

9.1. INTRODUCTION AND SUMMARY

Table 9.1. Summary of incidence and mortality statistics: rectosigmoid cancer

	INCIDENT CASES			DEATHS		
	males	females	both sexes	males	females	both sexes
All cancers (invasive, in situ and uncertain) (ICD-O-2 C19)						
1997 cases	85	56	141	17	17	34
% of all cancers	0.8%	0.5%	0.7%	0.4%	0.5%	0.5%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	4.7	3.0	3.9	0.9	0.9	0.9
World age-standardised rate	3.7	2.0		0.7	0.5	
European age-standardised rate	5.6	3.0		1.1	0.9	
cumulative risk (0-74)	0.5%	0.2%		0.1%	0.1%	
mortality/incidence ratio	0.200	0.304	0.241			
Time trends (all cancers)						
1994 cases	97	62	159	15	6	21
1995 cases	80	38	118	14	13	27
1996 cases	84	59	143	18	13	31
1997 cases	85	56	141	17	17	34
1994-1997 average	87	54	140	16	12	28
annual % change 1994-97	-3.4%	+0.5%	-2.0%	+4.2%	+25.6%	+12.6%
95% confidence limits of trend	(-9.9%; 3.6%)	(-19.6%; 25.8%)	(-13.4%; 11.0%)	(-1.9%; 10.6%)	(-5.1%; 66.2%)	(4.4%; 21.5%)
Invasive cancers only (ICD-10 C19)						
1997 cases	85	55	140	17	17	34
% of all invasive cancers	0.9%	0.6%	0.8%	0.4%	0.5%	0.5%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	4.7	3.0	3.8	0.9	0.9	0.9
World age-standardised rate	3.7	1.9		0.7	0.5	
European age-standardised rate	5.6	2.9		1.1	0.9	
cumulative risk (0-74)	0.5%	0.2%		0.1%	0.1%	
mortality/incidence ratio	0.200	0.309	0.243			

Cancers assigned to the rectosigmoid area were relatively uncommon (7% of all colorectal cancers) and like other colorectal cancers, more frequent in men than women (Table 9.1). Mortality appeared low, but this is almost certainly due to the low rate of use of the term "rectosigmoid" on death certificates. The number of cancers reported in the rectosigmoid seems to be falling, but again, variation in diagnostic labelling may be the reason for this.

Table 9.2. Summary of incidence and mortality statistics: rectal cancer

	INCIDENT CASES			DEATHS		
	males	females	both sexes	males	females	both sexes
All cancers (invasive, in situ and uncertain) (ICD-O-2 C20)						
1997 cases	375	203	578	123	81	204
% of all cancers	3.6%	1.9%	2.7%	3.1%	2.3%	2.7%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	20.7	11.1	15.9	6.8	4.4	5.6
World age-standardised rate	16.1	7.0		5.0	2.4	
European age-standardised rate	23.9	10.6		7.8	3.8	
cumulative risk (0-74)	1.9%	0.9%		0.6%	0.3%	
mortality/incidence ratio	0.328	0.399	0.353			
Time trends (all cancers)						
1994 cases	304	165	469	130	87	217
1995 cases	310	190	500	138	73	211
1996 cases	331	166	497	118	59	177
1997 cases	375	203	578	123	81	204
1994-1997 average	330	181	511	127	75	202
annual % change 1994-97	+5.7%	+4.1%	+5.6%	-4.2%	-5.6%	-4.6%
95% confidence limits of trend	(3.4%; 8.1%)	(-5.9%; 15.3%)	(2.2%; 9.0%)	(-9.3%; 1.3%)	(-20.1%; 11.6%)	(-10.3%; 1.4%)
Invasive cancers only (ICD-10 C20)						
1997 cases	346	182	528	123	81	204
% of all invasive cancers	3.5%	2.1%	2.8%	3.1%	2.3%	2.7%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	19.1	9.9	14.5	6.8	4.4	5.6
World age-standardised rate	15.0	6.4		5.0	2.4	
European age-standardised rate	22.2	9.5		7.8	3.8	
cumulative risk (0-74)	1.8%	0.8%		0.6%	0.3%	
mortality/incidence ratio	0.355	0.445	0.386			

Rectum is the single most frequent anatomical location of colorectal cancer (30% of the total) (Table 9.2). The male/female ratio (2:1) is much higher than for other colorectal sites. Mortality from rectal cancer (35%) is lower than that for colon cancer. Male cancer rates have increased significantly, at an annual rate of 5.7% per year, since 1994, while female rates have been very variable and show no significant overall trend. As overall colorectal cancer rates in men have remained relatively stable, the increase in rectal cancer may be a real phenomenon or a change in diagnostic labelling.

