
CANCER REGISTRATION IN HONG KONG, CHINA

W Foo, WK Mang, SF Ma

History of the Hong Kong Cancer Registry

The Hong Kong Cancer Registry is population-based. It was first established in 1963 and is currently run by staff of Department of Clinical Oncology in Queen Elizabeth Hospital, Hospital Authority. The registry is staffed by a Clinical Oncologist, 2 full-time statistical analysts and 4 registrars. The registry prepares an annual report of cancer incidence and mortality, highlighting trends and changes.

Asian Pacific J Cancer Prev, 2, IACR Supplement, 9-12

Present Status

The total land area of Hong Kong is 1,095 square kilometers. The population at the most recent census (1996) was about 6.5 million (3.3 million males and 3.2 million females). About 95% of the population are Chinese, of which 90% have come from, or descended from, people in the Guangdong Province in Southern China. Hong Kong is one of the most densely populated places in the world with an overall population density of 5,990 persons per square kilometer at the end of 1997.

Logistics of Data

Cancer notification is by administrative order without specific law in Hong Kong. Our registry staff have access to most hospital/laboratory cancer data in both private and public sectors. We extract data on clinical and histopathological diagnoses in cancer cases. There are a number of channels through which data is collected: (1) all five Clinical Oncology centers in the Hospital Authority; (2) all Pathology departments of Hospital Authority hospitals and the Department of Health; (3) discharge summary from most of Hospital Authority hospitals; (4) case summaries from Radiotherapy department in the private sector; (5) most Pathology departments/institutes in the private sector; (6) deaths certificate from the Births, Deaths & Marriages Registry of the Government; and (7) voluntary notification from private medical practitioners.

Incidence Data

In 1997, a total of 11,086 men and 8,835 women were diagnosed with cancer (Table 1). In the same period, 6,423 men and 3,950 women died from the disease. The number of new cancer cases in Hong Kong is rising by 1-2% per year. The increasing population as well as the aging population

is responsible. The age-standardised incidence rate for all cancers was 269.8 per 100,000 for men and 198.3 per 100,000 for female. These rates approach those of the developed countries in the World. Hong Kong has higher incidence rates in comparison with other countries in Asia..

The cancer pattern has changed over the years (Fig. 1 and Table 2). As Hong Kong has become industrialized since the Second World War, the pattern of types of cancer has followed in the footsteps of the developed countries in the West. In men, the most common cancers are now lung (2,552 cases), liver (1,289), colon (944), nasopharynx (804) and stomach (653). Colon cancer overtook nasopharyngeal cancer and became the third common cancer in 1997. In women, they were cancers of the breast (1,608 cases), lung (1,220), colon (844), cervix (474) and rectum (470). Breast cancer has become number one, replacing lung cancer. Colon and rectal cancers have also increased, replacing cancers of the cervix and stomach in ranking.

Overall incidence of cancer increases more rapidly with age in females than in males from the age of 20 years until age 50 (Fig. 2f). Thereafter, the incidence in males increased at a much higher rate. This difference in the 20 to 50 year age group is due to much greater number of breast and cervical cancers occurring in middle-aged women.

The Falling Age-standardized Incidence Rate

Between 1983-1997, the overall age-standardized cancer incidence rate has declined (Fig. 3), despite the rising trends in the incident numbers and the crude incidence rate. This is most unusual. In those fifteen years or so the population of Hong Kong increased from 5.3 million to 6.3 million. This far exceeded the natural growth (crude birth rate 12/1000, crude death rate 5/1000) and was accounted for by immigration from Mainland China. The immigrants tended to be in the

Hong Kong Cancer Registry, c/o Department of Clinical Oncology, Queen Elizabeth Hospital, 30 Gascoigne Road, Hong Kong, China
E-mail: cancereg@ha.org.hk, Tel: (852) 2958-6021, Fax: (852) 2958-5559, Web site: <http://www.qeh.org.hk>

younger age group (20–40). Coming from Mainland China their environmental exposure might have been different from that in Hong Kong, as would their cancer incidence. The immigrants would have most likely diluted the incidence rates in Hong Kong.

Only a few of the leading cancer sites continued to increase or remain level (Table 2). In particular, breast and colon cancer incidence is catching up. Prostate cancer is also rising quickly. The incidence of traditional cancers such as nasopharynx, cervix and stomach is falling over the years. This is likely due to improving economic conditions in the past 50 years.

Epidemiology of the Principal Cancers

In both sexes, the five leading cancer sites were the lung, colon, liver, female breast and nasopharynx, and together they accounted for over 50% of all new cases.

Lung Cancer

Cancer of the lung has remained the most common cancer in Hong Kong, ranking first in men and second in women. It represents over 18% of all cancers registered each year.

Like many other cancers, its incidence increases after age 50 and rises continuously to reach the highest in 70–79 age group (Fig. 2a). Compared with the rest of world, the rate of lung cancer in Hong Kong women exceeded those recorded in most other registries and that for men was also high. Environmental factors particularly smoking are responsible in men, but it has long been observed that, in women with lung cancer, very few have ever smoked. We are still looking at the causes of this. The most common histological type is adenocarcinoma, particularly in women.

