Colorectal cancer screening: a survey of French general practitioners

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SUMMARY

Aim — To determine knowledge, beliefs, self-reported practices and wishes of French general practitioners regarding colorectal cancer screening before the start of an organized screening program.

Methods — A postal survey of the 600 general practitioners of the Haut-Rhin area was made in 2002.

Results — Response rate was 62%. Eighty-five % asked routinely their patients about their family history of colorectal cancer. Colorectal cancer screening was routinely proposed by 92% of practitioners to individuals with a family history (86% with colonoscopy) and by 20 % to individuals without family history (69% with faecal occult blood test). Seventy-five % did not know French consensus conference guidelines on colorectal cancer screening. Fifty-three % ordered frequently faecal occult blood testing, mostly for the screening of individuals with family history and for the evaluation of symptoms, mainly iron-deficiency anaemia and weight loss. Seventy-seven % would explore with colonoscopy subjects with positive faecal occult blood test. Fifty-four % had personally undergone screening. Fifty-six % considered that mass screening could reduce a lot colorectal cancer mortality and most of them agreed with the forthcoming organized colorectal cancer mass screening program.

Conclusions — Screening for colorectal cancer is ordered less often than screening for female cancers. General practitioners are unaware of current guidelines. Beliefs and practices vary considerably and faecal occult blood testing is often inappropriately prescribed. Medical education concerning screening is needed. Colorectal cancer screening guidelines and policy should be clarified in France.

The full text of this article is available in English on the web on: www.e2med.com

Introduction

Colorectal cancer (CRC) is the third leading cancer in France, after breast and prostate cancer; 36,000 new cases are diagnosed each year [1]. The Haut-Rhin, an administrative district in Eastern France, has one of the highest incidence and mortality rates in France and Europe; each year 430 new cases are diagnosed and 200 people die from CRC [2]. The Haut-Rhin was one of 22 pilot districts which implemented organized mass screening programs for CRC starting in 2003. In accordance with the screening campaign program, faecal occult blood testing (FOBT) (Hemoccult®) were to be proposed every two years for all men and women aged 50-74 years. Most of the tests are to be distributed by general practitioners (GP) whose predominant role in achieving a satisfactory level of population participation has been demonstrated [3-6]. Before starting the campaign, an effort was made to properly inform the GPs of their important role and ensure their active participation. The purpose of the present work was to evaluate the knowledge, beliefs, self-reported practices and expectations of French GPs regarding colorectal cancer screening before the organized screening program. The goal was to learn about how to better prepare communication and educational programs, and organize mass screening for CRC in Haut-Rhin.

Methods

A working group was composed of seven GPs, two gastroenterologists, a physician from the Health Insurance Fund Examination Center and the physician-director of the ADECA 68 (Association pour le Dépistage du Cancer colorectal dans le Haut-Rhin). This group met four times to elaborate a 19-item questionnaire to be addressed to GPs. The questionnaire included two items on cancer screening, ten on CRC screening, three on faecal occult blood testing (FOBT) and four on the future CRC screening campaign organized in the Haut-Rhin. The GPs were asked to give their age, gender, type of practice, and mean weekly activity level. Practices were considered to be in a rural area if there were less than 2000 inhabitants in the local town, urban if there were more than 10000 inhabitants and semirural between these two limits. Mean weekly activity level was divided into three categories: < 80 consultations per week, 80-120, and > 120. A copy of the questionnaire was tested by a group of 15 GPs during an evening continuing education meeting. Two forms of the final version of the final questionnaire were prepared: paper and electronic (Surveyor manager). The list of GPs practicing in the district was established from three data sources, GPs (including homeopathy and acupuncture) enrolled as members of the Haut-Rhin Order of Physicians, the ADELI database furnished by the Haut-Rhin Direction of Health and Social Action, and the district telephone book. The paper form of the questionnaire was mailed to GPs in the district in September 2002 (N = 630 physicians, 77% men aged 50 years on average and 23% women aged 45 years on average). Three days later, the electronic questionnaire was addressed to 200 GPs whose electronic address was known. Fifteen days after mailing the questionnaire, physicians who had not responded (N = 379) were phoned to remind them to answer. The returned questionnaires were anonymous and collected data were processed with Excel (Microsoft). The results of the survey as well as the “correct” answers to the questionnaire items were sent to all GPs in the district six weeks after the end of the survey, just before the organized screening campaign was initiated.

