Epidemiology of pancreatic cancer in the elderly (65+ years) in Great Britain, 1971-2006

Pascale Avery and Anjum Memon

Division of Primary Care and Public Health, Brighton and Sussex Medical School

Background

- Pancreatic cancer is the fifth most common cause of cancer death in the UK.
- It has poor prognosis and the lowest five-year survival rate (3%) of all cancers.
- It is essentially a disease of the elderly – about 80% of the cases occur in people aged ≥60 years.
- Considering the ageing population, it is expected that the number of cases will increase substantially in the future. This will have implications for the provision of diagnostic and treatment facilities.

Objective

To examine the epidemiology of pancreatic cancer in the elderly (65+ years) in Great Britain, for the 36-year period 1971-2006, with respect to distribution by age, gender, type and site of tumour, and trends in incidence over time.

Table 1. Number of elderly (65+ years) patients diagnosed with pancreatic cancer in Great Britain, 1971-2006

Year of diagnosis	E & W	Avg. No. Cases/Year	S	Avg. No. Cases/Year	GB	Avg. No. Cases/Year
1971-75	17441	3488	1745	349	19186	3837
1976-80	20291	4058	2205	441	22496	4499
1981-85	22088	4418	2354	471	24442	4888
1986-90	23314	4663	2245	449	25559	5112
1991-95	23443	4689	2184	437	25627	5125
1996-00	23725	4745	2324	465	26049	5210
2001-06	30538	5090	2662	444	33200	5533
All	160840		15719		176559	
% change	+75.1%	+45.9%	+52.6%	+27.2%	+73.0%	+44.2%

Methods

Design: A descriptive epidemiological study.

Setting: Population-based cancer registration data from England (ONS), Wales (WCISU), and Scotland (ISD) for the period 1971-2006.

Subjects: 176,559 elderly patients (65+ years) with pancreatic cancer in Great Britain.

Data : The national cancer registration data included information on: year of birth, gender, ethnicity (for 1993-2006), age at first diagnosis (65+ years), year of diagnosis, topography (ICD-10 codes), morphology (ICD-O-3 codes), most valid basis of diagnosis (1997-2006), and type of treatment (1993-2006).

Analysis: We calculated age-specific average annual incidence rates (per 100,000) of pancreatic cancer in males and females in E&W and Scotland for the period 1971-2006. We also examined the frequency distribution of the disease by anatomical site, morphology, and most valid basis of diagnosis.

Table 4. Number of elderly (65+ years) patients with pancreatic cancer by anatomical site in Great Britain, 1971-2006

		E&W		S		GB	
ICD-10 Code	Anatomical site	n	%	n	%	n	%
C25.0	Head of pancreas	68523	42.6	7682	48.9	76205	43.2
C25.1	Body of pancreas	4219	2.6	558	3.5	4777	2.7
C25.2	Tail of pancreas	2815	1.8	359	2.3	3174	1.8
C25.3	Pancreatic duct	201	0.1	27	0.2	228	0.1
C25.4	Endocrine pancreas	138	0.1	35	0.2	173	0.1
C25.7	Other parts of pancreas (Neck)	3409	2.1	158	1.0	3567	2.0
C25.8	Overlapping lesion of pancreas	432	0.3	69	0.4	501	0.3
C25.9	Pancreas, unspecified (NOS)	81103	50.4	6831	43.5	87934	49.8
	All	160840	100.0	15719	100.0	176559	100.0

