EDITORIAL

Colonoscopy in Germany—Important Steps Towards a National Screening Program

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Editorial
accompanying the
articles:
„Screening for
Bowel Cancer:
Increasing
Participation via
Personal
Invitation“ by
Hoffmeister
et al.
and
„Should Screening
Colonoscopy
Be Offered From
Age 50?“
by Brenner et al.
in this issue of
Deutsches Ärzte-
blatt International

Almost 7 years ago I wrote an editorial (1) for *Deutsches Ärzteblatt* in response to an article by Prof. Brenner and colleagues (2) on colonoscopy for screening purposes. I concluded by saying that it would be desirable to establish an organized screening program with targeted invitations to increase the uptake of screening. Much progress in this direction has been made in the intervening years. The National Cancer Plan of the German Federal Ministry of Health (*Nationaler Krebsplan des Bundesministeriums für Gesundheit*) (3) paved the way for the Cancer Screening and Registration Act (*Gesetz zur Weiterentwicklung der Krebsfrüherkennung und zur Qualitätssicherung durch klinische Krebsregister*) (4), passed into law by the German national parliament in 2013. This legislation stipulates the implementation of organized, quality-assured screening programs for bowel cancer and for cervical cancer. The Joint Federal Committee (*Gemeinsamer Bundesausschuss, G-BA*) now has the task of implementing these two programs, including invitation of the segments of the population eligible for screening.

Improved participation via written invitation

The benefit of sending written invitations to participate in an organized screening program can no longer be disputed. A large amount of evidence accumulated in various countries shows that written invitation has a positive effect on utilization of cancer screening (5, 6). In Germany, a central office is already successfully inviting eligible women to attend for screening mammography. Moreover, a recent randomized, population-based intervention study in this country has shown that written invitation to screening for cervical cancer significantly increases participation (7). This was particularly true for groups that less often take advantage of screening without invitation, such as elderly women, women with a low educational level, and migrant women (7).

Hoffmeister and colleagues have now demonstrated, in a randomized intervention study, that personal invitations also increase the uptake of bowel cancer screening (8). The effect of written invitation was greater in men, who are known to take advantage of screening less frequently than women.

There remains the question of what groups should be invited for bowel cancer screening. In the currently prevailing opportunistic screening, statutory health

insurance covers the costs, for both men and women, of an annual test for fecal occult blood from the age of 50 and, from the age of 55, either a test for fecal occult blood every 2 years or two screening colonoscopies 10 years apart.

In another original article, Brenner et al. ask whether screening colonoscopy should be offered from the age of 50 (9). On the basis of their findings, they postulate that such a change in policy could be justified at least for men, because advanced neoplasms (most commonly advanced adenomas) were detected in 8.6% of male study participants aged 50 to 54 years, but in only 4.5% of the women. As noted by the authors, however, selection of the participants in their cohort cannot be excluded (9). Only 1.9% of those who received a written invitation took up the offer of screening colonoscopy within 12 months. One finding of this study was that more men than women underwent screening. This is unusual, and is not replicated in the study by Hoffmeister et al. (8).

Earlier screening in men alone would not be productive

There are arguments in favor of colonoscopy from the age of 50 years. Bowel cancer is the third most frequently occurring malignancy in German men, and occupies second place in women (10). With regard to cancer deaths, bowel cancer is in second position for men, third for women. However, bowel cancer is a disease of older age: the mean age at onset is 72 in men and 75 in women. Ninety percent of all cases of bowel cancer occur in persons aged 55 or over. A 45-year-old man in Germany has a 0.4% risk of developing bowel cancer in the next 10 years, and for women the risk is 0.3%. Bowel cancer rarely occurs before the age of 55. In particular, men and women differ only very slightly with respect to age-specific disease rates at ages under 55 years (10). The epidemiological data from cancer registries in Germany seem not to justify bringing screening colonoscopy forward in men alone. Given the minimal gender difference in bowel cancer incidence in the age group 50 to 54 years, there would be no good reason not to offer colonoscopy to women as well.

Furthermore, any decision to start screening colonoscopy in the 50 to 54 age group would have to be preceded by balancing the potential additional benefit against the known risks of colonoscopy such as hemorrhage and perforation. One would also have to

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consider the advisability of extending the offer to more than the current two colonoscopies at an interval of 10 years. If one examination were carried out at the age of 50 and another at 60, a total of two colonoscopies would not be enough, because according to the latest statistics (10) 75-year-old men have a 3.3% risk and women of the same age a 2.3% risk of developing bowel cancer in the next 10 years. Although it could be assumed that this risk would be greatly reduced by two colonoscopies in earlier years, the risk of bowel cancer increases with increasing age.

Conclusion

In a future national quality-assured program for bowel cancer screening in Germany, personal written invitations should be sent to all members of the eligible segments of the population by a central office. The decision as to which age groups to invite should be based on all the available evidence on risks and benefits, including epidemiological data from cancer registries.

Conflict of interest statement

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