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	1988-2013
Patients	24,845
Diseases	25,331
Cases evaluated	14,347
Creation date	05/13/2015
Export date	12/30/2014
Population (females)	2.36 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 1988-2013
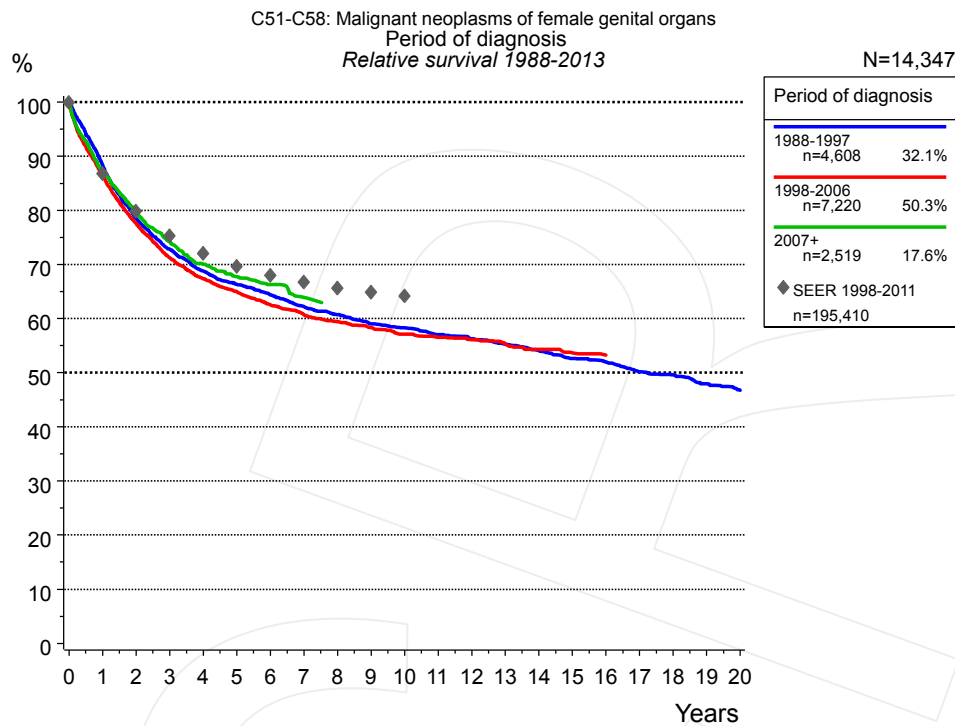
Figure 1a. Relative survival of patients with fem. genitale cancer by period of diagnosis. Included in the evaluation are 14,347 cases diagnosed between 1988 and 2013.

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 2011, and are represented by gray 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=4,608		1998-2006 n=7,220		2007+ n=2,519	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	86.4	88.3	84.4	86.5	85.2	87.1
2	75.2	78.5	74.3	77.6	76.7	79.7
3	68.3	72.8	67.0	71.2	70.1	74.2
4	63.2	68.8	62.3	67.4	65.0	70.1
5	59.7	66.3	58.9	64.9	61.8	67.7
6	56.8	64.4	55.8	62.6	59.4	66.3
7	53.8	62.2	53.2	60.8	56.4	63.9
8	51.5	60.7	51.1	59.4		
9	49.0	59.0	49.2	58.3		
10	47.4	58.3	47.4	57.1		
11	45.4	57.0	46.0	56.6		
12	43.9	56.3	44.7	56.1		
13	42.2	55.3	43.2	55.3		
14	40.4	54.1	41.6	54.3		
15	38.4	52.6	40.4	53.7		
16	37.1	52.0				
17	35.0	50.2				
18	33.9	49.6				
19	32.0	48.0				
20	30.4	46.8				

