FLAT TUMORS OF THE COLON AND RECTUM

THE DETECTION OF SMALL FLAT TUMORS

Because of the recent progress in colonoscopic techniques, the number of reports of flat colorectal carcinomas has increased in Japan. The colonoscopic detection of small red areas of small uneven surfaced areas is important to have a higher yield of flat carcinoma on colonoscopy. For this purpose, a high resolution colonoscope such as Olympus 240 series is extremely useful. In addition, dye spray using indigocarmine solution is also important to delineate the appearance of flat carcinomas. Flat- type carcinomas, including both flat elevated and flat depressed lesions, are defined as those whose thickness is less than twice that of the surrounding normal mucosa. The gross appearance of flat carcinomas is classified into 4 categories: Ia (slightly elevated), Ib (entirely flat), Ic (flat depressed), IIa (flat depressed with an elevated). Magnifying colonoscopy, which is now beginning to be used widely in Japan, is not used for the purpose of detecting small flat carcinomas, but this modality is used for the purposes of differentiating among hyperplastic polyp, adenoma and invasive carcinoma.

ENDOSCOPIC RESECTION OF FLAT TUMORS

The technique of endoscopic mucosal resection (EMR) is usually used to remove small flat lesions. It is considered that the maximum number of adenomas or less uniform degree of atypia within a tumor, without the coexistence of discrete areas of adenoma, thus suggesting the possibility of the de novo carcinogenesis of such lesions. In flat tumors the frequency of Ki-ras point mutations is significantly lower than that in polypoid type carcinomas in early stage. This finding suggests that the genetic alterations in flat tumors may be different from those in polypoid tumors.

FUTURE PROSPECT

It is not clear whether flat carcinomas are present only in Japanese population or in other populations in the world as well. There are two reports in the world literature that demonstrated the presence of flat lesions in Western population. Japanese colonoscopists were involved in these studies. We believe that if a sufficient bowel preparation using polyethylene glycol electrolyte solution is done and meticulous observation by experienced colonoscopists using high resolution colonoscope with dye spray method is carried out, it will become possible to demonstrate small flat lesions in Western population.

DETECTION AND MANAGEMENT OF FLAT TUMORS OF THE COLON AND RECTUM

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COLORECTAL CANCER SCREENING: HONG KONG PERSPECTIVE

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At the turn of the century, colorectal cancer has become a major health problem in many developed countries as it becomes the top three causes of cancer death in these countries. Conquering this problem through the practice of preventive medicine, considerable progress has been made in the past three decades with an ability to screen people for colorectal cancer as the efficacy of various tools used for screening has been confirmed in at-risk persons. The risk of colorectal cancer in average-risk women and men as well as in groups that are at an increased risk has been clarified. A more in-depth understanding of the ‘adenoma-carcinoma’ sequence provides the basis of screening as it helps to detect early-stage cancer and the precursor adenomatous polyps. Effective management of adenomatous polyps by endoscopic polypectomy prevents the occurrence of most colorectal cancers and improved modalities for early-stage cancer result in a cure of the disease. Nevertheless, controversy still exists concerning the effectiveness of screening. The health problem of colorectal cancer here is even worse than that in the States as there is strong evidence indicating an ever-rising trend in the incidence and the mortality rates of colorectal cancer in Hong Kong. Therefore, there is no doubt that screening for colorectal cancer is justified in our community.

COLORECTAL CANCER SCREENING STUDY IN HONG KONG

Despite our comparable colorectal cancer epidemiology and demographics of at-risk groups with the West, the suitability and feasibility of applying strategies in various colorectal cancer screening guidelines in Hong Kong remains to be assessed as there is no published screening programs for colorectal cancer in Asian countries. Studies focusing on colorectal cancer screening in various hereditary cancer syndromes are in progress in Hong Kong. Colorectal cancer screening in average-risk population with fecal occult blood testing (FOBT), flexible sigmoidoscopy and colonoscopy has been shown to be effective in the West. However, no such screening study has ever been conducted in Asia. Furthermore, as the rapid rise in local cancer incidence...
is due to a frequent occurrence of the disease in the average-risk population, efficacy of various screening tools in this group should be studied. Therefore, we conducted a study to investigate the comparability of risk between those who have undergone colorectal cancer screening and those who have not. This study was performed in Hong Kong.

