Munich Cancer Registry

ICD-10 C73: Anaplastic thyroid ca.

Survival

Year of diagnosis	1988-1997	1998-2020
Patients	44	278
Diseases	44	278
Cases evaluated	40	214
Creation date	04/15/2022	
Database export	12/20/2021	
Population	4.92 m	

BERLIN

GERMANY

BAVARIA

MUNICH

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

https://www.tumorregister-muenchen.de/en/facts/surv/sC73A_E-ICD-10-C73-Anaplastic-thyroid-ca.-survival.pdf
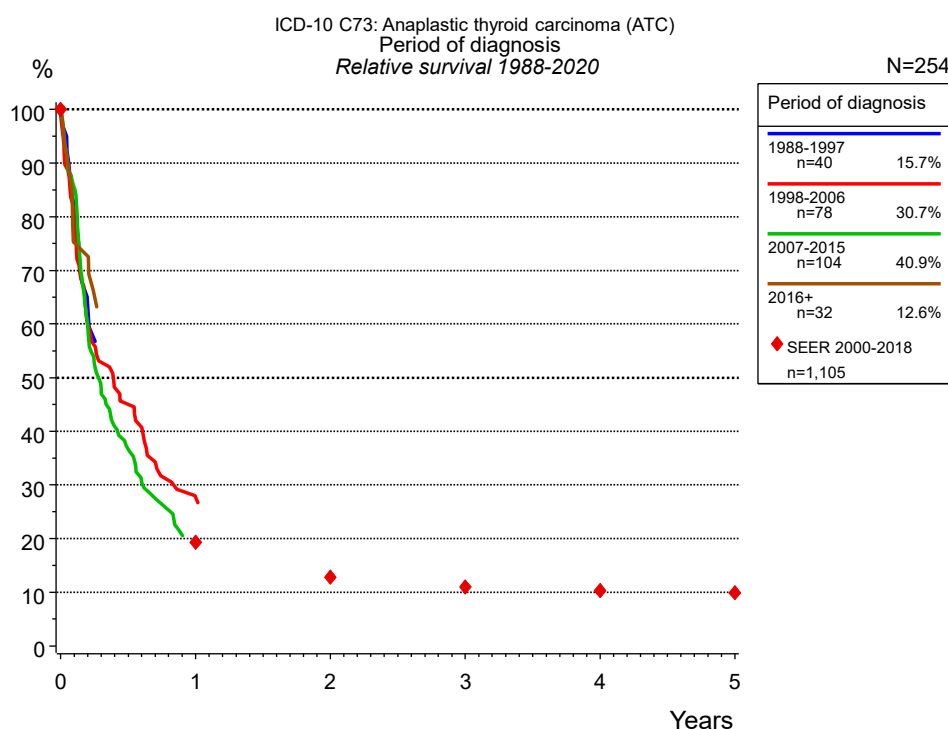
Index of figures and tables

Figure 1a. Relative survival of patients with anaplastic thyroid ca. by period of diagnosis. Included in the evaluation are 254 cases diagnosed between 1988 and 2020.

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 2000 to 2018, and are represented by colored 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 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=40		1998-2006 n=78		2007-2015 n=104		2016+ n=32	
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			26.9	27.7	19.7	19.9		
Median			0.4		0.3			

Table 1b. Observed (obs.) and relative (rel.) survival of patients with anaplastic thyroid ca. by period of diagnosis for period 1988-2020 (N=254).

ICD-10 C73: Anaplastic thyroid carcinoma (ATC)
Sex
Survival 1998-2020

Figure 2a. Survival of patients with anaplastic thyroid ca. by sex. Included in the evaluation are 214 cases diagnosed between 1998 and 2020.

	Sex			
	Male n=84		Female n=130	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	26.2	26.6	22.0	22.8
Median	0.4		0.3	

Table 2b. Observed (obs.) and relative (rel.) survival of patients with anaplastic thyroid ca. by sex for period 1998-2020 (N=214).