Table 1b. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by period of diagnosis for period 1988-2013 (N=14,347).
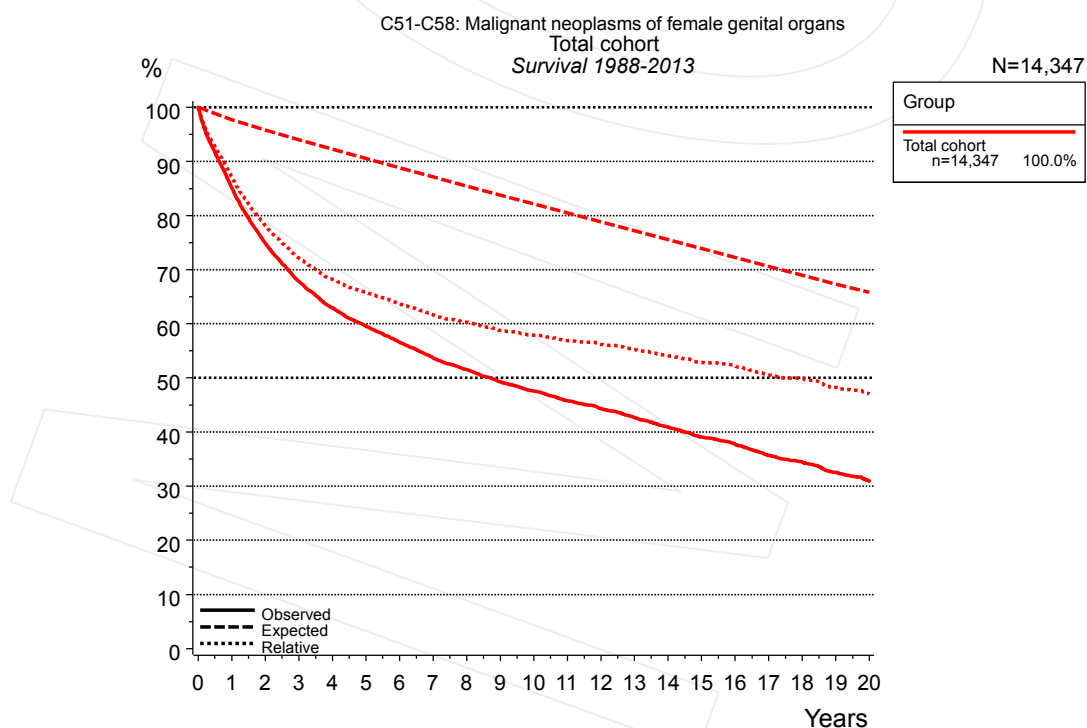

Figure 2a. Observed, expected and relative survival of the total cohort with fem. genitale cancer. Included in the evaluation are 14,347 cases diagnosed between 1988 and 2013.

	Group	
	Total cohort n=14,347	
Years	obs. %	rel. %
0	100.0	100.0
1	85.2	87.2
2	74.9	78.2
3	67.9	72.2
4	63.0	68.2
5	59.6	65.8
6	56.6	63.7
7	53.8	61.7
8	51.5	60.3
9	49.3	58.8
10	47.6	57.9
11	45.8	56.9
12	44.3	56.2
13	42.7	55.3
14	40.9	54.1
15	39.1	52.8
16	37.8	52.2
17	35.7	50.5
18	34.5	49.9
19	32.6	48.3
20	31.0	47.0

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with fem. genitale cancer for period 1988-2013 (N=14,347).
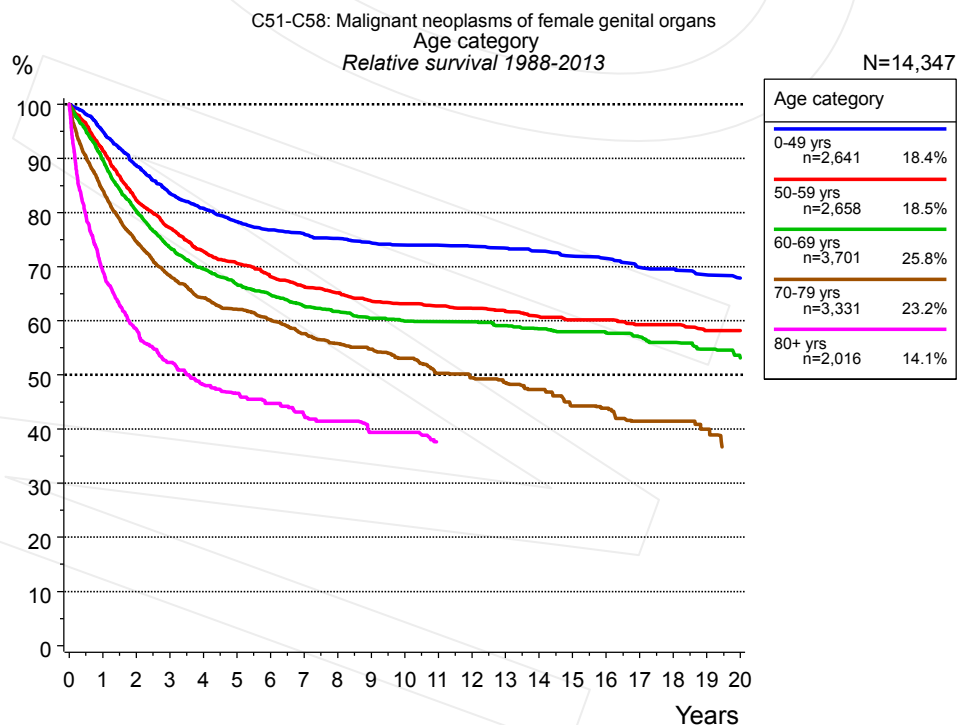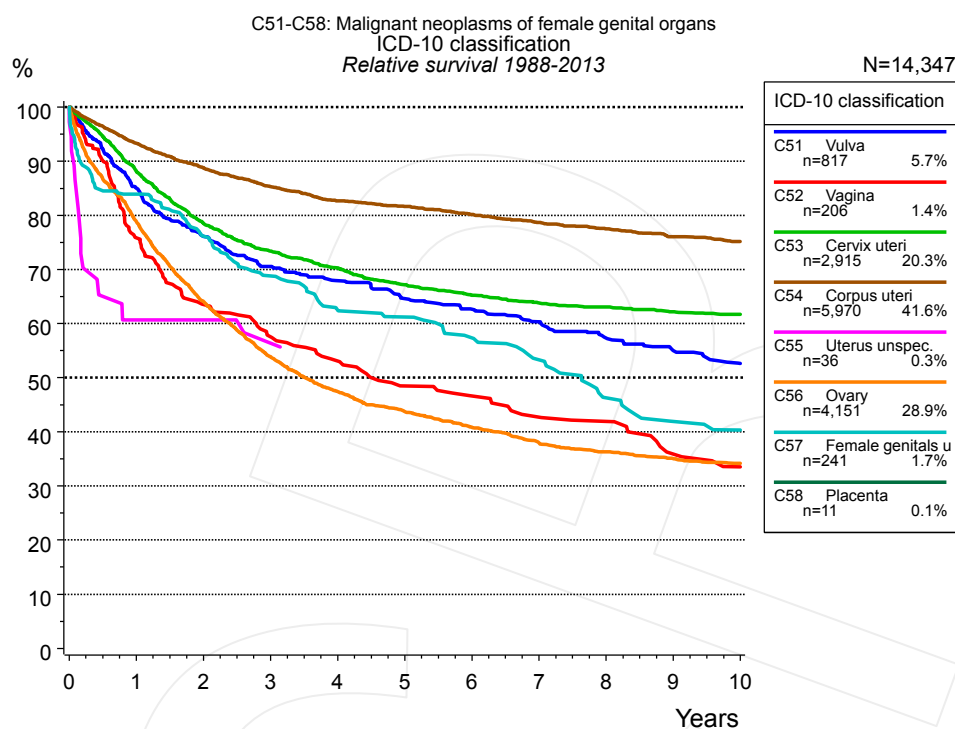

