

Letter to the Editor

Rising Incidence of Colon Cancer in Shanghai

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Age-adjusted (world standard) incidence rates for colon cancer in the ten districts of urban Shanghai, China, increased more than 75% during 1972 to 1989, or about 4% per year, more rapidly than virtually all other cancers, while the rates for rectal cancer changed little (Table 1) (1). Substantial increases of 3-5% per year in colon cancer incidence occurred over nearly all age groups (Fig. 1). The parallel rises across age categories suggest there have been recent changes that influence the later stages of carcinogenesis. If early life exposures were critical, then disproportionate increases in colon cancer during 1972-1989 would have been anticipated among younger age groups. Such late-stage effects are also suggested by studies of migrants from low- to high-risk areas, among whom the rates of colon cancer approach those of the host country much faster than those of other cancers (2).

Reasons for the rising incidence of colon cancer are not clear, but changes in diet and other environmental factors are suspected (3). In Shanghai, per capital consumption of pork, eggs, and milk products increased more than 100% over the past 3 decades (4). Saturated fat-containing foods have been linked to colon cancer risk in several epidemiological investigations, including a large case-control study among Chinese in North America and China (5). The rising incidence occurred despite increasing consumption of vegetables and fruits, which are protective against colon cancer. Part of the trend may be due to decreased physical activity, which has been shown to elevate risk (5). Increases in diagnosis may have been greater for colon cancer than rectal cancer. Of course, improvements in cancer reporting over the study period also may be involved, although it is noteworthy that trends for rectal cancer were flat.

In the United States and some other Western countries, the rising rates of colon cancer have been more pronounced among men than women, but in Shanghai the incidence rates increased about equally, suggesting that dietary and other exposures have a similar impact on both sexes. Hormonal and reproductive influences have been suggested in several studies of colon cancer (6) but have not been detected in China (7). However, further study is needed to clarify whether the trends are being affected by recent changes in childbearing pat-

terns, such as increasing maternal age at first childbirth and decreasing number of children. Another peculiarity of the colon cancer patterns in Shanghai is that under 60 years of age, rates among women were higher than among men, but lower thereafter (Fig. 2), suggesting that in the future Shanghai may not experience the male dominance of colon cancer that is seen elsewhere.

Table 1 Age-adjusted incidence rates^a of colon and rectum cancer in urban Shanghai, 1972-1974 to 1987-1989

	Men		Women	
	Colon	Rectum	Colon	Rectum
1972-74	6.1 (488)	8.9 (681)	5.7 (526)	6.7 (617)
1975-77	6.2 (519)	7.2 (608)	5.8 (574)	6.4 (626)
1978-80	8.1 (787)	9.6 (918)	7.1 (769)	7.2 (782)
1981-83	8.4 (884)	8.4 (874)	8.0 (956)	7.0 (829)
1984-86	9.1 (1113)	8.4 (1009)	8.8 (1177)	6.8 (915)
1987-89	11.2 (1406)	9.4 (1195)	10.2 (1433)	7.3 (1034)
Percentage change	84.6	6.1	78.1	8.8
APC ^b	4.2 ^c	0.6	4.2 ^c	0.6

^a Per 100,000 person-years, age-adjusted using the world standard; numbers of cases in parentheses.

^b Annual percentage change.

^c $P < 0.001$.

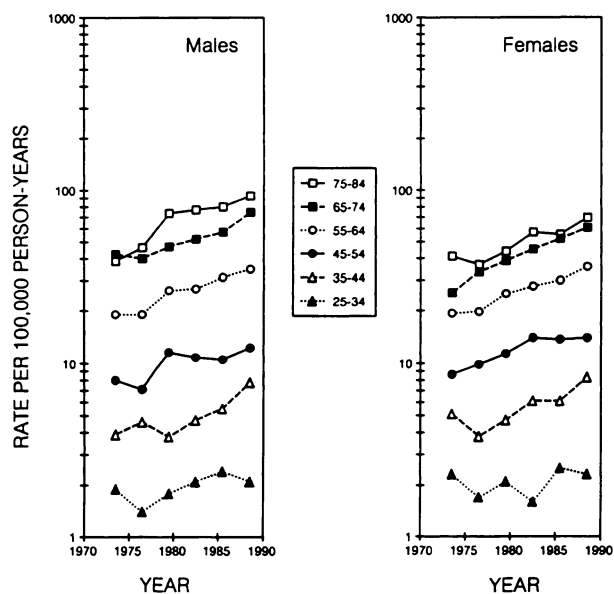


Fig. 1. Age-specific colon cancer incidence trends in urban Shanghai, 1972-1974 to 1987-1989. Rates are age-adjusted within 10-year age groups using the world standard.

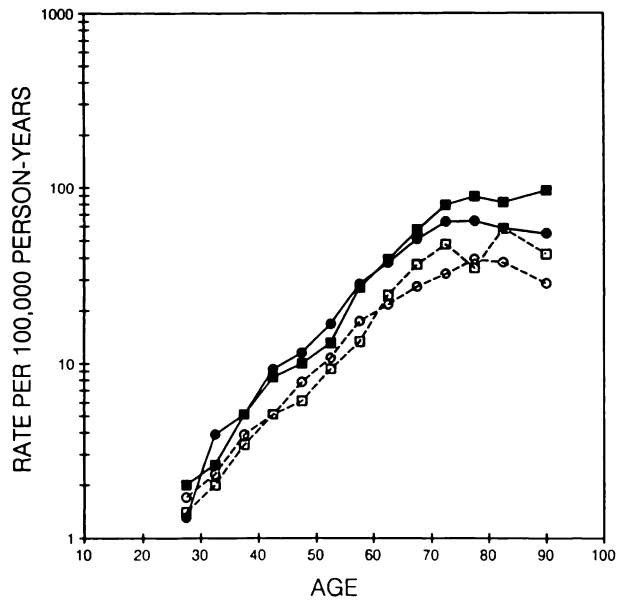


Fig. 2. Age-specific colon cancer incidence rates in urban Shanghai, 1972-1977 and 1984-1989. □, male, 1972-1977; ■, male, 1984-1989; ○, female, 1972-1977; ●, female, 1984-1989.

These rapidly changing patterns of colon cancer suggest that Shanghai and other areas of China are well suited for further research into the causes, prevention, and control of colon cancer.

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