Current Status of Colorectal Screening in Korea

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Introduction

In recent years the incidence of colorectal cancer has rapidly increased in Korea. The total number of cancer incidence in 2007 was 161,920, with the incidence rate of stomach cancer occupying the most (16%), followed by colon cancer at 12.7%. The incidence of cancer prevalence order-wise was stomach-lung-colon for male and thyroid-breast-stomach-colon for female, which is similar to that of other countries. The incidence of colon cancer increased from 27 per 100,000 people in 1999 to 44.5 per 100,000 in 2007, increasing around 7% every year. 5-year survival rate has also increased from 55.3% in 1995 to 70.4% at present.

Colorectal Cancer Screening

Public mass screening of cancer in Korea is currently being performed in two different forms: cancer screening included in the National Early Cancer Screening Project and cancer screening lead by the National Health Insurance Cooperation. In 1996, the government launched a public mass screening campaign titled '10-year plan in order to lower the burden and offer more screening opportunities for the low-income classes. National Early Cancer Screening Project, lead under the authority of the Ministry of Health and Welfare, was aimed to provide service for both the in the lower 50% percentile of the insurance beneficiaries and those eligible for public cancer screening. It began in 1999 for patients with stomach cancer and women with cervix and breast cancers, and colorectal cancer screening was first initiated in 2004. Cancer screening lead by the National Health Insurance Cooperation began in 1996 aiming to cover the five most prevalent cancers (stomach, colon, liver, breast and cervix cancers), and extending its inclusion categories as time progressed.

National cancer screening program recommends annual fecal occult blood test (FOBT) as a screening test for colorectal cancer in asymptomatic adults over 50 years of age, and colonoscopy or double contrast barium study in patients with positive FOBT. Among patients who received double contrast barium study, colonoscopy is required to those who need further evaluation, and tissue biopsy is recommended during colonoscopy in patients with suspicious lesions. The process is carried out free of charge or at the expense of very little amount, according to the patient's status.

Screening Status

The number of people eligible for health screening was 15 million in 2008, and this number is increasing every
year. Six hundred thousand people undertook FOBT when colorectal cancer screening program was first introduced, but in 2008 nearly 2 million people received colorectal cancer screening. In 2008, among a total of 8,215,670 people eligible for colorectal cancer screening, 1,962,449 (23.9%) people received FOBT. The compliance was lower than the previously reported rates in western countries, but it is steadily increasing from the initial examination rate of 11.2%. The positive rate for FOBT was 7.93%, a somewhat lower rate compared to others.

The positive rate of FOBT was steadily maintained around 7.7-8.1% for the last 5 years. There is no particularly stipulated FOBT kit for the detection of colorectal cancer in Korea, and immunochemical method such as latex method is recommended. The positive rate varies greatly among different screening centers. For example, the positive rate of FOBT in Australia is 6.9% which is somewhat lower than that of Korea. Therefore, efforts are being made to reduce the rate of false positivity and minimizing unnecessary examination. A total of 3,415 colorectal cancers were detected through colorectal cancer screening during 2004 to 2007, and the annual cancer detection rate per 1000 screening was 0.847. The secondary examination rate of patients with a positive FOBT was around 30%.

Quality Control

Ministry of Health and Welfare and the Korean Society of Gastrointestinal Endoscopy have collaborated together for a better quality control of cancer screening examinations, and have constantly made progress since 2008. Although the adenoma detection rate, utilized in many western countries as an index, was not taken into consideration, other measures such as quality of bowel preparation, cecal intubation rate, and withdrawal time are being used as indices for quality control. This activity has been on campaign for the last 3 years, and from 2011 the level of quality control is poised to be strengthened according to newly adopted law measures.

Problems and Future Perspectives

Important current issues concerning colorectal cancer screening in Korea that needs to be solved are the high false-positivity of FOBT, low compliance rate of secondary examination, ineffective follow-up management of the cancer screening subjects due to Privacy Protection Act and the need to respond to active quality control. According to a prospective study in Korea, the sensitivity in detecting colorectal cancer or advanced tumor of FIT test proved to be superior compared to the traditional Guaiac test. In addition, the specificity also increases if the test is performed more than twice. This indicates that excluding patients for examination from a set period of time after colonoscopy depending on the results from two consecutive FOBT utilizing the method of FIT would be a preferred choice for colorectal cancer screening. Furthermore, a multi-disciplinary approaches for advertizing and guaranteeing incentives are much needed in order to increase the rate of secondary examination.