Figure 3a. Relative survival of patients with fem. genitale cancer by age category. Included in the evaluation are 14,347 cases diagnosed between 1988 and 2013.

C51-C58: Malignant neoplasms of female genital organs
Age category
Observed survival 1988-2013
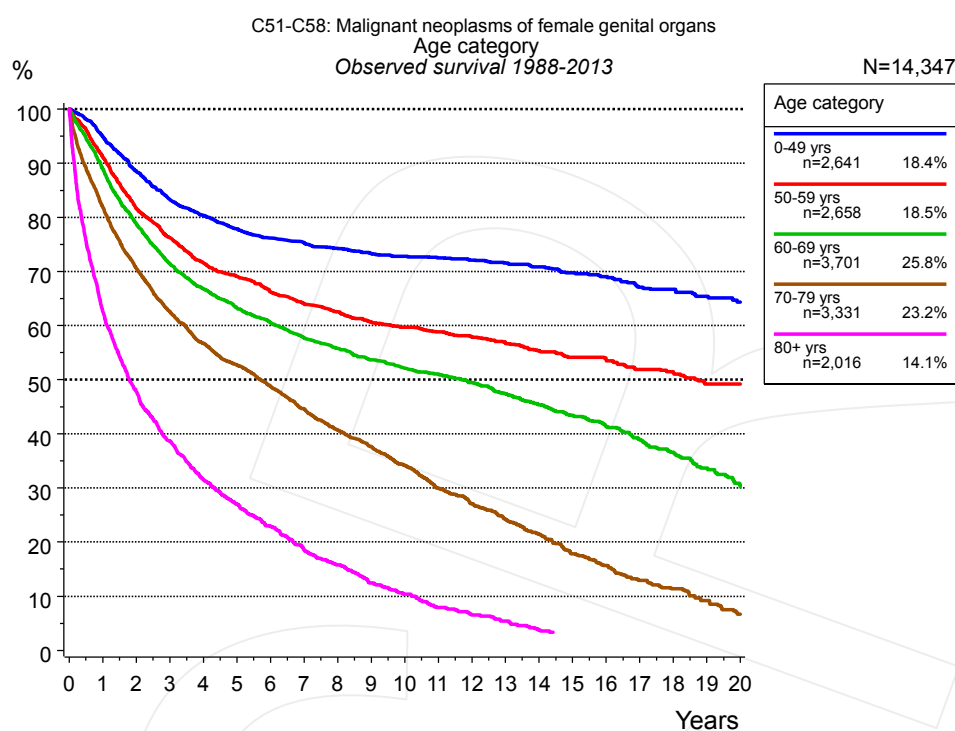
Figure 3b. Observed survival of patients with fem. genitale cancer by age category. Included in the evaluation are 14,347 cases diagnosed between 1988 and 2013.

