Long-term effects of a flexible sigmoidoscopy screening after 17 years of follow up


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Danış and Tekin. Screening with flexible sigmoidoscopy was reduced by 41% (p<0.001). No risk reduction was found in proximal colorectal cancers (p=0.436). In the per-protocol analysis, which examined the effectiveness in those individuals undergoing a flexible sigmoidoscopy screening, colorectal cancer incidence was reduced by 35% for all-site colorectal cancer and by 56% for distal colorectal cancers; there was no significant effect on proximal colorectal cancer incidence.

During the first 4 years after screening, it was observed that the incidence of all-site and distal colorectal cancers were higher in the intervention group compared to the control group because of detecting already located colorectal cancers during screening. After the first 4 years, the incidence of colorectal cancers was higher in the control group compared to the intervention group. As expected, proximal colon cancer incidence did not significantly change in both control and intervention groups. The estimated NNS to prevent one colorectal cancer during median 17 years was 98; this number was <191, which was found in the previous study during the follow-up of 11 years (3). There was no difference between sex in reducing distal colorectal cancer either in the intention-to-treat analysis (42% for men vs 40% for women) or in the per-protocol analysis (56% for men and women). There was no effect of a flexible sigmoidoscopy screen on the reduction in proximal colon cancer incidence in either men or women; however, there was a slight statistically significant difference between sex in the reduction in all-site colorectal cancers in both intention-to-treat analysis (19% for women vs 30% for men; p=0.0497) and per-protocol analysis (27% for women vs 40% for men; p=0.0480). The NNS to prevent one colorectal cancer was significantly higher in women than in men (165 for women vs 70 for men), probably because women had more proximal colon cancers than did men. When it was examined whether there was an effect of one flexible sigmoidoscopy screen between those aged 55-59 years and those aged 60-66 years for incidence of all colorectal cancers, no difference was found between ages in the intention-to-treat analysis or per-protocol analysis for both men and women.

All-site colorectal cancer mortality was reduced by 30%, distal colorectal cancer mortality by 46%, and proximal colon cancer mortality by a nonsignificant 9%. In the per-protocol analysis, the reduction in colorectal cancer mortality in the screened group was 41%. Distal colorectal cancer mortality was reduced by 66%. There was a reduction in the proximal colon cancer mortality by 12% although it did not reach a statistical significance. The NNS to prevent one death from colorectal cancer during 17 years of follow-up was 220 which was <489 that was found in the previous study whose follow-up time was 11 years. This means that a single flexible sigmoidoscopy screen continues to provide long-lasting protection for colorectal cancer.

The investigators found that the reduction in distal colorectal cancer incidence after a single flexible sigmoidoscopy was similar in men and women (56%). However, the effect of one single flexible sigmoidoscopy on all-site colorectal cancer incidence was weaker in women than in men; this was because the rates of proximal colorectal cancer in all colorectal cancers was higher in women than in men, particularly in older population in UK. Analyzing the study data by age showed consistent and significant reductions for all-site and distal colorectal cancer incidences and mortality in both the younger and older age categories when men and women were considered together and within each sex.

This study had several strengths. This study was the first trial with a follow-up time as long as 17 years, which showed the protective effect of one flexible sigmoidoscopy. The other strength was that this trial collected the data from national datasets resulting with a very little loss to follow-up the patients, even though some of them migrated in the UK. The limitation of the study was that the cohort was selected based on their interest in attending screening. In conclusion, the investigators claimed that this study showed the effectiveness of one flexible sigmoidoscopy to protect people from colorectal cancer for a long time, at least 17 years.

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