Munich Cancer Registry

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

Cancer statistics: Survival

C22: Liver cancer

Year of diagnosis	1988-2012
Patients	5,655
Diseases	5,663
Cases evaluated	2,249
Creation date	03/25/2014
Export date	02/12/2014
Population	4.5 m

http://www.tumorregister-muenchen.de/en/facts/surv/surv_C22__E.pdf

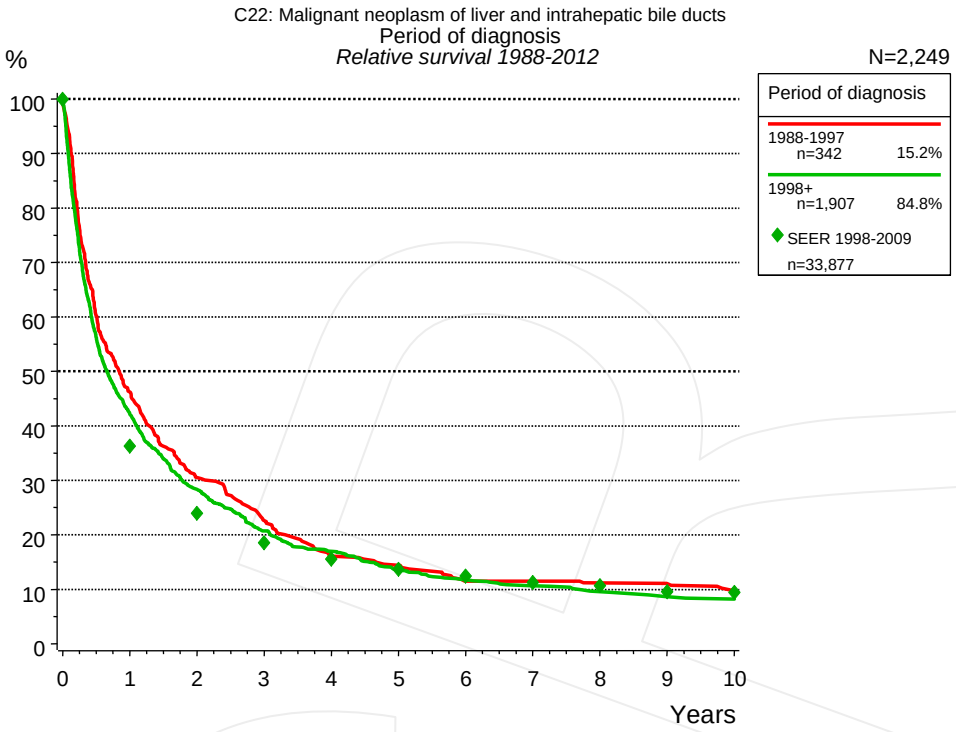

Figure 1a. Relative survival of patients with liver cancer by period of diagnosis. Included in the evaluation are 2,249 cases diagnosed between 1988 and 2012.

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=342		1998+ n=1,907	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	45.2	46.2	40.9	42.1
2	29.0	30.5	26.9	28.3
3	21.1	22.6	19.2	20.7
4	14.9	16.2	15.4	17.0
5	13.1	14.4	12.0	13.6
6	10.1	11.5	10.3	11.7
7	10.1	11.5	9.1	10.7
8	9.5	11.2	8.1	9.6
9	9.2	11.1	7.1	8.7
10	8.0	9.8	6.9	8.2

Table 1b. Observed (obs.) and relative (rel.) survival of patients with liver cancer by period of diagnosis for period 1988-2012 (N=2,249).

