Munich Cancer Registry

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BNET: Pulm. neuroend. tumor

Survival

Year of diagnosis	1998-2014
Patients	700
Diseases	702
Cases evaluated	545
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

http://www.tumorregister-muenchen.de/en/facts/surv/shBNETE-BNET-Pulm.-neuroend.-tumor-survival.pdf

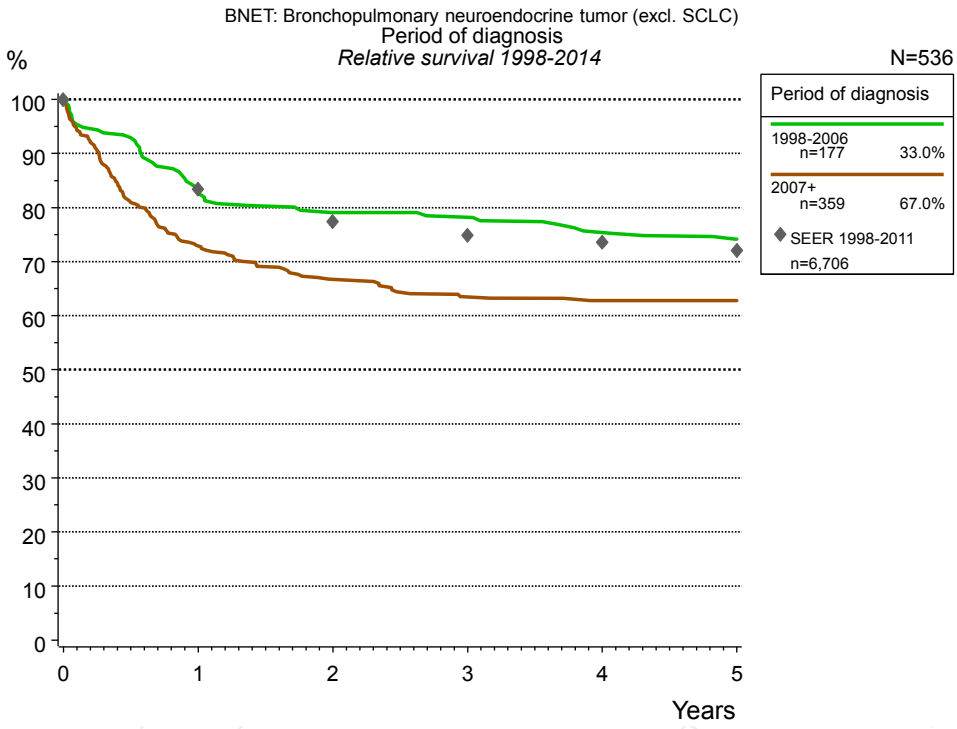

Figure 1a. Relative survival of patients with pulm. neuroend. tumor by period of diagnosis. Included in the evaluation are 536 cases diagnosed between 1998 and 2014.

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			
	1998-2006 n=177		2007+ n=359	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	82.5	83.0	71.8	72.9
2	77.0	79.1	64.7	66.7
3	75.7	78.2	60.7	63.4
4	72.0	75.4	59.1	62.8
5	69.4	74.2	58.3	62.7

Table 1b. Observed (obs.) and relative (rel.) survival of patients with pulm. neuroend. tumor by period of diagnosis for period 1998-2014 (N=536).

