4.6 Background to the Munich Cancer Registry, its latest annual report, and an index of figures and tables

The fourth annual report of the Munich Cancer Registry (MCR) again contains a short chapter for English speaking colleagues, who are engaged in cancer prevention and control, to help you to interpret the results and to compare data.

This annual report presents the results of cancer registration in the city of Munich and the surrounding areas for the years 2001/2002. Detailed statistical analyses of larynx, lung and kidney cancer are the special focus of this current issue. Chapters 2.5 and 2.6 reflect recent developments in the fields of breast cancer screening and disease management programs for breast cancer patients in Germany. Nearly 7,600 general practitioners, 100 hospitals with about 500 departments and 437 communities will receive this issue. This report highlights the importance and the usefulness of population-based clinical data for physicians and the public.

The MCR is part of the comprehensive Munich Cancer Centre and started registering patients in 1978. The number of collaborating members has grown continuously (see Chapter 4.3). These efforts have led to a world age-standardised incidence rate estimated to be 322/100,000 for males (248 for females) for Munich in 2000.

Bavaria has a total population of 12.3 million; the Federal Republic of Germany has 82 million people. The MCR collected cancer data from about 2.3 million people up to the end of 2001, which equals 2.8% of the German population. In 2002, the catchment area was enlarged to 3.7 million people (4.5%). The Bavarian Cancer Registration Law came into force at the beginning of 1998, allowing the MCR to legally process all death certificates from the catchment area. Tables 8a and 8b illustrate the observed cancer related mortality for the Munich area. The DCO-rate decreased to about 12% in 2000. Cooperation with the residents' registration offices has led to a follow-up rate of 94% for patients registered since 1978.

Each collaborating hospital receives a survey for all of their treated patients, irrespective of their home address. Therefore the MCR also registers patients from outside the registration area. In 1994, the reports of 13 pathological institutions were the basis for checking completeness of registration, now 17 institutions co-operate. In this way, the incidence rates and the co-operation of the departments can be monitored continuously.

To support data collection, there are 26 different cancer-specific forms. Often, copies of medical reports are sent to the registry as well. Co-operating hospitals additionally report on local and regional progressions and the occurrence of metastases. In this way, the course of malignant disease is available and the cause of death can partly be validated by death certificate.

The MCR produces periodical reports for all co-operating hospitals to keep them informed of their clinical results. In addition, information can be found on the MCR website. All cooperating partners have internet access through a secure password. Analyses of the most common cancers in the region are presented and the larger hospitals can anonymously compare their clinical results.

Index of Figures and Tables

Fig./Ta	ab. (Abb./Tab.) P	age
	Cooperation status, legal regulations, processing principles and access to the result	lts
1 2	Data transfer and regulating laws Details of Internet access for participating institutions	4 11
	Results	
3 4a	Processed data and information 2001/2002 from the old and expanded catchment area Average age specific and age standardized incidence rates in the old catchment area between 1998 and 2000 for men only	16 18
4b	Average age specific and age standardized incidence rates in the old catchment area between 1998 and 2000 for women only	20
5a	Average age specific and age standardized mortality rates in the old catchment area between 1998 and 2000 for men only	22
5b	Average age specific and age standardized mortality rates in the old catchment area between 1998 and 2000 for women only	24
6	Crude incidence and DCO rates for men and women	26
7	Number of newly diagnosed patients and DCO rates for individual tumors for men and women	27
8	Rankings by diagnose of new cases and cancer related deaths for men and women	29
9	Cancer deaths in the 437 cities and towns in the expanded catchment area	31
10	Characteristics of the most common cancers	40
	S1: Number of patients with "good follow-up" and a single malignancy	
	S2-S6: Age at diagnosis	
	S2-S4. 10%, 50% (median), 90% of patients are younger than the indicated age at diagnosis	
	S7: Percentage of new male cases	
	S8-S9: Mean life expectancy (in years) from diagnosis for cured men and women	
	S10-S11: The official number of tumor related deaths in Germany in 1998 for males (109 thousand)	
	and females (104 thousand)	
	S12-S14: Relative survival rate for 2, 5, and 10 years	
	S15. Conditional probability to survive another 5 years for survivors of the first live years . S16-S17: 5- and 10-year overall survival (all causes of death)	
	S18: 5-year prevalence as a factor of incidence estimated from the overall survival curve	
	S19-S20: Cumulative incidence of secondary malignancies (Kaplan-Meier estimation)	
	S21: Percentage of patients (relative to S1) with at least a second malignancy, who were	
	registered in addition to S1 (underestimated because of underreporting)	
	S22-S23: Number of person years and mean follow-up time	
	S24-S27: Percentage distribution of pill findings since 1988	
	S20: Percentage patients with M1 at diagnosis	
	S30-S31: Time (in months) to 1 st progression for M0 patients (50%, 90% quantiles)	
	S32-S33: Time (in months) from 1 st progression to death (50%, 90% quantiles)	
	S34-S36: Survival time (in months) for MO patients with at least one progression event (50%, 90%	
	quantiles)	
	S36-S37: Mean survival time for M0 patients and all patients (incl. M1) with established progression	
	S38: Number of MU patients with a progression recorded during the disease process	
	and unspecified (for solid tumors) progressions during the course of disease	
	S43-S50: Distribution of the 1 st event with synchronous locations (locoregional recurrences,	
	unspecified progression, lung, liver, bone, distant lymph node, CNS and unspecified metastases)
11	Number of false positive mammographies, biopsies, new cases und successful treatments	47
12	Breast cancer: Relative survival for each pT-category	47
13	Dependence of lymph node status and survival on tumor size	48
14	Distribution of p1-categories in the Munich region (1996-98), in Sweden and in two subgroups with so called grey screening yet without any early detection	48
15	Increase in the proportion of breast conserving operations over time between 1983 and 1990 in the USA and the Munich region	51
16	Breast cancer: Survival according to the number of positive lymph nodes	51
17	Breast cancer: Survival following primary metastases for M1 patients	53