	Age category									
	0-49 yrs n=2,641		50-59 yrs n=2,658		60-69 yrs n=3,701		70-79 yrs n=3,331		80+ yrs n=2,016	
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	95.0	95.1	91.2	91.6	89.0	89.8	82.0	84.2	62.6	69.1
2	88.6	88.8	81.6	82.3	78.9	80.4	70.7	74.7	47.8	58.4
3	83.3	83.6	76.2	77.2	71.4	73.5	62.6	68.4	38.7	52.3
4	80.4	80.8	71.6	72.8	66.8	69.6	56.7	64.3	31.6	48.2
5	77.8	78.3	69.0	70.6	63.2	66.8	52.7	62.1	27.0	46.6
6	76.2	76.8	66.2	68.2	60.6	64.8	48.8	60.2	22.9	44.8
7	75.3	76.1	64.1	66.4	57.7	62.7	44.6	57.7	18.6	42.5
8	74.3	75.2	62.5	65.2	55.8	61.7	40.7	55.8	15.8	41.4
9	73.3	74.4	60.7	63.7	53.7	60.5	37.6	54.8	12.4	39.4
10	72.8	74.0	59.7	63.2	52.1	60.0	34.3	53.1	10.4	39.4
11	72.5	74.0	58.8	62.8	51.1	59.9	29.9	50.3	7.9	37.6
12	72.1	73.8	57.9	62.4	49.5	59.8	27.1	49.5		
13	71.6	73.5	56.8	61.8	47.4	59.1	24.2	48.6		
14	70.9	72.9	55.4	60.8	45.4	58.6	21.4	47.3		
15	69.7	72.0	54.2	60.2	43.5	58.0	17.8	44.3		
16	69.1	71.5	53.8	60.2	41.3	57.8	15.7	43.9		
17	67.1	69.9	51.9	59.3	39.0	57.1	12.9	41.5		
18	66.7	69.6	51.5	59.3	36.6	56.0	11.4	41.5		
19	65.4	68.5	49.2	58.2	33.7	54.8	9.2	40.0		
20	64.4	67.9	49.2	58.2	30.2	53.1				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by age category for period 1988-2013 (N=14,347).

C51-C58: Malignant neoplasms of female genital organs
ICD-10 classification
Relative survival 1988-2013   N=14,347

Figure 4a. Relative survival of patients with fem. genitale cancer by ICD-10 classification. Included in the evaluation are 14,347 cases diagnosed between 1988 and 2013. 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=817		n=206		n=2,915		n=5,970		n=36		n=4,151		n=241	
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	81.4	85.0	73.2	75.9	87.0	88.2	91.0	93.3	57.9	60.6	77.3	78.9	82.0	83.9
2	70.3	76.1	59.5	63.5	76.7	78.6	84.6	88.8	57.9	60.6	61.8	64.1	72.4	76.1
3	63.1	70.5	52.8	57.6	71.0	73.4	79.3	85.3	51.8	56.4	51.2	53.9	64.1	68.8
4	58.9	67.9	47.5	53.1	67.4	70.3	75.1	82.7			44.4	47.4	57.1	62.4
5	54.5	64.6	41.8	48.5	63.8	67.2	72.4	81.6			40.3	43.7	54.7	61.2
6	51.2	62.6	39.1	46.6	61.4	65.2	69.4	80.2			37.1	40.8	50.2	57.3
7	48.1	60.3	35.4	42.7	59.6	63.8	66.4	78.7			34.0	37.9	45.5	53.3
8	44.4	57.3	33.9	41.9	58.4	63.0	63.8	77.5			32.0	36.3	38.4	46.3
9	41.4	55.0	28.2	35.9	57.0	62.2	60.9	76.0			30.5	35.0	33.9	41.9
10	38.7	52.6	25.6	33.5	56.0	61.7	58.6	75.2			29.2	34.2	32.2	40.3