Table 9.3. Summary of incidence and mortality statistics: anal cancer

	INCIDENT CASES			DEATHS		
	males	females	both sexes	males	females	both sexes
All cancers (invasive, in situ and uncertain) (ICD-O-2 C21)						
1997 cases	9	15	24	3	3	6
% of all cancers	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	0.5	0.8	0.7	0.2	0.2	0.2
World age-standardised rate	0.4	0.6		0.1	0.1	
European age-standardised rate	0.5	0.9		0.2	0.1	
cumulative risk (0-74)	0.0%	0.1%		0.0%	0.0%	
mortality/incidence ratio	0.333	0.200	0.250			
Time trends (all cancers)						
1994 cases	13	14	27	3	1	4
1995 cases	10	6	16	1	7	8
1996 cases	8	14	22	0	4	4
1997 cases	9	15	24	3	3	6
1994-1997 average	10	12	22	2	4	6
annual % change 1994-97	-15.6%	+10.0%	-3.0%	n/a	+10.5%	+0.4%
95% confidence limits of trend	(-21.5%; -9.2%)	(-28.8%; 70.0%)	(-23.8%; 23.6%)	n/a	(-49.6%; 142.2%)	(-37.0%; 60.1%)
Invasive cancers only (ICD-10 C21)						
1997 cases	9	13	22	3	3	6
% of all invasive cancers	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
<i>Incidence and mortality rates (per 100,000 persons per year)</i>						
crude rate	0.5	0.7	0.6	0.2	0.2	0.2
World age-standardised rate	0.4	0.5		0.1	0.1	
European age-standardised rate	0.5	0.8		0.2	0.1	
cumulative risk (0-74)	0.0%	0.1%		0.0%	0.0%	
mortality/incidence ratio	0.333	0.231	0.273			

The number of anal cancers is very small (1% of all colorectal cancers), and unlike all other colorectal cancers, as common in women as in men (Table 9.3). As the numbers each year are so small, no inferences can be drawn with respect to time trends.

9.2. AGE AND SEX PROFILE

Table 9.4. Annual average number of cases, age-specific incidence rate and relative age-specific rate for anorectal cancers, 1994 to 1997

	MALES			FEMALES		
	cases	cases per 100,000	relative rate	cases	cases per 100,000	relative rate
0-4	0	0	0.0	0	0	0.0
5-9	0	0	0.0	0	0	0.0
10-14	0	0	0.0	0	0	0.0
15-19	0	0	0.0	0	0	0.0
20-24	0	0	0.0	0	0	0.0
25-29	1	1	0.4	1	1	0.1
30-34	2	1	0.5	2	2	0.3
35-39	3	2	0.5	3	2	0.3
40-44	6	5	0.7	6	5	0.6
45-49	16	15	1.2	10	9	0.7
50-54	28	30	1.1	12	13	0.7
55-59	40	52	1.2	21	28	1.1
60-64	55	81	1.1	29	42	1.3
65-69	77	127	1.2	30	45	1.1
70-74	77	154	1.0	43	69	1.3
75-79	65	184	1.0	40	82	1.3
80-84	35	167	0.8	29	85	1.2
>85	22	214	0.9	21	90	1.2
all ages	427	24	1.0	247	14	1.0

Anorectal cancers were most frequent in men aged 65 to 74 and women aged 70 to 74 (Table 9.4). The relative incidence rate was highest for men aged 55 to 59 and women aged 60 to 64.

9.3. GEOGRAPHICAL VARIATION

INTERNATIONAL

Anorectal cancer incidence in men in Ireland was one of the highest in Europe, but that for women was average (Table 9.5). Some of the international differences may be attributable to variation in anatomical labelling of cancers.

