagnosis. Included in the evaluation are 6,893 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 n=1,226		1988-1997 n=1,821		1998+ n=3,846	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	88.6	90.8	91.6	94.2	90.8	93.0
2	79.3	83.1	84.5	89.2	84.7	88.7
3	73.6	79.0	78.6	85.2	79.8	85.4
4	69.0	75.7	74.0	82.4	75.8	82.9
5	65.7	73.8	71.4	81.6	73.0	81.7
6	63.1	72.5	68.8	80.7	69.6	79.6
7	60.4	71.2	65.3	78.9	67.0	78.4
8	58.0	70.1	62.5	77.7	64.6	77.4
9	55.5	68.8	59.6	76.1	62.1	76.1
10	53.1	67.6	57.6	75.7	59.0	74.3
11	51.4	67.3	54.6	74.0	56.9	73.1
12	49.4	66.6	52.2	72.9	55.6	73.1
13	46.7	65.0	50.2	72.2	53.5	72.6
14	45.0	64.4	48.2	71.8	51.6	70.3
15	42.8	63.2	45.5	70.4		
16	40.9	62.4	43.2	69.4		
17	38.3	60.6	40.7	68.0		
18	35.9	58.8	38.2	66.3		
19	33.4	56.5	35.1	63.6		
20	31.9	55.9	32.4	61.0		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with corpus cancer by period of diagnosis for period 1978-2011 (N=6,893).
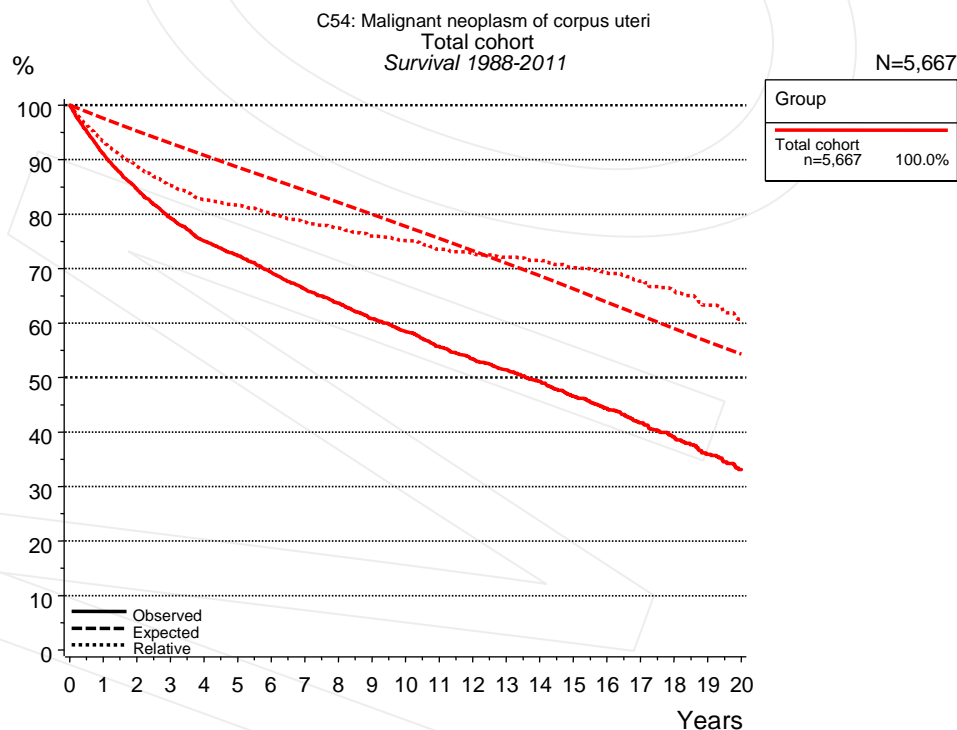

Figure 2a. Observed, expected and relative survival of the total cohort with corpus cancer. Included in the evaluation are 5,667 cases diagnosed between 1988 and 2011.