ICD-10 C73: Anaplastic thyroid carcinoma (ATC)
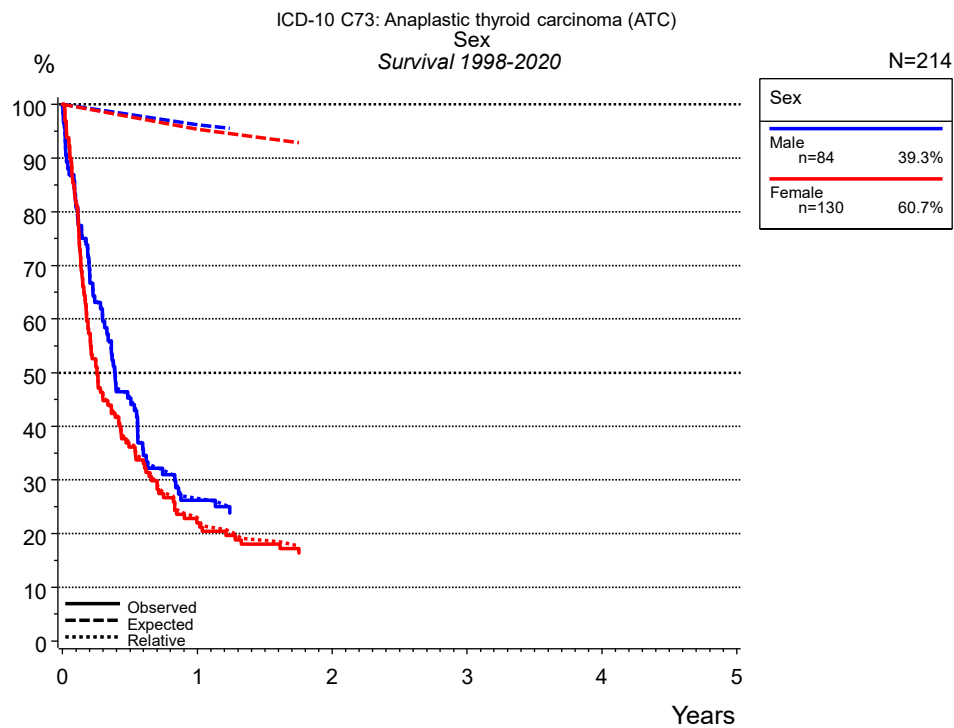Age category
Relative survival 1998-2020
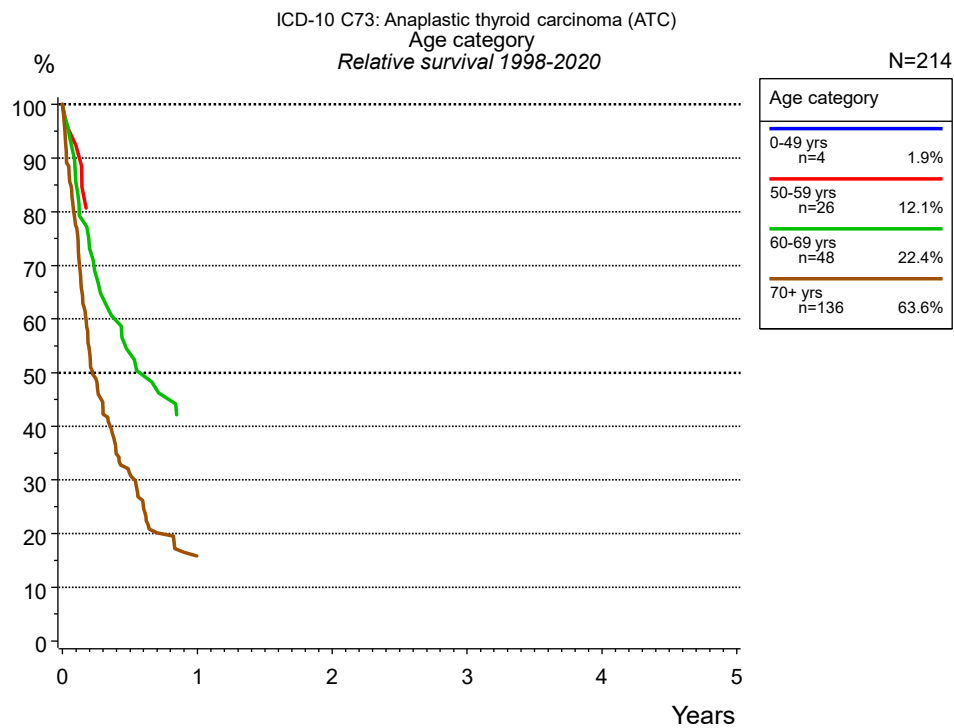
Figure 3a. Relative survival of patients with anaplastic thyroid ca. by age category. Included in the evaluation are 214 cases diagnosed between 1998 and 2020. Subgroups with sample size <20 are omitted from the chart.