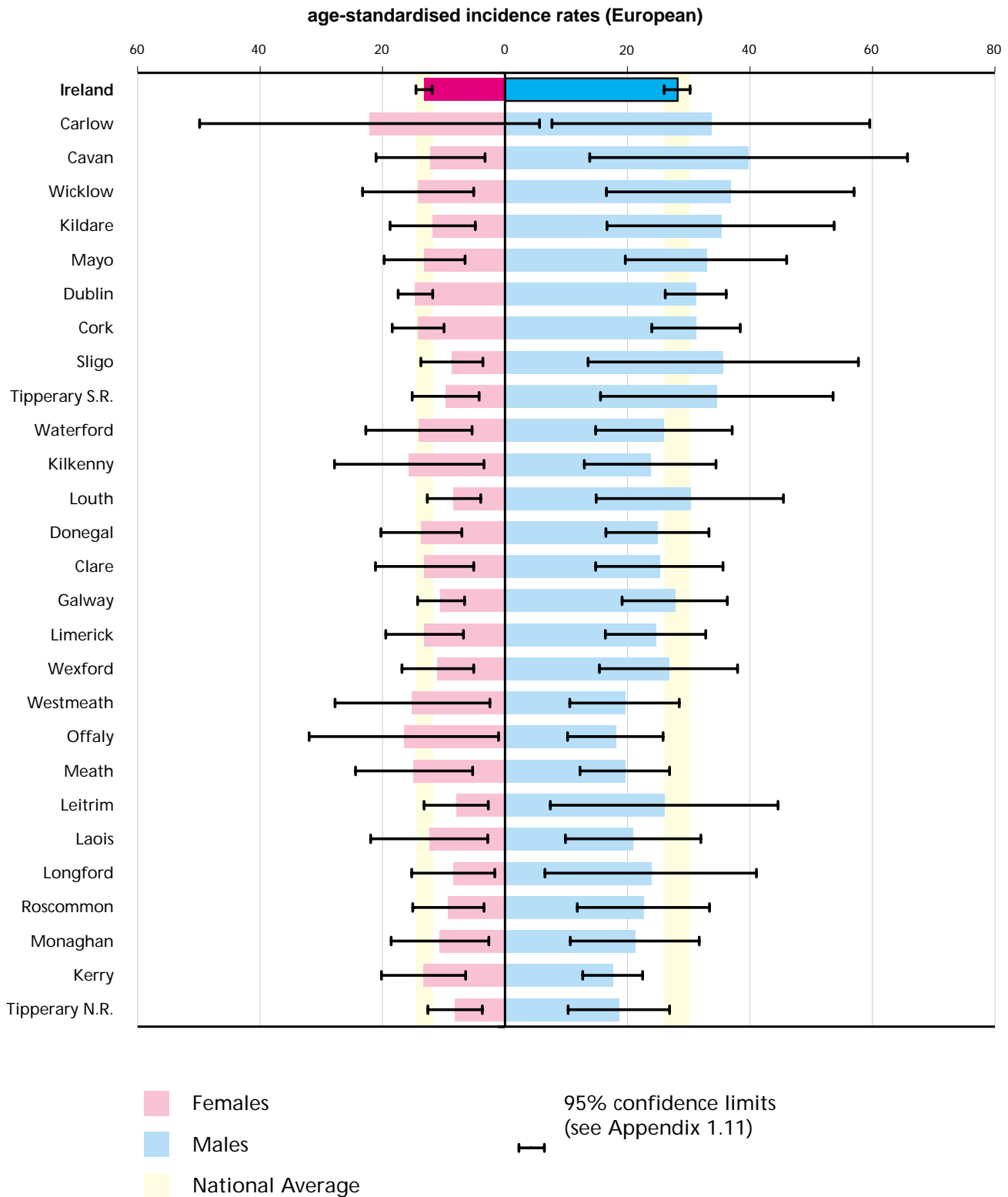
Table 9.5. Age-adjusted annual incidence rate (European standard population) and rank of rates by country, 1995: anorectal cancer (invasive cases only)