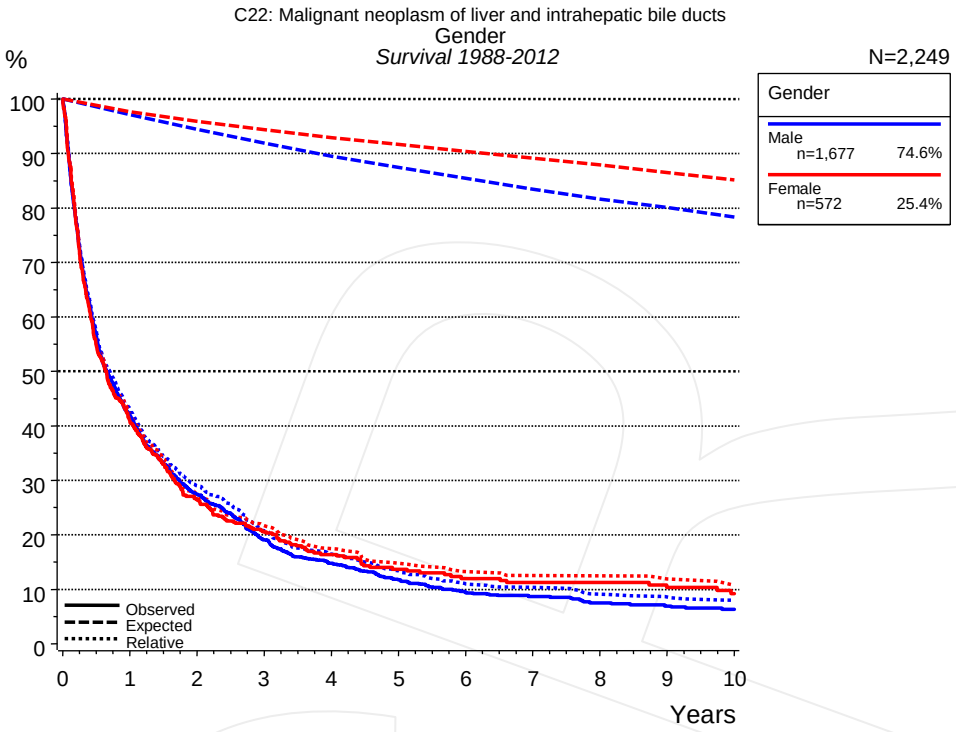

Figure 2a. Survival of patients with liver cancer by gender. Included in the evaluation are 2,249 cases diagnosed between 1988 and 2012.

	Gender			
	Male n=1,677		Female n=572	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	41.8	43.1	40.9	41.8
2	27.5	29.0	26.4	27.5
3	19.1	20.7	20.6	21.7
4	14.8	16.4	16.4	17.5
5	11.7	13.3	13.7	14.8
6	9.5	11.0	12.0	13.2
7	8.7	10.4	11.2	12.5
8	7.5	9.1	11.2	12.5
9	7.0	8.6	10.3	11.9
10	6.3	8.0	9.2	10.8

Table 2b. Observed (obs.) and relative (rel.) survival of patients with liver cancer by gender for period 1988-2012 (N=2,249).

