Munich Cancer Registry

Munich Cancer Registry at Munich Cancer Center
Marchioninistr. 15
Munich, 81377
Germany

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

Cancer statistics: Survival

C51-C58: Fem. genitale cancer

Year of diagnosis	1988-2012
Patients	23,533
Diseases	23,980
Cases evaluated	14,109
Creation date	03/25/2014
Export date	02/12/2014
Population (females)	2.3 m

http://www.tumorregister-muenchen.de/en/facts/surv/surv_C5158E.pdf

C51-C58: Malignant neoplasms of female genital organs
Period of diagnosis
Relative survival 1988-2012
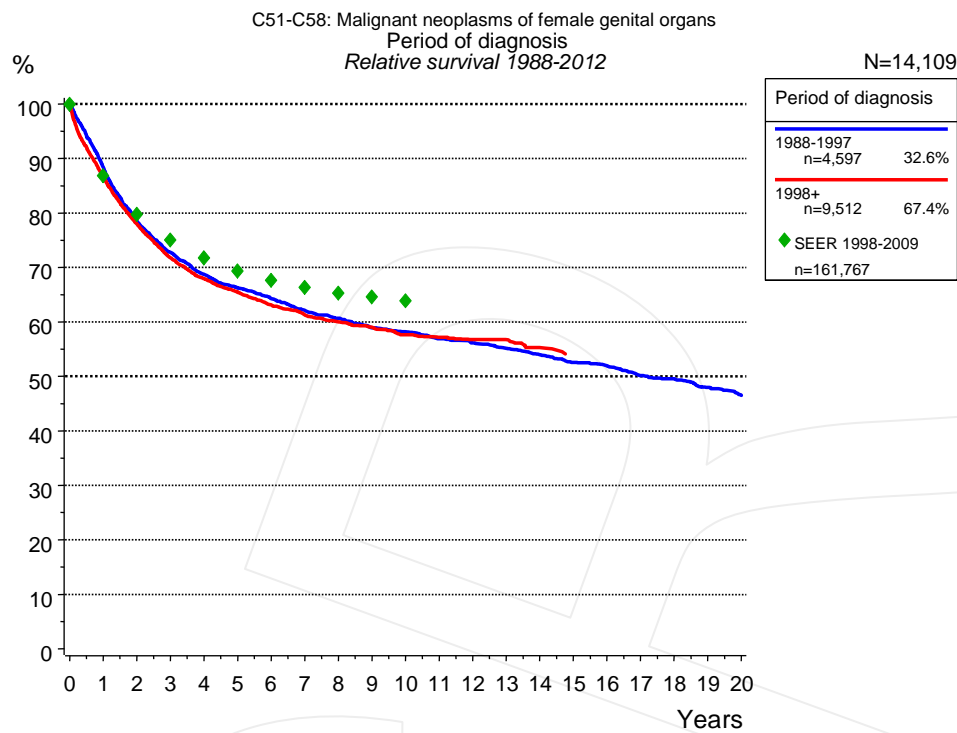
Figure 1a. Relative survival of patients with fem. genitale cancer by period of diagnosis. Included in the evaluation are 14,109 cases diagnosed between 1988 and 2012.

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 1988, 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=4,597		1998+ n=9,512	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	86.3	88.3	84.6	86.6
2	75.1	78.5	74.8	78.0
3	68.2	72.7	67.6	71.8
4	63.2	68.7	62.8	67.9
5	59.6	66.2	59.5	65.5
6	56.7	64.3	56.4	63.1
7	53.7	62.1	53.8	61.3
8	51.3	60.6	51.7	60.0
9	48.9	58.9	49.9	59.0
10	47.2	58.2	47.9	57.7
11	45.3	56.9	46.6	57.2
12	43.7	56.2	45.4	56.8
13	42.1	55.1	44.4	56.8
14	40.3	54.0	42.3	55.3
15	38.3	52.5		
16	37.0	51.9		
17	34.9	50.1		
18	33.8	49.6		
19	31.9	47.9		
20	30.1	46.5		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by period of diagnosis for period 1988-2012 (N=14,109).
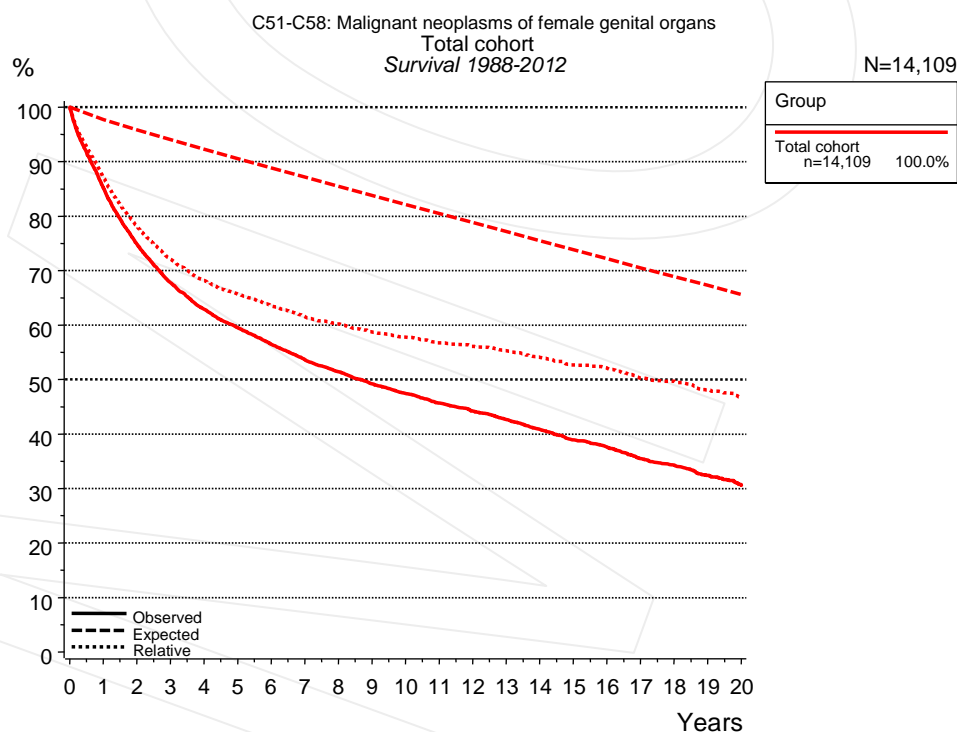