	Age category					
	50-59 yrs n=26		60-69 yrs n=48		70+ yrs n=136	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1					14.8	15.8
Median			0.6		0.2	

Table 3b. Observed (obs.) and relative (rel.) survival of patients with anaplastic thyroid ca. by age category for period 1998-2020 (N=214).

ICD-10 C73: Anaplastic thyroid carcinoma (ATC)
TNM staging
Relative survival 1998-2006

N=73

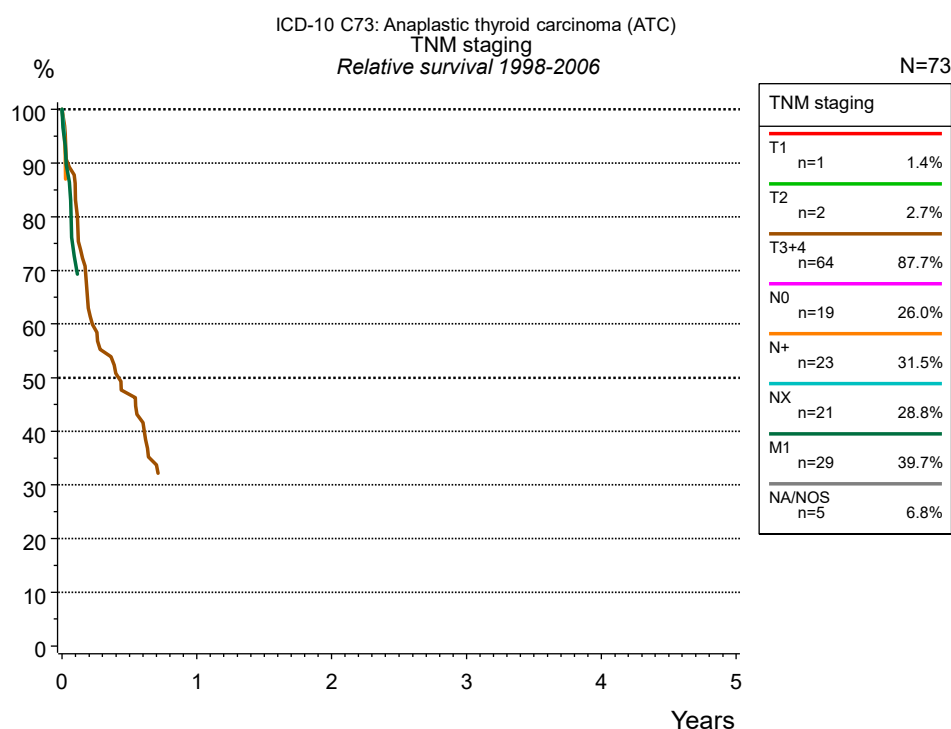| TNM staging		
T1	n=1	1.4%
T2	n=2	2.7%
T3+4	n=64	87.7%
N0	n=19	26.0%
N+	n=23	31.5%
NX	n=21	28.8%
M1	n=29	39.7%
NA/NOS	n=5	6.8%

Figure 4c. Relative survival of patients with anaplastic thyroid ca. by TNM staging. For 73 of 78 cases diagnosed between 1998 and 2006 valid data could be obtained for this item. The accumulated percentage exceeds the 100 % value because patients are potientially considered in more than one subgroup. The grey line represents the subgroup of 5 patients with missing values regarding TNM staging (6.4 % of 78 patients, the percent values of all other categories are related to n=73). Subgroups with sample size <20 are omitted from the chart.

