Munich Cancer Registry

ICD-10 C92.0: Acute myelobl. leukemia

Survival

Year of diagnosis	1988-1997	1998-2014
Patients	290	2,653
Diseases	290	2,656
Cases evaluated	258	1,372
Creation date	03/02/2016	
Export date	12/23/2015	
Population	4.64 m	

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

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

ICD-10 C92.0: Acute myeloblastic leukaemia (AML)
Period of diagnosis
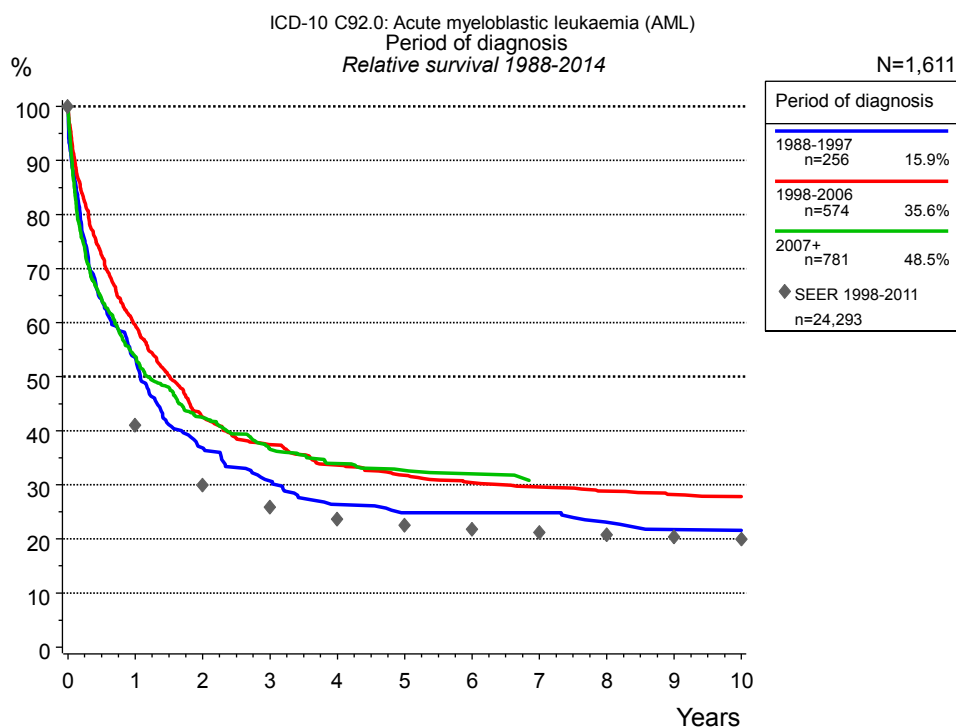*Relative survival 1988-2014*   N=1,611

Figure 1a. Relative survival of patients with acute myelobl. leukemia by period of diagnosis. Included in the evaluation are 1,611 cases diagnosed between 1988 and 2014.

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 1998, 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=256		1998-2006 n=574		2007+ n=781	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	52.5	53.5	58.6	59.5	52.5	53.8
2	36.0	36.8	41.2	42.5	40.9	42.5
3	29.8	30.7	35.9	37.5	34.9	36.6
4	25.2	26.4	32.0	33.7	32.1	33.9
5	23.5	24.9	30.0	31.8	30.8	32.7
6	23.5	24.9	28.3	30.4	30.0	32.0
7	23.5	24.9	27.4	29.6		
8	21.3	23.1	26.5	28.8		
9	20.0	21.7	25.7	28.2		
10	20.0	21.6	25.2	27.8		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with acute myelobl. leukemia by period of diagnosis for period 1988-2014 (N=1,611).