Figure 2a. Observed, expected and relative survival of the total cohort with fem. genitale cancer. Included in the evaluation are 14,109 cases diagnosed between 1988 and 2012.

	Group	
	Total cohort n=14,109	
Years	obs. %	rel. %
0	100.0	100.0
1	85.2	87.1
2	74.9	78.1
3	67.8	72.1
4	62.9	68.2
5	59.5	65.7
6	56.5	63.5
7	53.7	61.6
8	51.4	60.2
9	49.2	58.7
10	47.4	57.8
11	45.7	56.7
12	44.2	56.1
13	42.7	55.3
14	40.8	54.0
15	38.9	52.7
16	37.6	52.0
17	35.5	50.3
18	34.3	49.7
19	32.4	48.1
20	30.6	46.6

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with fem. genitale cancer for period 1988-2012 (N=14,109).
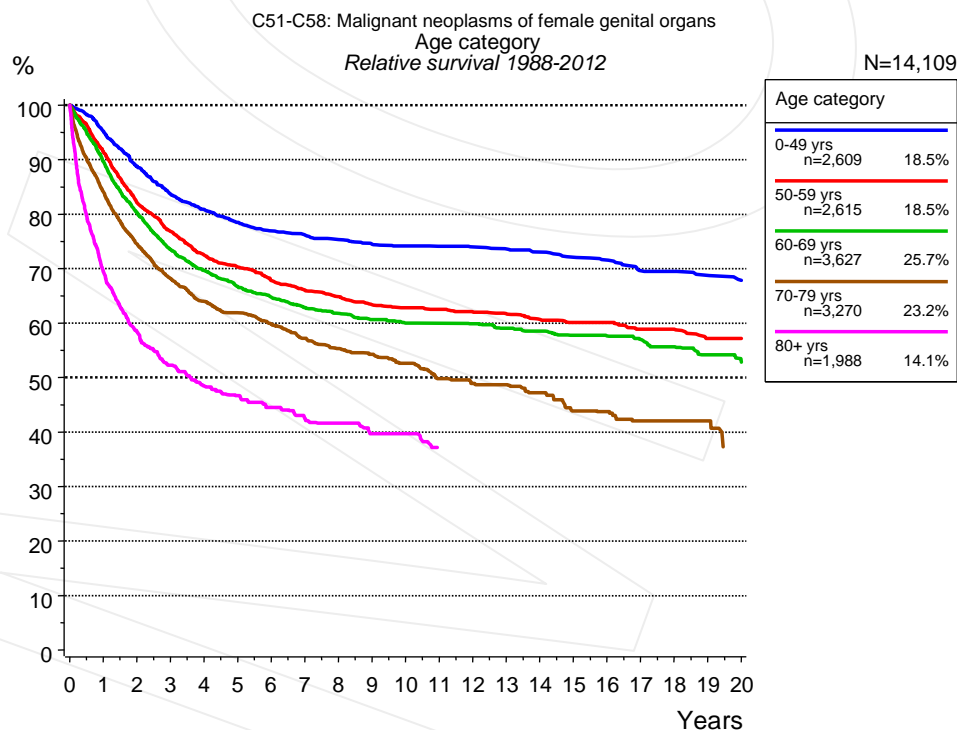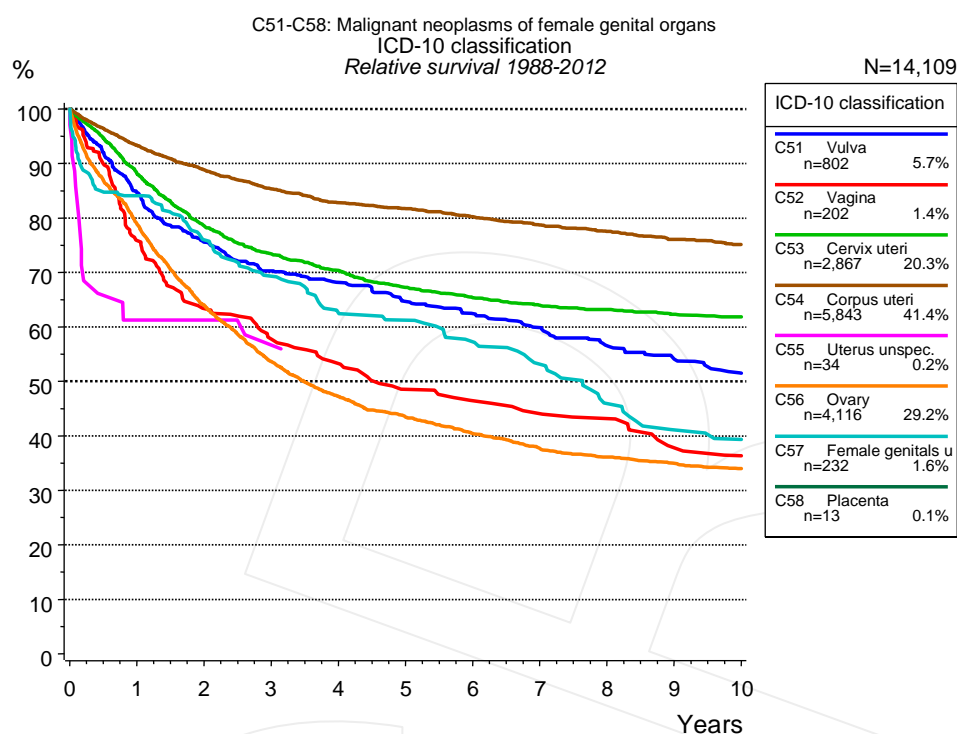

