Munich Cancer Registry

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

Cancer statistics: Survival

C23-C24: Gallbladder cancer

Year of diagnosis	1988-2013
Patients	3,747
Diseases	3,752
Cases evaluated	1,798
Creation date	05/13/2015
Export date	12/30/2014
Population	4.64 m

BERLIN

GERMANY

BAVARIA

MUNICH

C23-C24: Malignant neoplasm of gallbladder and other parts of biliary tract
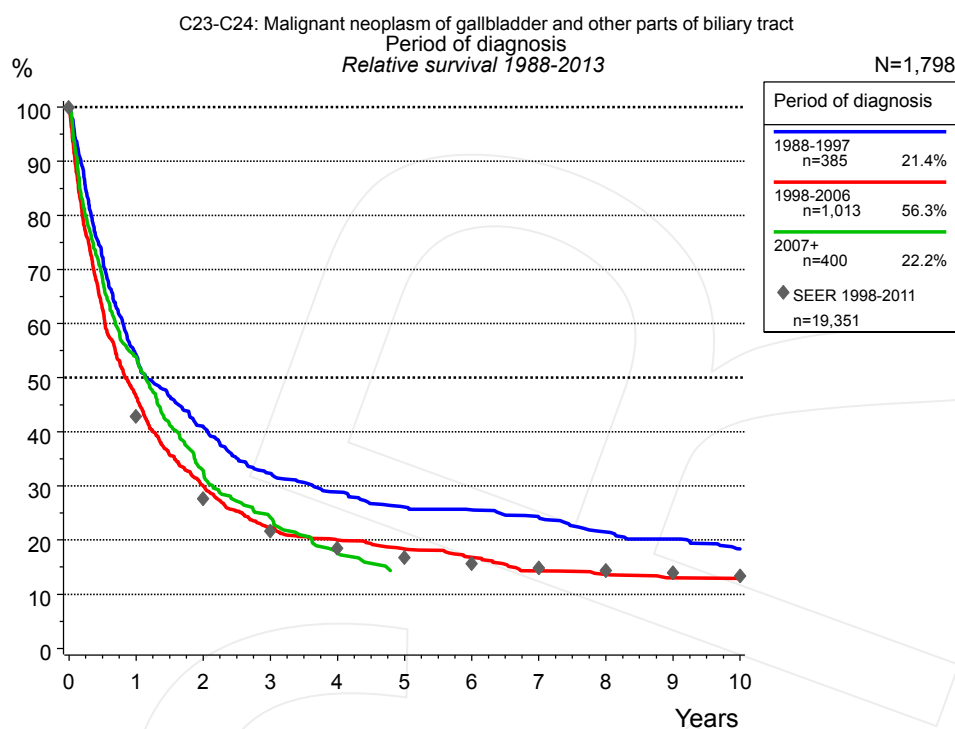Period of diagnosis
Relative survival 1988-2013