ICD-10 C92.0: Acute myeloblastic leukaemia (AML)
Gender
Survival 1988-2014

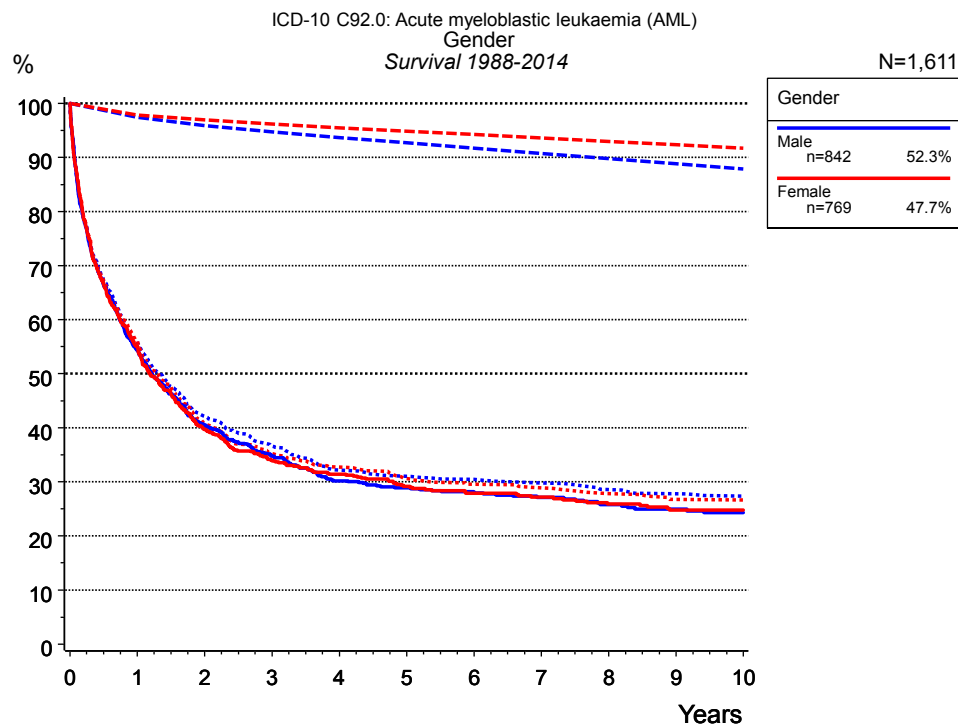| Gender		
Male		
n=842		52.3%
Female		
n=769		47.7%

N=1,611

Figure 2a. Survival of patients with acute myelobl. leukemia by gender. Included in the evaluation are 1,611 cases diagnosed between 1988 and 2014.

	Gender			
	Male n=842		Female n=769	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	54.3	55.7	55.1	56.1
2	40.5	42.1	39.7	40.9
3	34.7	36.6	34.0	35.2
4	30.2	32.2	31.4	32.8
5	28.9	31.0	29.2	30.6
6	28.0	30.5	27.9	29.5
7	27.1	29.8	27.2	28.9
8	25.8	28.6	25.9	27.8
9	24.9	27.8	24.8	26.8
10	24.3	27.3	24.8	26.7

Table 2b. Observed (obs.) and relative (rel.) survival of patients with acute myelobl. leukemia by gender for period 1988-2014 (N=1,611).