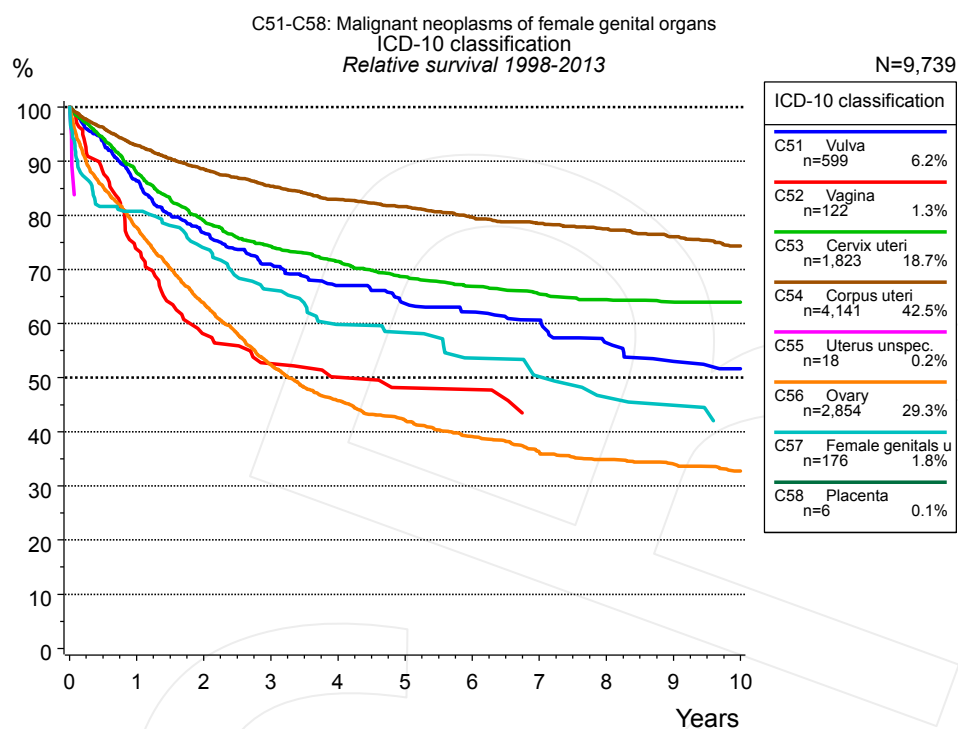|	ICD-10 classification	
cont'd	C58 Placenta	
	n=11	
Years	obs. %	rel. %
0	100.0	100.0

Table 4b. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by ICD-10 classification for period 1988-2013 (N=14,347).

C51-C58: Malignant neoplasms of female genital organs
ICD-10 classification
Relative survival 1998-2013   N=9,739

ICD-10 classification

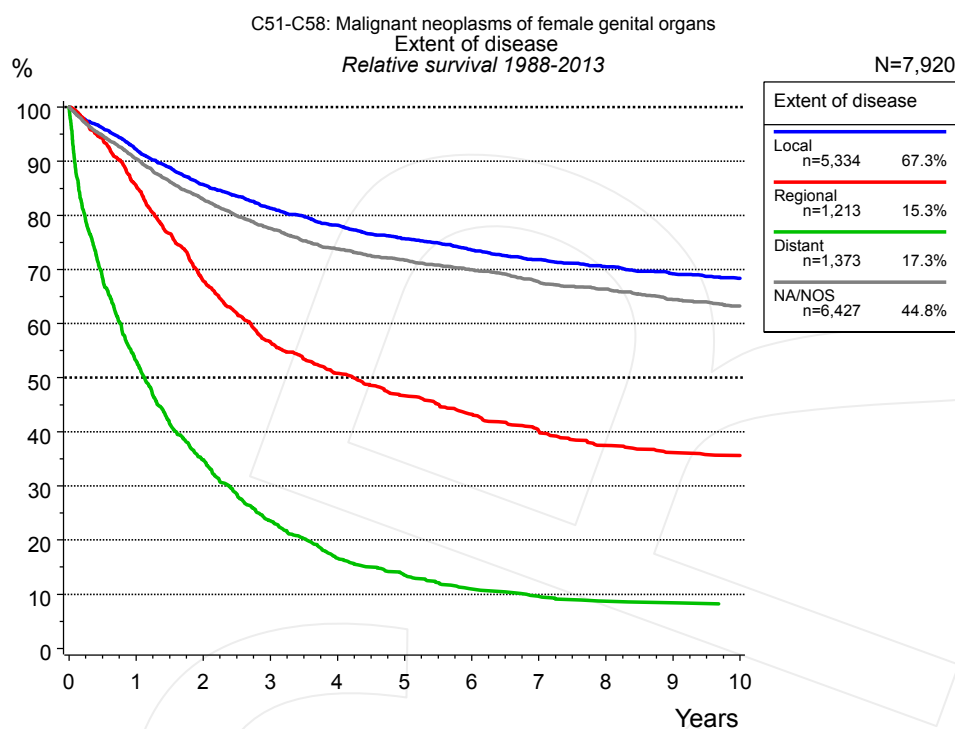| C51 | Vulva | n=599 | 6.2% |
C52	Vagina	n=122	1.3%
C53	Cervix uteri	n=1,823	18.7%
C54	Corpus uteri	n=4,141	42.5%
C55	Uterus unspec.	n=18	0.2%
C56	Ovary	n=2,854	29.3%
C57	Female genitals u	n=176	1.8%
C58	Placenta	n=6	0.1%

Figure 4c. Relative survival of patients with fem. genitale cancer by ICD-10 classification. Included in the evaluation are 9,739 cases diagnosed between 1998 and 2013. Subgroups with sample size <15 are dropped from the chart.