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

	TNM staging							
	T3+4 n=64		N+ n=23		NX n=21		M1 n=29	
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
Median	0.4							

Table 4d. Observed (obs.) and relative (rel.) survival of patients with anaplastic thyroid ca. by TNM staging for period 1998-2006 (N=73).

ICD-10 C73: Anaplastic thyroid carcinoma (ATC)
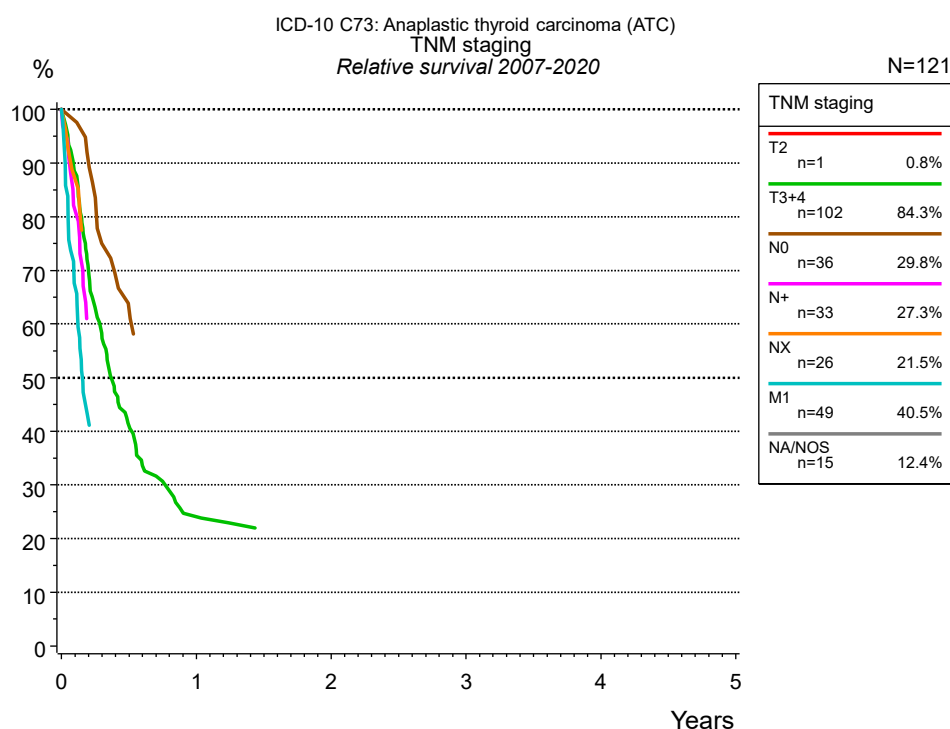TNM staging
Relative survival 2007-2020

Figure 4e. Relative survival of patients with anaplastic thyroid ca. by TNM staging. For 122 of 136 cases diagnosed between 2007 and 2020 valid data could be obtained for this item. For a total of 121 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 15 patients with missing values regarding TNM staging (11.0 % of 136 patients, the percent values of all other categories are related to n=121). Subgroups with sample size <20 are omitted from the chart.

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

	TNM staging									
	T3+4 n=102		N0 n=36		N+ n=33		NX n=26		M1 n=49	
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	23.8	24.0								
Median	0.4								0.2	

Table 4f. Observed (obs.) and relative (rel.) survival of patients with anaplastic thyroid ca. by TNM staging for period 2007-2020 (N=121).

