Application of ANAES guidelines for colonoscopy in France: A practical survey

Application des recommandations ANAES de la coloscopie en France : enquête de pratique

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Summary

Objectives. — In 2004, the French health authorities published guidelines on the indications for colonoscopy. However, no study has evaluated the awareness of healthcare practitioners of these guidelines. The aim of this study was to determine the level of awareness of the Anaes guidelines among French gastroenterologists.

Patients and methods. — A questionnaire comprising 20 multiple choice questions (MCQ) was presented to a group of 79 gastroenterologists between February and June in 2008. The questions covered screening tests for colon cancer (one question), endoscopic mucosal resection (two questions) and the Anaes guidelines (17 questions). According to the number of colonoscopies performed per year (less than 100, 100–500, more than 500), the answers to these questions were analyzed separately.

Results. — Among the practitioners carrying out less than 100, 100–500 and more than 500 colonoscopies per year, the guidelines for colon cancer screening were known by 33, 50 and 56%, respectively, the quality criteria for endoscopic mucosal resection by 0, 0 and 3.7%, respectively, and the Anaes guideline indications for colonoscopy by 34.3, 51.2 and 48.9%, respectively (P < 0.001). The Anaes guidelines were significantly better known by practitioners who were performing more than 100 colonoscopies per year, while the indications for control colonoscopy were less often correctly anticipated. No differences were found concerning postponed indications.

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Conclusion. — The Anaes guidelines consists of the following elements: (1) awareness of the Anaes guidelines is poor, with control colonoscopy being correctly anticipated in just over a third of the gastroenterologists; (2) performing more than 100 colonoscopies per year improves knowledge of the Anaes guidelines; and (3) the Anaes guidelines need to be simplified and should be covered by continuing medical education.

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Introduction

Colonoscopy is considered the gold standard for the diagnosis of neoplastic lesions of the colon. In France, 1,177,000 colonoscopies are performed each year. The complication rate of colonoscopy is 0.51%. These complications include cardiovascular incidents (0.2%), bleeding (0.1%) and perforations (0.05%) [1].

Based on national health policies, the indications for colonoscopy have been the subject of various recommendations. In France, detailed indications for colonoscopy were validated by experts, and published in 2004 by Agence nationale d’accréditation et d’évaluation en santé (Anaes; National agency for accreditation and assessment of health) as clinical recommendations for the indications of colonoscopy. The objective was to clarify the importance of lower gastrointestinal (GI) endoscopy for the diagnosis of neoplastic lesions in patients at high and very high risk of colorectal cancer, and in different clinical situations for those at average risk of developing colon cancer. The guidelines were focused on the importance of and indications for colonoscopy when screening for neoplastic disease in various clinical situations, and on the indications and modalities for lower GI endoscopy in the surveillance of asymptomatic high-risk and very high-risk patients for inflammatory bowel disease, and in the surveillance after endoscopic resection of one or more colorectal adenomas. In addition, the procedures and the use of dye, as well as the periodicity of the review, are listed. The French recommendations are similar to the recommendations published by the British Society of Gastroenterologists and the US consensus conference [2,3] (although there are differences in some points; Table 1).

Since 2004, a new statutory scheme requires all physicians in France to evaluate their professional practices. The purpose is to encourage doctors to include a dimension of practice evaluation in their routine practices. This consists of analysis of professional practices with reference to the recommendations using a method developed and validated by the French National Authority for Health (Haute Autorité de santé [HAS]; Decree 2005-346 of April 14, 2005 on practice evaluation). Such evaluations of colonoscopy performed in several French public hospitals found that between 6.5% and 9.6% of all colonoscopies performed in the health centers evaluated had none of the indications recommended by the Anaes guidelines [4,5]. Furthermore, no assessment of private gastroenterologists has been published thus far.

The aim of the present study was to assess the awareness of gastroenterologists of the Anaes recommendations.

Patients and methods

A questionnaire comprising 20 clinical cases was presented to 79 gastroenterologists in February and June of 2008 during a national gastroenterology symposium and a national endoscopy-training course. At the beginning of the theoretical lecture, unprepared practitioners were asked to answer 20 questions in 20 minutes. Among the 20 clinical cases, detection of colon cancer (one multiple choice question [MCQ]), endoscopic mucosectomy (two MCQ) and the recommendations of Anaes (17 MCQ) were included [6,7]. Evaluation of the recommendations dealt with the indications for colonoscopy and control colonoscopy, with questions concerning modalities of endoscopic surveillance in inflammatory colitis, the indications for chromoendoscopy, screening for colon cancer or a colonic adenoma history, and the method of surveillance following standard colonoscopy in patients at average risk. Other clinical cases evaluated the need for control colonoscopy based on endoscopic and histological findings of an initial colonoscopy in cases of tubular adenomas, villous adenomas, hyperplastic polyps of varying sizes or carcinoma after surgical resection of a colon cancer. The complete questionnaire is shown in Appendix A.