Figure 3a. Relative survival of patients with fem. genitale cancer by age category. Included in the evaluation are 14,109 cases diagnosed between 1988 and 2012.

C51-C58: Malignant neoplasms of female genital organs
Age category
Observed survival 1988-2012
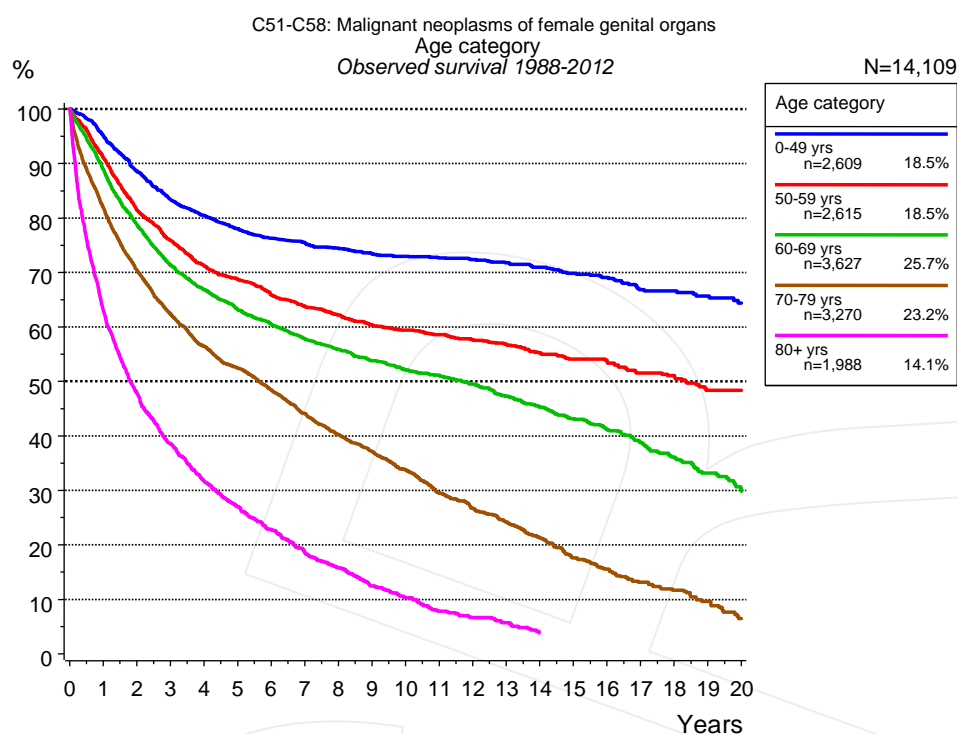
Figure 3b. Observed survival of patients with fem. genitale cancer by age category. Included in the evaluation are 14,109 cases diagnosed between 1988 and 2012.