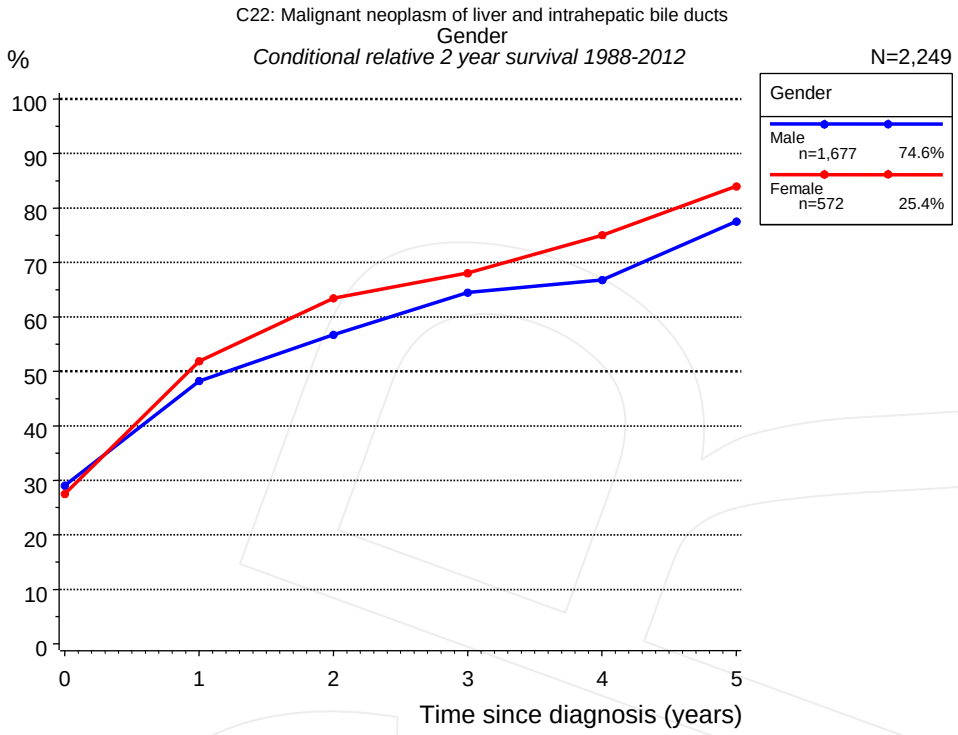

Figure 2c. Conditional relative 2-year survival of patients with liver cancer by gender. For 2,249 of 2,249 cases diagnosed between 1988 and 2012 valid data could be obtained for this item.

	Gender			
	Male		Female	
Years	n	Cond. surv. % 2 yrs	n	Cond. surv. % 2 yrs
0	1,677	29.0	572	27.5
1	653	48.2	218	51.9
2	392	56.7	124	63.4
3	245	64.5	90	68.0
4	168	66.8	58	75.0
5	115	77.5	42	84.0

Table 2d. Conditional relative 2-year survival of patients with liver cancer by gender for period 1988-2012 (N=2,249).

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 64.5% (n=245).

