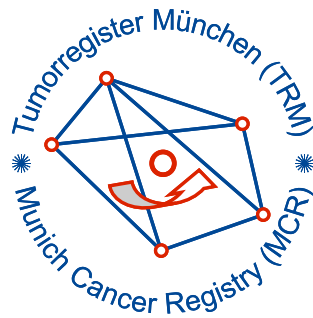


Munich Cancer Registry



- ▶ Baseline statistics
- ▶ Selection Matrix
- ▶ Homepage
- ▶ *Deutsch*

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

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

Cancer statistics: Survival

C56: Ovarian cancer

Year of diagnosis	1988-2013
Patients	7,589
Diseases	7,591
Cases evaluated	4,108
Creation date	05/13/2015
Export date	12/30/2014
Population (females)	2.36 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C56__E.pdf

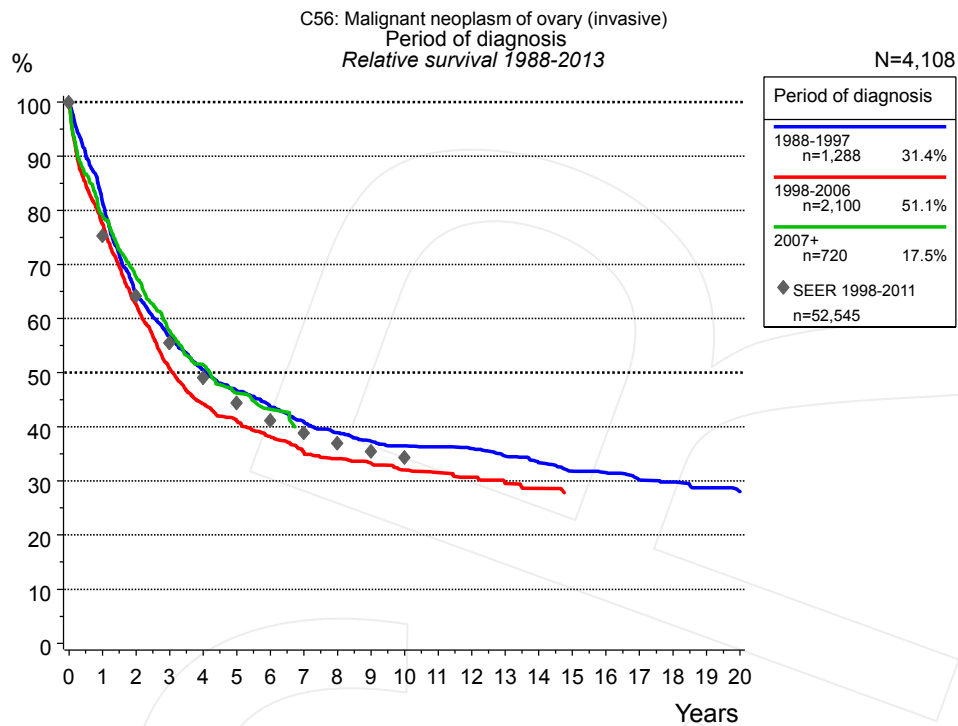


Figure 1a. Relative survival of patients with ovarian cancer by period of diagnosis. Included in the evaluation are 4,108 cases diagnosed between 1988 and 2013.

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.

Years	Period of diagnosis					
	1988-1997 n=1,288		1998-2006 n=2,100		2007+ n=720	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	80.0	81.4	75.8	77.5	77.5	79.1
2	62.9	65.0	60.2	62.6	65.6	67.7
3	54.2	56.7	48.1	50.8	55.3	57.7
4	47.5	50.5	41.3	44.2	48.2	51.5
5	43.3	46.6	37.8	41.1	42.6	46.2
6	40.0	43.7	34.7	38.2	39.5	43.2
7	36.8	40.9	31.6	35.3	36.0	38.9
8	34.5	38.9	30.1	34.1		
9	32.7	37.3	28.9	33.3		
10	31.5	36.5	27.3	32.0		
11	30.9	36.3	26.5	31.5		
12	30.1	35.9	25.4	30.7		
13	28.5	34.6	23.8	29.6		
14	27.1	33.4	22.8	28.6		
15	25.5	31.8				
16	24.8	31.5				
17	23.5	30.2				
18	22.9	29.8				
19	21.7	28.7				
20	20.8	28.0				

Table 1b. Observed (obs.) and relative (rel.) survival of patients with ovarian cancer by period of diagnosis for period 1988-2013 (N=4,108).