| | Group | |
| | Total cohort n=5,667 | |
Years	obs. %	rel. %
0	100.0	100.0
1	91.1	93.4
2	84.6	88.8
3	79.3	85.3
4	75.0	82.6
5	72.4	81.6
6	69.3	80.2
7	66.2	78.6
8	63.6	77.4
9	60.8	76.0
10	58.5	75.1
11	55.7	73.6
12	53.4	72.8
13	51.4	72.1
14	49.3	71.5
15	46.6	70.2
16	44.3	69.2
17	41.7	67.7
18	39.1	66.0
19	35.9	63.3
20	33.1	60.7

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with corpus cancer for period 1988-2011 (N=5,667).
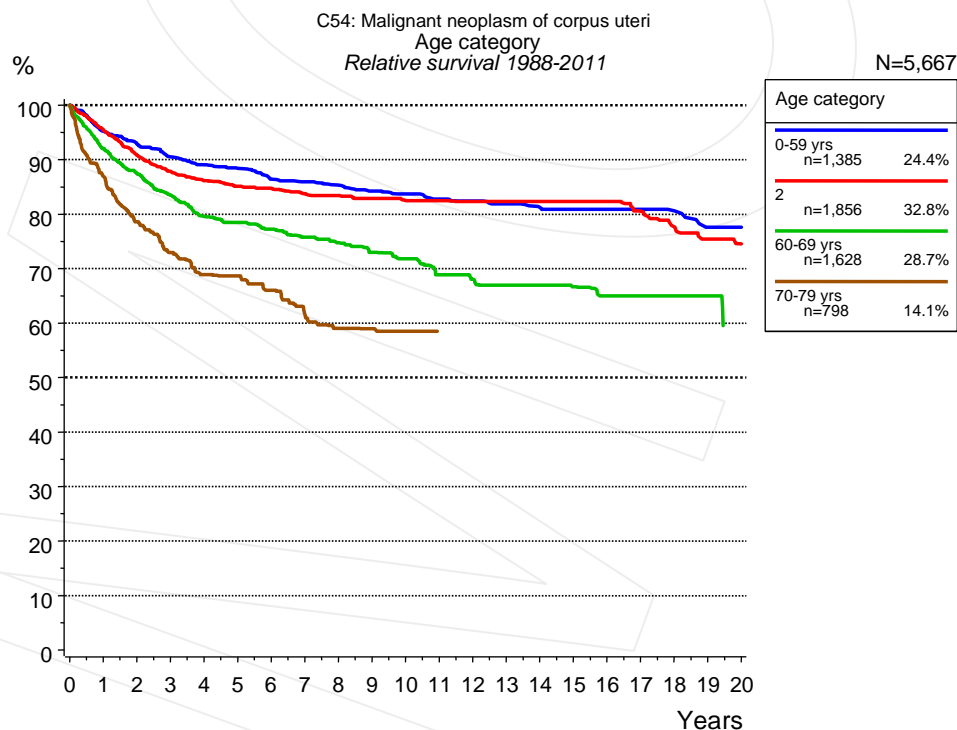

Figure 3a. Relative survival of patients with corpus cancer by age category. Included in the evaluation are 5,667 cases diagnosed between 1988 and 2011.