Colon Cancer

Colon cancer is increasing rapidly in terms of numbers and of age standardised rates (Table 2). It has replaced nasopharyngeal cancer as the number 3 cancer in recent years. The incidence rate increases sharply after the age of 50 years. The rates in both sexes are nearly identical before 60 years, then the rates in men climb more steeply than in women (Fig. 2b).

Liver Cancer

The number of liver cancers is still rising slowly. This is attributable to an aging population. The age-standardized rate of liver cancer is decreasing slowly in men but levelling off in women. The incidence of liver cancer rises sharply after

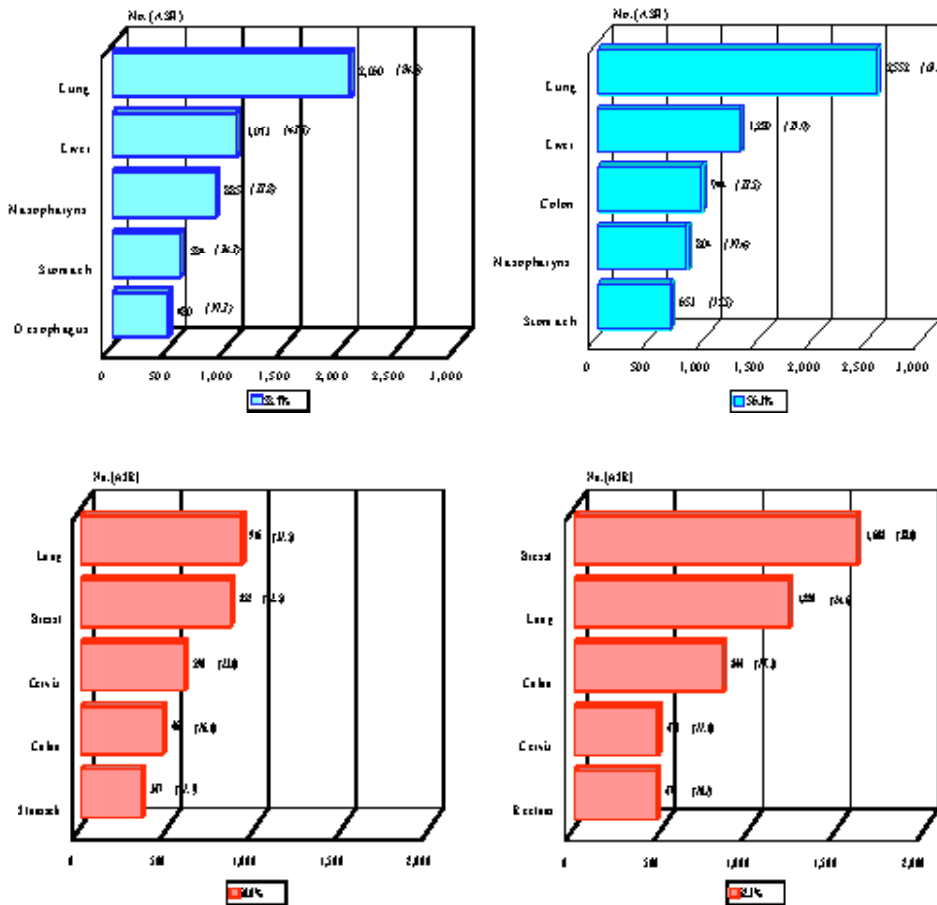


Figure 1. Top 5 Common Cancers in Hong Kong, 1983 vs 1997 (number, and age standardised incidence rates)

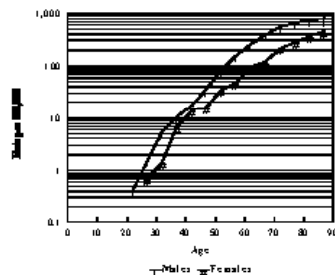
Table 2 . Percentage Change over 15 years, and Estimated Annual Percent Change (EAPC) in Age-adjusted Incidence Rates of Leading Cancers, 1983-1997

ICD-9	Site	Males		Females			
		% change	EAPC (%)	% change	EAPC (%)		
147	Nasopharynx	-32.7	-2.9 *	-27.1	-2.7 *		
150	Oesophagus	-39.6	-3.9 *	-39.4	-3.3 *		
151	Stomach	-33.4	-3.1 *	-30.9	-3.0 *		
153	Colon	13.3	0.9 *	6.2	0.9 *		
154	Rectum	13.5	0.7	2.6	0.3		
155	Liver		-19.2	-1.3 *	-4.6	-0.2	
	162	Lung		-22.3	-1.8 *		
-25.1	-2.2 *			174	Female breast		
-	-	19.1	1.1 *		180	Cervix	
uteri	-	-	-47.8	-4.5 *		182	Colpus
uteri	-	-	21	0.8 *		185	Prostate
tate	21.9	1.3 *	-	-		188	Non-Hodgkin's lymphoma
Bladder	-34.4	-3.4 *	-35.3	-3.9 *		200,202	Non-Hodgkin's lymphoma
Hodgkin's lymphoma	5.2	-0.1	-0.1	-4.2	-0.7		
140-208	All cancer sites	-19.4	-1.7 *	-12.5	-1.2 *		