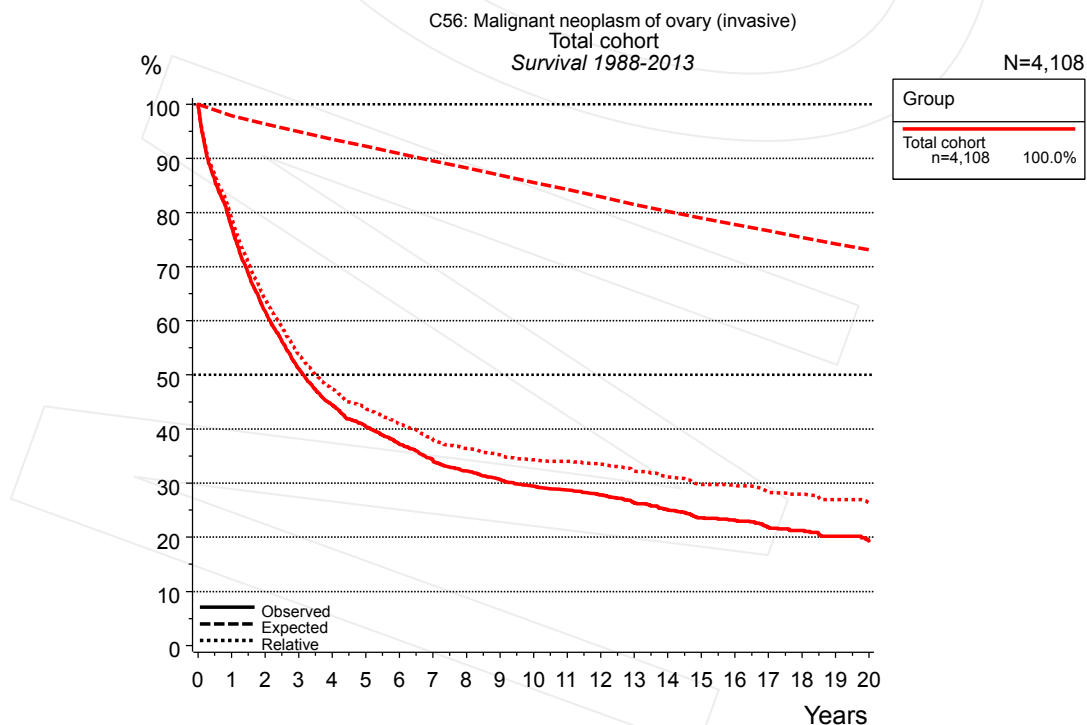


Figure 2a. Observed, expected and relative survival of the total cohort with ovarian cancer. Included in the evaluation are 4,108 cases diagnosed between 1988 and 2013.

Years	Group	
	Total cohort n=4,108	
	obs. %	rel. %
0	100.0	100.0
1	77.4	79.0
2	61.8	64.2
3	51.2	53.9
4	44.4	47.5
5	40.4	43.8
6	37.2	40.9
7	34.1	38.1
8	32.2	36.5
9	30.7	35.2
10	29.4	34.3
11	28.7	34.1
12	27.8	33.5
13	26.3	32.3
14	25.0	31.2
15	23.6	29.8
16	23.1	29.6
17	21.8	28.4
18	21.3	28.0
19	20.2	27.0
20	19.3	26.3

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with ovarian cancer for period 1988-2013 (N=4,108).