C54: Malignant neoplasm of corpus uteri
Age category
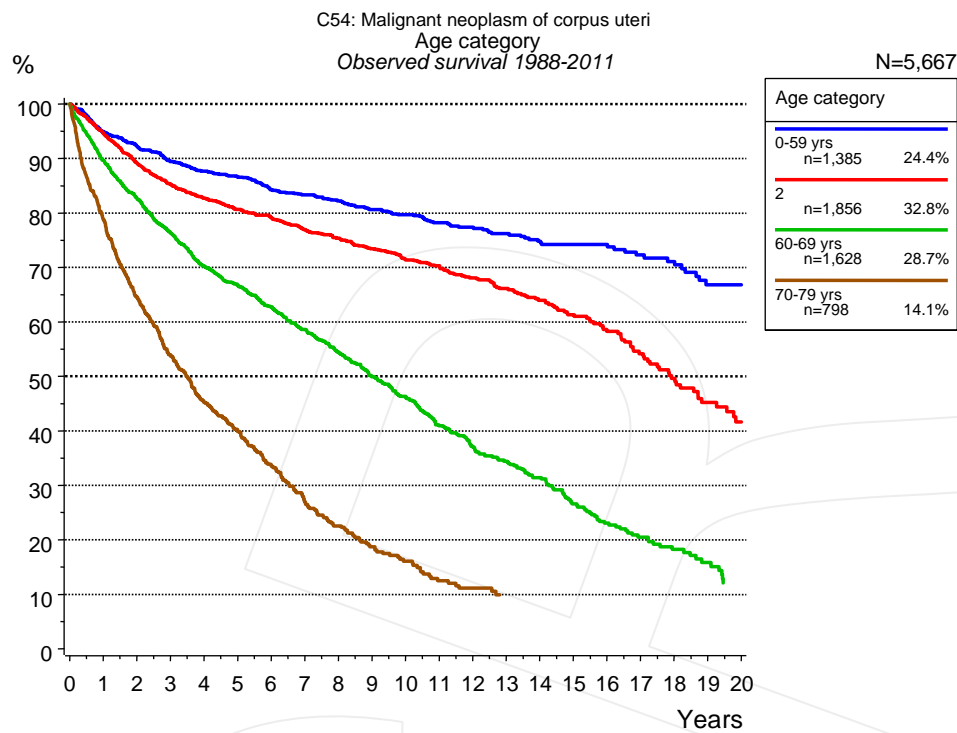*Observed survival 1988-2011*

Figure 3b. Observed survival of patients with corpus cancer by age category. Included in the evaluation are 5,667 cases diagnosed between 1988 and 2011.

	Age category							
	0-59 yrs n=1,385		2 n=1,856		60-69 yrs n=1,628		70-79 yrs n=798	
Years	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	94.9	95.2	94.6	95.5	89.7	92.0	78.8	86.9
2	92.3	92.9	89.1	90.8	82.7	87.5	64.5	78.6
3	89.5	90.5	85.2	87.8	76.4	83.5	54.0	73.0
4	87.7	89.0	82.7	86.2	70.2	79.6	45.2	68.9
5	86.7	88.4	80.6	85.1	66.7	78.4	39.9	68.6
6	84.3	86.4	79.2	84.7	62.8	77.2	33.7	66.0
7	83.3	85.9	77.0	83.7	58.6	75.8	27.0	61.5
8	82.2	85.3	75.3	83.4	54.4	74.8	22.5	59.0
9	80.6	84.2	73.4	82.8	49.9	73.0	18.7	59.0
10	79.7	83.7	71.4	82.5	46.3	71.8	16.1	58.5
11	78.2	82.8	70.3	82.5	40.9	68.9	12.5	58.5
12	77.4	82.4	68.1	82.3	37.2	68.1		
13	76.2	81.8	66.1	82.3	34.4	66.9		
14	74.8	81.2	64.0	82.3	31.4	66.9		
15	74.2	80.8	61.3	82.3	26.6	66.7		
16	74.2	80.8	58.2	82.3	23.0	65.0		
17	72.3	80.8	54.2	80.5	20.5	65.0		
18	71.1	80.6	49.6	77.6	18.2	65.0		
19	66.8	77.6	45.2	75.4	15.8	65.0		
20	66.8	77.6	41.6	74.5				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with corpus cancer by age category for period 1988-2011 (N=5,667).