ICD-10 C73: Anaplastic thyroid carcinoma (ATC)
Extent of disease
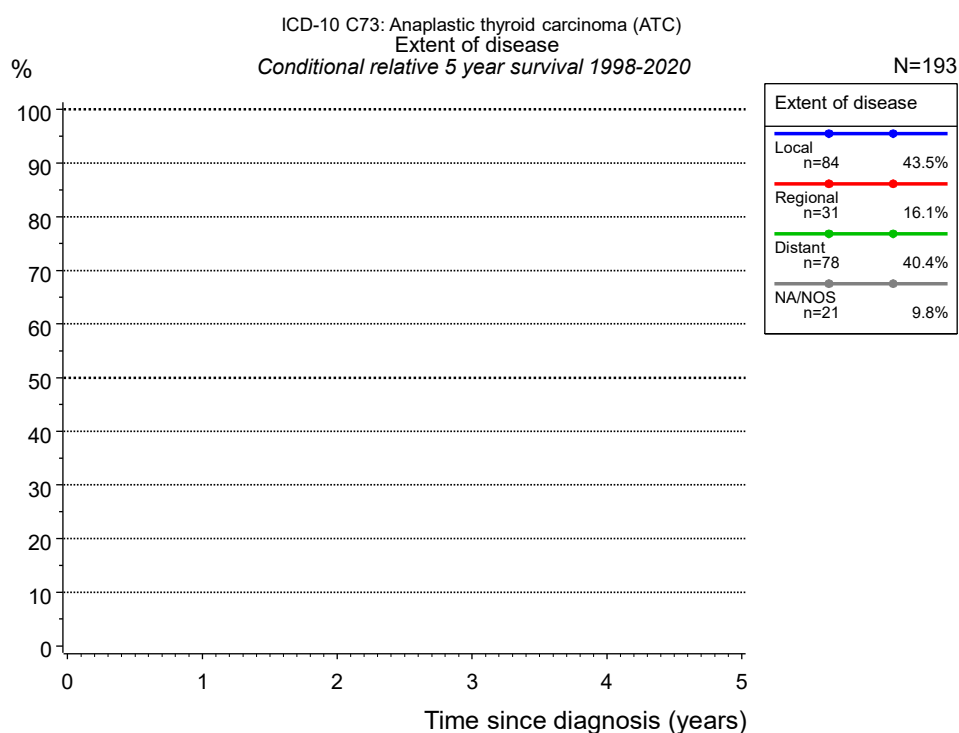*Conditional relative 5 year survival 1998-2020*

Figure 4g. Conditional relative 5-year survival of patients with anaplastic thyroid ca. by extent of disease. For 195 of 214 cases diagnosed between 1998 and 2020 valid data could be obtained for this item. For a total of 193 cases an evaluable classification was established. The grey line represents the subgroup of 21 patients with missing values regarding extent of disease (9.8 % of 214 patients, the percent values of all other categories are related to n=193).

	Extent of disease							
	Local		Regional		Distant		NA/NOS	
		Cond. surv. %		Cond. surv. %		Cond. surv. %		Cond. surv. %
Years	n	5 yrs	n	5 yrs	n	5 yrs	n	5 yrs
0	84		31		78		21	

Table 4h. Conditional relative 5-year survival of patients with anaplastic thyroid ca. by extent of disease for period 1998-2020 (N=193).

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 4e). 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="relative", who are alive at least 3 years after cancer diagnosis, the conditional relative -year survival rate is % (n=0).
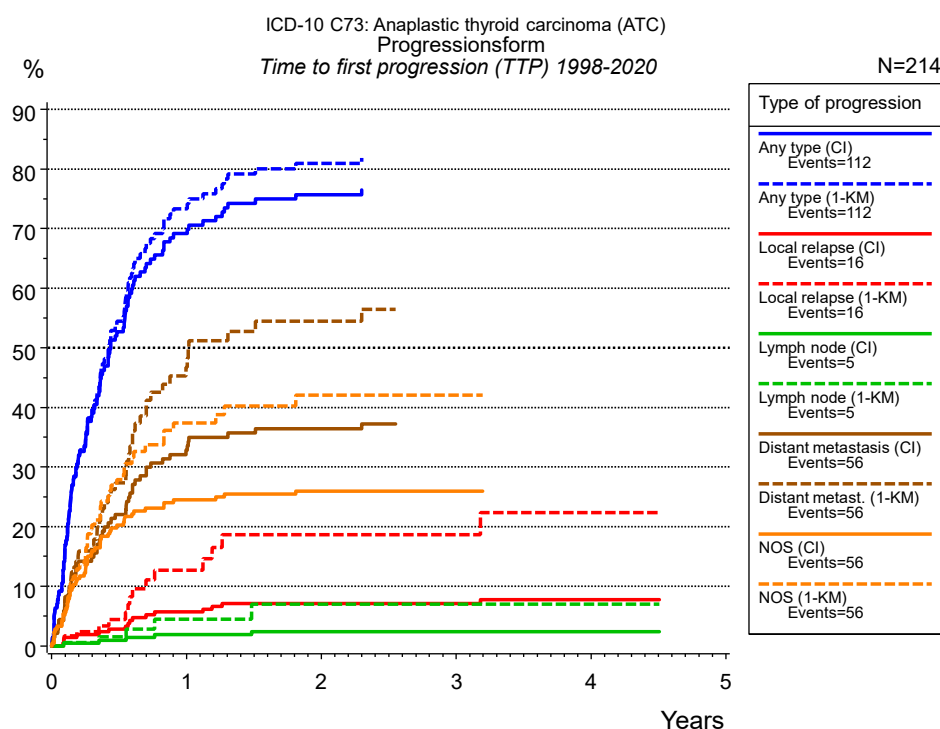
ICD-10 C73: Anaplastic thyroid carcinoma (ATC)
Progressionsform
Time to first progression (TTP) 1998-2020