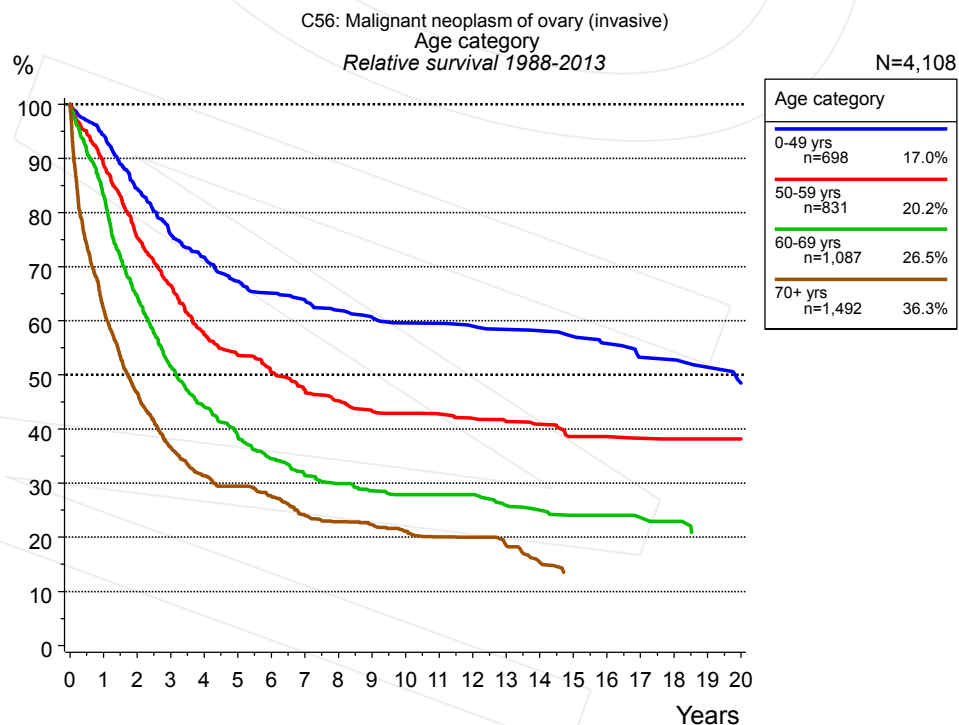


Figure 3a. Relative survival of patients with ovarian cancer by age category. Included in the evaluation are 4,108 cases diagnosed between 1988 and 2013.

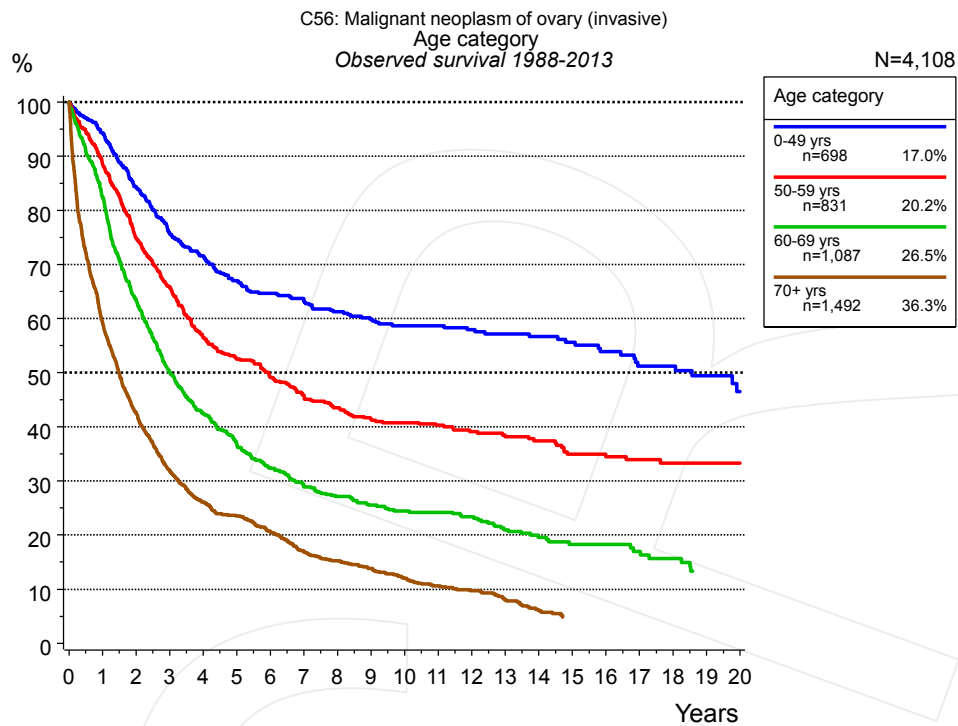


Figure 3b. Observed survival of patients with ovarian cancer by age category. Included in the evaluation are 4,108 cases diagnosed between 1988 and 2013.

