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SHORT COMMUNICATION

The yield of colonoscopy in relation to the applicant

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Colonoscopy is increasingly used in daily practice. It is a routine procedure with different indications. There are several guidelines on the appropriate use of gastrointestinal endoscopy [1, 2]. It is the common believe that the list of indications is used properly in daily practice. There are two ways to study the appropriateness of the request. First, check all indications on the application form, and secondly look at the results of the procedure and correlate this to the applicants' speciality.

In the Zaans Medisch Centrum, endoscopy of the lower digestive tract is done on request of different applicants. These are gastroenterologists, internists, surgeons, general practitioners, and sometimes cardiologists. There can be discussion whether the request actually is valid. A statement could be that the gastroenterologist is the only applicant with the proper indication(s). However, this is not the general experience in daily practice. In order to substantiate this, a study was done in a large dataset of consecutive endoscopies of the lower digestive tract in order to relate the findings of the procedure to the applicants.

A total of 23,522 consecutive procedures in a period of 10 years were evaluated. Twelve (0.05%) were deleted because these were done on request of a cardiologist and this number was judged to be too small for proper evaluation. Fourteen percent (3321) was done on request of the general practitioner, 33% (7751) via the gastroenterologist, 45% (10618) via an internist, and finally 8% (1820) on request of a surgeon. All but one procedures on request of the general practitioner were colonoscopies. This is because there is an open-access service for colonoscopy for the general practitioners. Colonoscopy was done in 94% of the requests via the gastroenterologist, 97% via an internist, and 92% via the surgeon. The remainder of the procedures was sigmoidoscopies. The differences in numbers can be explained by the different number of specialists working in the Zaans Medisch Centrum (see Table 1). Of course, more than one macroscopic abnormality can be seen in patients. No macroscopic abnormalities were more often seen in colonoscopies done on request of the general practitioner 36% versus 26% gastroenterologist, 31% internist, and 15% surgeon respectively. The possible explanation can be that the general practitioner more often screens patients in order to rule out colorectal malignancies. Anastomoses were more often diagnosed in procedures done on request of the surgeon, 37% versus 1% general practitioner, 4% gastroenterologist, and 10% internist respectively. Obviously, because these patients had undergone prior surgery and were investigated because of regular follow-up. Colorectal cancer generally was more often diagnosed via the internist/oncologist 9% versus 1% general practitioner, 5% gastroenterologist, and 6% surgeon. Proximal and distal cancers were seen in endoscopies on request of an internist or gastroenterologist in 90% and 83% of cases respectively. This can be explained by the fact that most cancers are responsible for abdominal complaints and referral to these specialists for further analysis.

Inflammatory bowel disease was more often seen in endoscopies done on request of the gastroenterologist. The obvious explanation is that bloody diarrhea, often a leading symptom, leads to referral to the gastroenterologist. There was no difference with respect to detection of polyp(s), 30% general practitioner, 31% gastroenterologist, 28% internist, and 29% surgeon. On the other hand, diverticuli were more often

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Table 1 Different number of specialists working in the Zaans Medisch Centrum

	General practitioner	Gastroenterologist	Internist	Surgeon
Total	3321	7751	10,618	1820
Number of specialists	≻ 100	3	10	GE surgeons 2
Colonoscopy	3220	7316	10,345	1679
Sigmoidoscopy	1	435	273	141
No abnormalities	1160 (36%)	2031 (26%)	3270 (31%)	281 (15%)
Cancer	120 (4%)	369 (5%)	983 (9%)	101 (6%)
Anastomoses	32 (1%)	309 (4%)	1079 (10%)	680 (37%)
Polyp(s)	1004 (30%)	2379 (31%)	2969 (28%)	522 (29%)
Diverticuli	899 (27%)	2145 (28%)	3394 (32%)	623 (34%)
Inflammation	125 (4%)	800 (10%)	526 (5%)	125 (7%)
Proximal cancer $N = 535$	4%	21%	69%	6%
Distal cancer $N = 1038$	9%	25%	59%	7%

GE-surgeon = gastrointestinal surgeon

diagnosed via the internist (32%) and surgeon (34%). Possibly this reflects an older population and patients who had suffered from prior diverticulitis and underwent endoscopy to rule out other pathology.

It can be concluded that there are differences in reasons for performing an endoscopy by different applicants. But these differences are not of clinical importance. The requests are valid in the majority of cases.

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