	Age category									
	0-49 yrs n=2,609		50-59 yrs n=2,615		60-69 yrs n=3,627		70-79 yrs n=3,270		80+ yrs n=1,988	
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	95.1	95.2	91.1	91.4	88.9	89.7	81.9	84.1	62.8	69.3
2	88.6	88.8	81.5	82.1	78.8	80.3	70.5	74.5	47.8	58.4
3	83.4	83.7	75.9	76.8	71.3	73.5	62.4	68.2	38.6	52.3
4	80.5	80.9	71.2	72.5	66.8	69.6	56.4	64.0	31.7	48.4
5	78.0	78.5	68.7	70.3	63.2	66.7	52.4	61.8	27.0	46.7
6	76.2	76.9	65.9	67.8	60.5	64.8	48.4	59.8	22.8	44.5
7	75.4	76.2	63.8	66.1	57.8	62.8	44.1	57.2	18.5	42.5
8	74.4	75.3	62.2	64.9	55.8	61.8	40.2	55.3	15.7	41.6
9	73.4	74.5	60.4	63.4	53.8	60.6	37.1	54.3	12.5	39.7
10	72.9	74.2	59.4	62.8	52.1	60.0	33.8	52.6	10.3	39.7
11	72.7	74.1	58.6	62.5	51.1	60.0	29.5	49.8	7.8	37.2
12	72.3	74.0	57.6	62.1	49.5	59.9	26.7	48.9		
13	71.7	73.6	56.8	61.7	47.3	59.0	24.2	48.7		
14	70.9	73.0	55.2	60.7	45.3	58.5	21.2	47.2		
15	69.8	72.1	54.1	60.1	43.2	57.8	17.6	43.9		
16	69.1	71.5	53.7	60.1	41.1	57.7	15.5	43.7		
17	66.8	69.6	51.6	58.9	38.8	57.0	13.1	42.0		
18	66.6	69.5	51.1	58.9	36.1	55.7	11.7	42.0		
19	65.7	68.7	48.4	57.2	33.2	54.2	9.6	42.0		
20	64.3	67.8	48.4	57.2	29.9	52.8				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by age category for period 1988-2012 (N=14,109).

C51-C58: Malignant neoplasms of female genital organs
ICD-10 classification
Relative survival 1988-2012   N=14,109

Figure 4a. Relative survival of patients with fem. genitale cancer by ICD-10 classification. Included in the evaluation are 14,109 cases diagnosed between 1988 and 2012. Subgroups with sample size <15 are dropped from the chart.
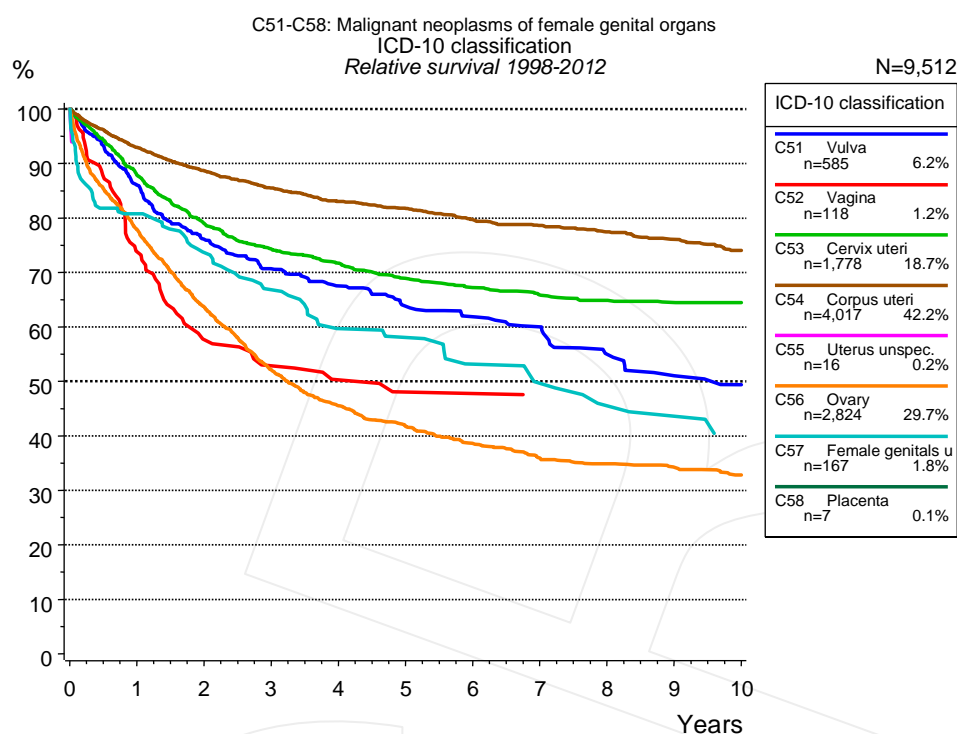
	ICD-10 classification													
	C51 Vulva		C52 Vagina		C53 Cervix uteri		C54 Corpus uteri		C55 Uterus unspec.		C56 Ovary		C57 Female genitals unspec.	
	n=802		n=202		n=2,867		n=5,843		n=34		n=4,116		n=232	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	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	81.0	84.7	73.2	75.9	87.0	88.2	91.0	93.3	58.4	61.3	77.3	79.0	82.2	84.1
2	69.8	75.6	59.4	63.4	76.7	78.6	84.6	88.9	58.4	61.3	61.7	64.0	72.3	76.0
3	62.9	70.3	53.0	57.8	71.0	73.4	79.4	85.3	51.9	56.6	51.0	53.7	64.6	69.3
4	59.1	68.2	47.6	53.3	67.4	70.3	75.2	82.8			44.2	47.2	57.2	62.5
5	54.5	64.6	41.8	48.5	63.9	67.3	72.4	81.7			40.1	43.5	54.7	61.2
6	51.1	62.5	38.9	46.4	61.5	65.3	69.4	80.2			36.8	40.4	50.1	57.2
7	47.8	59.9	36.6	44.1	59.7	64.0	66.4	78.7			33.8	37.7	45.3	53.1
8	43.9	56.5	35.0	43.2	58.4	63.2	63.7	77.5			31.9	36.1	38.1	45.9
9	40.8	54.1	29.6	37.8	57.0	62.3	60.9	76.0			30.4	34.9	33.3	41.1
10	38.0	51.5	27.7	36.4	56.0	61.8	58.5	75.1			29.1	34.0	31.5	39.3