	MALES		FEMALES	
	age-standardised rate	rank	age-standardised rate	rank
Czech Republic	39	1	18	1
Slovakia	33	2	15	4
Norway	26	7	18	2
Slovenia	27	3	15	6
Ireland (1994-1997)	27	4	12	13
Denmark	24	8	16	3
Austria	26	6	14	8
France	26	5	13	11
Netherlands	23	11	15	5
N. Ireland	23	9	15	7
Germany	23	10	14	9
Spain	22	14	13	12
Scotland	23	12	12	15
Italy	22	13	12	14
Switzerland	18	16	14	10
Estonia	21	15	11	18
Sweden	18	17	12	16
Bulgaria	18	18	11	17
England	18	19	10	20
Poland	17	20	10	23
Finland	17	21	10	21
Malta	17	22	10	22
Iceland	8	23	10	19

NATIONAL

The incidence of anorectal cancer varied from 146% of expected for men in Cavan to 63% in Kerry and from 170% of expected for women in Carlow to 61% in Leitrim (Figure 9.1). However, the incidence rate was not significantly different from expectation in any county.

Figure 9.1. Age-adjusted (European population) rates and 95% confidence limits by county, 1994 to 1997: all cancers



9.4. BASIS OF DIAGNOSIS AND HISTOLOGICAL TYPE

Table 9.6. Most valid basis of diagnosis of cancer

BASIS OF DIAGNOSIS	CASES	% OF TOTAL
tissue diagnosis	712	95.8%
histology of primary	705	94.9%
histology of other site	7	0.9%
clinical diagnosis	31	4.2%
clinical	19	2.6%
radiology	10	1.3%
post-mortem	1	0.1%
other/not known	1	0.1%
all cancers	743	

Almost all cancers were diagnosed by histology of the primary, only a very small number (4%) being clinically or radiologically diagnosed (Table 9.6). The level of histological verification was considerably higher than for colon cancers. Almost all cancers were adenocarcinoma, and just over 3% were in situ (Table 9.7).

Table 9.7. Morphology

Description	ICD-O-2 code	1997		1994-1997 AVERAGE	
		cases	% of total	cases	% of total
adenocarcinoma, NOS	8140/3	499	67.3%	453	67.3%
malignant neoplasm	8000/3	32	4.3%	38	5.6%
villous adenoma, NOS	8261/1	28	3.8%	22	3.3%
mucous adenocarcinoma	8480/3	19	2.6%	22	3.2%
adenocarcinoma in tubulovillous adenoma	8263/3	30	4.0%	18	2.7%
mucin-secreting adenocarcinoma	8481/3	18	2.4%	18	2.6%
adenocarcinoma in adenomatous polyp	8210/3	23	3.1%	17	2.5%
carcinoma, NOS	8010/3	14	1.9%	14	2.0%
acinar cell carcinoma	8550/3	11	1.5%	12	1.7%
adenocarcinoma in villous adenoma	8261/3	6	0.8%	9	1.4%
carcinoma in situ, NOS	8010/2	9	1.2%	8	1.2%
papillary adenocarcinoma, NOS	8260/3	13	1.8%	8	1.1%
adenocarcinoma in situ in adenomatous polyp	8210/2	8	1.1%	7	1.0%
squamous cell carcinoma, NOS	8070/3	8	1.1%	6	0.9%
signet ring cell carcinoma	8490/3	2	0.3%	5	0.7%
adenocarcinoma in situ in tubulovillous adenoma	8263/2	5	0.7%	3	0.5%
all other types		18	2.2%	16	2.4%
Behaviour					
uncertain		29	3.9%	22	3.3%
in situ		24	3.2%	20	2.9%
invasive		690	92.9%	632	93.8%
all cancers		741		674	100.0%

9.5. STAGE

Table 9.8. Summary stage

stage	1997		1994-1997 AVERAGE	
	cases	% of total	cases	% of total
0	24	3.2%	20	2.9%
I	79	10.7%	72	10.7%
II	94	12.7%	87	12.8%
III	74	10.0%	75	11.2%
IIIA	1	0.1%	2	0.3%
IIIB	0	0.0%	1	0.1%
IV	131	17.7%	123	18.2%
not applicable	30	4.0%	23	3.4%
not staged	310	41.7%	273	40.5%
all cancers	743		674	

A summary stage could be assigned to almost 60% of cancers (Table 9.8). The largest number (18%) was at stage IV. An extent of disease could be assigned to 65% of cases, the largest number of which were local (Table 9.9).

