The European Society of Gastrointestinal Endoscopy (ESGE) and the European Society of Digestive Oncology (ESDO) joined forces for this second symposium in the Quality in Endoscopy series and invited leaders in the field of colonoscopy and colonic neoplasms, alongside young rising stars. Sixty-seven abstracts were submitted and 30 were finally accepted. Over 200 endoscopists attended the symposium. The meeting took place in a modern and very convenient location with high-quality video facilities, which allowed excellent illustration of the case presentations and stimulated the debates. All participants and the survey responses indicated that the meeting fulfilled its aim of providing state-of-the-art knowledge of quality in colonoscopy through lectures, case discussion, and interactive participation.

The different aspects of quality in colonoscopy were covered from A (bowel cleansing) to Z (stenting), and the social networking was also very fruitful. Indeed, the meeting was so active (stenting), and the social networking was also very fruitful. The meeting was so active that we should detect adenomas better, the question was how to do it: through better technology, as suggested by Ralph Kiesslich, or simply through better technique, as suggested by James East! In the large majority of studies, up to now, new technologies have not been demonstrated to be effective in improving the adenoma detection rate. On the other hand, operator performance varies 10-fold for adenomas of all sizes and three-to-four-fold for advanced adenomas. So it appears obvious that operator technique should be optimized before new technology is added. James East focused on bowel preparation, withdrawal time (although its exact role is debated), position changes, use of antispasmodics, and rectal recycling. In conclusion, with regard to adenoma and colorectal cancer detection, priority should be given to better technique, as suggested by Michael Vieth and Ana Ignjatovic, and to quality control programs.

Whereas technology has not been demonstrated to be effective in improving adenoma detection, its role in the characterization of polyps has been highlighted, and was especially so during the second Great Debate, “I characterize” versus “I remove,” spoken to by Ana Ignjatovic and Raf Bischoops. On the one hand, either of these approaches to diminutive polyps—whether “diagnose and discard” or “diagnose and leave behind”—has the potential to reduce polypectomy. On the other hand, though, the discard policy has some limitations, especially in the case of sessile serrated lesions. Thus, the discard strategy should be applied with caution in patients with polyps 6–9 mm in size and in those with right-side lesions, because of their malignant potential.

Some time during the meeting was given to new advances in the management of advanced colorectal cancer. Thomas Seufferlein summarized the emerging role of targeted therapies. Systemic treatment of colorectal cancer has made significant progress, and these interval colorectal cancers: rapid growth of colorectal cancer, incomplete removal of polypl or overlooked polypl or colorectal cancer. Rapid cancer growth could result from alternative colorectal cancer pathways (such as microsatellite instability). Incomplete endoscopic resection could contribute to the failure of endoscopically resected colorectal cancers and explain why missed lesions occur more frequently in polypectomy segments. However, overlooking lesions at colonoscopy is the major factor, even with the more recent endoscopies. It has been shown that the rate of detection of adenomas is associated with a reduced risk for interval colorectal cancer. Polypl location behind folds, subtle lesions that are unrecognized or unfamiliar, poor bowel preparation, and incomplete colonoscopy are the factors that contribute most significantly to the overlooking of lesions. Picking up the thread, Michael Vieth and Ana Ignjatovic described the histological and macroscopic features of some of the “new lesions” which can easily be overlooked: sessile serrated lesions, lateral spreading tumors, depressed carcinomas.

In his lecture on quality control, Roland Valori was emphatic that some parameters of quality control can only be reported at regional or national levels, thus underlining the role of care providers in establishing quality assurance programs on a regional or national basis such as in the UK. Since everybody in the audience was convinced that we should detect adenomas better, the question was how to do it: through better technology, as suggested by Ralph Kiesslich, or simply through better technique, as suggested by James East! In the large majority of studies, up to now, new technologies have not been demonstrated to be effective in improving the adenoma detection rate. On the other hand, operator performance varies 10-fold for adenomas of all sizes and three-to-four-fold for advanced adenomas. So it appears obvious that operator technique should be optimized before new technology is added. James East focused on bowel preparation, withdrawal time (although its exact role is debated), position changes, use of antispasmodics, and rectal recycling. In conclusion, with regard to adenoma and colorectal cancer detection, priority should be given to better technique and to quality control programs.

Whereas technology has not been demonstrated to be effective in improving adenoma detection, its role in the characterization of polypl has been highlighted, and was especially so during the second Great Debate, “I characterize” versus “I remove,” spoken to by Ana Ignjatovic and Raf Bischoops. On the one hand, either of these approaches to diminutive polypl—whether “diagnose and discard” or “diagnose and leave behind”—has the potential to reduce polyplctomy. On the other hand, though, the discard policy has some limitations, especially in the case of sessile serrated lesions. Thus, the discard strategy should be applied with caution in patients with polypl 6–9 mm in size and in those with right-side lesions, because of their malignant potential.