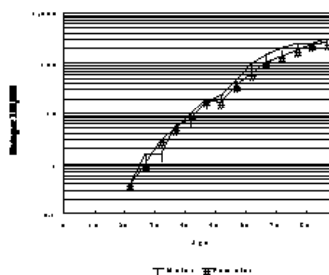
All rates are age-adjusted to the 1981 HK Standard Population.

EAPC is the Estimated Annual Percent Change between 1983 and 1997. *statistically significant at $p < 0.05$.

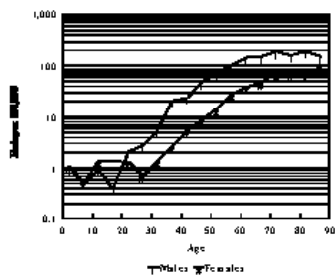
2a. Lung cancer



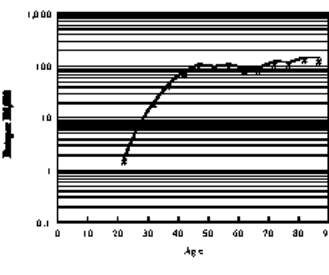
2b. Colon cancer



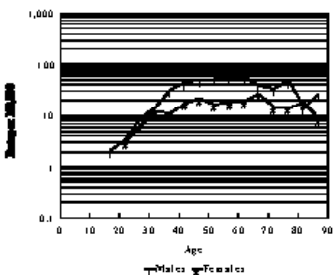
2c. Liver cancer



2d. Female breast cancer



2e. Nasopharyngeal cancer



2f. All cancer sites

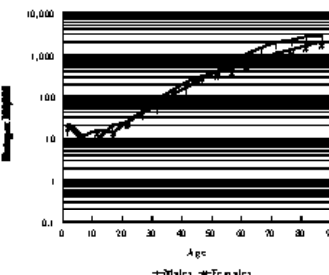


Figure 2. Age-specific Incidence Rates of Leading Cancers in 1997

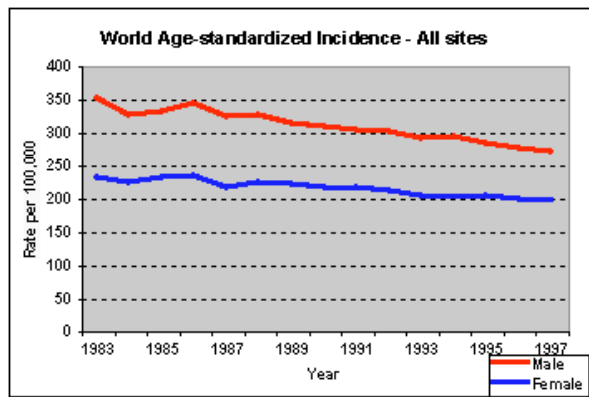


Figure 3. Age-standardized Incidence Rate 1983-1997

the age of 40 and the rise continues into older age (Fig. 2c). If Hepatitis B virus is causally associated with liver cancer, and if vaccination against hepatitis B works, we should expect the incidence to drop in around in 30 years (vaccination against hepatitis B at birth began in 1987). Over 75% of the cases with histological proof are hepatocellular carcinoma, with cholangiocarcinoma comprising 17%.

Female Breast Cancer

Breast cancer is now the number one cancer in women in Hong Kong. The age-standardized rates are increasing, and in 1997, there were already 1,608 new cases diagnosed. Changes in lifestyle, associated with industrialization are probably responsible. Breast cancer occurred in females at an earlier age compared with other cancers. The age-specific incidence in 1997 rose dramatically in the age group 20-49, thereafter the curve remained stable (Fig. 2d). The most common histological type is ductal carcinoma (75%).

Nasopharyngeal Cancer

Nasopharyngeal cancer is very common in southern Chinese. Its incidence in Hong Kong ranks number one in the world. Peculiar to nasopharyngeal cancer, the incidence rises in the early 30's, peaks in the mid-50's and falls afterwards (Fig. 2e). Events early in life might be responsible in its occurrence in relatively young persons. Feeding preserved food, particularly salted fish to infants, is suspected to be a factor. The age-standardized rates are falling. The exact reason is unclear. Improving economic conditions may be one of the factors.

Contact

Hong Kong Cancer Registry

c/o Department of Clinical Oncology,
Queen Elizabeth Hospital,
30 Gascoigne Road, Hong Kong, China
E-mail: cancereg@ha.org.hk,
Tel: (852) 2958-6021, Fax: (852) 2958-5559,
Web site: <http://www.qeh.org.hk>