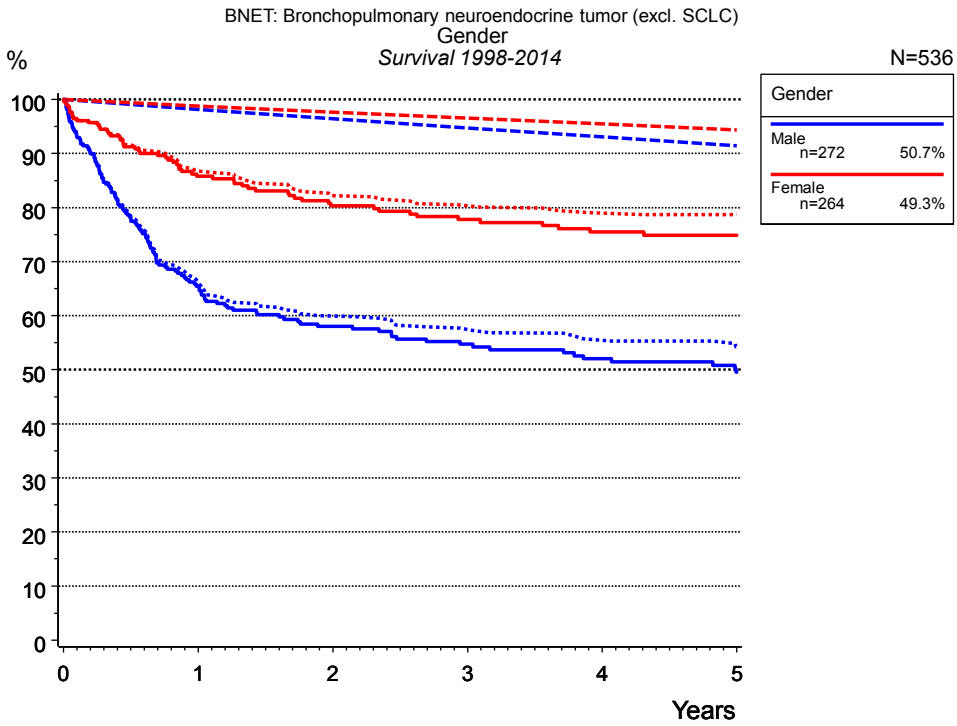

Figure 2a. Survival of patients with pulm. neuroend. tumor by gender. Included in the evaluation are 536 cases diagnosed between 1998 and 2014.

	Gender			
	Male n=272		Female n=264	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	65.4	66.1	85.8	86.8
2	58.0	59.9	80.3	82.2
3	54.7	57.4	77.8	80.3
4	52.0	55.5	75.5	78.9
5	49.6	54.2	74.9	78.7

Table 2b. Observed (obs.) and relative (rel.) survival of patients with pulm. neuroend. tumor by gender for period 1998-2014 (N=536).

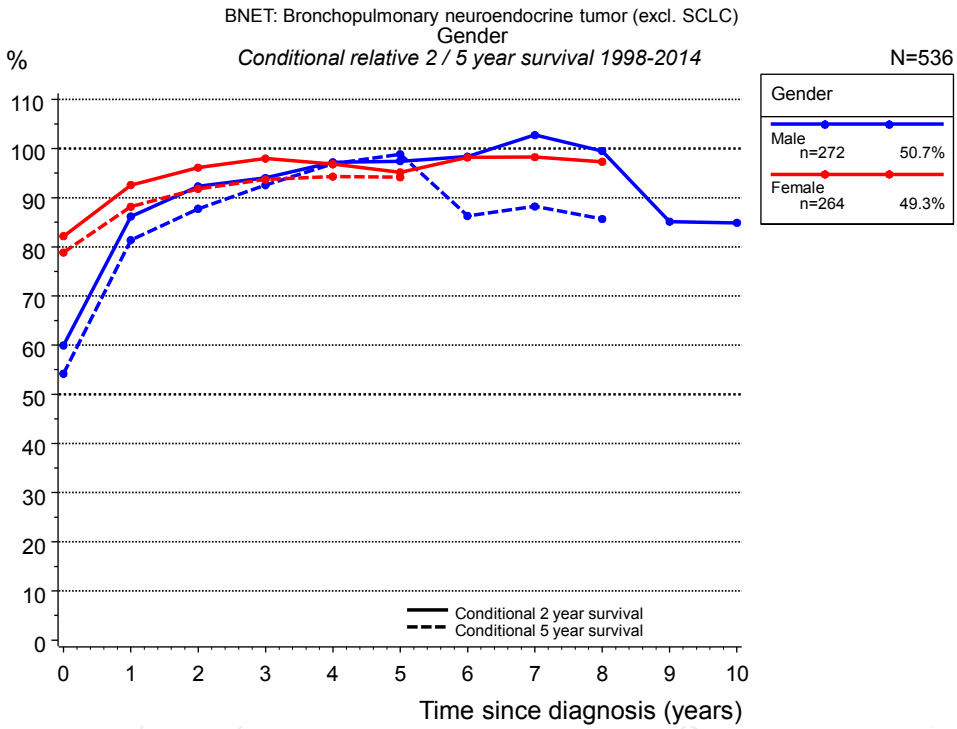

Figure 2c. Conditional relative 2 / 5-year survival of patients with pulm. neuroend. tumor by gender. For 536 of 536 cases diagnosed between 1998 and 2014 valid data could be obtained for this item.