C54: Malignant neoplasm of corpus uteri
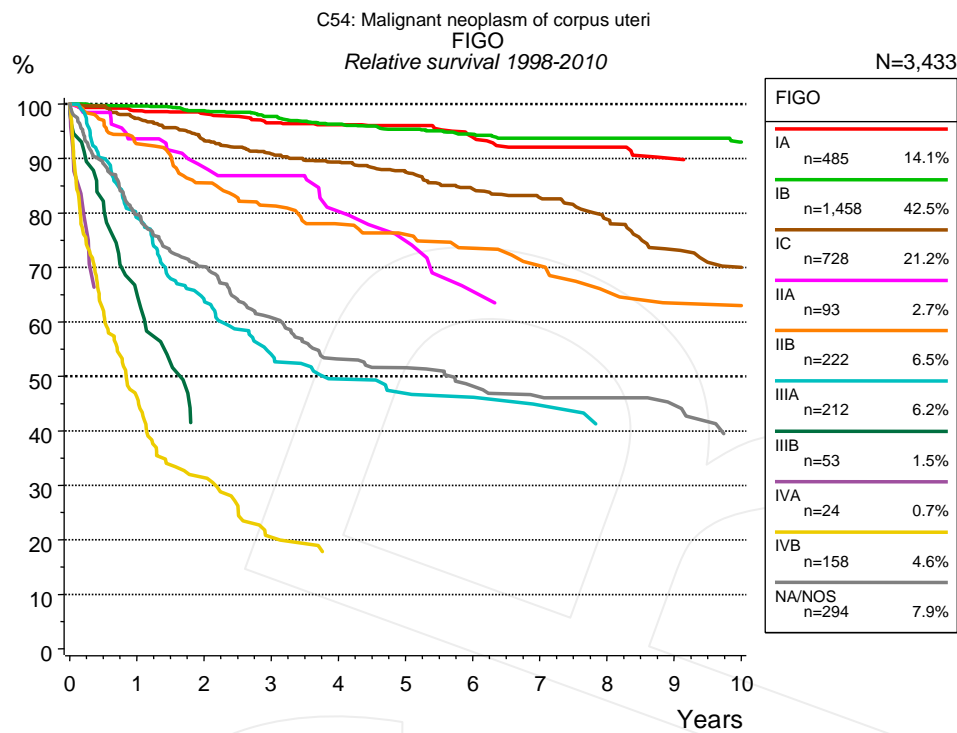FIGO
Relative survival 1998-2010

Figure 4a. Relative survival of patients with corpus cancer by FIGO. For 3,570 of 3,727 cases diagnosed between 1998 and 2010 valid data could be obtained for this item. For a total of 3,433 cases an evaluable classification was established. The grey line represents the subgroup of 294 patients with missing values regarding FIGO (7.9% of 3,727 patients, the percent values of all other categories are related to n=3,433).

Due to substantial changes in stage classification schemes long-term survival statistics over decades could not be created.

	FIGO												
	IA		IB		IC		IIA		IIB		IIIA		IIIB	
	n=485		n=1,458		n=728		n=93		n=222		n=212		n=53	
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	97.3	98.7	98.0	99.6	94.6	97.4	91.3	93.6	90.7	92.7	76.7	79.1	64.3	64.9
2	95.3	98.2	95.4	98.8	88.0	93.3	84.2	88.4	82.1	85.5	60.5	63.9	38.5	39.8
3	92.1	96.6	92.5	97.7	83.2	90.9	81.6	86.9	76.5	81.3	49.7	54.0		
4	90.2	96.2	89.5	96.3	79.4	89.3	73.1	80.3	71.5	78.0	44.7	49.5		
5	88.4	96.0	87.0	95.4	75.1	87.5	67.0	74.9	68.5	76.1	42.1	46.9		
6	84.8	93.9	84.3	94.4	70.4	84.4	57.1	65.6	64.7	73.5	41.1	46.1		
7	82.2	92.1	82.2	93.7	66.8	82.8			61.1	70.3	38.3	44.7		
8	80.3	92.1	81.2	93.7	61.5	78.8			55.3	65.6	34.6	41.0		
9	77.2	89.9	79.8	93.7	55.3	73.2			51.8	63.4	34.6	39.8		
10	76.2	88.5	75.6	93.0	51.5	70.0			51.8	63.0	34.6	38.5		