ICD-10 classification

	C51 Vulva n=599		C52 Vagina n=122		C53 Cervix uteri n=1,823		C54 Corpus uteri n=4,141		C55 Uterus unspec. n=18		C56 Ovary n=2,854		C57 Female genitals unspec. n=176	
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	82.6	86.4	71.1	73.8	86.8	87.8	90.7	92.9			76.1	77.8	78.8	80.7
2	70.8	76.8	54.2	58.1	77.4	79.0	84.6	88.6			61.3	63.7	70.3	74.0
3	63.3	71.0	48.0	52.6	72.3	74.3	79.7	85.4			49.7	52.5	61.7	66.2
4	58.0	67.1	44.3	50.1	69.1	71.5	75.8	82.9			42.7	45.8	54.2	59.8
5	53.7	63.7	41.5	48.1	65.9	68.6	72.9	81.6			38.8	42.1	52.1	58.3
6	50.9	62.1	41.5	47.8	63.8	66.9	69.6	79.7			35.5	39.1	46.5	53.6
7	48.4	60.7	35.7	43.3	62.0	65.4	67.1	78.5			32.4	36.2	42.6	50.2
8	43.4	56.4	35.7	42.6	60.8	64.4	64.6	77.5			30.8	34.9	38.5	46.4
9	39.6	53.0			59.9	64.0	62.0	76.1			29.5	34.0	37.0	44.9
10	37.9	51.6			59.7	63.9	59.1	74.3			28.0	32.8		

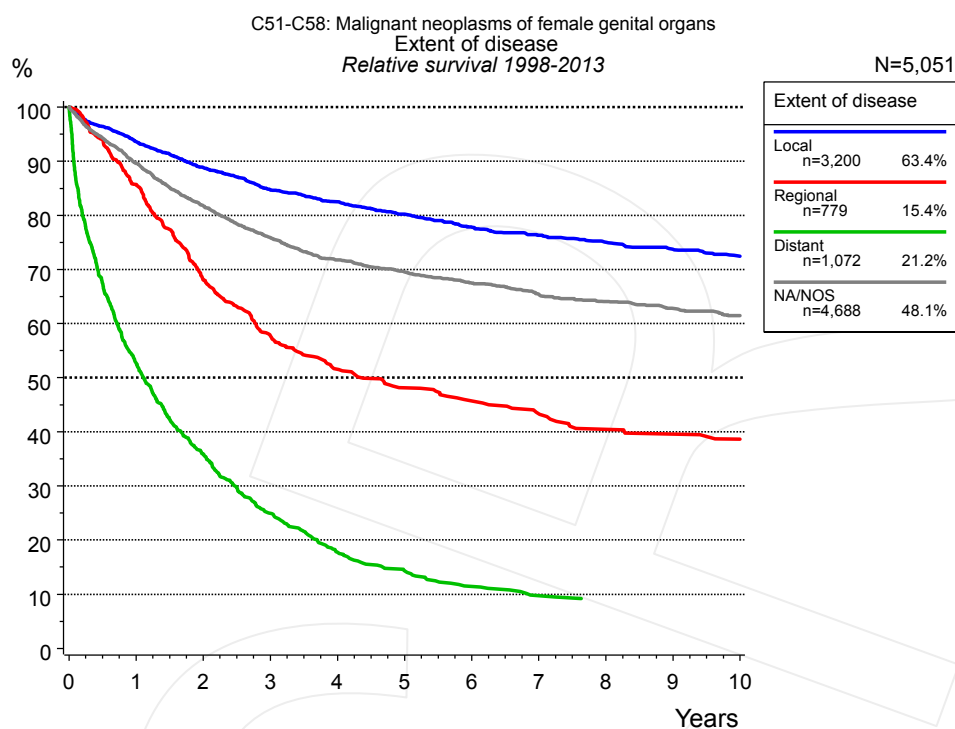|	**ICD-10 classification**	
cont'd	C58 Placenta n=6	
Years	obs. %	rel. %
0	100.0	100.0

Table 4d. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by ICD-10 classification for period 1998-2013 (N=9,739).

C51-C58: Malignant neoplasms of female genital organs
Extent of disease
Relative survival 1988-2013

Figure 4e. Relative survival of patients with fem. genitale cancer by extent of disease. For 13,365 of 14,347 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 7,920 cases an evaluable classification was established. The grey line represents the subgroup of 6,427 patients with missing values regarding extent of disease (44.8% of 14,347 patients, the percent values of all other categories are related to n=7,920).