It is well-known that the occasional practice of endoscopy results in a higher risk of complications, mainly bleeding and perforation [12]. To assess whether performing endoscopies influences awareness of the recommendations, the practitioners were divided into three groups, based on the number of colonoscopies performed per year by each practitioner – specifically, less than 100, 100–500 and more than 500 colonoscopies per year. This appeared to best represent low, intermediate and high colonoscopy practices. In each group, the indications for colonoscopy screening and mucosectomy, and the Anaes recommendations, were evaluated separately.

Fifteen MCQ scored the Anaes recommendations on the timing of control colonoscopy. Analysis of the wrong answers was based on whether or not the indication for colonoscopy was early or delayed compared with the time recommended in the guidelines. The results were analyzed according to a Chi² test.

Nine MCQ compared the recommendations of the French Anaes with the British and American recommendations, with answers to the MCQ interpreted according to these different national guidelines.
Table 1: Comparison of the French, American and British guidelines for colonoscopy.

<table>
<thead>
<tr>
<th></th>
<th>France</th>
<th>USA</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Screening, normal</strong></td>
<td>Hemoccult</td>
<td>Colonoscopy, Hemoccult, virtual colonoscopy</td>
<td>Hemoccult</td>
</tr>
<tr>
<td><strong>Normal colonoscopy</strong></td>
<td>No control or Hemoccult</td>
<td>Colonoscopy in 10 years</td>
<td>No control</td>
</tr>
<tr>
<td><strong>Small hyperplastic</strong></td>
<td>Colonoscopy in 5 years</td>
<td>Colonoscopy in 10 years</td>
<td>No surveillance or colonoscopy in 5 years</td>
</tr>
<tr>
<td><strong>polyps</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1—2 tubular</strong></td>
<td>Colonoscopy in 5 years</td>
<td>Colonoscopy in 10 years</td>
<td>No surveillance or colonoscopy in 5 years</td>
</tr>
<tr>
<td><strong>adenomas &lt; 1 cm</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>3—10 adenomas or</strong></td>
<td>Colonoscopy in 3 years</td>
<td>Colonoscopy in 3 years</td>
<td>Colonoscopy in 1 year</td>
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<tr>
<td><strong>advanced adenomas</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(&gt; 1 cm or villous**</td>
<td></td>
<td></td>
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<tr>
<td><strong>component or</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>high-grade dysplasia</strong></td>
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<tr>
<td><strong>or carcinoma in situ</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>&gt; 10 adenomas</strong></td>
<td>Colonoscopy in 3 years</td>
<td>Colonoscopy in &lt; 3 years</td>
<td>Colonoscopy in 1 year</td>
</tr>
<tr>
<td><strong>Sessile adenoma by</strong></td>
<td>3 months</td>
<td>2—6 months</td>
<td>3 months</td>
</tr>
<tr>
<td><strong>piece-meal resection</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Colorectal cancer,</strong></td>
<td>2—3 years, if preoperative colonoscopy was complete</td>
<td>1 year</td>
<td>1 year</td>
</tr>
<tr>
<td><strong>resected</strong></td>
<td></td>
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* Complete exploration by preoperative colonoscopy.

Results

Study population

The assessed gastroenterologists practised in 33 different regions of metropolitan France. Of the 79 gastroenterologists, 18 (22.8%) exclusively practised in hospitals, 29 (36.7%) had a mixed public/private practice and 32 (40.5%) had an exclusively private practice. Six gastroenterologists (7.6%) had performed less than 100 colonoscopies per year and 51% performed more than 500 colonoscopies per year. The gastroenterologists’ age was also used to divide them into four categories (Fig. 1). The median age was 47.5 years. The characteristics of the practitioners evaluated are shown in Table 2.

Figure 1: Number of colonoscopies performed each year by gastroenterologists according to age group.

Screening

The percentage of gastroenterologists performing less than 100, 100—500 and more than 500 colonoscopies per year who recommended the Hemoccult test when screening for colorectal cancer in a man aged 55 years without risk factors was 33, 50 and 56%, respectively (not significant [ns]).