	FIGO					
cont'd	IVA n=24		IVB n=158		NA/NOS n=294	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1			45.2	46.1	76.5	79.7
2			30.7	31.4	65.1	70.2
3			19.5	20.5	54.9	60.8
4					46.8	53.2
5					45.0	51.6
6					41.2	48.2
7					38.7	46.3
8					38.1	46.1
9					36.0	44.8
10					30.9	39.5

Table 4b. Observed (obs.) and relative (rel.) survival of patients with corpus cancer by FIGO for period 1998-2010 (N=3,433).

C54: Malignant neoplasm of corpus uteri
Extent of disease
Relative survival 1988-2011   N=2,467

Extent of disease

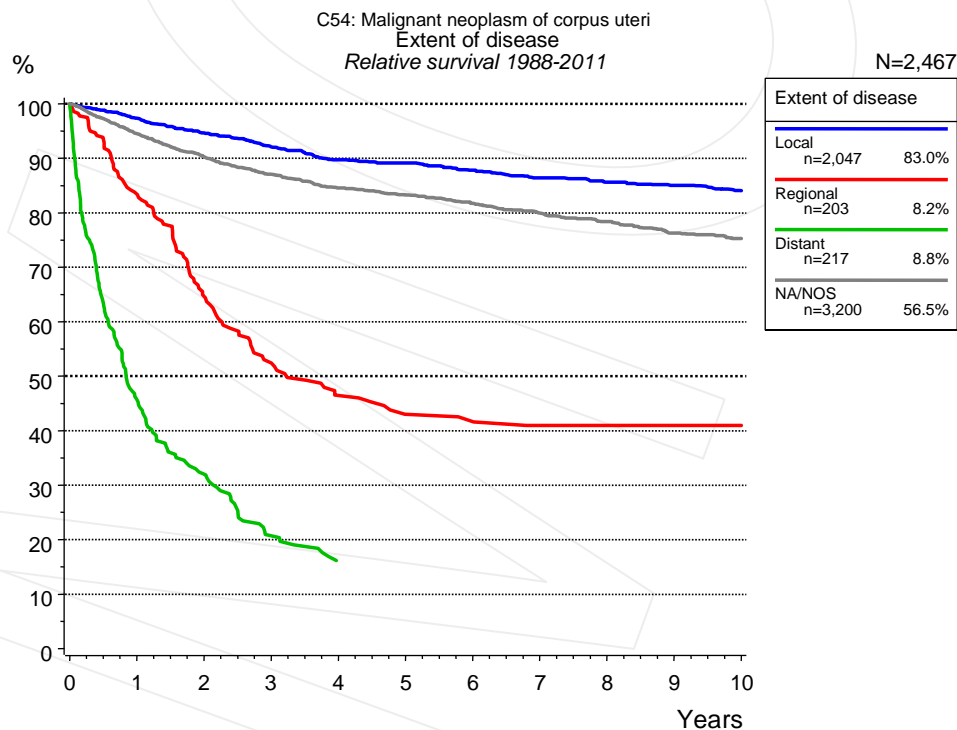|		
Local	n=2,047	83.0%
Regional	n=203	8.2%
Distant	n=217	8.8%
NA/NOS	n=3,200	56.5%

Figure 4c. Relative survival of patients with corpus cancer by extent of disease. For 5,391 of 5,667 cases diagnosed between 1988 and 2011 valid data could be obtained for this item. For a total of 2,467 cases an evaluable classification was established. The grey line represents the subgroup of 3,200 patients with missing values regarding extent of disease (56.5% of 5,667 patients, the percent values of all other categories are related to n=2,467).