Years	Age category							
	0-49 yrs n=698		50-59 yrs n=831		60-69 yrs n=1,087		70+ yrs n=1,492	
	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	94.3	94.3	88.6	88.9	82.5	83.2	59.3	62.3
2	84.4	84.5	74.9	75.4	63.5	64.6	42.6	46.8
3	75.9	76.0	65.8	66.6	50.2	51.6	32.0	36.7
4	71.6	71.8	56.5	57.5	42.4	44.1	26.1	31.4
5	67.0	67.3	52.5	53.7	36.7	38.7	23.5	29.4
6	64.7	65.1	49.1	50.5	32.4	34.6	20.7	27.6
7	63.3	63.8	45.9	47.3	28.9	31.4	17.0	24.0
8	61.2	61.9	43.5	45.2	27.1	29.9	15.2	22.9
9	59.9	60.7	41.4	43.4	25.5	28.6	13.9	22.3
10	58.7	59.7	40.8	42.9	24.4	27.9	12.1	21.1
11	58.7	59.6	40.3	42.8	24.2	27.9	10.6	20.1
12	57.9	59.1	39.1	42.0	23.4	27.9	9.7	20.0
13	57.1	58.4	38.2	41.4	21.0	25.9	8.1	18.5
14	56.6	58.2	37.4	40.9	19.6	25.0	6.0	15.4
15	55.6	57.1	34.9	38.7	18.2	24.1	4.9	13.5
16	53.9	55.8	34.5	38.6	18.2	24.1		
17	51.2	53.3	34.0	38.3	16.9	23.6		
18	51.2	52.8	33.3	38.2	15.6	22.9		
19	49.4	51.4	33.3	38.2	13.3	20.5		
20	46.5	48.5	33.3	38.2				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with ovarian cancer by age category for period 1988-2013 (N=4,108).