Mucosectomy

All of the quality criteria for mucosectomy of superficial cancers of the digestive tract were known to 0, 0 and 3.7% of the gastroenterologists carrying out less than 100, 100—500

Table 2: Characteristics of participating gastroenterologists.

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusively hospital practice</td>
<td>18</td>
<td>22.8</td>
</tr>
<tr>
<td>Liberal</td>
<td>32</td>
<td>40.5</td>
</tr>
<tr>
<td>Mixed</td>
<td>29</td>
<td>36.7</td>
</tr>
<tr>
<td>&lt; 100 colonoscopies per year</td>
<td>6</td>
<td>7.6</td>
</tr>
<tr>
<td>100—500 colonoscopies per year</td>
<td>32</td>
<td>40.5</td>
</tr>
<tr>
<td>&gt; 500 colonoscopies per year</td>
<td>41</td>
<td>51.9</td>
</tr>
<tr>
<td>French regions (n)</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Practitioners in the Ile-de-France region</td>
<td>29/79</td>
<td>36.7</td>
</tr>
<tr>
<td>Total practitioners</td>
<td>79</td>
<td></td>
</tr>
</tbody>
</table>
and more than 500 colonoscopies per year, respectively (ns).

### Anaes awareness

Knowledge of the Anaes recommendations for practitioners performing less than 100, 100—500 and more than 500 colonoscopies per year was 34.3, 51.2 and 48.9%, respectively ($P < 0.001$; Fig. 2), while control colonoscopy was correctly anticipated by 50, 41.7 and 39.7% of the gastroenterologists, respectively ($P = 0.004$). In contrast, control colonoscopy was delayed compared with Anaes recommendations by 14.4, 10.4 and 12.1% (ns) of the gastroenterologists performing less than 100, 100—500 and more than 500 colonoscopies per year, respectively (Fig. 3).

### Discussion

Two earlier practice-evaluation studies showed that the indications for colonoscopy failed to meet Anaes recommendations in 6.5 and 9.6% of practices, respectively. The indications for colonoscopy failed to meet Anaes recommendations concerning indications for colonoscopy in different clinical situations and for the optimal timing of control colonoscopy based on the findings of the initial review. On average, only 48.7% of responses from practitioners were consistent with the French recommendations (Fig. 2). The rate of correct answers ranged from 25 to 72%, depending on the MCQ.

Of these 17 MCQ, the worst responses concerned control colonoscopy for ulcerative colitis, tubulovillous adenoma associated with carcinoma in situ and hyperplastic polyps. The question on endoscopy in ulcerative colitis showed that the parameters defining the beginning of endoscopic surveillance, such as the extent of disease, are insufficiently known to gastroenterologists. In addition, control endoscopy 3 years after complete removal of a 10-mm tubulovillous adenoma associated with carcinoma in situ was recommended by only 29% of practitioners, while 70% of gastroenterologists anticipated colonoscopy after 6 months to 1 year. This is certainly a reflection of the concerns of practitioners over the possibility of early recurrence and/or incomplete polypectomy (despite histological control).

Two questions concerned control after resection of hyperplastic polyps less than 4 mm and 10 mm in size. For these MCQ, the gastroenterologists answers were in line with Anaes guidelines in 25% and 27%, respectively. However, only 8% of practitioners responded correctly to both questions. Furthermore, 31% adopted a similar attitude in both cases (control colonoscopy or abstention). It should be borne in mind that the Anaes recommends control colonoscopy at 5 years and (if normal) at 10 years after resection of a hyperplastic polyp more than 1 cm and/or multiple small colonic polyps (n > 5) and/or in the proximal colon in hyperplastic polyposis. These three clinical settings show that, in certain relatively frequent situations, Anaes recommendations do not correspond to real-life practices.

Fifteen questions assessed the indications for performing a quality colonoscopy. These MCQ showed that, on average, 41.3% of these indications were made in advance of or improperly compared with Anaes recommendations. Indeed, 50% of the indications for colonoscopy were anticipated compared with the recommendations by practitioners performing less than 100 colonoscopies per year compared with 41.7 and 39.7% for those performing 100—500 and more than 500 colonoscopies per year, respectively ($P = 0.004$). It is known that performing an endoscopy only occasionally results in a higher risk of complications, mainly bleeding and perforation. The present study also reveals that the insufficient practice of colonoscopy is associated with poorer knowledge of the Anaes recommendations. The less
often endoscopy is performed, the more the indications for colonoscopy were either early or inappropriate. The threshold for ensuring better awareness of best-practice colonoscopy is performing a minimum of 100 colonoscopies per year (Fig. 3).

