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Editorial

Screening and prevention of colorectal cancer

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Colorectal cancer (CRC) remains one of the most important causes of death in every part of the world. In 2002, there were approximately one million new cases of CRC and approximately 530,000 deaths attributed to CRC in the same year.[1] In Europe, more than 300,000 will be diagnosed as having CRC each year. The life-time risk of adenocarcinoma of the colon in the population as a whole is approximately 5%. The above mentioned figures emphasize the importance of this neoplasm for the community.

However, many cases of CRC could be prevented by early detection through screening programs. The aim of screening for CRC is to detect the disease at a curable stage. Generally, screening is performed on subjects without evidence of existing neoplasia. CRC is a malignant disorder very suitable for screening because it is common, starts as a precursor lesion (polyp), and advances through different stages.

Factors that have been shown to increase the risk for CRC development include diet, age, positive family history for CRC, history of preexisting inflammatory bowel disease or colon adenomas, and history of previous CRC. Relatives of subjects with colon adenomas are at increased risk for CRC development.[2-4]

The optimal method for early detection of CRC remains to be established. On the other hand, compliance of the population with screening programs remains poor. The most important screening modalities include fecal occult blood testing, flexible sigmoidoscopy, barium enema x-ray and colonoscopy.

Recommendations for patients at average risk include initiation of screening at the age of 50 with fecal occult blood test annually, flexible sigmoidoscopy every 5 years or preferably, colonoscopy every 10 years. For patients with positive family history screening must be start at the age of 40. Colonoscopy should be repeated every 3 or 5 years on subjects with 2 or more first-degree relatives affected with CRC and on subjects with one first-degree relative who was affected before the age of 60. Individuals with Hereditary Non Polyposis Colorectal Cancer should have colonoscopy done at the age of 25, or 10 years prior to the youngest age of CRC diagnosis in the family and every two years thereafter.[5-7]

Screening for other cancers such as ovarian, endometrial, gastric, small bowel etc, should also be performed regularly. Other situations such as inflammatory bowel disease, familial adenomatosis polyposis syndrome and pelvic irradiation should also be screened at regular time intervals. Newer techniques such as virtual colonoscopy and fecal test for DNA are vigorously evaluated.

Prevention of CRC could be divided into primary and secondary. Primary prevention is focused on otherwise healthy people, who may have predisposing genetic, or environmental factors. Secondary prevention refers to individuals bearing a known premalignant lesion. Prevention strategy in the latter group aims to inhibit the progression of these lesions to invasive tumors.

Chemoprevention includes pharmacologic and dietary interventions as well as chemicals or nutrients aiming to suppress or reverse the evolution to cancer. Chemopreventive agents include the administration of nonsteroidal anti-inflammatory drugs, ursodeoxycholic acid, calcium, vitamin D, folate, vitamins C, E and β-carotene and selenium.[8]

Clinical trials showed no significant benefit with the

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use of fiber, beta-carotene, and vitamins A, C and E. On the contrary, use of aspirin, vitamin D (with higher doses in areas with low solar ultraviolet-B exposure), folate, selenium and ursodeoxycholic acid produced favorable results. Selective (COX-1) and non-selective (COX-2) NSAIDs seem to delay the development of recurrent adenomas. Increased physical activity, diet rich in vegetables and low in fat could reduce the risk of CRC development.[9-11] However, obesity (combined body mass index and waist circumference estimation) increased consumption of red meat and alcohol could enhance the risk of CRC development.[12]

The importance message is that CRC screening has been proven effective. We must emphasize that CRC is a preventable disease. Using both the available screening options and the preventive strategies we can greatly reduce the incidence of CRC and improve quality of life. Physicians are responsible to help people to reduce the incidence of this neoplasm by providing education and applying preventive strategies. Again the importance of knowing the cause of death within families, allows the identification of high-risk groups for CRC development in whom endoscopic surveillance is urgently justified.

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