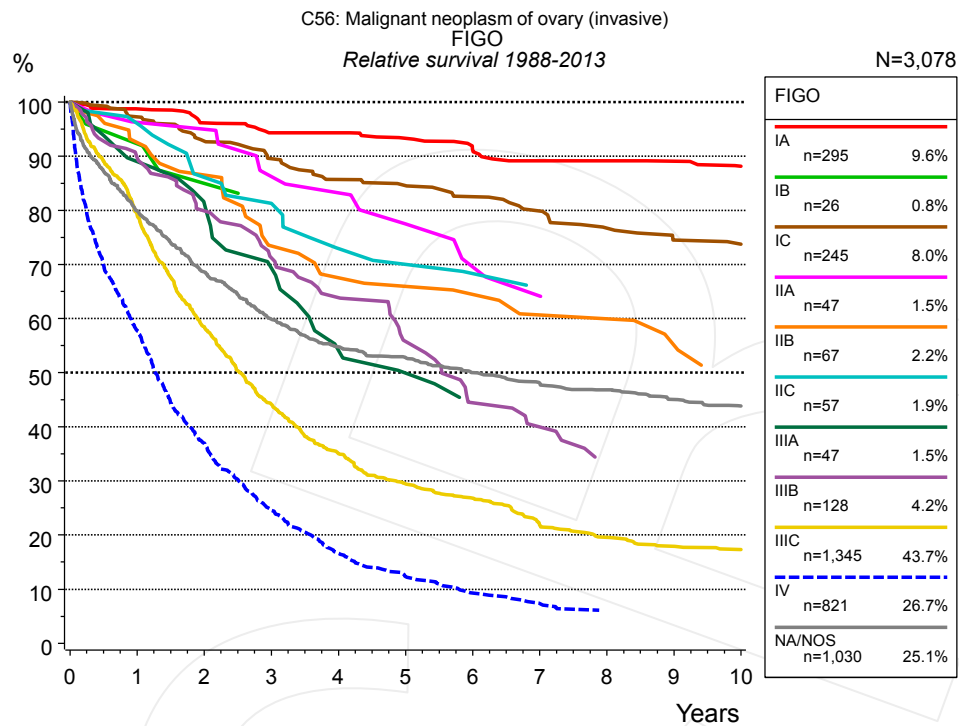


Figure 4a. Relative survival of patients with ovarian cancer by FIGO. For 3,821 of 4,108 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 3,078 cases an evaluable classification was established. The grey line represents the subgroup of 1,030 patients with missing values regarding FIGO (25.1% of 4,108 patients, the percent values of all other categories are related to n=3,078).

		FIGO													
		IA n=295		IB n=26		IC n=245		IIA n=47		IIB n=67		IIC n=57		IIIA n=47	
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		97.9	98.8	95.8	92.3	96.7	97.3	95.6	96.3	92.3	92.5	96.4	96.1	89.1	89.0
2		94.6	96.2	86.7	85.0	91.4	92.8	95.6	95.0	85.6	86.5	85.0	86.1	80.2	81.3
3		91.8	94.3	81.9	81.9	87.1	89.5	85.4	86.2	71.1	73.4	80.7	81.3	68.7	69.3
4		91.4	94.3	81.9	79.3	82.6	85.7	82.6	83.2	65.2	67.5	69.6	72.9	53.4	54.1
5		89.3	93.3			81.0	84.6	74.0	77.5	63.0	66.0	67.1	70.0	48.3	49.9
6		86.3	91.2			78.0	82.5	67.3	69.6	60.6	64.4	64.1	68.3	43.2	45.2
7		83.8	89.2			74.9	79.9	63.7	64.2	55.7	60.7	61.1	66.1	43.2	43.8
8		83.2	89.2			70.8	76.7			55.7	60.0	61.1	65.5		
9		82.0	89.1			67.7	74.5			50.4	55.0	61.1	65.0		
10		80.1	88.2			66.9	73.8			44.8	51.1	61.1	64.5		

cont'd Years	FIGO							
	IIIB n=128		IIIC n=1,345		IV n=821		NA/NOS n=1,030	
	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	89.0	89.6	77.9	79.2	56.3	57.8	77.6	79.9
2	78.8	79.9	56.6	58.4	35.4	36.9	65.1	68.6
3	69.4	71.2	42.3	44.2	23.3	24.6	55.8	59.9
4	62.3	63.9	32.9	35.0	15.6	16.7	50.0	54.8
5	53.2	55.8	27.3	29.5	11.3	12.3	47.2	52.8
6	41.9	44.4	24.5	26.8	8.4	9.3	43.9	50.0
7	37.7	39.9	19.6	21.8	6.5	7.3	41.4	48.1
8	31.6	34.1	17.4	19.6	5.3	6.0	39.6	46.9
9	31.6	32.4	15.7	17.9			37.3	45.1
10			15.0	17.3			35.6	43.8

Table 4b. Observed (obs.) and relative (rel.) survival of patients with ovarian cancer by FIGO for period 1988-2013 (N=3,078).