CONCLUSIONS

The incidence of colorectal cancer rises rapidly in recent decades in Hong Kong and many Asian urban areas, with figures similar to those in the West. It is justifiable to have screening program in Hong Kong and in these areas so as to reduce the incidence and thereby decreasing the mortality from this disease. However, similar to the current status in the West, there exists problems and obstacles in implementing such program especially universal implementation. This could eventually be solved with a change in paradigm of the public, the medical personnel and the policy makers, about the definite value of preventive medical practice. Introduction of new screening tools as they develop and being "fit" to current screening strategies may also help to facilitate implementation of the program in the community. It should be emphasized that, in conquering colorectal cancer with the practice of preventive medicine, other aspects such as lifestyle modifications and chemoprevention should not be overlooked.

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is due to a frequent occurrence of the disease in the average-risk population, efficacy of various screening tools in this group should be studied. Therefore, we conducted a study to investigate the accuracy of flexible sigmoidoscopy, colonoscopy, and combined FOBT with sigmoidoscopy in comparison with colonoscopy alone for screening of colorectal neoplasms in average-risk Hong Kong Chinese above the age of 50 years. Subjects were recruited from the public by conducting health exhibitions. Prior to colonoscopic examination, each subject had FOBT with unhydrated specimen using guaiac-based Hemoccult II. Colonoscopy was performed as an outpatient procedure by the fellow endoscopists of the three participating hospitals. Findings at the distal colon 40 cm from anal verge on withdrawal of the colonoscope were taken as lesions found at "flexible sigmoidoscopy". Five hundred and five subjects were enrolled, 224 males and 281 females with a mean age of 56.4 years. Total colonic evaluation by colonoscopy reaching cecum was achieved in 476 subjects (94.3%). There were 63 subjects (13.2%) who had advanced colonic lesions identified by colonoscopy, including 4 invasive cancers, 47 villous adenomas with mild to moderate grade dysplasia and 12 large-sized adenomas of over 1 cm. There was no significant colonoscopy-related complication and no bowel perforation was noted. Advanced colonic lesions were found in the distal colon in 45 cases (8.9%) and proximal colon in 26 cases (5.1%), with 8 subjects (1.6%) having these lesions in both the proximal and distal colon. One hundred and one patients (20%) had at least one FOBT positive. Colonic lesions were found in 29 cases (28.7%) and among them, 9 were advanced neoplasms. Among the 404 subjects with a negative FOBT, 123 had colonic lesions (30.4%) including 54 with advanced lesions. The sensitivity, specificity, predictive positive value and negative predictive value of the one-time FOBT for advanced colonic lesions were 14.3%, 79.2%, 8.9%, and 86.6% respectively. Comparing with colonoscopy, sensitivity of one-time screening with FOBT alone, specificity, positive predictive value and negative predictive value of the one-time FOBT for advanced colonic lesions were 14.3%, 79.2%, 8.9%, and 86.6% respectively. In편평한adenomas의 28.7%로, 이들 중 9 개가 advanced neoplasms이었다. 404명의 subjects가 negative FOBT를 보였는데, 123名(30.4%)에서 colonic lesions이 발견되었고, 이들 중 54개가 advanced lesions이었다. The sensitivity, specificity, positive predictive value and negative predictive value of the one-time FOBT for advanced colonic lesions were 14.3%, 79.2%, 8.9%, and 86.6% respectively. Comparing with colonoscopy, sensitivity of one-time screening with FOBT alone, specificity, positive predictive value and negative predictive value of the one-time FOBT for advanced colonic lesions were 14.3%, 79.2%, 8.9%, and 86.6% respectively. In contrast, these limitations. Colorectal cancer screening program needs to compete for resources with other practice settings as well as our client’s commitment to pay and to be screened. For those high-risk persons of colorectal cancer development, for example, at-risk members of various hereditary syndromes, adherence to the screening guideline should be ensured. Updating the knowledge about the current local epidemiology of colorectal cancer as well as the screening strategies to the public as well as to primary care physicians is crucial as a preparation for implementation of colorectal cancer screening program in the community. Public education about the symptomatology of colorectal cancer with an emphasis of timely consultation to medical help is another cost-effective way in detecting early-stage cancer.