	Extent of disease							
	Local n=2,047		Regional n=203		Distant n=217		NA/NOS n=3,200	
Years	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	95.4	97.4	82.3	83.4	44.7	45.7	91.9	94.5
2	91.0	94.6	62.6	64.6	31.0	32.0	85.4	90.2
3	86.7	92.1	50.3	52.5	19.6	20.7	80.2	87.1
4	82.8	89.7	43.4	46.5	14.8	16.1	75.9	84.6
5	80.8	89.1	39.4	43.1	14.8	15.7	72.8	83.3
6	77.7	87.8	38.5	41.7			69.6	81.7
7	74.8	86.4	36.5	41.0			66.2	79.9
8	72.3	85.6	36.5	41.0			63.2	78.4
9	70.1	85.0	36.5	41.0			59.6	76.3
10	67.6	84.0	36.5	41.0			57.2	75.3

Table 4d. Observed (obs.) and relative (rel.) survival of patients with corpus cancer by extent of disease for period 1988-2011 (N=2,467).
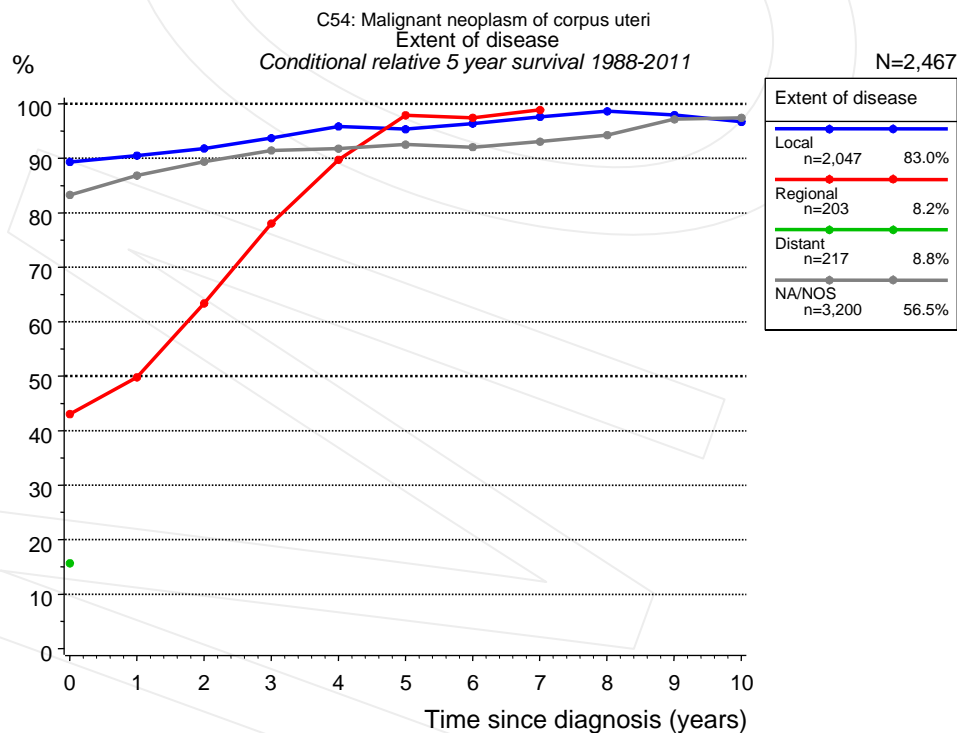

Figure 4e. Conditional relative 5-year survival of patients with corpus cancer by extent of disease. For 5,391 of 5,667 cases diagnosed between 1988 and 2011 valid data could be obtained for this item. For a total of 2,467 cases an evaluable classification was established. The grey line represents the subgroup of 3,200 patients with missing values regarding extent of disease (56.5% of 5,667 patients, the percent values of all other categories are related to n=2,467).