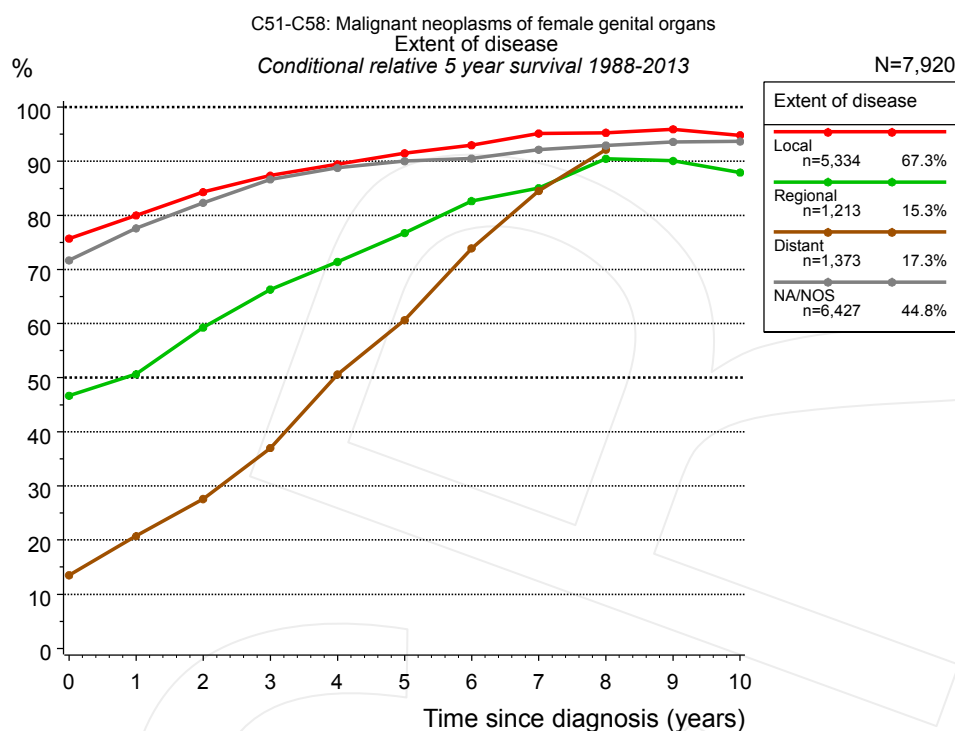| | **Extent of disease** | | | | | | | |
| | Local n=5,334 | | Regional n=1,213 | | Distant n=1,373 | | NA/NOS n=6,427 | |
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	90.5	92.2	84.3	85.5	51.8	53.1	88.1	90.5
2	82.7	85.7	66.1	67.9	33.4	34.8	78.9	83.0
3	77.2	81.3	54.6	56.6	22.3	23.6	72.1	77.6
4	73.0	78.1	48.4	50.8	15.5	16.6	67.1	73.8
5	69.5	75.7	43.9	46.7	12.4	13.5	63.7	71.7
6	66.5	73.6	40.3	43.3	10.0	11.0	60.8	69.9
7	63.8	71.8	37.0	40.1	8.6	9.6	57.6	67.7
8	61.6	70.5	34.2	37.5	7.7	8.7	55.2	66.3
9	59.3	69.2	32.6	36.2	7.5	8.4	52.3	64.4
10	57.6	68.4	31.8	35.6	7.0	8.2	50.2	63.2

Table 4f. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by extent of disease for period 1988-2013 (N=7,920).

C51-C58: Malignant neoplasms of female genital organs
Extent of disease
Relative survival 1998-2013

Figure 4g. Relative survival of patients with fem. genitale cancer by extent of disease. For 9,114 of 9,739 cases diagnosed between 1998 and 2013 valid data could be obtained for this item. For a total of 5,051 cases an evaluable classification was established. The grey line represents the subgroup of 4,688 patients with missing values regarding extent of disease (48.1% of 9,739 patients, the percent values of all other categories are related to n=5,051).

	Extent of disease							
	Local n=3,200		Regional n=779		Distant n=1,072		NA/NOS n=4,688	
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	91.9	93.6	84.5	85.7	51.4	52.7	87.2	89.6
2	86.0	88.9	66.1	68.1	34.5	35.9	77.8	81.7
3	80.7	84.7	55.6	57.8	23.6	25.0	70.7	75.9
4	77.4	82.5	49.1	51.6	16.6	17.8	65.5	71.7
5	74.1	80.2	45.2	48.1	13.2	14.3	62.2	69.5
6	70.8	77.8	42.7	45.7	10.4	11.4	59.2	67.5
7	68.3	76.4	40.1	43.3	8.7	9.7	56.3	65.4
8	66.1	75.1	37.1	40.4	8.1	9.1	54.0	64.1
9	63.8	73.8	36.0	39.6	8.1	8.8	51.8	62.8
10	61.7	72.5	34.4	38.6			49.8	61.5

Table 4h. Observed (obs.) and relative (rel.) survival of patients with fem. genitale cancer by extent of disease for period 1998-2013 (N=5,051).