Conclusions

- During the past three decades, there has been a significant increase (+73.0%) in the number of cases of pancreatic cancer in the elderly, in Great Britain.
- The incidence of pancreatic cancer increases exponentially with age (Fig.1).
- The male to female incidence ratio changed from 1:1.5 in 1971-75 to 1:1.1 in 2001-06.
- In males, there was a small increase in incidence from 1971-85, followed by a steady decline and stabilisation of rates to 2006 (Fig. 2).
- In females, there was a steady increase in incidence rate throughout the study period - from 42.8/100,000 in 1971-75, to 56.4/100,000 in 2001-06 (Fig. 2).
- The initial increase in incidence may be due to the advent of CT and MRI use in diagnosis.
- About half of the pancreatic cancers were recorded as unspecified (NOS) (Table 4). This highlights the need for early diagnosis - as it can be difficult to identify the site of origin at an advanced stage of the disease.
- The most common anatomical site was head of pancreas – further research should determine whether these patients have a better prognosis/increased survival rates.
- The large majority of tumours were classified as carcinoma (57.1%), followed by adenocarcinoma (24.5%).
- Considering the increasing incidence in women, there is a need for more effective public education for primary prevention.
- These findings are also relevant for the planning of oncology services and resource allocation.

Table 2. Age and sex distribution of elderly (65+ years) patients with pancreatic cancer in Great Britain, 1971-2006

	Great Britain	
	n	%
Age (years)		
65-69	35277	20.0
70-74	41743	23.7
75-79	41021	23.3
80-84	32176	18.2
85+	26342	14.9
Gender		
Male	81471	46.1
Female	95088	53.9
All	176559	100.0

Fig 1. Age-specific incidence rates (per 100,000) of pancreatic cancer in the elderly by gender, 2001-2006

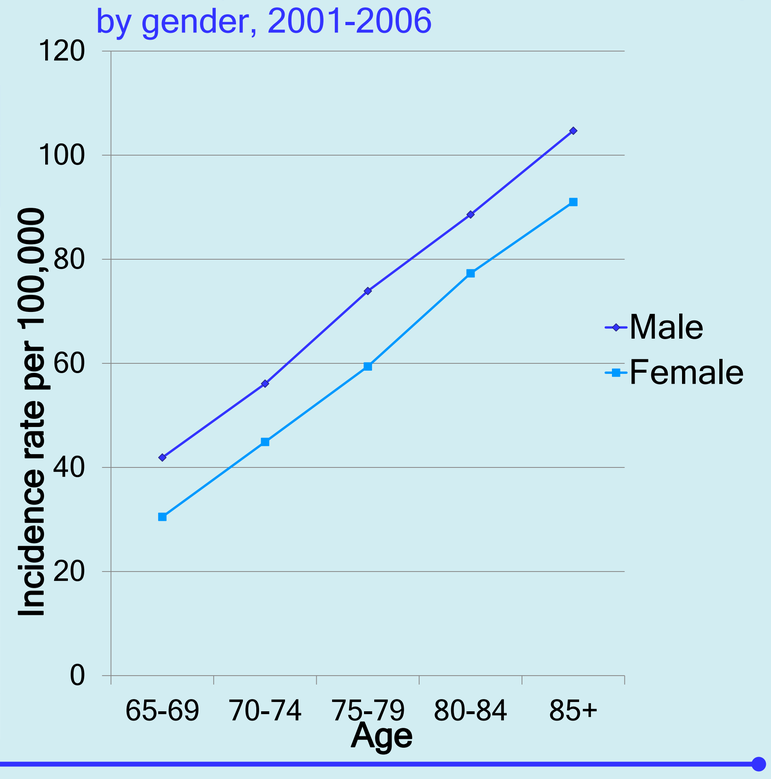
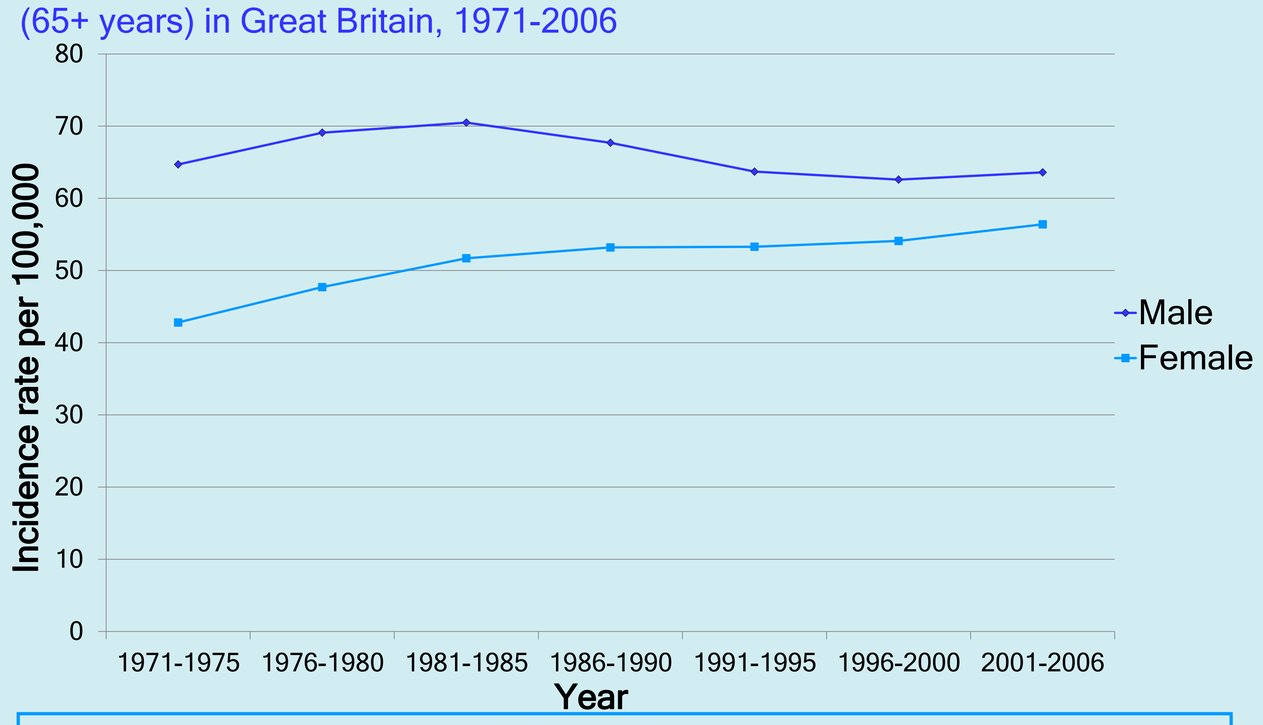