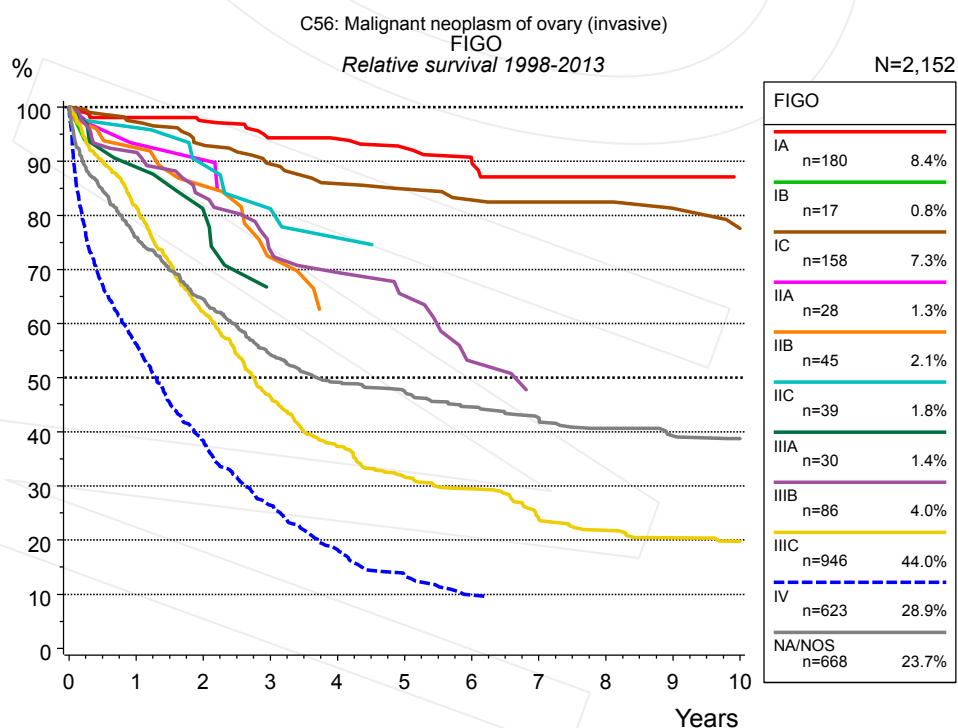


Figure 4c. Relative survival of patients with ovarian cancer by FIGO. For 2,614 of 2,820 cases diagnosed between 1998 and 2013 valid data could be obtained for this item. For a total of 2,152 cases an evaluable classification was established. The grey line represents the subgroup of 668 patients with missing values regarding FIGO (23.7% of 2,820 patients, the percent values of all other categories are related to n=2,152).

FIGO														
	IA n=180		IB n=17		IC n=158		IIA n=28		IIB n=45		IIC n=39		IIIA n=30	
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	97.8	98.0	93.8	87.9	96.8	97.3	92.6	93.2	93.3	92.5	97.4	96.2	90.0	88.9
2	95.8	97.4			91.8	93.0	92.6	90.3	85.3	85.5	88.8	89.4	79.6	81.0
3	91.6	94.3			87.1	89.5	83.3	84.0	70.0	72.2	82.0	81.2	64.7	64.7
4	90.9	94.1			82.8	85.9	83.3	82.6	59.8	62.6	75.2	75.8		
5	88.3	92.4			80.8	84.8	83.3	81.2	59.8	62.4	70.7	73.0		
6	85.3	90.0			78.4	82.8			59.8	62.2				
7	81.8	87.1			77.1	82.4			59.8	62.0				
8	81.8	87.1			77.1	82.4			59.8	61.9				
9	81.8	87.1			73.3	81.3								
10	79.1	87.1			70.6	77.5								

FIGO								
<i>cont'd</i>	IIIB n=86		IIIC n=946		IV n=623		NA/NOS n=668	
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	91.6	80.3	81.7	54.8	56.2	73.4	76.0
2	82.8	83.5	60.1	62.1	36.7	38.4	60.9	64.5
3	72.0	73.5	44.6	46.5	24.9	26.4	50.4	54.3
4	68.5	69.5	35.1	37.3	17.1	18.3	44.6	49.2
5	62.4	65.2	29.4	31.6	12.3	13.4	42.3	47.6
6	50.0	53.0	27.1	29.5	9.0	9.8	39.2	44.6
7	44.3	47.2	21.4	23.9			37.0	42.6
8			19.4	21.8			34.6	40.6
9			17.9	20.4			33.1	39.2
10			16.9	19.8			32.0	38.8

Table 4d. Observed (obs.) and relative (rel.) survival of patients with ovarian cancer by FIGO for period 1998-2013 (N=2,152).