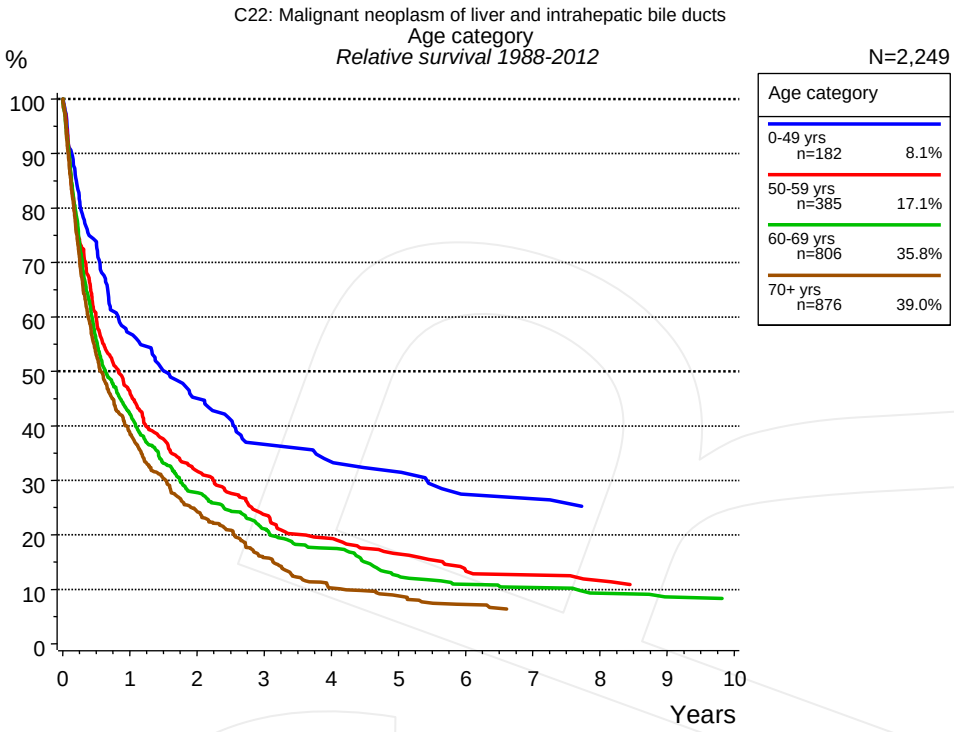

Figure 3a. Relative survival of patients with liver cancer by age category. Included in the evaluation are 2,249 cases diagnosed between 1988 and 2012.

	Age category							
	0-49 yrs n=182		50-59 yrs n=385		60-69 yrs n=806		70+ yrs n=876	
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	57.1	57.0	45.8	46.1	41.5	42.1	36.5	38.5
2	45.1	45.0	31.5	31.7	26.9	27.7	21.9	24.3
3	36.7	36.6	23.2	23.7	20.1	21.1	13.5	15.8
4	33.7	33.4	19.1	19.4	16.4	17.5	8.2	10.2
5	32.0	31.5	15.9	16.5	11.4	12.4	6.8	8.8
6	27.1	27.4	13.1	13.4	9.8	10.9	5.2	7.2
7	27.1	26.6	12.2	12.6	9.1	10.3		
8	24.8	25.1	11.1	11.6	7.9	9.3		
9	24.8	24.6	10.1	10.6	7.1	8.6		
10	24.8	24.1			6.7	8.3		

Table 3b. Observed (obs.) and relative (rel.) survival of patients with liver cancer by age category for period 1988-2012 (N=2,249).

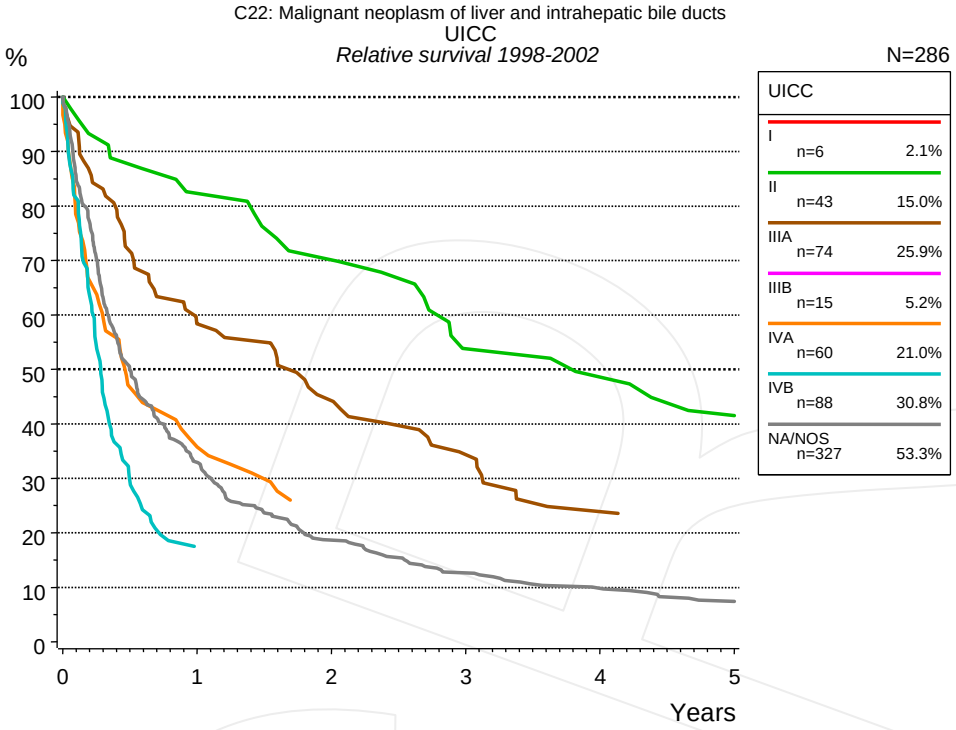

Figure 4a. Relative survival of patients with liver cancer by UICC. For 297 of 613 cases diagnosed between 1998 and 2002 valid data could be obtained for this item. For a total of 286 cases an evaluable classification was established. The grey line represents the subgroup of 327 patients with missing values regarding UICC (53.3% of 613 patients, the percent values of all other categories are related to n=286). Subgroups with sample size <15 are dropped from the chart.