	ICD-10 classification	
cont'd	C58 Placenta	
	n=13	
Years	obs. %	rel. %
0	100.0	100.0

Table 4b. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by ICD-10 classification for period 1988-2012 (N=14,109).

C51-C58: Malignant neoplasms of female genital organs
ICD-10 classification
Relative survival 1998-2012

Figure 4c. Relative survival of patients with fem. genitale cancer by ICD-10 classification. Included in the evaluation are 9,512 cases diagnosed between 1998 and 2012. Subgroups with sample size <15 are dropped from the chart.

	ICD-10 classification													
	C51 Vulva		C52 Vagina		C53 Cervix uteri		C54 Corpus uteri		C55 Uterus unspec.		C56 Ovary		C57 Female genitals unspec.	
	n=585		n=118		n=1,778		n=4,017		n=16		n=2,824		n=167	
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	82.2	86.0	71.0	73.7	86.8	87.8	90.7	92.9			76.2	77.9	78.8	80.7
2	70.1	76.1	53.8	57.7	77.4	79.0	84.7	88.7			61.2	63.6	70.0	73.6
3	63.1	70.7	48.2	52.9	72.3	74.3	79.8	85.5			49.4	52.1	62.3	66.8
4	58.4	67.5	44.5	50.3	69.3	71.7	75.9	83.1			42.5	45.5	54.0	59.7
5	53.9	63.8	41.4	48.0	66.1	68.9	73.0	81.8			38.5	41.8	51.9	58.0
6	50.8	61.9	41.4	47.7	64.1	67.2	69.6	79.7			35.0	38.6	46.0	53.2
7	48.0	60.0			62.4	65.9	67.1	78.6			32.1	35.9	42.1	49.6
8	42.4	54.9			61.2	64.9	64.6	77.5			30.8	34.9	37.9	45.5
9	38.2	51.0			60.4	64.5	62.0	76.1			29.7	34.2	36.2	43.6
10	36.4	49.4			60.2	64.5	58.9	74.1			28.0	32.8		