CONCLUSION

The incidence of colorectal cancer rises rapidly in recent decades in Hong Kong and many Asian urban areas, with figures similar to those in the West. It is justifiable to have screening program in Hong Kong and in these areas so as to reduce the incidence and thereby decreasing the mortality from this disease. However, similar to the current status in the West, there exists problems and obstacles in implementing such program especially universal implementation. This could eventually be solved with a change in paradigm of the public, the medical personnel and the policy makers, about the definite value of preventive medical practice. Introduction of new screening tools as they develop and being more convenient for the population to participate may help to facilitate actual implementation of the program in the community. It should be emphasized that, in conquering colorectal cancer with the practice of preventive medicine, other aspects such as life-style modifications and chemoprevention should not be overlooked.

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COLORECTAL CANCER SCREENING PROGRAM IMPLEMENTATION IN HONG KONG

Projects and studies regarding colorectal cancer screening are just commenced in Hong Kong. However, from the public health perspective, the question of whether we should and we could implement colorectal cancer screening program adequately and efficiently in our community is largely opened. Population, medical accuracy and health care system barriers to colorectal cancer screening need to be considered. "Mass" or the so-called "routine" screening is certainly not feasible at the moment as a number of uncertain issues need to be solved. As randomized trials confirming the efficacy of colorectal cancer screening recruited subjects of high motivation and it is questionable whether similar good compliance rates could be achieved when widespread screening is implemented in the community. Cost-effectiveness of the screening program will be much affected if reasonable compliance rates cannot be achieved. Another issue that needs to be ensured is an effective and safe colonoscopy service. The final diagnostic work-up of total colonic evaluation in all screening programs involves colonoscopy and colonoscopy alone is of favorite currently as the initial screening tool, it is of paramount importance that colonoscopies are performed with high completion rates and low complication rates similar to those obtained in the trials, the results are to be seen with widespread use of colonoscopy for these purposes.11 Low complication rate might not be reproducible when colonoscopy is performed in the ordinary settings as reflected by the result that 6 perforations occurred with 1966 colonoscopies performed in the UK randomized trial of “once-only” flexible sigmoidoscopy screening for colorectal cancer.12 Moreover, there also exists problem of availability of endoscopists who can perform safe procedures as there is going to have an enormous number of colonoscopies that needs to be done shortly after the widespread implementation of the screening program. If we simply adopts screening guidelines advocated by various authoritative bodies into local practices, we may face the challenge of compatibility as screening tools and strategies laid down in various guidelines have not been validated locally, our public as well as physicians’ acceptability and participation to such remain largely unknown. Furthermore, cost-effectiveness models of colorectal cancer screening strategies have never been formulated according to our current health-care system which resembles many other health-care systems, is subjected to the extreme pressure of cost containment and resource limitations. Colorectal cancer screening program needs to compete with other cancer screening programs, preventive medical programs and health promoting programs for resource allocation and funding according to priority. It seems that the “willingness-to-pay” to the mass colorectal cancer screening by our population is very questionable at the moment as a matter of facts, further local studies addressing all these issues are essential before implementing mass screening for average-risk population in Hong Kong.