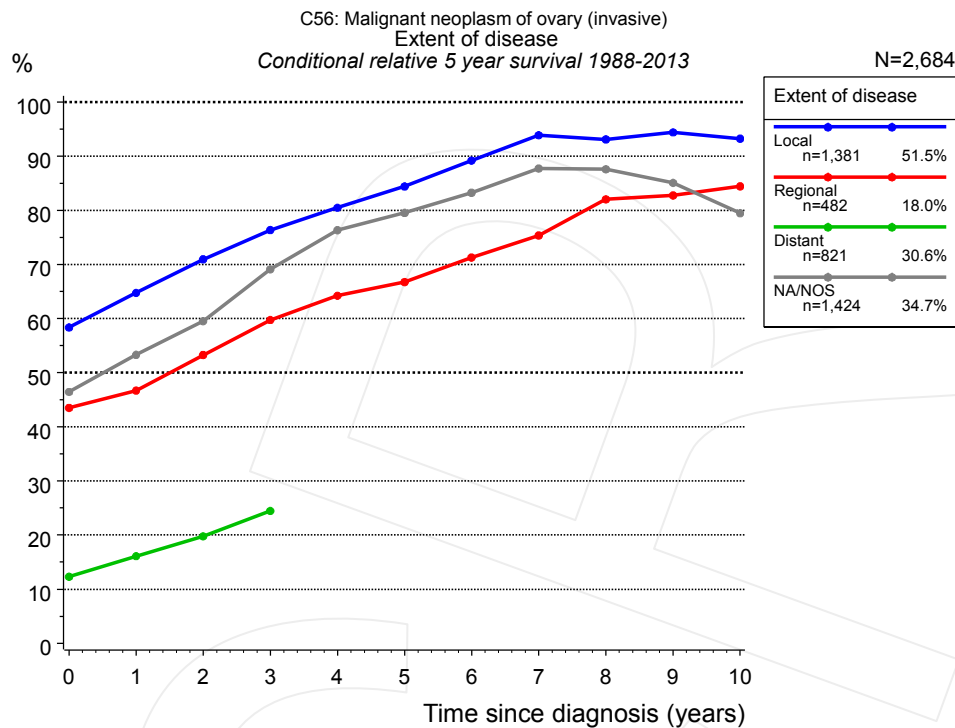


Figure 4e. Conditional relative 5-year survival of patients with ovarian cancer by extent of disease. For 3,821 of 4,108 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 2,684 cases an evaluable classification was established. The grey line represents the subgroup of 1,424 patients with missing values regarding extent of disease (34.7% of 4,108 patients, the percent values of all other categories are related to n=2,684).

Years	Extent of disease							
	Local		Regional		Distant		NA/NOS	
	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs
0	1,381	58.3	482	43.5	821	12.3	1,424	46.5
1	1,098	64.8	389	46.7	438	16.1	1,099	53.3
2	892	71.0	272	53.3	248	19.8	848	59.5
3	749	76.4	192	59.7	143	24.5	645	69.1
4	646	80.5	148	64.2			504	76.3
5	555	84.4	118	66.8			407	79.5
6	480	89.2	97	71.3			347	83.3
7	420	93.9	81	75.4			288	87.7
8	371	93.1	68	82.0			244	87.6
9	328	94.4	60	82.7			211	85.1
10	298	93.3	54	84.4			180	79.5

Table 4f. Conditional relative 5-year survival of patients with ovarian cancer by extent of disease for period 1988-2013 (N=2,684).

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 76.4% (n=749).