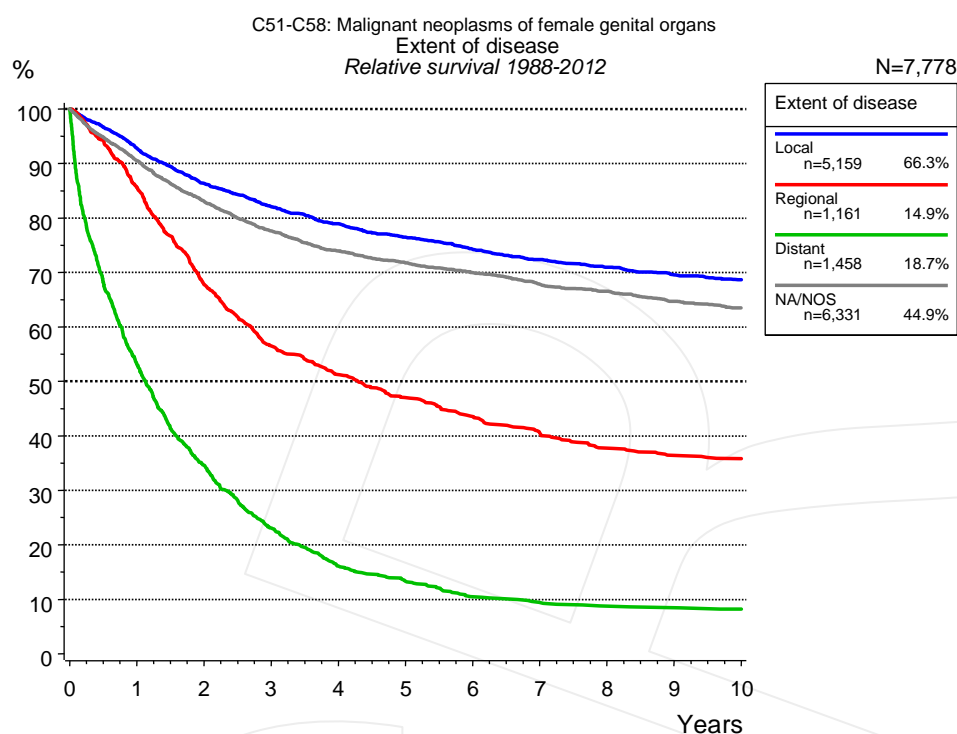| | ICD-10 classification | |
| *cont'd* | C58 Placenta | |
| | n=7 | |
Years	obs. %	rel. %
0	100.0	100.0

Table 4d. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by ICD-10 classification for period 1998-2012 (N=9,512).

C51-C58: Malignant neoplasms of female genital organs
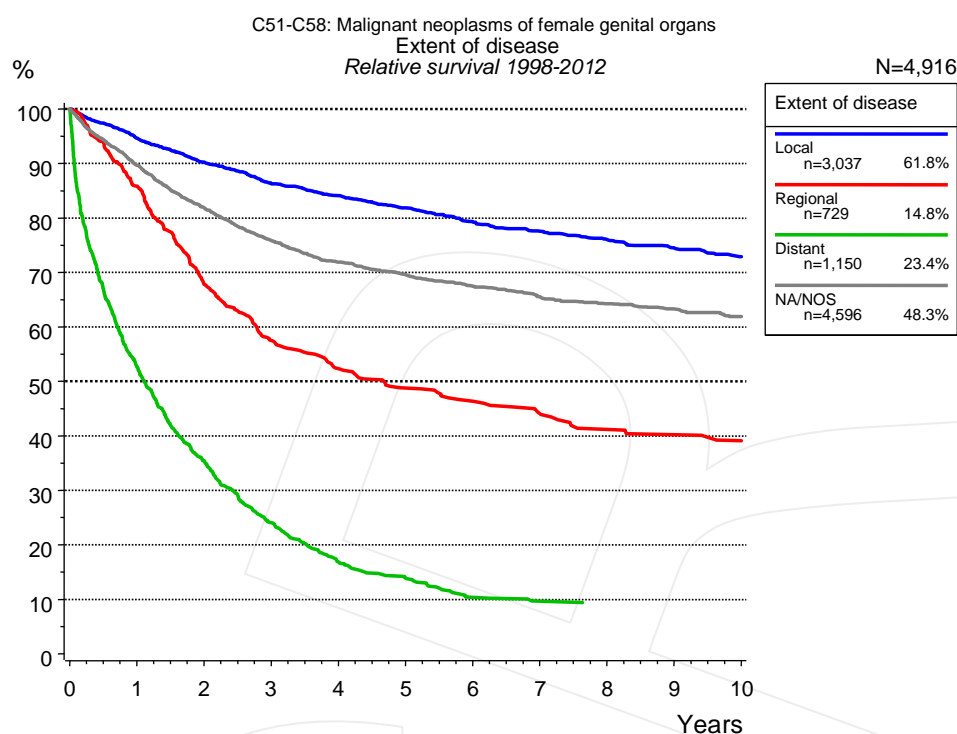Extent of disease
Relative survival 1988-2012

Figure 4e. Relative survival of patients with fem. genitale cancer by extent of disease. For 13,156 of 14,109 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 7,778 cases an evaluable classification was established. The grey line represents the subgroup of 6,331 patients with missing values regarding extent of disease (44.9% of 14,109 patients, the percent values of all other categories are related to n=7,778).