ICD-10 C92.0: Acute myeloblastic leukaemia (AML)
Gender
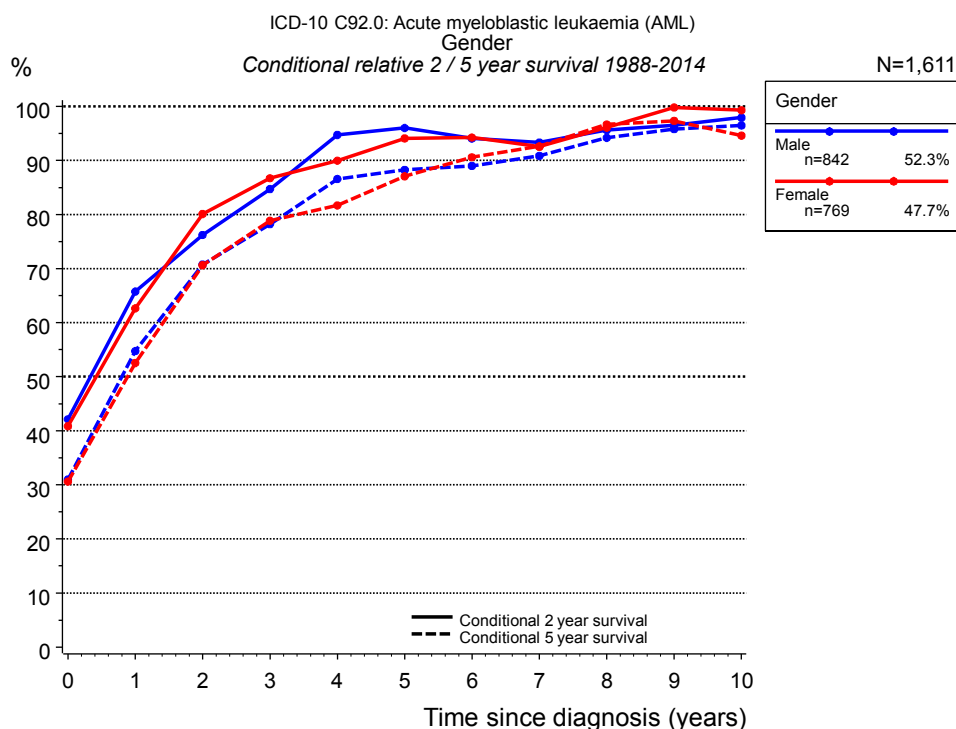*Conditional relative 2 / 5 year survival 1988-2014*

Figure 2c. Conditional relative 2 / 5-year survival of patients with acute myelobl. leukemia by gender. For 1,611 of 1,611 cases diagnosed between 1988 and 2014 valid data could be obtained for this item.

		Gender				
		Male			Female	
		Cond. surv. %			Cond. surv. %	
Years	n	2 yrs	5 yrs	n	2 yrs	5 yrs
0	842	42.1	31.0	769	40.9	30.6
1	435	65.7	54.8	404	62.6	52.6
2	306	76.2	70.8	272	80.1	70.6
3	242	84.7	78.2	217	86.7	78.9
4	195	94.7	86.6	186	90.0	81.7
5	163	96.0	88.3	144	94.1	87.1
6	140	94.1	89.0	123	94.2	90.6
7	115	93.3	90.8	110	92.6	92.6
8	92	95.6	94.2	100	96.1	96.6
9	80	96.5	95.8	86	99.8	97.3
10	70	97.9	96.5	79	99.3	94.6

Table 2d. Conditional relative 2 / 5-year survival of patients with acute myelobl. leukemia by gender for period 1988-2014 (N=1,611).

Conditional relative survival rates refer to the relative survival probability, in this case for 2 and 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 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 84.7% (n=242).
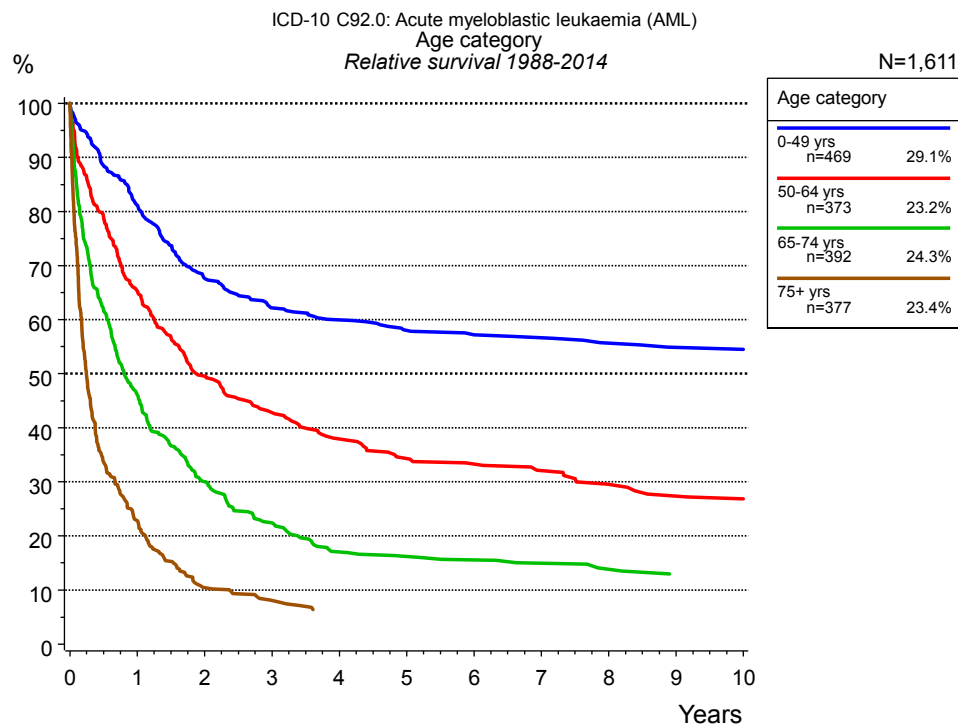
ICD-10 C92.0: Acute myeloblastic leukaemia (AML)
Age category
Relative survival 1988-2014

