

ALL CANCER

Table 1.1: Characteristics of the cohort

	Males	Females
First primary cancer	174,259	159,909
Age at diagnosis		
Mean	64.9	62.3
<65 years	74,150	82,818
=>65 years	100,109	77,091
Total person-years	783,708	908,250
Mean follow-up (years)	4.5	5.7
Histological confirmation (%)	93.1	93.6
Squamous and transitional	15.1	8.6
Adenocarcinoma	47.8	58.2
Other specific carcinoma	3.0	2.7
Unspecified carcinoma	4.1	3.7
Sarcomas and soft tissue	1.3	1.3
Kaposi sarcoma	0.3	0.0
Mesothelioma	0.7	0.1
Other specified types	13.2	12.3
Leukaemia	2.7	2.2
Lymphoma	4.8	4.4
No histological confirmation	6.9	6.5
Second primary cancers		
Non-simultaneous	16,026	12,145
Simultaneous	3,216	2,811

Table 1.2: Cumulative risk (%) of the most common second primary cancers

		Follow-up years					
		1	5	10	15	20	23
All cancers	M	1.6	6.0	9.7	12.2	14.0	14.9
	F	1.0	4.3	7.7	10.3	12.4	13.3
Breast	F	0.3	1.2	2.3	3.1	3.7	3.9
Colon	M	0.2	0.7	1.1	1.4	1.7	1.9
	F	0.1	0.6	1.0	1.3	1.6	1.8
Lung	M	0.2	1.0	1.6	2.0	2.4	2.5
	F	0.1	0.4	0.7	0.9	1.1	1.2
Melanoma	M	0.2	0.6	1.0	1.3	1.5	1.6
	F	0.1	0.4	0.7	1.0	1.1	1.2
Prostate	M	0.3	1.1	1.9	2.5	3.1	3.5

All other cancers have 10-year cumulative risk of < 0.5% for both sexes.

Common second cancers

From Table 1.2 a man's 10-year cumulative risk of contracting a second cancer is seen to be higher than that for a woman (1 in 10 compared with 1 in 13). A male excess is seen for each of the three major cancer types to which both sexes are susceptible. The excess is largest for lung cancer, which has a strong association with smoking.

Age-specific Incidence

The principal feature of Figure 1.1 is that the age incidence curves for the second primary cancers are much higher at early ages and begin to converge with increasing age. This indicates that the risk of a second cancer is more strongly associated with an early age at onset of the first primary, an observation consistent with strong early environmental exposures and/or increased genetic susceptibility. More toxic chemotherapy or more tissue conserving surgery e.g. in breast cancer, may also be contributing factors.

Trends in SIRs

Figure 1.2 shows an increased SIR following diagnosis of the first primary but that this decreases with further follow-up.

Trends in SIRs for specific cancer types by period of follow-up can be found in Table 1.4 (page 60) separately for men and women. Overall SIRs are given in Table 1.3 (pages 58-61). The overall 23-year SIRs are 1.03 for men and 1.26 for women. SIRs significantly less than 1 are observed for cancers of the stomach, liver, prostate, cervix and ill-defined sites. Statistically significant SIRs are observed for many types of second cancer. For men some of the highest SIRs are for testis 2.49, ALL 2.15, melanoma 1.82, thyroid 1.75, renal pelvis 1.61 and HL 1.41. For women the highest SIRs are for ALL 1.75, AML 2.00, melanoma 1.84, oral cavity 1.69, pharynx 1.59, uterus 1.45 and soft tissue 1.43.