Figure 5a. Time to first progression of 214 patients with anaplastic thyroid ca. diagnosed between 1998 and 2020 (in solid cancers M0 only) 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)	Local relapse (CI)	Local relapse (1-KM)	Lymph node (CI)	Lymph node (1-KM)	Distant metastasis (CI)
N	142	142	214	214	214	214	142
Events	106	106	16	16	5	5	51
compet.	11		168		179		63
Years	%	%	%	%	%	%	%
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	69.2	73.3	5.7	12.7	1.9	4.4	32.8
2	75.7	80.9	7.1	18.6	2.4	7.0	36.4
3			7.1	18.6	2.4	7.0	
4			7.7	22.3	2.4	7.0	
5			7.7	22.3	2.4	7.0	

	Type of progression		
cont'd	Distant metast. (1-KM)	NOS (CI)	NOS (1-KM)
N	142	214	214
Events	51	55	55
compet.		130	
Years	%	%	%
0	0.0	0.0	0.0
1	46.8	24.5	37.4
2	54.5	26.0	42.1
3		26.0	42.1
4		26.0	42.1
5			

Table 5b. Time to first progression of patients with anaplastic thyroid ca. for period 1998-2020 (N=214), also showing the total of progression events (Events) and of deaths as competing risk (compet.).
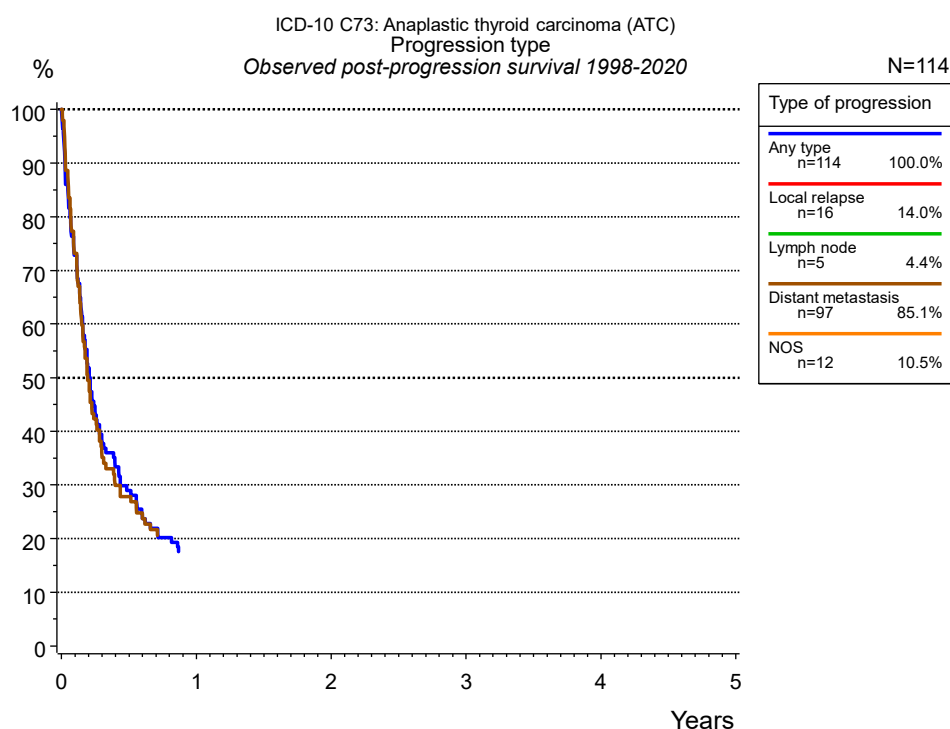
ICD-10 C73: Anaplastic thyroid carcinoma (ATC)
Progression type
Observed post-progression survival 1998-2020