Figure 3a. Relative survival of patients with acute myelobl. leukemia by age category. Included in the evaluation are 1,611 cases diagnosed between 1988 and 2014.

	Age category							
	0-49 yrs n=469		50-64 yrs n=373		65-74 yrs n=392		75+ yrs n=377	
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	81.3	81.2	64.8	65.3	45.4	46.1	21.5	22.9
2	67.6	67.6	49.1	49.6	29.0	30.0	9.1	10.4
3	61.9	62.2	41.9	42.8	21.3	22.4	6.6	8.1
4	59.8	60.0	36.9	37.9	15.8	17.0		
5	57.7	58.0	33.2	34.3	14.7	16.2		
6	56.7	57.2	31.8	33.3	13.8	15.6		
7	56.4	56.7	30.2	32.1	12.8	15.0		
8	55.1	55.7	27.4	29.5	11.6	13.8		
9	54.1	54.8	25.5	27.4	10.3	13.0		
10	54.1	54.5	24.8	26.9	10.3	13.0		

Table 3b. Observed (obs.) and relative (rel.) survival of patients with acute myelobl. leukemia by age category for period 1988-2014 (N=1,611).

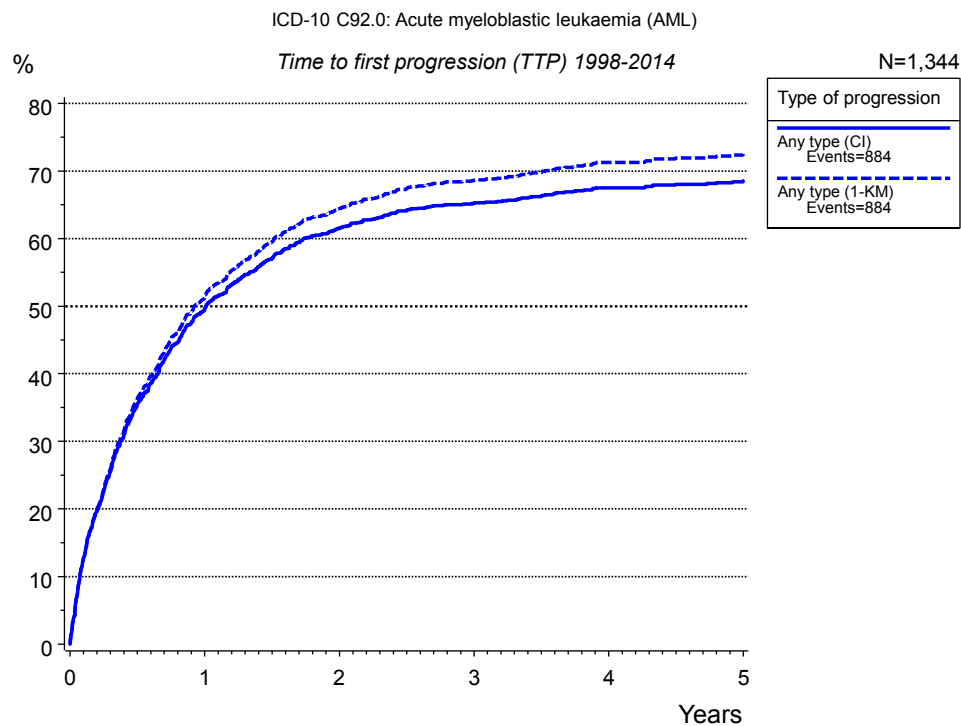ICD-10 C92.0: Acute myeloblastic leukaemia (AML)