	Extent of disease							
	Local n=5,159		Regional n=1,161		Distant n=1,458		NA/NOS n=6,331	
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	91.0	92.8	84.4	85.6	51.7	53.1	88.1	90.5
2	83.3	86.3	66.0	67.7	33.2	34.6	79.0	83.0
3	77.9	82.1	54.5	56.5	21.8	23.1	72.1	77.6
4	73.7	78.9	48.8	51.2	15.0	16.1	67.2	73.9
5	70.2	76.4	44.2	47.0	12.2	13.3	63.8	71.7
6	67.1	74.2	40.6	43.5	9.5	10.5	60.9	69.9
7	64.3	72.4	37.4	40.4	8.4	9.4	57.7	67.8
8	61.9	70.9	34.5	37.7	7.7	8.7	55.3	66.5
9	59.6	69.5	32.8	36.4	7.5	8.5	52.5	64.7
10	57.9	68.6	32.0	35.8	7.1	8.2	50.4	63.5

Table 4f. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by extent of disease for period 1988-2012 (N=7,778).

C51-C58: Malignant neoplasms of female genital organs
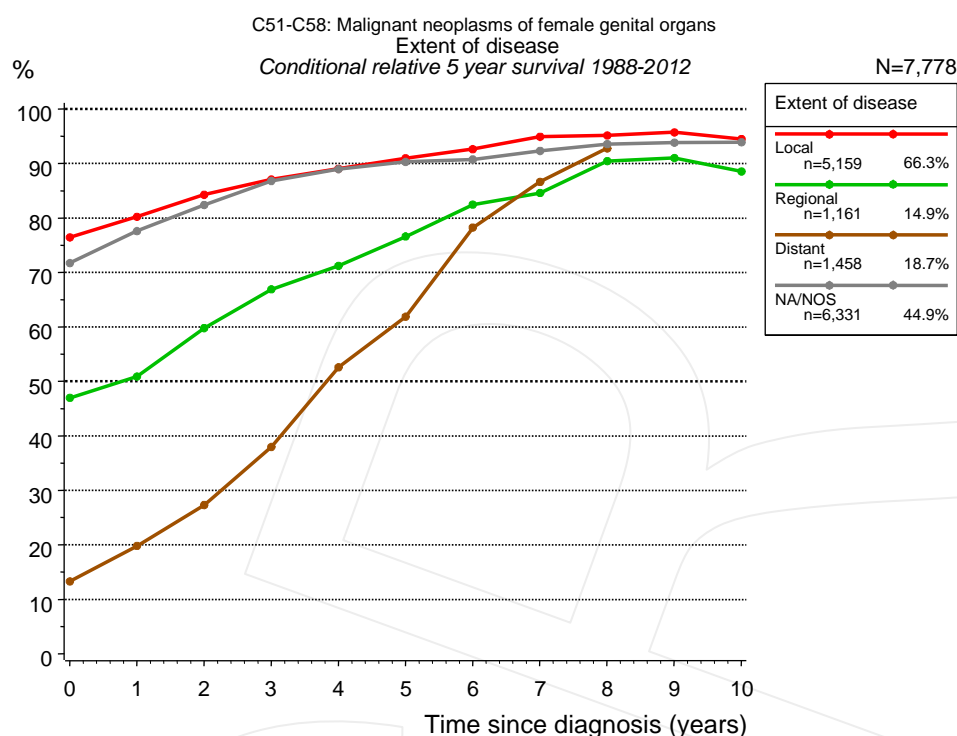Extent of disease
Relative survival 1998-2012

Figure 4g. Relative survival of patients with fem. genitale cancer by extent of disease. For 8,910 of 9,512 cases diagnosed between 1998 and 2012 valid data could be obtained for this item. For a total of 4,916 cases an evaluable classification was established. The grey line represents the subgroup of 4,596 patients with missing values regarding extent of disease (48.3% of 9,512 patients, the percent values of all other categories are related to n=4,916).

	Extent of disease							
	Local n=3,037		Regional n=729		Distant n=1,150		NA/NOS n=4,596	
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	93.0	94.6	84.6	85.8	51.3	52.7	87.3	89.7
2	87.3	90.2	65.9	67.8	33.9	35.4	77.9	81.8
3	82.3	86.3	55.3	57.5	22.7	24.0	70.7	75.9
4	79.0	84.1	49.9	52.3	15.7	16.8	65.6	71.9
5	75.7	81.8	45.9	48.8	12.8	13.9	62.2	69.5
6	72.2	79.3	43.5	46.4	9.4	10.4	59.2	67.4
7	69.5	77.5	40.9	44.0	8.6	9.6	56.4	65.5
8	67.1	76.0	37.8	41.2	8.2	9.3	54.2	64.3
9	64.6	74.5	36.6	40.2	8.2	8.9	52.3	63.3
10	62.1	72.9	34.9	39.1			50.2	61.9

Table 4h. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by extent of disease for period 1998-2012 (N=4,916).