	UICC													
	I		II		IIIA		IIIB		IVA		IVB		NA/NOS	
	n=6		n=43		n=74		n=15		n=60		n=88		n=327	
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	100.0	88.1	81.4	82.3	56.8	58.3			35.0	35.8			32.1	32.9
2			69.8	70.1	43.2	44.2							17.6	18.7
3			51.2	53.8	32.4	34.3							11.7	12.6
4			46.4	48.6	22.8	23.9							8.9	9.8
5			39.1	41.5									6.6	7.4

Table 4b. Observed (obs.) and relative (rel.) survival of patients with liver cancer by UICC for period 1998-2002 (N=286).

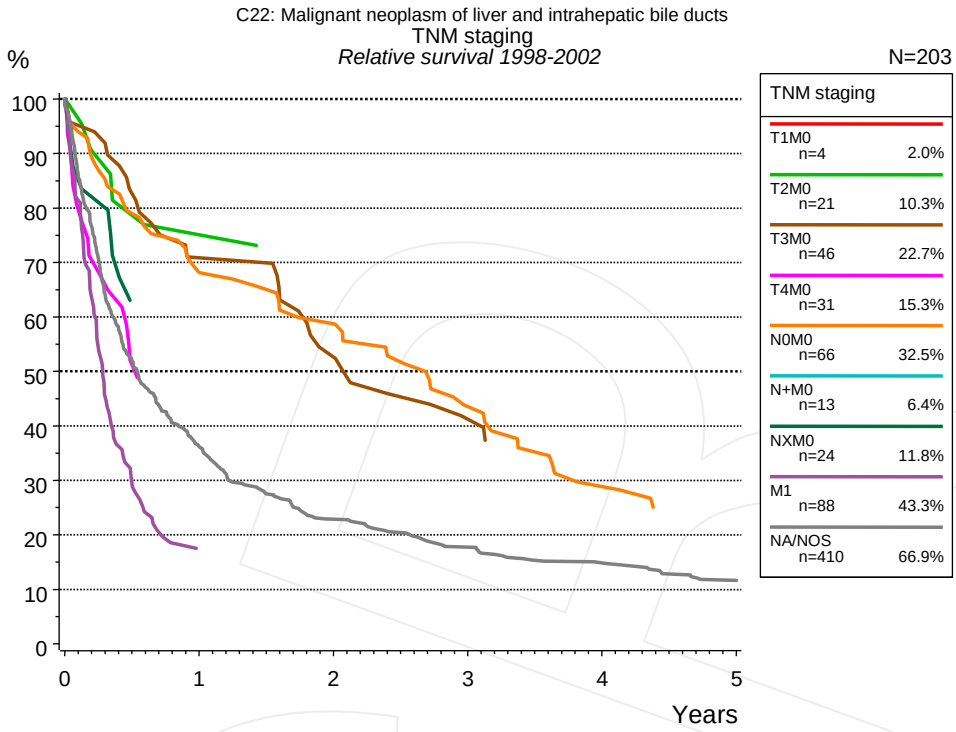

Figure 4c. Relative survival of patients with liver cancer by TNM staging. For 297 of 613 cases diagnosed between 1998 and 2002 valid data could be obtained for this item. For a total of 203 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potientially considered in more than one subgroup. The grey line represents the subgroup of 410 patients with missing values regarding TNM staging (66.9% of 613 patients, the percent values of all other categories are related to n=203). Subgroups with sample size <15 are dropped from the chart.