Figure 5a. Time to first progression of 1,344 patients with acute myelobl. leukemia diagnosed between 1998 and 2014 (M0 only in solid cancers) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

| | Type of progression | |
| | Any type (CI) n=1,344 | Any type (1-KM) n=1,344 |
Years	%	%
0	0.0	0.0
1	49.6	51.3
2	61.5	64.4
3	65.2	68.6
4	67.5	71.2
5	68.5	72.5

Table 5b. Time to first progression of patients with acute myelobl. leukemia for period 1998-2014 (N=1,344).

ICD-10 C92.0: Acute myeloblastic leukaemia (AML)
Progression type
Observed post-progression survival 1998-2014
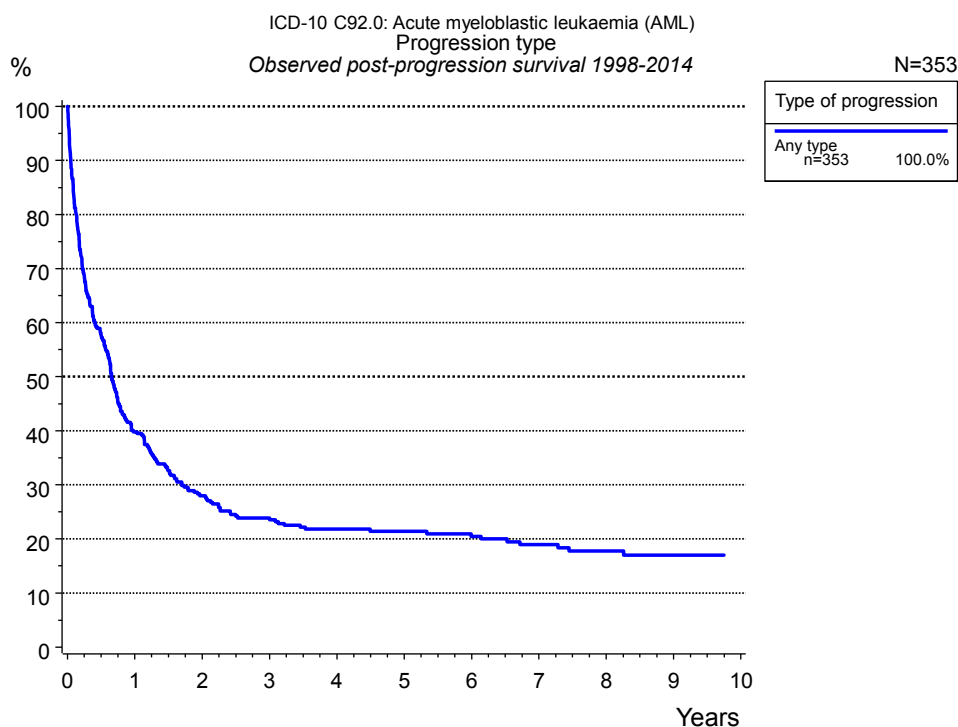
Figure 5c. Observed post-progression survival of 353 patients with acute myelobl. leukemia diagnosed between 1998 and 2014. These 353 patients with documented progression events during their course of disease represent 26.3 % of the totally 1,344 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=531, 39.5 %).

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 "Any type" 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	
	Any type n=353
Years	%
0	100.0
1	39.8
2	28.0
3	23.9
4	21.8
5	21.4
6	20.5
7	19.0
8	17.8
9	17.0
10	17.0

Table 5d. Observed post-progression survival of patients with acute myelobl. leukemia for period 1998-2014 (N=353).