	Extent of disease							
	Local		Regional		Distant		NA/NOS	
		Cond. surv. %		Cond. surv. %		Cond. surv. %		Cond. surv. %
Years	n	5 yrs	n	5 yrs	n	5 yrs	n	5 yrs
0	2,047	89.3	203	43.1	217	15.7	3,200	83.3
1	1,838	90.5	158	49.8			2,832	86.8
2	1,601	91.8	103	63.4			2,467	89.4
3	1,394	93.7	75	78.0			2,133	91.5
4	1,205	95.9	60	89.7			1,841	91.8
5	1,034	95.3	48	97.9			1,616	92.5
6	877	96.4	40	97.4			1,400	92.0
7	793	97.6	34	98.9			1,200	93.1
8	695	98.6					1,054	94.3
9	609	97.9					900	97.2
10	529	96.7					771	97.4

Table 4f. Conditional relative 5-year survival of patients with corpus cancer by extent of disease for period 1988-2011 (N=2,467).

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 4c). 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 93.7% (n=1,394).
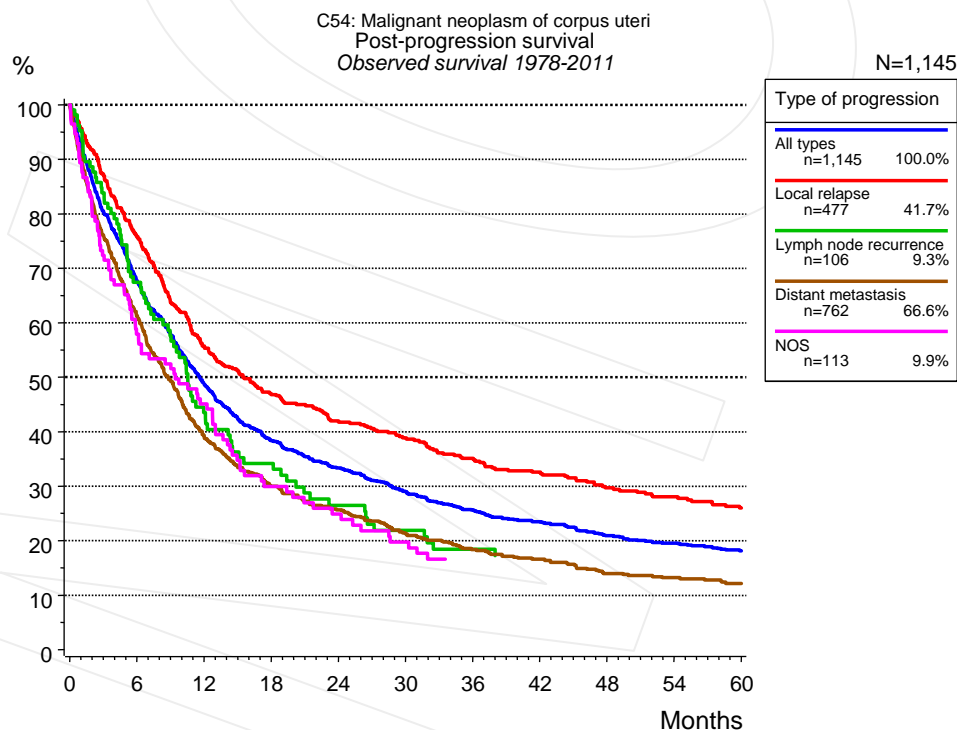

Figure 5a. Observed post-progression survival of 1,145 patients with corpus cancer diagnosed between 1978 and 2011 (incl. M1). These 1,145 patients with documented progression events during their course of disease represent 16.6% of the totally 6,893 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=325, 4.7%). 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 "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 potientially considered in more than one subgroup.

	Type of progression				
	All types n=1,145	Local relapse n=477	Lymph node recurrence n=106	Distant metastasis n=762	NOS n=113
Months	%	%	%	%	%
0	100.0	100.0	100.0	100.0	100.0
12	48.7	55.7	43.5	39.0	45.1
24	33.4	42.0	26.5	25.7	24.9
36	25.6	35.1	18.4	18.4	16.6
48	20.9	29.7	17.3	14.0	
60	18.2	26.0		12.1	

Table 5b. Observed post-progression survival of patients with corpus cancer for period 1978-2011 (N=1,145).

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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