	Gender					
	Male			Female		
		Cond. surv. %			Cond. surv. %	
Years	n	2 yrs	5 yrs	n	2 yrs	5 yrs
0	272	59.9	54.2	264	82.2	78.9
1	164	86.2	81.4	196	92.6	88.2
2	129	92.3	87.8	170	96.1	91.8
3	111	94.0	92.6	146	98.0	93.7
4	92	97.2	96.9	123	96.8	94.3
5	79	97.4	98.8	102	95.2	94.2
6	67	98.3	86.3	83	98.2	
7	57	102.7	88.2	64	98.3	
8	45	99.5	85.7	54	97.3	
9	37	85.1				
10	29	84.9				

Table 2d. Conditional relative 2 / 5-year survival of patients with pulm. neuroend. tumor by gender for period 1998-2014 (N=536).

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 94.0% (n=111).

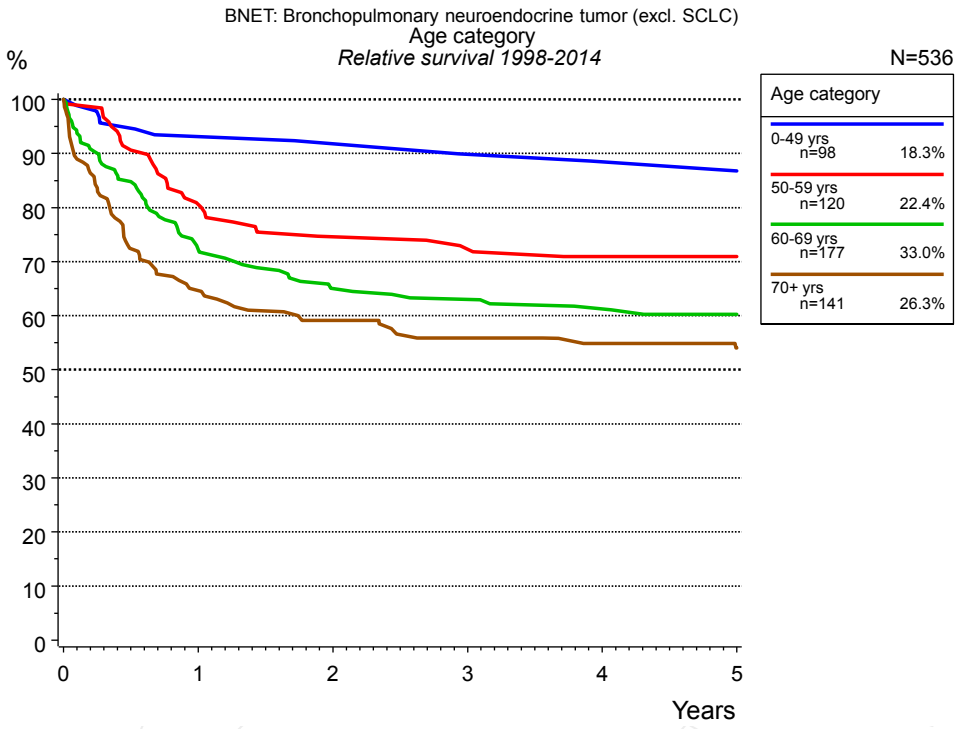

Figure 3a. Relative survival of patients with pulm. neuroend. tumor by age category. Included in the evaluation are 536 cases diagnosed between 1998 and 2014.