ICD-10 C92.0: Acute myeloblastic leukaemia (AML)
Type of Progression: Any type
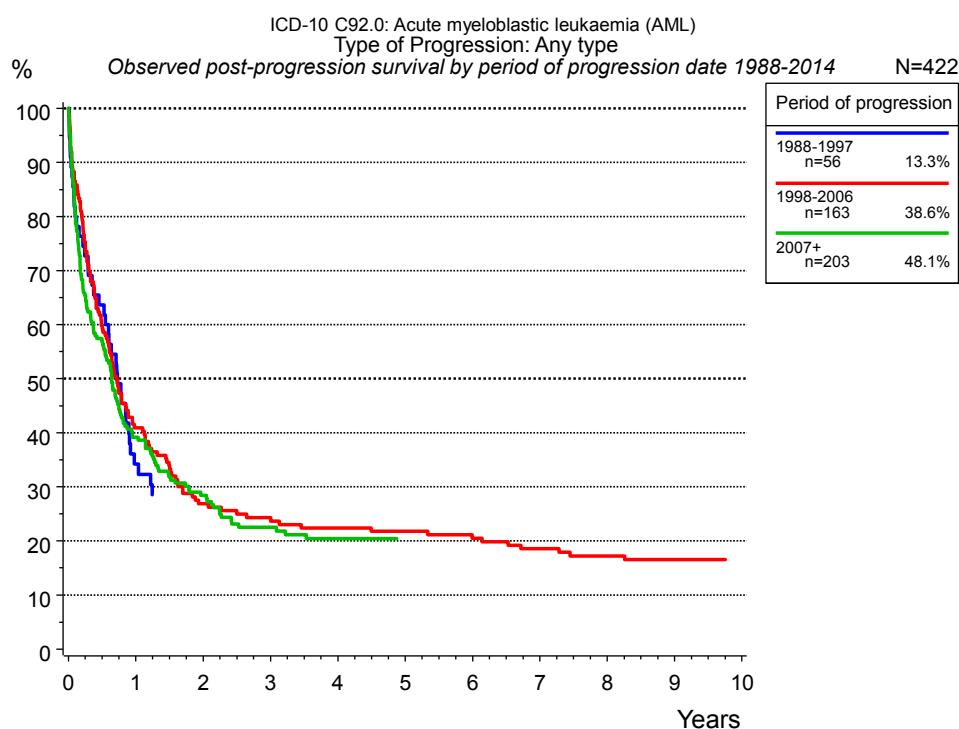*Observed post-progression survival by period of progression date 1988-2014*   N=422

Figure 5e. Observed post-progression (any type) survival of 422 patients with acute myelobl. leukemia diagnosed between 1988 and 2014 by period of progression.

	Period of progression		
	1988-1997 n=56	1998-2006 n=163	2007+ n=203
Years	%	%	%
0	100.0	100.0	100.0
1	34.2	40.9	39.2
2		26.9	28.4
3		24.3	22.5
4		22.4	20.4
5		21.8	20.4
6		20.5	20.4
7		18.6	20.4
8		17.2	
9		16.5	
10		16.5	

Table 5f. Observed post-progression (any type) survival of patients with acute myelobl. leukemia for period 1988-2014 by period of progression (N=422).

Shortcuts

MCR	Munich Cancer Registry, Germany	
NCI	National Cancer Institute, USA	
SEER	Surveillance, Epidemiology, and End Results, USA	
UICC	Union for International Cancer Control, Geneva	
DCO	Death certificate only	Death certificate provides the only notification to the registry.
NA	Not available	
NOS	Not otherwise specified	
OS	Overall/Observed survival	Overall/Observed survival (Kaplan-Meier estimate) Date of entry: diagnosis Event: death from any cause
RS	Relative survival	Survival compared to "general population", ratio of observed to expected survival (Ederer II method), reflecting cancer specific survival
AS	Assembled survival	Assembled chart of observed, expected, relative survival
CS	Conditional survival	Survival probability under the condition of surviving a given period of time
TTP	Time to progression	Time to first progression / relapse Date of entry: diagnosis Event: (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression
	1-KM	1 minus Kaplan-Meier estimator ("inverse" Kaplan-Meier estimator)
	CI	Cumulative incidence Death as competing risk (according to Kalbfleisch und Prentice)
PPS	Post-progression survival	Survival since first progression / relapse (Kaplan-Meier estimate) Date of entry (progression / relapse): first local-, lymph node recurrence, distant metastasis or unspecified progression Event: death from any cause

Recommended Citation

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