Figure 5c. Observed post-progression survival of 114 patients with anaplastic thyroid ca. diagnosed between 1998 and 2020. These 114 patients with documented progression events during their course of disease represent 53.3 % of the totally 214 evaluated cases (incl. M1, n=72, 33.6 %). Patients with cancer relapse documented via death certificates only were excluded (n=70, 32.7 %). 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. Subgroups with sample size <20 are omitted from the chart.

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	Distant metastasis
	n=114	n=97
Years	%	%
0	100.0	100.0

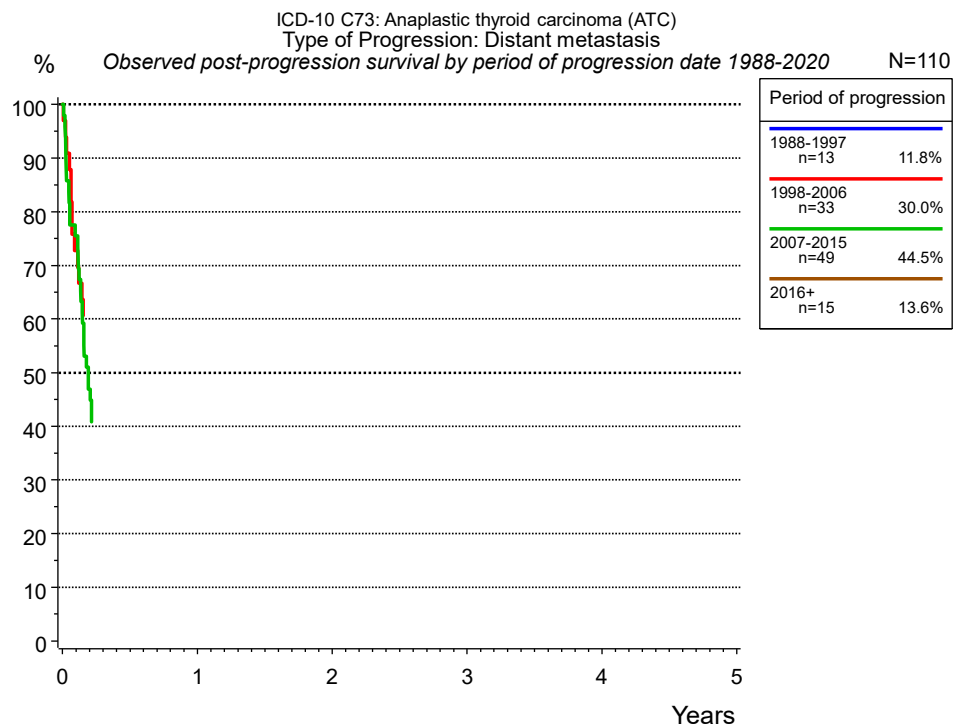**Table 5d.** Observed post-progression survival of patients with anaplastic thyroid ca. for period 1998-2020 (N=114).

ICD-10 C73: Anaplastic thyroid carcinoma (ATC)
Type of Progression: Distant metastasis
Observed post-progression survival by period of progression date 1988-2020   N=110

Period of progression		
1988-1997		
n=13		11.8%
1998-2006		
n=33		30.0%
2007-2015		
n=49		44.5%
2016+		
n=15		13.6%

Figure 5e. Observed post-progression (distant metastasis) survival of 110 patients with anaplastic thyroid ca. diagnosed between 1988 and 2020 by period of progression.

	Period of progression	
	1998-2006 n=33	2007-2015 n=49
Years	%	%
0	100.0	100.0

Table 5f. Observed post-progression (distant metastasis) survival of patients with anaplastic thyroid ca. for period 1988-2020 by period of progression (N=110).

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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