Results

Thirty physicians had special practices (exclusive angiology, acupuncture) and did not practice general medicine. Among the 600 physicians practicing general medicine, 374 (62%) responded, 23 by electronic mail. The responders were 81% male (mean age 49 years) and 29% female (mean age 44 years). Twenty-three percent of the responders had a rural practice, 38% a semirural practice, and 39% an urban practice. The weekly activity level was less than 80 for 13% and more than 120 for 38%.
Sixty-six percent of the GPs stated they regularly prescribed individual CRC screening tests (moderate and intensive prescription practices). Comparatively 98%, 83% and 88% stated they regularly prescribed individual screening tests for breast, cervix, and prostate cancers respectively (table I). Prescription of an individual CRC screening test was not influenced by the gender of the GP nor by the type of practice or activity level.

Fifty-six percent of the GPs felt that an organized population-based screening program can greatly reduce CRC mortality (table II). The corresponding figures were 69%, 81% and 44% for breast, cervical, and prostate cancer, respectively. Ninety-five percent of the GPs felt that scientific evidence had demonstrated that FOBT performed in the context of a mass screening program can reduce the mortality of CRC. The corresponding figures for coloscopy, rectosigmoidoscopy, and digital examination of the rectum were 37%, 13% and 21%.

Forty-four percent of the GPs stated they routinely search for family history of CRC in their patients (41% often, 13% sometimes, 2% rarely). For patients with a family history of CRC, 92% stated they prescribe often or systematically a screening test for CRC. In this situation, 86% of the GPs proposed coloscopy often or systematically, 53% FOBT, 18% rectosigmoidoscopy, and 14% FOBT and rectosigmoidoscopy. Sixty-five percent of the physicians stated they never prescribe barium studies in this context and 15% stated they did so, but only occasionally. For patients without a familial history of CRC, 10% of the GPs reported they never propose CRC screening, 27% rarely, 43% sometimes, 17% often, and 3% systematically; For patients without a family history of CRC, the most widely prescribed screening test was FOBT (69% of physicians) and coloscopy (6% of physicians). Seven percent of the GPs informed their patients about the two tests and left the choice up to the patients. Age of the physician when physicians propose a screening test are presented in tables III and IV. To the question "do you prescribe a CRC screening test for patients who ask for one?", 3% responded never, 15% rarely, 20% often, and 18% always.

Seventy-five percent of the GPs stated they were not familiar with the 1998 consensus guidelines on colorectal cancer and that they did not have a copy at hand. The responses concerning six simulated clinical cases are presented in table V.

The GPs reported that they propose FOBT very often (21%) moderately often (33%), sometimes (26%), rarely (16%) and not at all (4%). Reasons for proposing FOBT were predominantly for screening purposes in patients with a family history of CRC (68% of the GPs stated they prescribed FOBT frequently or systematically in this situation), for exploration of iron deficiency anemia (77%), or deterioration of general health status (68%). For patients without a family history of CRC, the GPs reported they propose FOBT frequently or systematically for screening (33%), exploration of constipation (29%), exploration of abdominal pain (29%), and exploration of chronic diarrhea (23%). For patients with a positive FOBT, 77% of the GPs would propose coloscopy, 12% a new FOBT and 4% rectosigmoidoscopy. Seven percent of the GPs did not answer this question. Thirty percent thought that rectosigmoidoscopy was moderately to severely painful and 71% thought it was moderately or highly uncomfortable for the patient. For 94%, rectosigmoidoscopy is a safe procedure.