C51-C58: Malignant neoplasms of female genital organs
Extent of disease
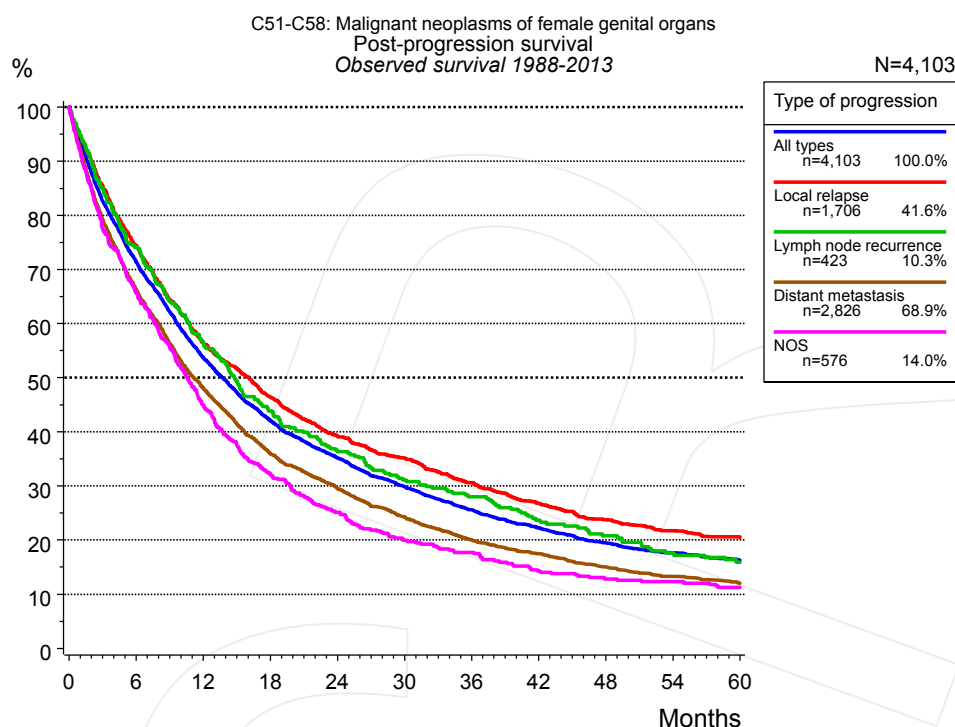*Conditional relative 5 year survival 1988-2013*

Figure 4i. Conditional relative 5-year survival of patients with fem. genitale cancer by extent of disease. For 13,365 of 14,347 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 7,920 cases an evaluable classification was established. The grey line represents the subgroup of 6,427 patients with missing values regarding extent of disease (44.8% of 14,347 patients, the percent values of all other categories are related to n=7,920).

	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	5,334	75.7	1,213	46.7	1,373	13.5	6,427	71.7
1	4,591	80.0	967	50.7	665	20.8	5,426	77.6
2	3,894	84.3	689	59.3	385	27.6	4,573	82.3
3	3,367	87.4	509	66.3	225	37.0	3,885	86.6
4	2,928	89.4	407	71.4	138	50.6	3,345	88.8
5	2,521	91.5	338	76.7	98	60.6	2,909	90.0
6	2,200	93.0	282	82.7	68	73.9	2,529	90.5
7	1,965	95.1	239	85.0	51	84.5	2,204	92.1
8	1,756	95.3	203	90.4	41	92.1	1,903	92.9
9	1,581	95.9	178	90.1			1,611	93.6
10	1,423	94.8	160	87.9			1,386	93.6

Table 4j. Conditional relative 5-year survival of patients with fem. genitale cancer by extent of disease for period 1988-2013 (N=7,920).

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 87.4% (n=3,367).

C51-C58: Malignant neoplasms of female genital organs
Post-progression survival
Observed survival 1988-2013

N=4,103

Figure 5a. Observed post-progression survival of 4,103 patients with fem. genitale cancer diagnosed between 1988 and 2013 (incl. M1). These 4,103 patients with documented progression events during their course of disease represent 28.6% of the totally 14,347 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=1,146, 8.0%). 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=4,103	Local relapse n=1,706	Lymph node recurrence n=423	Distant metastasis n=2,826	NOS n=576
Months	%	%	%	%	%
0	100.0	100.0	100.0	100.0	100.0
12	53.7	56.5	56.4	48.1	45.0
24	35.2	39.3	36.3	29.6	25.1
36	25.6	30.6	28.0	20.1	17.7
48	19.5	23.8	20.8	15.0	12.8
60	16.3	20.5	15.9	12.0	11.3

Table 5b. Observed post-progression survival of patients with fem. genitale cancer for period 1988-2013 (N=4,103).

Shortcuts

MCR   Munich Cancer Registry, Germany (Tumorregister München)
NCI   National Cancer Institute, USA
SEER   Surveillance, Epidemiology, and End Results, USA
UICC   Union for International Cancer Control, Geneva

DCO   Death certificate only. The death certificate provides the only notification to the registry.
NA   Not available
NOS   Not otherwise specified

OS   Observed/overall survival (Kaplan-Meier estimate)
RS   Relative survival, compared to the general population,
          ratio of observed to expected survival (Ederer II method),
          reflecting excess mortality among cancer patients
AS   Assembled survival chart (observed, expected, relative)
PPS   Post-progression survival, survival since first relapse (Kaplan-Meier estimate)
          Date of entry: Date of first locoregional recurrence, distant metastasis, unspecified
progression
          Event: Death of all causes
CS   Conditional survival, survival probability under the condition of surviving a given period of time

Recommended Citation

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