Figure 1a. Relative survival of patients with gallbladder cancer by period of diagnosis. Included in the evaluation are 1,798 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=385		1998-2006 n=1,013		2007+ n=400	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	52.5	54.2	44.6	46.5	52.2	53.9
2	38.4	40.9	27.9	29.9	30.6	32.8
3	29.6	32.3	20.4	22.4	22.1	24.2
4	25.6	28.9	17.6	20.0	15.9	17.8
5	22.5	26.1	15.8	18.4	12.5	14.2
6	21.4	25.6	14.2	16.8	12.5	13.5
7	19.6	24.2	11.7	14.3		
8	16.9	21.5	10.9	13.6		
9	15.6	20.2	10.0	13.0		
10	13.5	18.4	10.0	12.9		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with gallbladder cancer by period of diagnosis for period 1988-2013 (N=1,798).
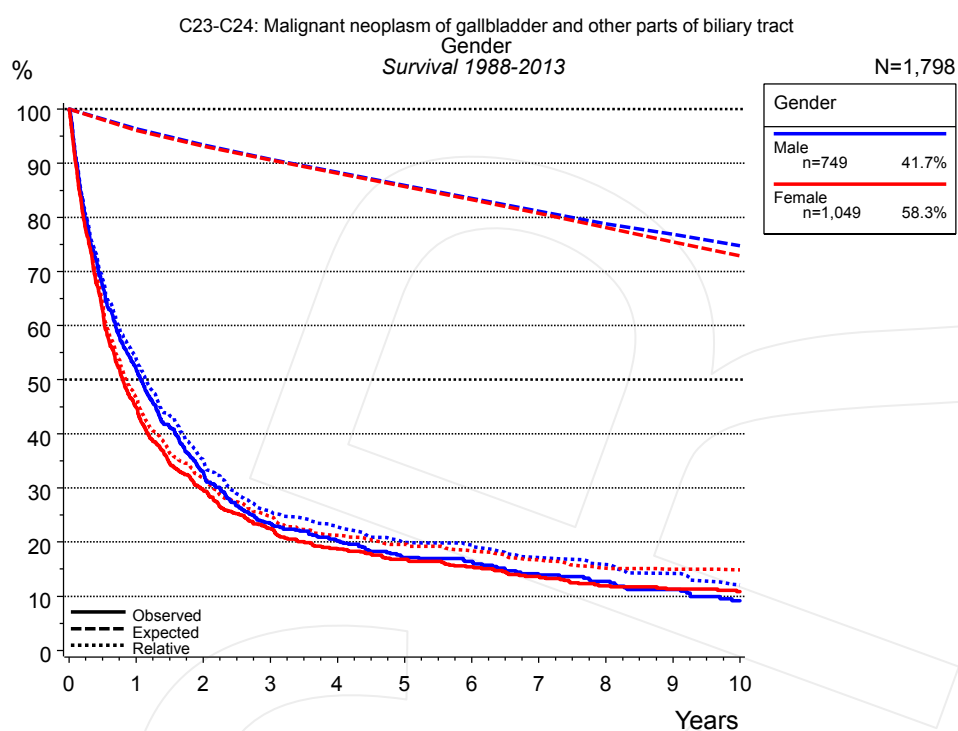
C23-C24: Malignant neoplasm of gallbladder and other parts of biliary tract
Gender
Survival 1988-2013

N=1,798

Gender		
Male		n=749	41.7%
Female		n=1,049	58.3%

Figure 2a. Survival of patients with gallbladder cancer by gender. Included in the evaluation are 1,798 cases diagnosed between 1988 and 2013.

	Gender			
	Male		Female	
	n=749		n=1,049	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	51.9	53.8	44.9	46.7
2	32.8	35.1	29.5	31.7
3	23.4	25.7	22.5	24.8
4	20.2	22.8	18.7	21.2
5	17.2	19.9	16.9	19.5
6	16.5	19.4	15.4	18.4
7	13.9	17.1	13.6	16.7
8	12.7	15.9	11.9	15.1
9	11.2	14.2	11.3	14.9
10	9.2	12.1	10.8	14.9

Table 2b. Observed (obs.) and relative (rel.) survival of patients with gallbladder cancer by gender for period 1988-2013 (N=1,798).

C23-C24: Malignant neoplasm of gallbladder and other parts of biliary tract
Gender
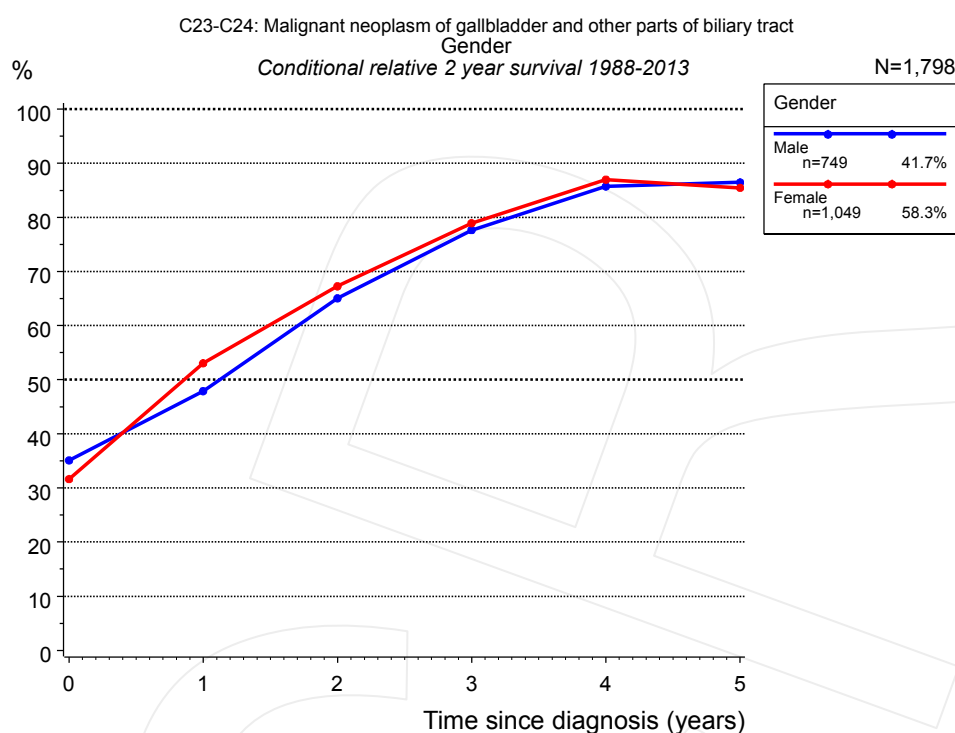*Conditional relative 2 year survival 1988-2013*   N=1,798