Fifty-four percent of the GPs reported they had or planned to take a screening test themselves: 59% by FOBT, 38% by coloscopy, 2.5% by rectosigmoidoscopy, and 0.5% by barium enema. Their age at the time of the screening test was 40-44 years (14%), 45-49 years (34%), 50-54 years (34%), 55-59 years (15%), and 60-64 years (3%).

Factors the GPs considered to be particularly important to favor their participation in the future screening program were, in decreasing order: 1) proven efficacy of the FOBT (93%), 2) proven efficacy of mass screening (92%), 3) helping their patients (87%), 4) their interest in prevention (86%), 5) clarification of the screening strategy (79%), 6) improved quality of care (78%), 7) free FOBT (76%). Fifty-seven percent considered that supplementary remuneration for prescribing a FOBT would have little or no influence on their participation. Hypothesizing that FOBTs would generate prescription fees, 35% of the GPs wanted the fees to be determined per test delivered and 32% per test performed, with 33% preferring a lump sum. Fifty-two percent of the GPs wanted FOBT prescription to be included in the fee for a major prevention intervention (nomenclature of the French health insurance fund: C-lourd) and 48% did not. Thirty-four percent of the GPs stated they did not desire specific training for CRC screening. When asked which word best described how they felt

Table I. – Frequency of individual screening practices for certain cancers by general practitioners in the Haut-Rhin.

<table>
<thead>
<tr>
<th>Cancer</th>
<th>No screening (%)</th>
<th>Minimal (%)</th>
<th>Moderate (%)</th>
<th>Intensive (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast (mammography)</td>
<td>0</td>
<td>2</td>
<td>35</td>
<td>63</td>
</tr>
<tr>
<td>Cervical cancer (swab)</td>
<td>4</td>
<td>13</td>
<td>33</td>
<td>50</td>
</tr>
<tr>
<td>Melanoma (physical examination)</td>
<td>1</td>
<td>11</td>
<td>35</td>
<td>53</td>
</tr>
<tr>
<td>Colorectal (FOBT, coloscopy, rectosigmoidoscopy, barium study)</td>
<td>5</td>
<td>29</td>
<td>38</td>
<td>28</td>
</tr>
</tbody>
</table>

FOBT: fecal occult blood test.

Table II. – Answers to the following question: Do you think that mass organized screening leads to a reduction in mortality for the following cancers?

<table>
<thead>
<tr>
<th>Cancer</th>
<th>No (%)</th>
<th>Somewhat (%)</th>
<th>Very much (%)</th>
<th>Don’t know (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast (mammography)</td>
<td>2</td>
<td>26</td>
<td>69</td>
<td>3</td>
</tr>
<tr>
<td>Cervical cancer (swab)</td>
<td>1</td>
<td>15</td>
<td>81</td>
<td>3</td>
</tr>
<tr>
<td>Prostate (PSA)</td>
<td>9</td>
<td>38</td>
<td>44</td>
<td>9</td>
</tr>
<tr>
<td>Melanoma (physical examination)</td>
<td>2</td>
<td>28</td>
<td>63</td>
<td>7</td>
</tr>
<tr>
<td>Colorectal (FOBT, coloscopy, rectosigmoidoscopy, barium study)</td>
<td>2</td>
<td>31</td>
<td>56</td>
<td>11</td>
</tr>
</tbody>
</table>

PSA: prostate-specific antigen; FOBT: fecal occult blood test.

Table III. – Patient age at the time the general practitioner proposed colorectal cancer screening tests in asymptomatic subjects without a familial history of colorectal cancer.

<table>
<thead>
<tr>
<th>Age range</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-44 years</td>
<td>13</td>
</tr>
<tr>
<td>45-49 years</td>
<td>25</td>
</tr>
<tr>
<td>50-54 years</td>
<td>49</td>
</tr>
<tr>
<td>55-59 years</td>
<td>9</td>
</tr>
<tr>
<td>60-64 years</td>
<td>4</td>
</tr>
</tbody>
</table>
about the upcoming mass screening program to be conducted in their administrative district, the GPs cited, in decreasing order: 1) useful (57%), 2) convinced (35%), interested (31%), 4) effective (20%), 5) motivated (18%), 6) active (17%), 7) worthy (17%), 8) finally (16%), 9) enthusiasm (14%), 10) wait and see (13%).