Figure 1.1: Age-specific rates

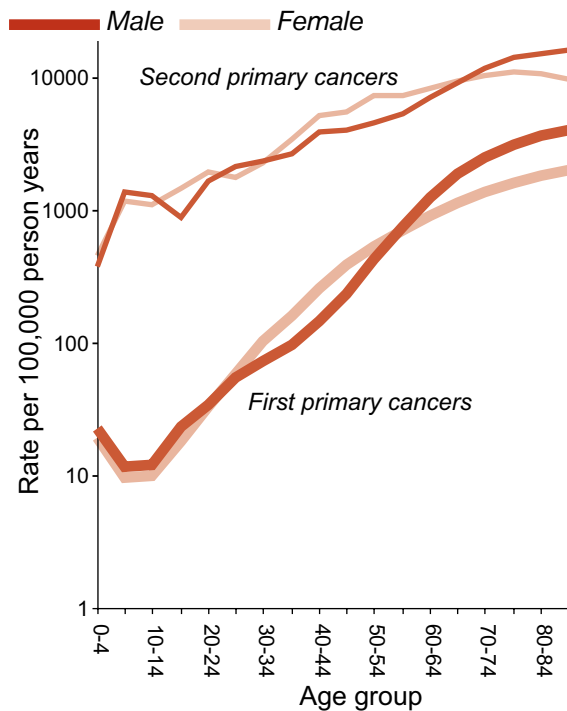
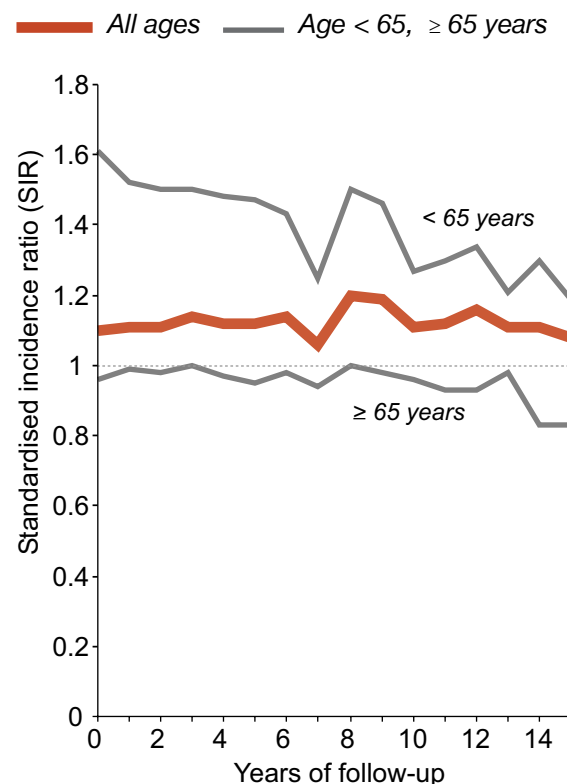


Figure 1.2: Trends in the annual SIR for all second primary cancers



Trends in SIRs with age

In Figure 1.2 the general pattern of decreasing SIRs with increasing follow-up is observed for both age groups, with the under 65 year age group having consistently higher SIRs than older people at any time during follow-up.

Estimates of overall 23-year SIRs by age group and sex are to be found in Table 1.5 (page 61). The younger age group has a 40-50% higher SIR than the older age group. The SIRs are 1.34 for men first diagnosed before 65 years of age compared with 0.91 for those diagnosed at an older age. The SIRs for women are 1.50 and 1.08 respectively.

For men aged under 65 years, statistically significant SIRs were observed for twenty cancers. The highest SIRs were for ALL 3.59, testis 2.82 renal pelvis 2.75, AML 2.41, melanoma 2.37, oral cavity 2.30 and thyroid cancers 2.15. Prostate cancer 0.88 was the only cancer with a SIR significantly less than 1.

For women aged under 65 statistically significant SIRs were observed for twenty-two of the thirty-four cancers. The highest SIRs were for AML 2.80, oral cavity 2.17, renal pelvis 1.99, melanoma 1.99 and soft tissue 1.98. Breast cancer 0.78 was the only cancer with a SIR significantly less than 1.

Comments

The general patterns described for “All cancers” are repeated often for individual cancer types.

Early age at onset is considered to indicate possible inherited susceptibilities and this could be a factor for many cancers. Other explanations include the increased surveillance and detection of certain cancers (breast, melanoma); shared exposure to a risk factor such as tobacco (lung, head and neck); and a result of treatment (leukaemia).