Figure 2c. Conditional relative 2-year survival of patients with gallbladder cancer by gender. For 1,798 of 1,798 cases diagnosed between 1988 and 2013 valid data could be obtained for this item.

	Gender			
	Male		Female	
		Cond. surv. %		Cond. surv. %
Years	n	2 yrs	n	2 yrs
0	749	35.1	1,049	31.7
1	362	47.9	441	53.1
2	208	65.1	265	67.3
3	133	77.7	185	78.9
4	108	85.7	138	87.0
5	76	86.5	111	85.5

Table 2d. Conditional relative 2-year survival of patients with gallbladder cancer by gender for period 1988-2013 (N=1,798).

Conditional relative survival rates refer to the relative survival probability, in this case for 2 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 2a). 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 gender="Male", who are alive at least 3 years after cancer diagnosis, the conditional relative 2-year survival rate is 77.7% (n=133).
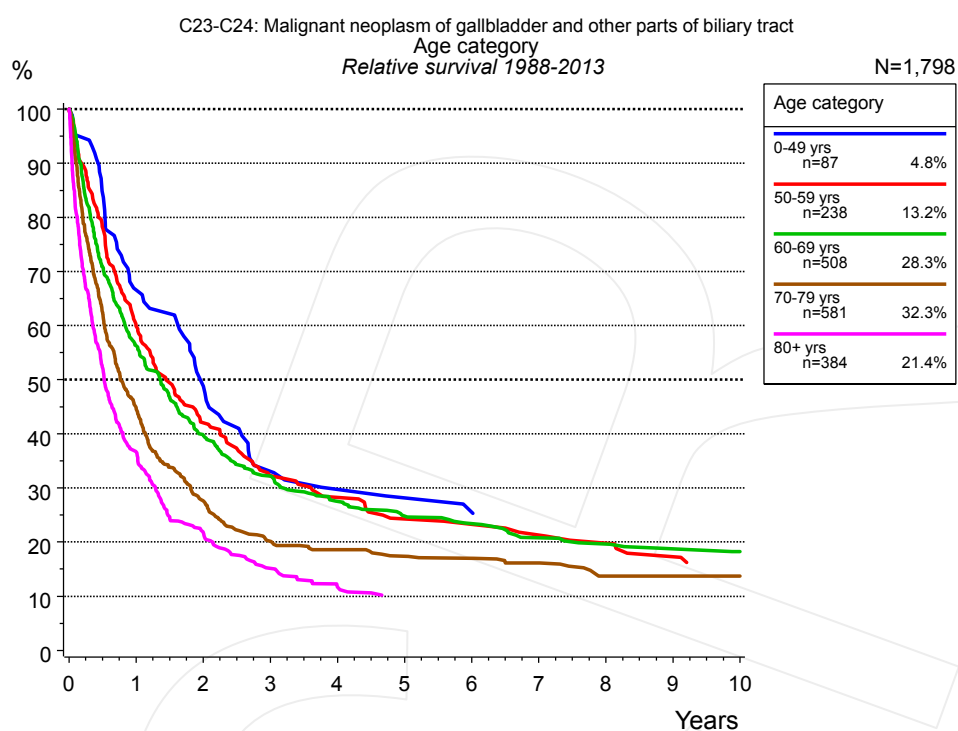
C23-C24: Malignant neoplasm of gallbladder and other parts of biliary tract
Age category
Relative survival 1988-2013

Figure 3a. Relative survival of patients with gallbladder cancer by age category. Included in the evaluation are 1,798 cases diagnosed between 1988 and 2013.