**Discussion**

The success of any screening program depends on the participation of GPs. Among the population targeted for screening, most people participate because their physician advised them to do so [3-5, 7]. This survey was conducted because of the important role GPs are expected to play in the future screening program for CRC in the Haut-Rhin. Before initiating the program, we wanted to know more about the GPs’ knowledge, beliefs, practices and expectations. This was not a true survey of routine practices, but rather a survey of self-reported intentions. The response rate was 62%, comparable with rates obtained in similar surveys [8-12]. We had to remind the physicians by phone to achieve this rate. From their reports, we noted that screening practices were less frequent for CRC than for breast cancer or cervical cancer (tests proposed by 66%, 98% and 83% of the GPs respectively). The same figures have been reported in the United States [13, 14]. These rates of reported screening practices are probably overestimates since it has been demonstrated that physicians tend to overestimate their compliance with prevention guidelines [14-17]. There has been much media coverage concerning screening programs for female cancers. In our region, Alsace, pilot campaigns for breast cancer (ADEMAS) and cervical cancer (EVE) began in 1989 and 1994. A nation-wide systematic screening program for breast cancer has also been operating in France since 1994. Women generally show more concern about their health than men and spontaneous requests for mammography or cervical swabs are frequent in France [18, 19]. Among men, the success of the screening program for prostate cancer using the prostate specific antigen is more surprising since there is no proof of efficacy and screening is not recommended by the health authorities (ANAES, Agence Nationale d’Accréditation et d’Évaluation en Santé) [20]. The success of the prostate cancer screening program is probably related to several factors: simple blood test, media coverage concerning prostate cancer, incitation by the pharmaceutical industry, patient demands. For CRC screening, the lack of a clear strategy for screening is probably related to the negative connotation of fecal matter. The FOBT has been criticized because of its moderate sensitivity and there has been much debate in the medical community in France concerning its usefulness in the context of individual screening [21]. More of the GPs were convinced that mass screening programs are effective for breast and cervical cancer (81% and 69% respectively) than for CRC (56%), despite the growing body of evidence clearly demonstrating the efficacy of mass screening for CRC using FOBT [22-28], which is less controversial than for breast cancer [19] or cervical cancer. This highlights the importance of communication and education to convince GP in our district to participate in the CRC screening program.

The GPs who responded to our questionnaire reported that in their daily practice they generally search for a family history of CRC (85% often or systematically) and then follow-up by proposing a screening test: 92% of the physicians stated they often or systematically prescribe a screening test for patients with a positive family history while only 20% do so if the search is negative. These findings are comparable with those reported by Martyres et al. in Australia where 95% of the GPs proposed screening to patients with a family history of CRC while the proportion was only 14% for patients with a negative history [12].

Seventy-five percent of the GPs were not familiar with the guidelines issued by the 1998 consensus conference on colorectal cancer and did not have a copy at hand [29]. In a similar survey from Australia, more than half of the GPs did not have the guidelines published by the Australian Gastroenterology Institute and the Australian Cancer Society [12]. These findings illustrate the fact that consensus guidelines often have little influence on daily practice [30].

The 1998 consensus conference proposed precise rules for CRC screening in patients with high or very high risk [29].