Fig./T	ab. (Abb./Tab.)	Page		
18	Breast cancer: Relative survival rates for patients in 15 hospitals	53		
19	Proportion of the four most frequent cancer related causes of death for Germany in 2000 for men and women separately	55		
20	Survival following metastases for the four most frequent cancers by disease free survival time in comparison with survival of M1 patients from the SEER database	57		
21	Survival following metastases for the four most frequent cancers before and after 1991	58		
22	Survival following diagnosis of the primary tumor for the four most frequent cancers by tumor free time before and after 1991	59		
	Special focus: Larynx, Lung and Kidney Cancer			
23	Time series age standardized mortality (BRD 1987) in Germany from 1980 to 1997	62		
24	Epidemiological description of larynx, lung und kidney cancers	63		
	Larynx Cancer			
25	Age specific mortality for men and women in Germany in 1980, 1990 and 1999	64		
26	Age specific incidence and age distribution by diagnostic site	66		
27	Distribution of clinical characteristics since 1978	66		
28	Changes in clinical characteristics and treatment strategies since 1978	67		
29	Distribution of pT and pN, progression events and mean observation time by tumor site	67		
30	Distribution of treatment strategies by pT category and tumor site	67		
31	Distribution of age and grading by TNM-grouping, proportion of the 3 main tumor sites by TNM	68		
32	Distribution of the tumor site by TNM-grouping	68		
33	Distribution of pre-T und post-N by pT, occurrence of progression events and survival time and number of deaths by pT	70		
34	Relative survival before and after 1992	71		
35	Relative survival by pT and pN	72		
36	Relative survival by pN	72		
37	Relative survival by tumor site	73		
38	Relative survival by grading	73		
39	Relative survival by UICC stage	74		
40	Overall survival following progression by type of progression	74		
41	Relative survival in 4 hospitals for patients diagnosed after 1988 (univariate)	75		
42	Distribution of age, primary diagnosis and treatment strategy in the cooperating ENT-hospitals from 1988 to today	76		
43	Variations in grading und pN in 4 pathological institutes since 1988	76		
44	Multivariate survival analysis with the Cox model	76		
	Lung Cancer			
45	Relative risk of death for men with lung cancer by number of cigarettes smoked	77		
46	Distribution of histology by gender and smoking status	78		
47	Mortality from lung cancer by gender for the 3 Munich cancer registry catchment sub-areas	79		
48	Age specific mortality for men and women in Germany in 1980, 1990 and 1999	80		
49	Age specific incidence and age distribution by diagnostic site	81		
50	Median age, proportion of men and treatment strategies in 4 time periods	81		
51	Median age, preparties of man, typer eite und treatment strategies by bistologies subtypes	81		
52	LICC stage distribution and treatment strategy in 4 time periods for SCLC	02 82		
53	LICC stage distribution and treatment strategy in 4 time periods for NSCLC	82		
55	Location of SCLCs by LICC stage	82		
56	Location of NSCLCs by UICC stage	83		
57	Treatment strategy and operative procedure by UICC stage for SCLC	83		
58	Treatment strategy and operative procedure by UICC stage for NSCLC	83		
59	Time from progression to death for lung cancer patients (M0)	85		
60	Time to progression for lung cancer patients (M0)	85		
61	Initial spread of lung cancer and secondary progression events after M0-finding	86		
62	Relative survival for lung cancer for the period before and after 1990 stratified by	87		
	small cell and non small cell histology			
63	Relative survival for lung cancer by histological subtype	88		