Table 9.10. TNM stage

T stage	N stage	M0		M1		NOT STAGED	
		cases	% of total	cases	% of total	cases	% of total
Tis/Ta	N0	24	3.2%	0	0.0%	0	0.0%
T1	N0	13	1.8%	0	0.0%	9	1.2%
	N1	2	0.3%	1	0.1%	0	0.0%
	N2	0	0.0%	0	0.0%	0	0.0%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	1	0.1%	3	0.4%	17	2.3%
T2	N0	69	9.3%	1	0.1%	28	3.8%
	N1	5	0.7%	0	0.0%	4	0.5%
	N2	3	0.4%	0	0.0%	2	0.3%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	10	1.35%	3	0.4%	10	1.4%
T3	N0	84	11.3%	13	1.8%	44	5.9%
	N1	38	5.1%	14	1.9%	34	4.6%
	N2	16	2.2%	15	2.0%	17	2.3%
	N3	3	0.4%	1	0.1%	2	0.3%
	not staged	10	1.3%	9	1.2%	13	1.8%
T4	N0	7	0.9%	4	0.5%	5	0.7%
	N1	5	0.7%	6	0.8%	5	0.7%
	N2	2	0.3%	6	0.8%	1	0.1%
	N3	1	0.1%	2	0.3%	0	0.0%
	not staged	9	1.2%	14	1.9%	6	0.8%
not staged	N0	2	0.3%	3	0.4%	1	0.1%
	N1	0	0.0%	1	0.1%	1	0.1%
	N2	0	0.0%	0	0.0%	1	0.1%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	14	1.9%	35	4.7%	65	8.7%
all T	all N	317	42.8%	131	17.7%	265	35.7%
not applicable		30					
all cancers		743					

Table 9.9. Extent of disease

EXTENT OF DISEASE	CASES	% OF TOTAL
local	199	26.8%
regional	118	15.9%
distant	131	17.6%
not applicable	30	4.0%
not known	265	35.7%
all cancers	743	

As with colon cancer, T3 N0 M0 was the commonest TNM stage (Table 9.10).

9.6. TREATMENT

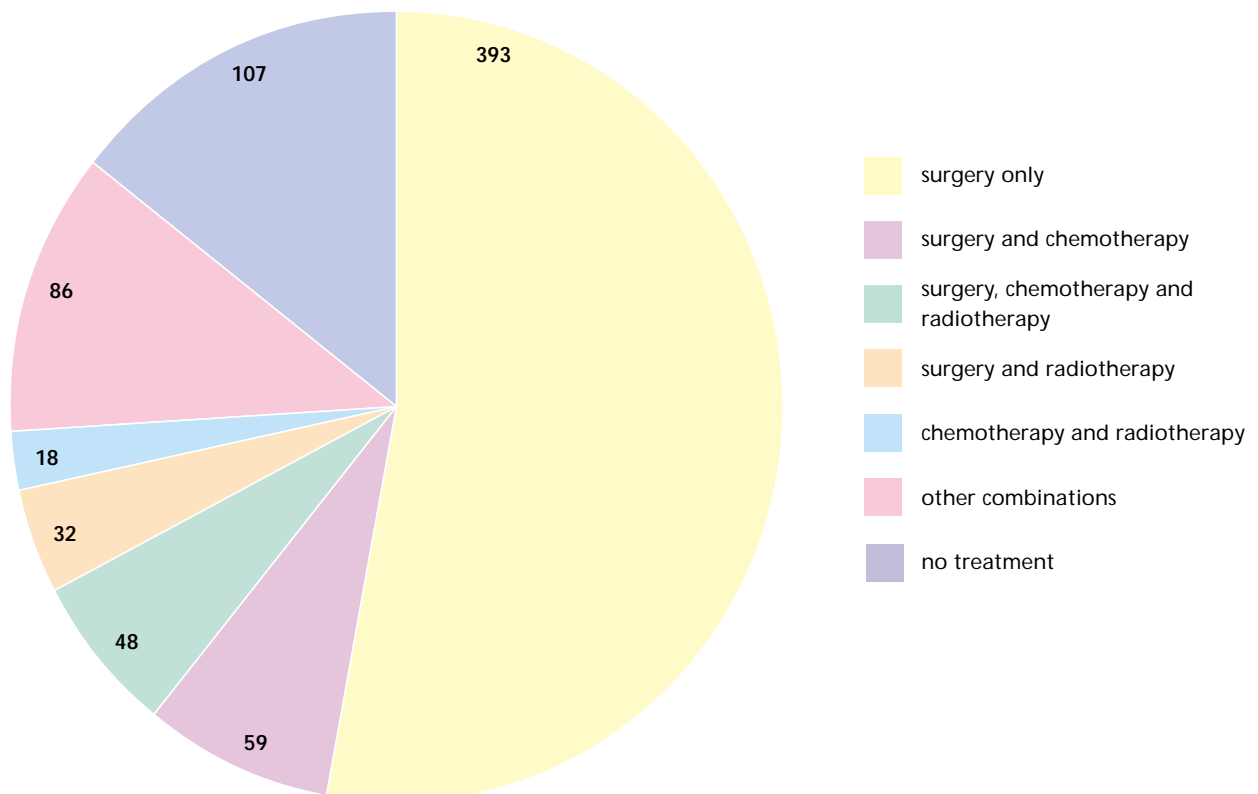
Surgery was the most frequent treatment type (Table 9.11). 74% of tumours were surgically removed and in 53% of cases this was the only treatment. The percentage having chemotherapy was 19%. Although this has gone down slightly since 1996, overall there has been an increase in chemotherapy since 1994. Radiotherapy treatments have increased from 11% in 1994 to 17% in 1997. Chemotherapy and radiotherapy were rarely given alone but usually as adjuvant therapy (Figure 9.2).