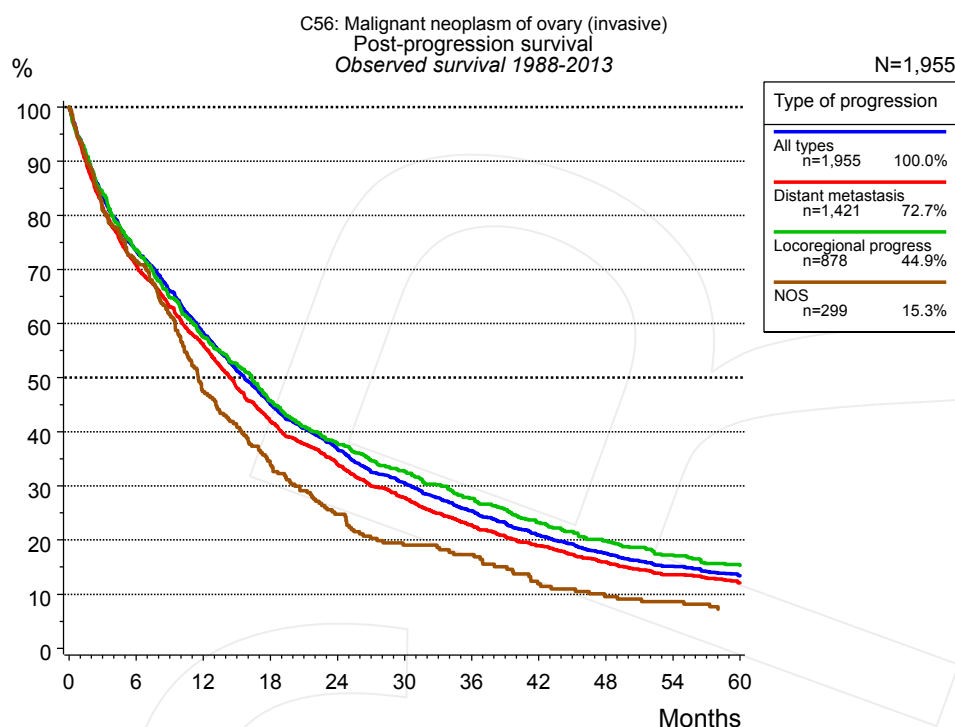


Figure 5a. Observed post-progression survival of 1,955 patients with ovarian cancer diagnosed between 1988 and 2013 (incl. M1). These 1,955 patients with documented progression events during their course of disease represent 47.6% of the totally 4,108 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=545, 13.3%). Multiple progression types on different sites are included in the evaluation even when not occurring 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 potentially considered in more than one subgroup.

Months	Type of progression			
	All types n=1,955	Distant metastasis n=1,421	Locoregional progress n=878	NOS n=299
	%	%	%	%
0	100.0	100.0	100.0	100.0
12	58.2	56.0	57.6	47.4
24	36.9	34.0	37.9	24.8
36	25.4	22.8	27.7	17.3
48	17.6	16.0	19.8	9.6
60	13.4	12.1	15.3	7.2

Table 5b. Observed post-progression survival of patients with ovarian cancer for period 1988-2013 (N=1,955).

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)
progression	Date of entry: Date of first locoregional recurrence, distant metastasis, unspecified
	Event: Death of all causes
CS	Conditional survival, survival probability under the condition of surviving a given period of time

Recommended Citation

Munich Cancer Registry. Survival C56: Ovarian cancer [Internet]. 2015 [updated 2015 May 13; cited 2015 Jul 1]. Available from: http://www.tumorregister-muenchen.de/en/facts/surv/surv_C56__E.pdf

Copyright

The content of the public web site provided by the Munich Cancer Registry is available worldwide and free of charge. All documents are free to download, utilize, copy, print-out and distribute, providing that the MCR is referenced.

Disclaimer

The Munich Cancer Registry reserves the right to not be responsible for the topicality, correctness, completeness or quality of the information provided. Liability claims regarding damage caused by the use of any information provided, including any kind of information which is incomplete or incorrect, will therefore be rejected.

Index of figures and tables

Fig./Tbl.	Page
1a Relative survival by period of diagnosis (chart)	2
1b Survival by period of diagnosis (table)	3
2a Survival of total cohort (chart)	3
2b Survival of total cohort (table)	4
3a Relative survival by age category (chart)	4
3b Observed survival by age category (chart)	5
3c Survival by age category (table)	5
4a Relative survival by FIGO 1988+ (chart)	6
4b Survival by FIGO 1988+ (table)	6
4c Relative survival by FIGO 1998+ (chart)	7
4d Survival by FIGO 1998+ (table)	8
4e Conditional survival by extent of disease (chart)	9
4f Conditional survival by extent of disease (table)	9
5a Observed post-progression survival (chart)	10
5b Observed post-progression survival (table)	10