Analysis of the responses according to the recommendations of Anaes was also carried out according to age groups to assess whether or not the acquisition of professional experience improved knowledge of the recommended indications. However, the results (Fig. 4) showed no significantly different responses by age. It appears that experience does not improve awareness of the recommendations. Furthermore, there was no significant difference in the responses of practitioners by type of clinical practice: having either an exclusively hospital or private practice, or a mixed public/private practice, did not affect knowledge of the current recommendations on the indications for colonoscopy.

**Conclusion**

This study is the first assessment of gastroenterologists’ awareness of the Anaes recommendations on the indications for colonoscopy when looking for neoplastic disease in different clinical situations. Our findings also show that:

- knowledge of the Anaes recommendations is average, partly due to the complexity of these recommendations compared with the American and British recommendations, and colonoscopy control is performed too early in more than one third of cases;
- performing more than 100 colonoscopies per year improves the awareness of and adherence to the Anaes recommendations;
- the Anaes recommendations need to be reassessed and streamlined, and should be considered part of the continuing medical education of gastroenterologists.

**Conflicts of interest statement**

There is no conflict of interest for all authors.

**Appendix A. The questionnaire concerning indications for colonoscopy.**

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**Questionnaire colonoscopie**

Êtes-vous : [ ] Hépato-Gastroentérologue [ ] Chirurgien [ ] Autre :


Département d’exercice : / / / / /

Nombre de colonoscopies par an : [ ] < 100 [ ] de 100 à 500 [ ] > 500

Un ou plusieurs choix par question ; Merci d’entourer la (les) bonne(s) réponse(s).

CCR = Cancer colorectal

Question n° 1 : Chez un patient à risque moyen de CCR âgé de 60 ans, dans le cadre du dépistage du CCR, vous recommandez :

1. Un test Hemoccult II  
2. Une recherche de sang dans les selles par test immunologique  
3. Une rectosigmoidoscopie  
4. Une colonoscopie

Question n° 2 : Chez un patient de 20 ans ayant un parent au 1er degré avec un ATCD de CCR à 60 ans, vous recommandez :

1. Une colonoscopie à l’âge de 35–40 ans  
2. Une colonoscopie à l’âge de 40–45 ans  
3. Une colonoscopie à l’âge de 45–50 ans  
4. Une colonoscopie à l’âge de 50–55 ans  
5. Une colonoscopie à l’âge de 55–60 ans
Question no 3 : Chez un patient de 20 ans ayant un parent au 1er degré avec un ATCD d’adénome tubuleux, de 20 mm de diamètre, à 60 ans, vous recommandez :
① Une coloscopie à l’âge de 35—40 ans
② Une coloscopie à l’âge de 40—45 ans
③ Une coloscopie à l’âge de 45—50 ans
④ Une coloscopie à l’âge de 50—55 ans
⑤ Une coloscopie à l’âge de 55—60 ans

Question no 4 : Chez un patient de 60 ans à risque moyen de CCR, ayant eu une coloscopie normale de moins de 5 ans, vous recommandez :
① Aucune surveillance
② Un test Hemoccult II 5 ans après la coloscopie
③ Une rectosig- et un test Hemoccult II 5 ans après
④ Une coloscopie 5 ans après
⑤ Une coloscopie 10 ans après

Question no 5 : Chez un patient de 60 ans ayant eu l’ablation de 2 adénomes tubuleux de 4 et 7 mm, vous recommandez :
① Une coloscopie dans 6 mois
② Une coloscopie dans 1 an
③ Une coloscopie dans 3 ans
④ Une coloscopie dans 5 ans
⑤ Une coloscopie dans 10 ans

Question no 6 : Chez un patient de 60 ans ayant eu l’ablation d’un adénome tubuleux de 12 mm, vous recommandez :
① Une coloscopie dans 6 mois
② Une coloscopie dans 1 an
③ Une coloscopie dans 3 ans
④ Une coloscopie dans 5 ans
⑤ Une coloscopie dans 10 ans

Question no 7 : Chez un patient de 60 ans à risque moyen de CCR ayant eu l’ablation de 2 polypes hyperplasiques de moins de 4 mm, vous recommandez :
① Un test Hemoccult dans 5 ans
② Une coloscopie dans 1 an
③ Une coloscopie dans 3 ans
④ Une coloscopie dans 5 ans
⑤ Une coloscopie dans 10 ans