	Age category									
	0-49 yrs n=87		50-59 yrs n=238		60-69 yrs n=508		70-79 yrs n=581		80+ yrs n=384	
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	66.8	66.6	59.5	59.9	55.6	56.3	43.3	44.8	32.9	36.6
2	48.6	48.7	41.7	42.0	38.7	39.8	25.8	27.6	17.6	21.8
3	33.9	33.1	31.7	32.3	31.0	32.2	18.3	20.2	11.1	15.2
4	29.8	29.7	27.7	28.3	26.0	27.6	16.3	18.6	7.6	11.7
5	28.2	28.2	23.5	24.3	23.1	24.8	14.5	17.4	6.1	10.0
6	26.5	25.5	22.9	23.3	21.3	23.4	13.6	17.0		
7			20.6	21.3	18.6	20.8	12.2	16.1		
8			19.1	19.8	17.4	19.7	9.6	13.7		
9			16.7	17.3	16.1	18.8	9.1	13.7		
10					15.1	18.2	8.6	13.7		

Table 3b. Observed (obs.) and relative (rel.) survival of patients with gallbladder cancer by age category for period 1988-2013 (N=1,798).

C23-C24: Malignant neoplasm of gallbladder and other parts of biliary tract
UICC
Relative survival 1992-2002   N=592

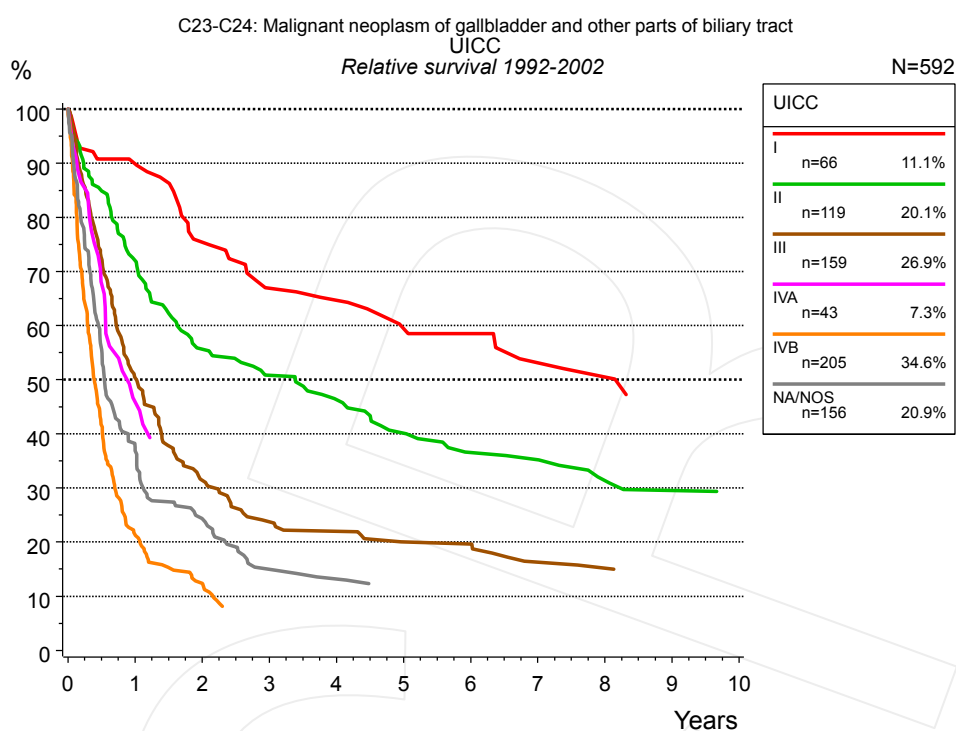| UICC		
I	n=66	11.1%
II	n=119	20.1%
III	n=159	26.9%
IVA	n=43	7.3%
IVB	n=205	34.6%
NA/NOS	n=156	20.9%

Figure 4a. Relative survival of patients with gallbladder cancer by UICC. For 601 of 748 cases diagnosed between 1992 and 2002 valid data could be obtained for this item. For a total of 592 cases an evaluable classification was established. The grey line represents the subgroup of 156 patients with missing values regarding UICC (20.9% of 748 patients, the percent values of all other categories are related to n=592).