Table 3. Average annual incidence rates (per 100,000) of pancreatic cancer in the elderly (65+ years) by gender in Great Britain, 1971-2006

Male								
Age (years)	1971-75	1976-80	1981-85	1986-90	1991-95	1996-00	2001-06	**% change**
No. of patients	9338	10819	11439	11643	11459	11676	15097	+61.7%
65-69	48.1	49.6	48.7	44.7	41.0	40.5	41.9	-12.9%
70-74	65.7	68.6	67.1	64.4	58.2	56.5	56.1	-14.6%
75-79	80.5	88.4	86.8	83.3	79.3	73.3	73.9	-8.2%
80-84	93.9	101.1	107.2	100.9	91.9	91.9	88.6	-5.6%
85+	103.7	114.3	113.9	113.4	111.6	105.5	104.7	+1.0%
All ages	64.7	69.1	70.5	67.7	63.7	62.6	63.6	-1.7%
Female								
Age (years)	1971-75	1976-80	1981-85	1986-90	1991-95	1996-00	2001-06	**% change**
No. of patients	9848	11677	13003	13916	14168	14373	18103	+83.8%
65-69	27.7	29.8	31.3	30.7	30.9	29.6	30.5	+10.1%
70-74	39.6	41.4	42.7	45.8	44.2	43.0	44.9	+13.4%
75-79	49.1	57.7	58.6	58.4	56.1	61.5	59.4	+21.0%
80-84	62.3	69.1	75.5	75.1	74.4	71.7	77.3	+24.1%
85+	70.9	78.8	85.6	87.4	87.0	86.6	91.0	+28.3%
All ages	42.8	47.7	51.7	53.2	53.3	54.1	56.4	+31.8%

Fig 2. Trends in incidence rates (per 100,000) of pancreatic cancer in the elderly (65+ years) in Great Britain, 1971-2006



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