**Table IV.** Maximum age at which general practitioners prescribe colorectal cancer screening tests.

<table>
<thead>
<tr>
<th>Age range</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-64 years</td>
<td>1</td>
</tr>
<tr>
<td>65-69 years</td>
<td>8</td>
</tr>
<tr>
<td>70-74 years</td>
<td>35</td>
</tr>
<tr>
<td>75-79 years</td>
<td>31</td>
</tr>
<tr>
<td>80-84 years</td>
<td>25</td>
</tr>
</tbody>
</table>

**Table V.** Answers to six clinical cases.

<table>
<thead>
<tr>
<th>A 45-year-old asymptomatic woman consults: what screening test for colorectal cancer would you prescribe?</th>
<th>FOBT (%)</th>
<th>RS (%)</th>
<th>BE (%)</th>
<th>Coloscopy (%)</th>
<th>Nothing (%)</th>
<th>No answer (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father had CRC at 80 yr</td>
<td>41</td>
<td>5</td>
<td>0</td>
<td>37</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Aunt had CRC at 80 yr</td>
<td>57</td>
<td>2</td>
<td>0</td>
<td>16</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td>Grandmother had polyp at 70 yr</td>
<td>51</td>
<td>5</td>
<td>1</td>
<td>21</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>Brother had polyp at 40 yr</td>
<td>17</td>
<td>5</td>
<td>0</td>
<td>4</td>
<td>55</td>
<td>9</td>
</tr>
<tr>
<td>Mother had CRC at 50 yr</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>80</td>
<td>0</td>
<td>11</td>
</tr>
</tbody>
</table>

CRC: colorectal cancer; FOBT: fecal occult blood test; RS: rectosigmoidoscopy; BE: barium enema.
Apparently, the GPs were aware of these rules applicable in clearly defined situations: 80% of the GPs would propose colonoscopy for an asymptomatic 45-year-old woman whose mother had had CRC at the age of 50 years. Conversely, for situations where the current state of the art is too imprecise to establish good practice guidelines, the GPs had various opinions: 37% would propose colonoscopy and 41% would propose FOBT for a 45-year-old woman whose father apparently had CRC at the age of 80 years; 69% would propose colonoscopy and 17% FOBT for a 45-year-old woman whose brother apparently had a polyp at the age of 40 years.

The 1998 consensus conference guidelines concerning persons with moderate risk lack precision, and are difficult to apply in routine practice [29]. The problem is the same as in Australia [12]. Only a minority of the GPs apply the guidelines. For a person with moderate risk, 7% of the GPs would propose a screening test chosen by the patient after being informed of the different tests available, and 10% would not propose a screening test. In this situation, 69% of the GPs stated they prescribe rectosigmoidoscopy while the consensus conference does not recommend it for organized screening [29]. If the 50-74 age group is accepted as the target population for moderate-risk CRC screening, a large proportion of the GPs are outside the limits: 38% would start screening too soon, before 50 years, and 12% too late, after 55 years; 10% would stop screening too soon, before 70 years, and 56% too late, after 75 years. The same findings were reported from the United States [15, 17, 31]. In daily practice, and considering patients with moderate risk, the only GPs in France who have access to a clear screening strategy, i.e. FOBT every two years as part of a mass screening program, are those who practice in the 22 administrative districts where pilot screening programs have been conducted. What is available for the others (about three-quarters of the French practitioners)? In order to comply with the consensus guidelines, they have the option of either never proposing screening tests, or of proposing colonoscopy for all persons requesting a screening test. The lack of an intermediary solution places the GPs in a difficult situation: how can one never propose a screening test for a serious disease as frequent as CRC? Is it acceptable to propose screening only to informed patients who are concerned about their health and request screening? And in this case always propose colonoscopy? It has been demonstrated that when guidelines are not clear, factors affecting the GPs’ decision about screening tests are: a positive familial history, the patient’s fear of cancer, and the patient’s expectations concerning the test [32]. For 79% of the GPs questioned in our survey, a clear screening strategy for CRC was one of the most important factors which would induce them to actively participate in the mass screening campaign.