Table 9.11. Treatment summary

TREATMENT	NUMBER OF 1997 CASES TREATED	TRENDS IN % OF CASES TREATED			
		1997	1996	1995	1994
surgery	552	74.3%	76.0%	73.0%	75.7%
chemotherapy	140	18.8%	21.0%	17.2%	14.8%
hormone	0	0.0%	0.0%		
radiotherapy	129	17.4%	16.5%	17.4%	11.1%
other treatment	68	9.2%	13.4%	9.2%	29.3%
all cases treated	636	85.6%	88.2%	85.6%	91.0%
no treatment	107	14.4%	11.8%	14.4%	9.0%
all cases	743	743	662	634	655

Figure 9.2. Frequent treatment combinations

Note: numbers indicated refer to the number of cases treated



9.7. SURVIVAL

Overall survival at five years was 52%±4% for men and 60%±4% for women (Table 9.12). These figures are almost identical to those for colon cancer. Five-year survival for stage I cases was 87%±11% for men and 105%±11% for women, while survival for stage IV cases was 8%±6% for men and 18%±7% for women (Figure 9.3).

Table 9.12. One to five year relative survival (± 95% confidence limits) for cancers diagnosed from 1994 to 1997

sex	stage	cases	YEARS SINCE DIAGNOSIS					
			1		3		5	
			survival	95% confidence limits (±)	survival	95% confidence limits (±)	survival	95% confidence limits (±)
males	0	35	0.94	0.11	0.94	0.15	0.86	0.32
	I	171	0.94	0.05	0.89	0.07	0.87	0.11
	II	218	0.91	0.05	0.74	0.08	0.67	0.11
	III	180	0.87	0.06	0.58	0.09	0.45	0.13
	IV	318	0.37	0.06	0.14	0.04	0.08	0.06
	X	649	0.76	0.04	0.60	0.05	0.59	0.07
	all	1571	0.74	0.02	0.56	0.03	0.52	0.04
females	0	35	0.84	0.14	0.90	0.14	0.96	0.14
	I	102	0.96	0.05	0.99	0.07	1.05	0.11
	II	104	0.90	0.07	0.73	0.10	0.78	0.11
	III	106	0.87	0.07	0.66	0.11	0.59	0.13
	IV	155	0.37	0.08	0.19	0.07	0.18	0.07
	X	443	0.77	0.04	0.62	0.05	0.57	0.07
	all	945	0.75	0.03	0.62	0.04	0.60	0.04

Figure 9.3. Relative survival by stage for cases diagnosed from 1994 to 1997

