

Increased burden of colorectal cancer in Asia

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Abstract

The incidence and mortality of colorectal cancer (CRC) is rising rapidly in Asia. It seems that ethnicity has an important etiological role in CRC in Asia. However the incidence, anatomical distribution and mortality of CRC among Asian populations are not different from those in Western countries. There is little support by health authorities for CRC screening and very low public awareness of this emerging epidemic in Asia. The increasing rate of CRC in Asia means that we need to take action immediately to prevent CRC and to diagnose the disease at the early stages by introducing CRC screening in countries at high risk of an increasing burden of CRC.

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INTRODUCTION

With its high incidence and mortality, colorectal cancer (CRC) constitutes a public health burden in most industrialized countries^[1]. CRC is the third most common cause of cancer-related deaths globally^[2].

Given the high incidence and mortality in Western populations, CRC has been extensively studied in these countries. The highest rates are in developed countries, including the United States, Canada, Australia, and north-western Europe. A comparatively low rate is observed in Asian, African, and South American countries although incidence rates are increasing in countries that were previously considered low incidence^[3].

Asia is the most populous continent with approximately 4 billion people: 60% of the world's current population. CRC rates are rising rapidly in Asia^[4]. In this editorial, we discuss briefly the burden of CRC in Asia. In this issue, there are three topic highlights regarding CRC in Asian countries: first written by Moghimi-Dehkordi *et al*^[5] gives an overview of CRC survival rates and prognosis in Asia; the second by Maserat *et al*^[6] concerns endoscopic electronic medical record and information systems as a new approach for improving information management in CRC prevention; the third paper by Pourhoseingholi *et al*^[7] concerns the necessity of CRC screening in the Iranian population.

INCIDENCE

CRC is now the third most common malignant disease in both men and women in Asia^[8]. Data from the Cancer Base of the International Agency for Research on Cancer show that the incidence in many affluent Asian countries is similar to that in the West^[9]. In Eastern Asia, countries such as China, Japan, South Korea and Singapore have experienced a two- to four-fold increase in incidence in recent decades^[8]. Among ethnic groups in Asia, the incidence of CRC is significantly higher among the Chinese^[10]. According to the Chinese National Cancer Database of 2003, CRC was one of three cancers with the most rapidly increasing incidence (together with lung

cancer and female breast cancer) in the country between 1991 and 2005^[11]. In Japan, the incidence of CRC may have exceeded that of gastric cancer^[12]. A rapid increase in incidence of CRC has also been reported in Taiwan^[13]. In the Middle East, the incidence of CRC has increased in Iran in recent years^[14,15] and Iranian data suggest a younger age distribution compared to Western reports^[15-17].

While the overall age-standardized rate (ASR) has increased in most Asian countries in last two decades, there have been recent decreases in ASR in some countries, especially in the younger population^[18-20]. However, data are lacking in countries such as India, Indonesia, and other countries located in the Middle East. These findings indicate a rapid increase of CRC incidence in Asia and a changing epidemiology which is as worrying as the rising incidence.

MORTALITY

The 5-year mortality for people diagnosed with CRC is approximately 40% although survival improves substantially if the cancer is diagnosed while it is still localized^[21]. The mortality of CRC has been increasing in the last decade in Asian countries, with the exception of Japan and Singapore^[8]. The WHO Mortality Database indicates that colorectal-cancer mortality in Singapore has doubled in both men and women over the past three decades^[22]. The National Cancer Center of Korea reported a declining trend in mortality from stomach and liver cancers but a 35% increase in colorectal-cancer mortality in both men and women^[23]. According to data from the national mortality routine reporting system in China, mortality from CRC has increased through recent decades^[24]. National death statistics of Iran reported a slight increasing trend for CRC mortality from 1995 to 2003, and CRC mortality was higher in older age and males^[25,26].

EPIDEMIOLOGY

It seems that ethnicity has an important etiological role in CRC in Asia. In Singapore, where different ethnic groups live in the same environment, the incidence of CRC is lower among the Indian and Malay populations than among the Chinese^[10,27]. Similarly, Chinese people who live in Malaysia, have a significantly higher incidence of colon and rectal cancers than others^[28].

According to the Asia Pacific Cohort Studies Collaboration (involving over half a million subjects from 33 cohort studies in the region), smoking, body mass index and lack of physical activity increase the risk of CRC^[29].

The incidence, anatomical distribution and mortality of CRC among Asian populations are not different from those in Western countries. There is a trend for proximal migration of colonic polyps and flat or depressed lesions are not uncommon^[30].

SCREENING

Facilitating access to CRC screening is an important key

to reducing the burden of CRC. The first guidelines for CRC screening were issued in 1989 by the US Preventive Services Task Force^[31]. These guidelines were updated in 1996 after randomized controlled trials^[32-34].

There are three frequently used screening modalities, namely fecal occult blood tests (FOBT), flexible sigmoidoscopy (FS) and total colonoscopy, each with their advantages and disadvantages. Among these three, biennial guaiac-based FOBT is the only method shown in large randomized studies to decrease mortality^[4].

The Japan Public Health Center-based Prospective Study group in a cohort study (with a 13-year follow-up involving 42 000 subjects) showed a risk reduction in advanced CRC of almost 60% and in mortality of 30%^[35].

A study to evaluate the cost-effectiveness of FOBT, FS and colonoscopy in Asian countries indicated that FOBT is cost-effective compared to FS or colonoscopy for CRC screening in average-risk individuals aged from 50 to 80 years^[36].

In most Asian countries, national healthcare systems and health insurance cover only a minority of people. So, access to healthcare facilities is limited in many rural areas and communities of low socio-economic status^[8].

There is little health authority support for CRC screening and very low public awareness of this emerging epidemic in Asia. Therefore Sequential FOBT to select high-risk individuals for further investigation is probably the only viable option for most Asian countries^[4].

The increasing rate of CRC in Asia means that we need to take action immediately to prevent CRC and to diagnose the disease at the early stages. The cost-effectiveness of screening programs must be assessed in each individual country and research should be done to elucidate the epidemiology, genetic and environmental factors in the development of CRC.

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