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

	UICC											
	I n=66		II n=119		III n=159		IVA n=43		IVB n=205		NA/NOS n=156	
Years	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
1	87.9	89.9	69.7	72.0	49.1	50.3	45.3	45.9	21.0	21.4	35.3	37.4
2	71.2	75.4	52.1	55.7	30.2	31.4			12.1	12.4	21.8	24.3
3	60.6	66.9	46.1	50.8	22.6	23.7					13.3	15.0
4	57.6	64.7	41.0	46.3	20.8	22.0					11.3	13.2
5	51.3	59.5	35.0	40.1	18.2	20.0					10.0	12.2
6	49.6	58.6	30.6	36.6	18.2	19.6						
7	43.2	53.2	29.5	35.2	14.4	16.3						
8	40.9	50.5	25.3	31.4	13.6	15.1						
9	36.1	45.9	23.2	29.5	12.7	14.4						
10			22.0	29.2								

Table 4b. Observed (obs.) and relative (rel.) survival of patients with gallbladder cancer by UICC for period 1992-2002 (N=592).

C23-C24: Malignant neoplasm of gallbladder and other parts of biliary tract
TNM staging
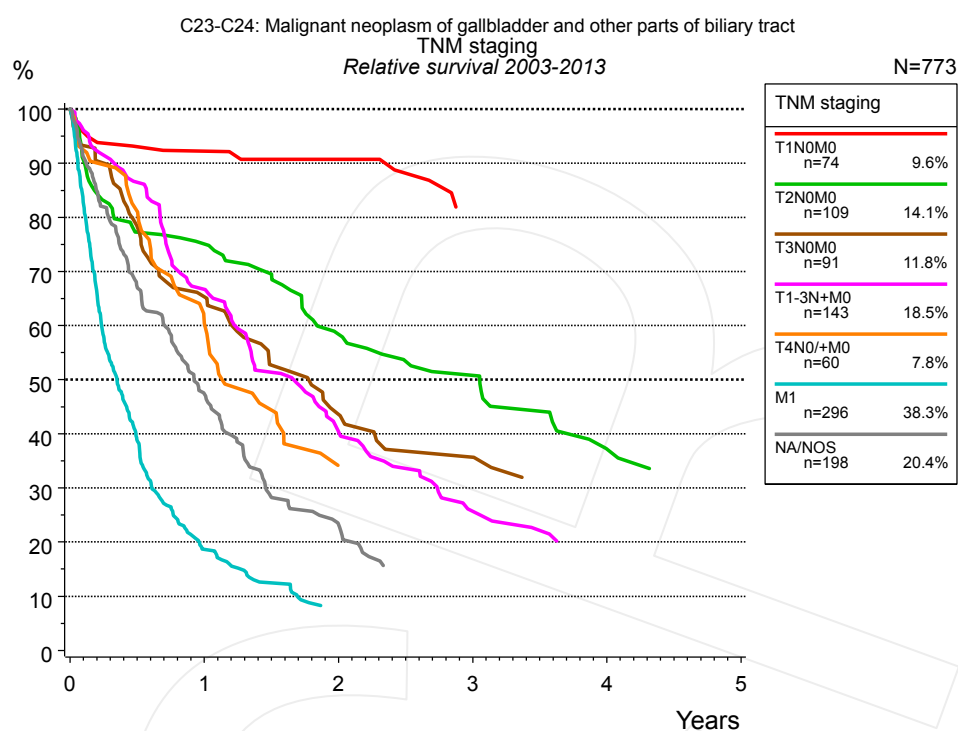*Relative survival 2003-2013*   N=773

Figure 4c. Relative survival of patients with gallbladder cancer by TNM staging. For 783 of 971 cases diagnosed between 2003 and 2013 valid data could be obtained for this item. For a total of 773 cases an evaluable classification was established. The grey line represents the subgroup of 198 patients with missing values regarding TNM staging (20.4% of 971 patients, the percent values of all other categories are related to n=773).