In France, GPs appear to be less interested in CRC screening than their American colleagues: in our survey, 28% of the GPs stated they would propose CRC screening while in the United States, the proportion was 85% among GPs and nearly 100% among internists [31, 33]. Similarly, 81.5% of the American GPs had taken their own screening test, while the proportion was only 54% among our French GPs. The modalities for personal screening was the same, 21% of the French GPs and 22% of the American GPs had had a colonoscopy, and 32% and 23% respectively a FOBT. Use of rectosigmoidoscopy however differed greatly: 1% of the French GPs and 51% of their American colleagues. Rectosigmoidoscopy should probably be used more in France. There is growing proof of its efficacy [34-37] and it is recommended in several guideline documents, particularly from the United States [38-41] where it is often proposed as an individual screening test [17, 33, 42]. In our survey, the GPs never cited rectosigmoidoscopy as a screening test to propose for a person with no familial history of CRC. Only 13% of the GPs considered that rectosigmoidoscopy has proven efficacy for mass CRC screening (95% for FOBT and 37% for colonoscopy). The GPs’ opinion concerning rectosigmoidoscopy was not particularly favorable: for 94% it is safe, but for 30% it is moderately or very painful, and for 71% it is moderately or very uncomfortable for the patient. Our GPs seemed to be more aggressive for themselves: 21% had had a screening colonoscopy while only 6% proposed one for patients free of any familial history of CRC. Similarly, 48% had had their first screening test before the age of 49 years, while 38% proposed screening for their patients before this age. Similar observations have also been reported in other surveys [31].

Only 77% of the GPs said they would propose colonoscopy if the FOBT was positive. This percentage is comparable to the 69% reported by Martyres et al. in Australia [12], and better than the 40% reported by Hawley et al. in the United States [17] or the 51% in the New Zealand report by Berry et al. [10]. This percentage can be expected to rise further with the education sessions scheduled for the future mass screening program. Such educational efforts will probably reduce the number of FOBTs prescribed for diagnostic purposes. Here, the French GPs appear to do better than their American colleagues. In our survey, 30% of the GPs stated they regularly prescribe FOBT for patients with abdominal pain while for American GPs and gastroenterologists, the figures are 83% and 79% respectively [31, 43]. In our survey, 29% of the GPs stated they regularly propose FOBT to explore constipation while for American GPs and gastroenterologists, the figures are again very high for patients with transit disorders, 94% and 86% respectively [31, 43]. In our survey, GPs used FOBT for diagnostic purposes mainly for patients with iron deficiency anemia (78%) or deteriorated general status (68%). Sixty-four percent of the New Zealand GPs thought that FOBT can be useful for the diagnosis of gastrointestinal symptoms (e.g. transit disorders or hematochezia) [10]. Similar observations were made in the Australian survey [44].

In our survey, the GPs reported that scientific factors (proven efficacy of FOBT and mass screening) would have greatest effect in favoring their active participation in the future mass screening campaign. These factors could and should be developed in the information and educational sessions for GPs. The other factors cited (helping patients, interest in prevention, clarification of the screening strategy, improved quality of care) should also be considered. Inversely, 57% of the GPs felt that supplementary remuneration would have little effect on their active participation in the screening program. This notion should be interpreted with caution since it is obvious that in this type of survey, physicians are tempted to give the “right” answer instead of giving his/her true opinion. Moreover, earlier experience with mass screening for CRC in France has demonstrated that the lack of supplementary prescription fees can be a failure factor [4, 6]. For the question of the GP’s remuneration, our data are too dispersed to allow any clear conclusion.

In a similar survey concerning breast cancer, 75% of the GPs expressed their concern about being excluded from mass screening programs [7]. The GP is expected to play a central role in the planned mass screening program for CRC and consequently should feel more involved than in the breast cancer screening program.

Thirty-four percent of the GPs stated they were not interested in special CRC educational sessions. Such training is however necessary to improve knowledge concerning CRC and screening and to correct certain errors identified in this survey and thus optimize GP participation in the future campaign.

Solutions must therefore be developed to encourage GPs who state they are not interested in such training. Possible solutions could include compensation for participating in continuous medical education programs, individualized training sessions, peer exchanges, CD Rom, or the Internet [45].

In conclusion, this survey conducted before initiating a mass screening campaign for CRC enabled us to inform 600 GPs in
REFERENCES