	Age category							
	0-49 yrs n=98		50-59 yrs n=120		60-69 yrs n=177		70+ yrs n=141	
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	93.4	93.1	80.5	80.6	72.1	72.2	62.8	64.6
2	92.2	91.8	73.9	74.6	63.5	65.0	55.2	59.1
3	89.6	89.9	71.7	72.3	61.3	63.0	50.3	55.9
4	88.1	88.4	69.4	70.9	58.8	61.3	46.8	54.8
5	86.4	86.8	69.4	70.9	56.9	60.3	43.9	54.0

Table 3b. Observed (obs.) and relative (rel.) survival of patients with pulm. neuroend. tumor by age category for period 1998-2014 (N=536).

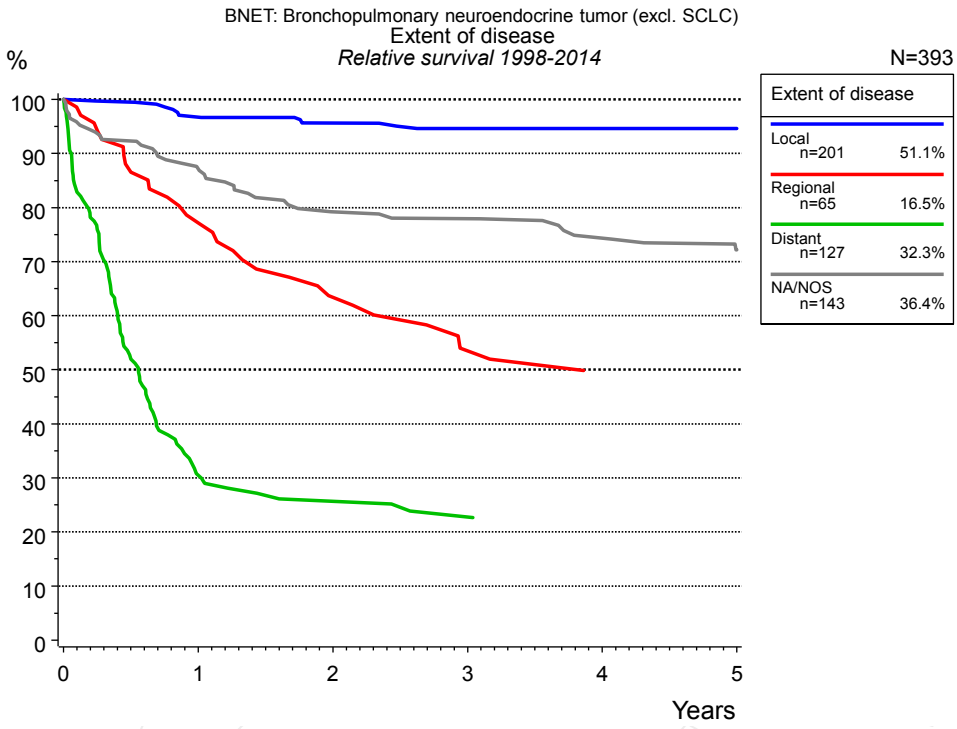

Figure 4a. Relative survival of patients with pulm. neuroend. tumor by extent of disease. For 460 of 536 cases diagnosed between 1998 and 2014 valid data could be obtained for this item. For a total of 393 cases an evaluable classification was established. The grey line represents the subgroup of 143 patients with missing values regarding extent of disease (26.7% of 536 patients, the percent values of all other categories are related to n=393).

	Extent of disease							
	Local n=201		Regional n=65		Distant n=127		NA/NOS n=143	
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	96.2	96.7	77.3	77.2	30.2	30.5	86.2	87.1
2	93.8	95.6	61.6	63.4	25.3	25.7	76.7	79.2
3	91.8	94.6	51.5	53.5	22.7	22.8	75.0	78.0
4	91.0	94.6	46.8	49.8	21.3	21.9	70.4	74.3
5	91.0	94.6	46.8	49.4			66.4	72.2

Table 4b. Observed (obs.) and relative (rel.) survival of patients with pulm. neuroend. tumor by extent of disease for period 1998-2014 (N=393).