C51-C58: Malignant neoplasms of female genital organs
Extent of disease
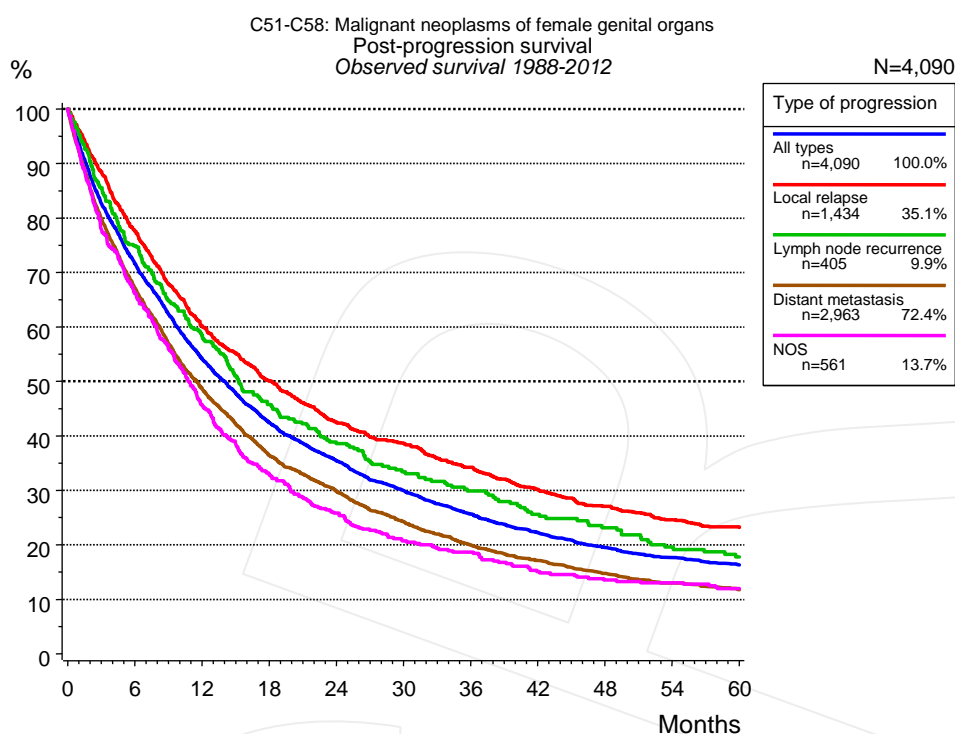*Conditional relative 5 year survival 1988-2012*

Figure 4i. Conditional relative 5-year survival of patients with fem. genitale cancer by extent of disease. For 13,156 of 14,109 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 7,778 cases an evaluable classification was established. The grey line represents the subgroup of 6,331 patients with missing values regarding extent of disease (44.9% of 14,109 patients, the percent values of all other categories are related to n=7,778).

	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	5,159	76.4	1,161	47.0	1,458	13.3	6,331	71.7
1	4,454	80.2	923	50.9	704	19.8	5,334	77.6
2	3,761	84.3	640	59.8	400	27.3	4,489	82.4
3	3,255	87.1	465	66.9	235	38.0	3,805	86.8
4	2,822	89.0	385	71.2	144	52.6	3,243	89.0
5	2,466	91.0	325	76.6	99	61.9	2,786	90.3
6	2,114	92.6	270	82.5	66	78.2	2,414	90.7
7	1,902	94.9	225	84.6	52	86.6	2,086	92.3
8	1,704	95.1	194	90.4	42	92.8	1,787	93.6
9	1,528	95.7	174	91.0			1,522	93.8
10	1,359	94.5	150	88.6			1,318	93.9

Table 4j. Conditional relative 5-year survival of patients with fem. genitale cancer by extent of disease for period 1988-2012 (N=7,778).

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 4g). 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 87.1% (n=3,255).

C51-C58: Malignant neoplasms of female genital organs
Post-progression survival
Observed survival 1988-2012   N=4,090

Figure 5a. Observed post-progression survival of 4,090 patients with fem. genitale cancer diagnosed between 1988 and 2012 (incl. M1). These 4,090 patients with documented progression events during their course of disease represent 29.0% of the totally 14,109 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=1,087, 7.7%). 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	Local relapse	Lymph node recurrence	Distant metastasis	NOS
	n=4,090	n=1,434	n=405	n=2,963	n=561
Months	%	%	%	%	%
0	100.0	100.0	100.0	100.0	100.0
12	54.1	60.2	58.4	48.6	45.7
24	35.4	42.6	38.6	29.8	25.8
36	25.7	34.2	29.9	20.0	18.7
48	19.5	27.1	23.1	14.7	13.6
60	16.3	23.2	17.8	11.7	12.0

Table 5b. Observed post-progression survival of patients with fem. genitale cancer for period 1988-2012 (N=4,090).

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

Recommended Citation

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