Question no 8 : Chez un patient de 60 ans ayant eu l’ablation de 2 polypes dentelés de 4 et 5 mm, vous recommandez :
① Une coloscopie dans 6 mois
② Une coloscopie dans 1 an
③ Une coloscopie dans 3 ans
④ Une coloscopie dans 5 ans
⑤ Une coloscopie dans 10 ans

Question no 9 : Chez un patient de 60 ans ayant eu l’ablation d’un adénome villeux de 7 mm, vous recommandez :
① Une coloscopie dans 6 mois
② Une coloscopie dans 1 an
③ Une coloscopie dans 3 ans
④ Une coloscopie dans 5 ans
⑤ Une coloscopie dans 10 ans

Question no 10 : Chez un patient de 60 ans ayant eu l’ablation de 5 adénomes de moins de 5 mm, vous recommandez :
① Une coloscopie dans 6 mois
② Une coloscopie dans 1 an
③ Une coloscopie dans 3 ans
④ Une coloscopie dans 5 ans
⑤ Une coloscopie dans 10 ans
Question no 11 : Chez un patient de 60 ans ayant eu l’ablation de 10 adénomes de moins de 5 mm, vous recommandez :
1 Une coloscopie dans 6 mois
2 Une coloscopie dans 1 an
3 Une coloscopie dans 3 ans
4 Une coloscopie dans 5 ans
5 Une coloscopie dans 10 ans

Question no 12 : Chez un patient de 60 ans ayant eu l’ablation d’un adénome sessile de 15 mm en plusieurs fragments, vous recommandez :
1 Une coloscopie dans 6 mois
2 Une coloscopie dans 1 an
3 Une coloscopie dans 3 ans
4 Une coloscopie dans 5 ans
5 Une coloscopie dans 10 ans

Question no 13 : Chez un patient de 60 ans ayant eu l’ablation d’un adénome tubulo-villeux pédiculé associé à un carcinome in situ de 10 mm, vous recommandez :
1 Une coloscopie dans 6 mois
2 Une coloscopie dans 1 an
3 Une coloscopie dans 3 ans
4 Une coloscopie dans 5 ans
5 Une coloscopie dans 10 ans

Question no 14 : Quels sont le ou les paramètres endoscopiques qui vous font renoncer à la résection endoscopique d’un cancer superficiel du colon :
1 La taille du polype > 50 mm
2 Le type déprimé (llc) de la lésion
3 L’existence d’une ulcération
4 Le siège dans le cæcum
5 L’âge du patient < 55 ans

Question no 15 : Quels sont le ou les paramètres histologiques qui vous conduisent à compléter chirurgicalement la résection endoscopique d’un cancer superficiel du colon :
1 Une marge de l’adénome à 1 mm du plan de résection
2 Une marge du cancer à 1 mm du plan de résection
3 L’existence d’emboles vasculaires ou lymphatiques
4 Un envahissement de la sous muqueuse > 200 µm
5 L’existence d’une tumeur peu différenciée

Question no 16 : Chez un patient ayant eu une résection d’un cancer colorectal et une coloscopie totale pré-opératoire, vous recommandez :
1 Une coloscopie dans 6 mois
2 Une coloscopie dans 1 an
3 Une coloscopie dans 3 ans
4 Une coloscopie dans 5 ans
5 Une coloscopie dans 10 ans

Question no 17 : Chez un patient ayant un syndrome HNPCC, vous recommandez :
1 Une coloscopie tous les 6 mois
2 Une coloscopie annuelle
3 Une coloscopie tous les 2 ans
4 Une coloscopie tous les 3 ans
5 Une coloscopie tous les 5 ans

Question no 18 : Chez un patient de 60 ans ayant eu un polype hyperplasique plan de 10 mm, vous recommandez :
1 Une mucosectomie endoscopique
2 Une coloscopie de surveillance dans 1 an
3 Une coloscopie de surveillance dans 3 ans
4 Une coloscopie de surveillance dans 5 ans
5 Une coloscopie de surveillance dans 10 ans
Recommandations ANAES/ANAES-guidelines : Question 2-3; Question 3-3; Question 4-1 ou 2; Question 5-4; Question 6-3; Question 7-1; Question 8-4; Question 9-3; Question 10-3; Question 11-3; Question 12-1; Question 13-3; Question 16-3; Question 17-3; Question 18-1 et 4; Question 19-1 et 2; Question 20-1 et 4.

Mucosectomie endoscopique/EMR : 14-3, 15-3 et 5

References