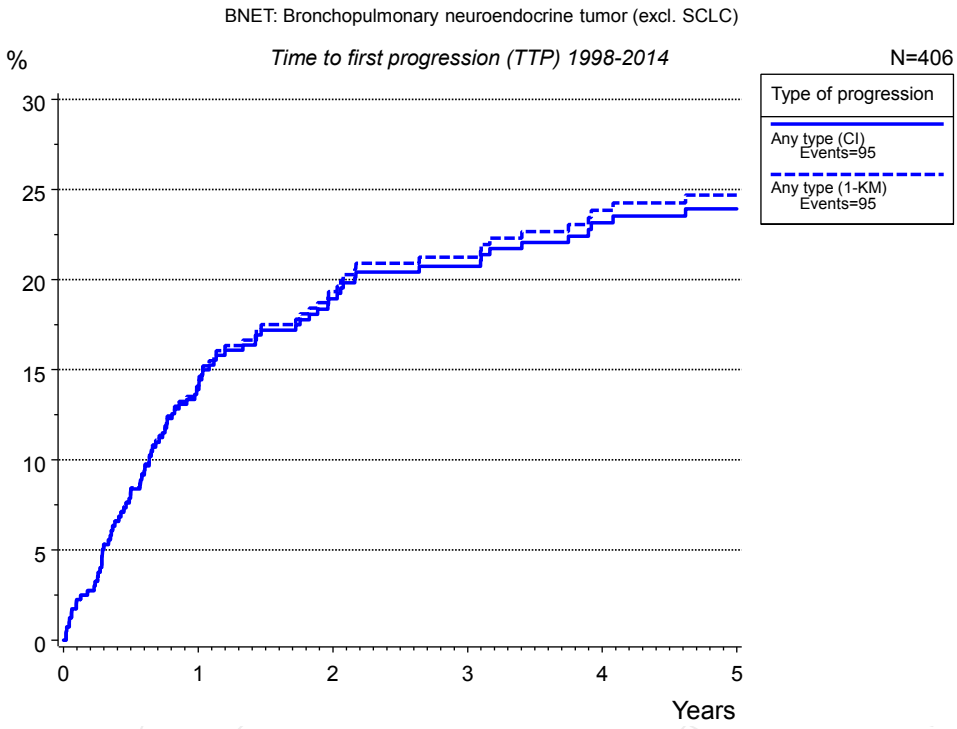

Figure 5a. Time to first progression of 406 patients with pulm. neuroend. tumor diagnosed between 1998 and 2014 (M0 only in solid cancers) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

	Type of progression	
	Any type (CI)	Any type (1-KM)
	n=406	n=406
Years	%	%
0	0.0	0.0
1	13.9	14.1
2	18.9	19.3
3	20.7	21.2
4	23.1	23.8
5	23.9	24.7

Table 5b. Time to first progression of patients with pulm. neuroend. tumor for period 1998-2014 (N=406).