	TNM staging													
	T1M0 n=4		T2M0 n=21		T3M0 n=46		T4M0 n=31		N0M0 n=66		N+M0 n=13		NXM0 n=24	
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	100.0	81.8	76.2	75.0	69.6	70.8			66.7	68.1				
2			71.4	69.3	52.2	52.6			57.6	58.7				
3					39.1	41.2			40.9	43.6				
4									27.3	28.9				
5									22.7	23.7				

	TNM staging			
cont'd	M1 n=88		NA/NOS n=410	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1			35.2	36.2
2			21.6	22.9
3			16.5	17.7
4			13.5	14.8
5			10.4	11.6

Table 4d. Observed (obs.) and relative (rel.) survival of patients with liver cancer by TNM staging for period 1998-2002 (N=293).

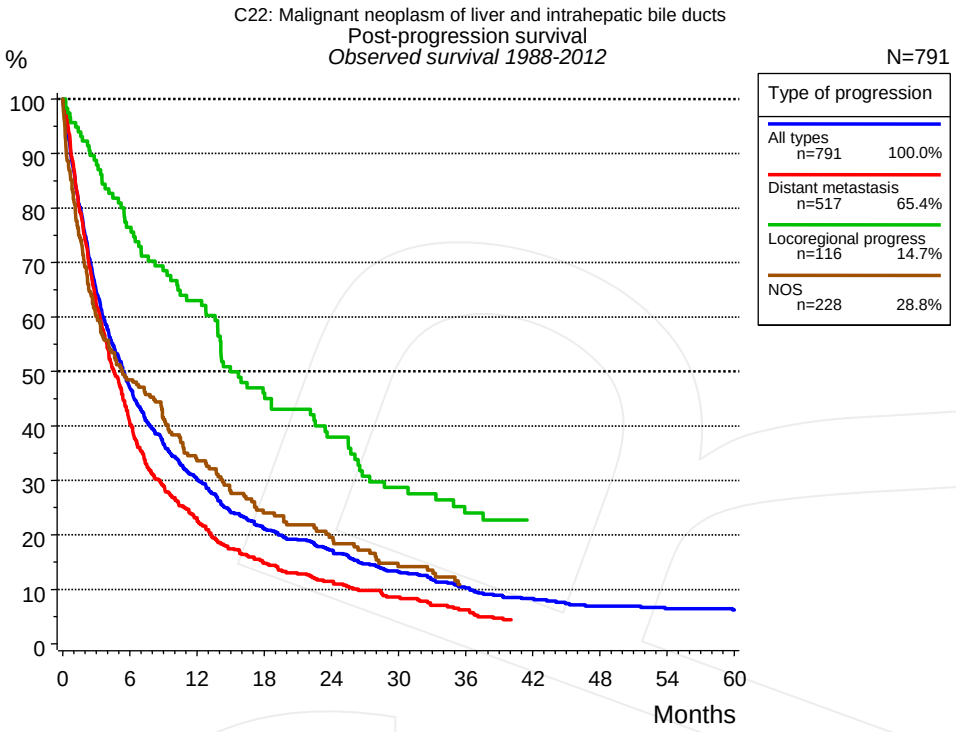

Figure 5a. Observed post-progression survival of 791 patients with liver cancer diagnosed between 1988 and 2012 (incl. M1). These 791 patients with documented progression events during their course of disease represent 35.2% of the totally 2,249 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=870, 38.7%). 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	Distant metastasis	Locoregional progress	NOS
	n=791	n=517	n=116	n=228
Months	%	%	%	%
0	100.0	100.0	100.0	100.0
12	30.1	22.5	63.0	33.6
24	17.2	11.4	37.9	19.5
36	10.2	6.2	24.0	10.9
48	6.9			
60	6.2			

Table 5b. Observed post-progression survival of patients with liver cancer for period 1988-2012 (N=791).

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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