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

	TNM staging													
	T1N0M0 n=74		T2N0M0 n=109		T3N0M0 n=91		T1-3N+M0 n=143		T4N0/+M0 n=60		M1 n=296		NA/NOS n=198	
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	90.4	92.2	72.9	75.1	64.0	65.3	65.6	66.7	58.7	60.3	18.1	18.7	44.9	47.4
2	87.2	90.7	54.9	58.4	42.3	43.6	38.3	40.4	32.6	34.1			21.1	23.3
3	75.6	81.7	46.9	50.8	34.7	35.7	24.1	25.7						
4	75.6	80.2	32.6	37.2	29.2	30.2	18.2	19.7						

Table 4d. Observed (obs.) and relative (rel.) survival of patients with gallbladder cancer by TNM staging for period 2003-2013 (N=773).

C23-C24: Malignant neoplasm of gallbladder and other parts of biliary tract
Post-progression survival
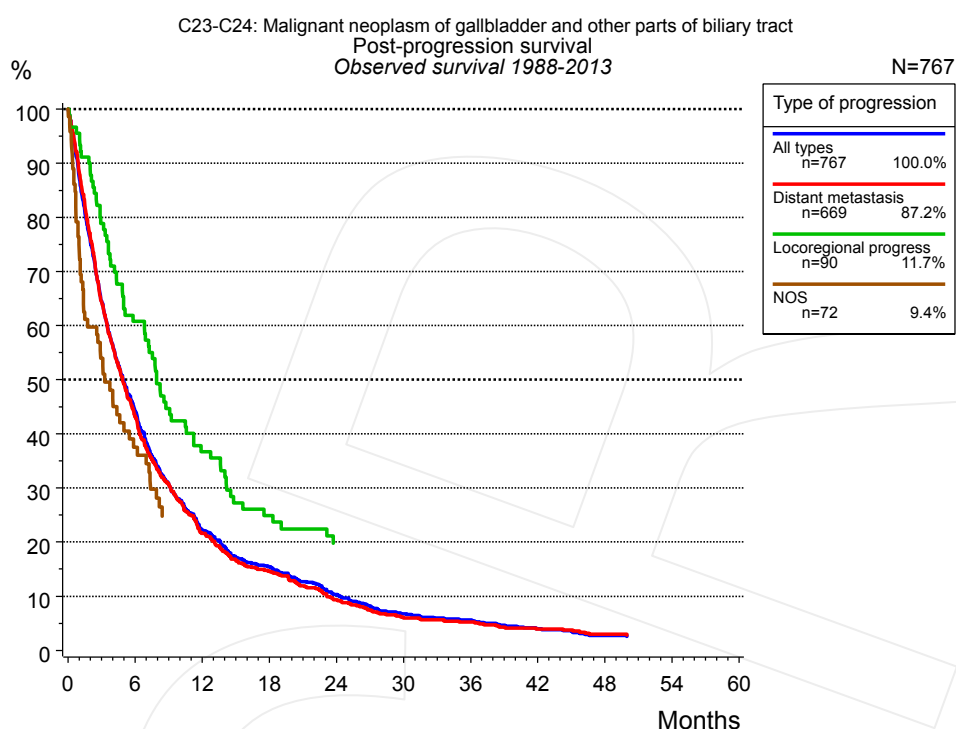*Observed survival 1988-2013*   N=767

Figure 5a. Observed post-progression survival of 767 patients with gallbladder cancer diagnosed between 1988 and 2013 (incl. M1). These 767 patients with documented progression events during their course of disease represent 42.7% of the totally 1,798 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=474, 26.4%). 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	Distant metastasis	Locoregional progress	NOS
	n=767	n=669	n=90	n=72
Months	%	%	%	%
0	100.0	100.0	100.0	100.0
12	22.2	21.6	36.7	
24	10.3	9.3	19.8	
36	5.6	5.2		
48	2.8	3.0		

Table 5b. Observed post-progression survival of patients with gallbladder cancer for period 1988-2013 (N=767).

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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Index of figures and tables