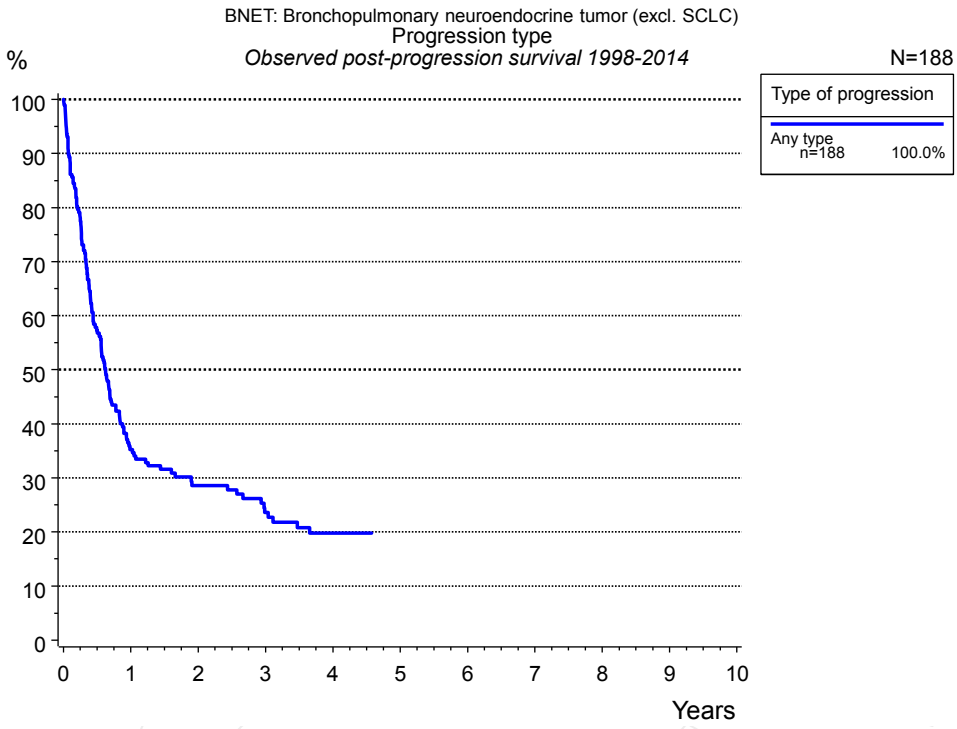

Figure 5c. Observed post-progression survival of 188 patients with pulm. neuroend. tumor diagnosed between 1998 and 2014. These 188 patients with documented progression events during their course of disease represent 35.5 % of the totally 530 evaluated cases (incl. M1, n=124, 23.4 %). Patients with cancer relapse documented via death certificates only were excluded (n=31, 5.8 %).

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=188
Years	%
0	100.0
1	35.3
2	28.6
3	23.6
4	19.8

Table 5d. Observed post-progression survival of patients with pulm. neuroend. tumor for period 1998-2014 (N=188).

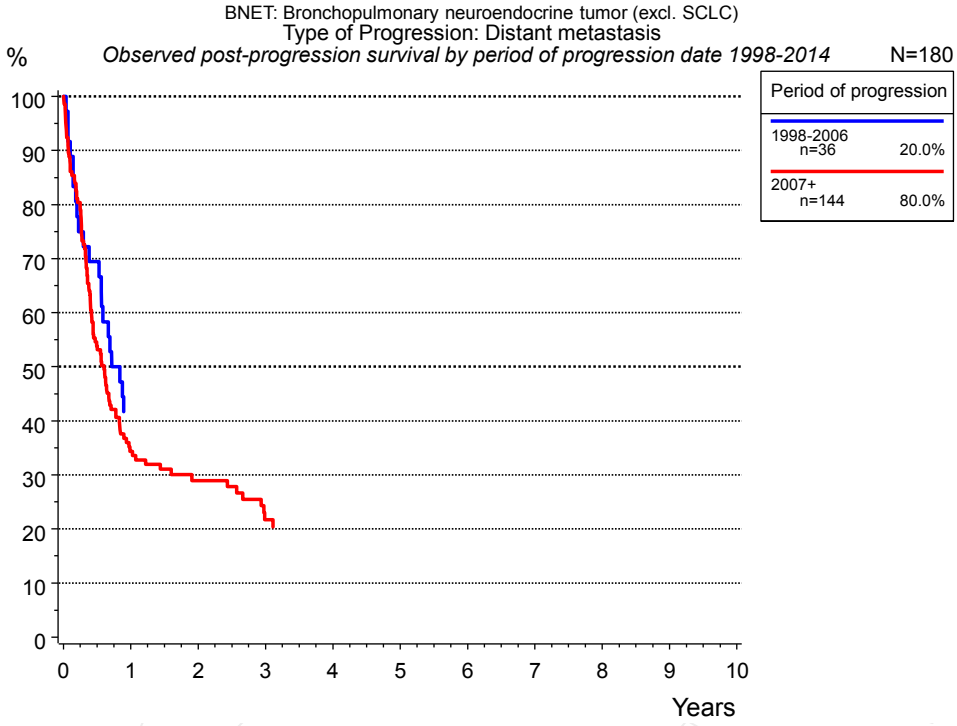

Figure 5e. Observed post-progression (distant metastasis) survival of 180 patients with pulm. neuroend. tumor diagnosed between 1998 and 2014 by period of progression.

	Period of progression	
	1998-2006 n=36	2007+ n=144
Years	%	%
0	100.0	100.0
1		34.4
2		28.9
3		21.7

Table 5f. Observed post-progression (distant metastasis) survival of patients with pulm. neuroend. tumor for period 1998-2014 by period of progression (N=180).

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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