Fig./Ta	ab. (Abb./Tab.)	Page
64	Relative survival for lung cancer by UICC stage stratified by small cell and non small cell histology	88
65	Relative survival for centrally and peripherally located lung cancer stratified by small cell and non small cell histology	89
66	Relative survival for centrally and peripherally located lung cancer stratified by gender	89
67	Relative survival for SCLC for the diagnostic period before and after 1990 by UICC stage	90
68	Relative survival for NSCLC for the diagnostic period before and after 1990 by UICC stage	90
69	Tumor characteristics from 3 hospitals for patients with SCLC in UICC stages I, II and III	91
70	Relative survival of SCLC patients in the 3 hospitals	92
71	Cox model for a sub group of patients with SCLC in UICC stages I, II and III	92
72	Tumor characteristics from 3 hospitals for patients with NSCLC in UICC stages I, II and III	92
73	Relative survival of NSCLC patients in the 3 hospitals	93
74	Cox model for a sub group of patients with NSCLC in UICC stages I, II and III	93
75	Relative survival of NSCLC patients in the 3 hospitals in UICC stages I and II	94

Kidney, Renal Pelvis and Ureter Cancers

76	Age specific mortality for men and women in Germany in 1980, 1990 and 1999	96
77	Age specific incidence and age distribution by diagnostic site	96
78	Changes in clinical characteristics since 1978	98
79	Changes in clinical characteristics by tumor size since 1994 for all patients and stratified by gender	98
80	Distribution of clinical characteristics by gender for 2 periods of time	99
81	UICC stage distribution for 2 time periods	99
82	Distribution of grading, gender and age by TNM grouping	99
83	Distribution of grading, gender and age by tumor size and pN-/M finding since 1994	100
84	Relationship between grading und pN finding since 1978	100
85	Distribution of tumor location since 1978	100
86	Distribution of clinical characteristics by histology since 1978	100
87	Overall survival following progression by type of progression since 1978	101
88	Metastases site for M1 patients or for the first metastasization	101
89	Overall survival following metastases before and after 1993	102
90	Overall survival following metastases by metastases site since 1978	102
91	Relative survival before and after 1993 and relative survival of the 1998 SEER sample	103
92	Observed, expected and relative survival by gender since 1978	104
93	Relative survival by grading stratified by gender since 1978	104
94	Relative survival by pT-category stratified by gender	105
95	Relative survival by pT-category from 1978 to Sept. 1997	105
96	Relative survival by UICC stage from 1988 to Sept. 1997	106
97	Relative survival by N- and M-findings since 1978	106
98	Relative survival by tumor size since 1994	107
99	Relative survival of all patients by participating hospital since 1988	108
100	Relative survival of all patients diagnosed between 1993 and 1999, with pT1-2, and <70 years old by participating hospital	109
101	Distribution of age, gender and primary diagnosis in the cooperating urological hospitals since 1988	109
102	Distribution of age, gender and primary diagnosis in the cooperating urological hospitals for patients diagnosed between 1993 and 1999, with pT1-2, and <70 years old	109
103	Results of the multivariate analysis for patient diagnosed between 1988 and Sept. 1997	110
104	Results of the multivariate analysis for patient diagnosed between 1993 and 1999.	110
	with pT1-2, and <70 years old	
105	Distribution of pT-findings, grading and histology for the cooperating pathologists since 1994	110
106	Renal pelvic cancer: Changes in clinical characteristics since 1988	111
107	Ureter cancer: Changes in clinical characteristics since 1988	111
108	Renal pelvic cancer: Relative survival by age since 1988	113
109	Renal pelvic cancer: Relative survival before and after 1994	113
110	Renal pelvic cancer: Relative survival by pT-category	114
111	Ureter cancer: Relative survival before and after 1994	114

Appendix

112	Age structure of the	population of the old	epidemiological catchm	ent area in the year 200	0 123