Some time during the meeting was given to new advances in the management of advanced colorectal cancer. Thomas Seufferlein summarized the emerging role of targeted therapies. Systemic treatment of colorectal cancer has made significant progress, and these interval colorectal cancers: rapid growth of colorectal cancer, incomplete removal of polypl or overlooked polypl or colorectal cancer. Rapid cancer growth could result from alternative colorectal cancer pathways (such as microsatellite instability). Incomplete endoscopic resection could contribute to the failure of endoscopically resected colorectal cancers and explain why missed lesions occur more frequently in polypectomy segments. However, overlooking lesions at colonoscopy is the major factor, even with the more recent endoscopies. It has been shown that the rate of detection of adenomas is associated with a reduced risk for interval colorectal cancer. Polypl location behind folds, subtle lesions that are unrecognized or unfamiliar, poor bowel preparation, and incomplete colonoscopy are the factors that contribute most significantly to the overlooking of lesions. Picking up the thread, Michael Vieth and Ana Ignjatovic described the histological and macroscopic features of some of the “new lesions” which can easily be overlooked: sessile serrated lesions, lateral spreading tumors, depressed carcinomas.

In his lecture on quality control, Roland Valori was emphatic that some parameters of quality control can only be reported at regional or national levels, thus underlining the role of care providers in establishing quality assurance programs on a regional or national basis such as in the UK. Since everybody in the audience was convinced that we should detect adenomas better, the question was how to do it: through better technology, as suggested by Ralph Kiesslich, or simply through better technique, as suggested by James East! In the large majority of studies, up to now, new technologies have not been demonstrated to be effective in improving the adenoma detection rate. On the other hand, operator performance varies 10-fold for adenomas of all sizes and three-to-four-fold for advanced adenomas. So it appears obvious that operator technique should be optimized before new technology is added. James East focused on bowel preparation, withdrawal time (although its exact role is debated), position changes, use of antispasmodics, and rectal recycling. In conclusion, with regard to adenoma and colorectal cancer detection, priority should be given to better technique and to quality control programs.
erable progress due to new chemotherapeutic agents, but also due to the so-called “targeted therapies.” These agents target the epidermal growth factor (EGF) receptor tyrosine kinase, the vascular endothelial growth factor and, more recently, also multitkase inhibitors. There is thus a need to define patients who will benefit from these therapies (“personalized cancer treatment”), partly because these agents are expensive. Various markers have been identified, such as KRAS mutation status, which is now routinely examined. Tumors bearing a KRAS mutation do not respond to anti-EGFR antibodies. Other markers such as NRAS mutation, BRAF mutations, and epiregulin and amphiregulin, two ligands of the EGF receptor, are also under the scope. In contrast to anti-EGF receptor agents, there is little data on markers for antiangiogenic strategies. With the advent of many more novel “targeted” therapeutic strategies for colorectal cancer (e.g. Multikinase inhibitors such as regorafenib), identification of companion markers to select patients who could benefit from these targeted agents is becoming a major challenge.

Jaap Stoker is well known for his contribution to the development of CT colonography and he was tasked with imagining the future of this technol-
ogy. Meta-analyses of CT colonography in symptomatic patients show that CT is a good alternative to colonoscopy. Jaap Stoker, however, admits that, given the seemingly higher prevalence of flat lesions and the lower accuracy of CT colono-
graphy for flat lesions, the technique has limita-
tions. Furthermore, as CT colonography does not provide histopathological analysis and has no therapeutic role, it has to be considered as a tria-
ging technique. It is thus most suited to populations with a relatively low incidence of relevant lesions or those in whom colonoscopy cannot be performed (contraindications to sedation, refusal) or in patients with incomplete colonoscopy. For surveillance, CT colonography is also an alter-
native to colonoscopy. CT colonography is above all potentially an im-
portant screening method, as it has been demonstrated that the participation rate in a mass screening program using CT colonography is sig-
nificantly higher than the rate when colonoscopy is used. The technique of MR colonography is less well established than that for CT colonography. Results are comparable to those of CT colonogra-
phy, but the data for 6–9-mm polyps are not well established. The greatest potential for the technique is its possible future use for molecular imaging (punch characterization).

The potential role of the colon capsule was also discussed in a heated Great Debate (the third) be-
tween Adam Haycock and Cesare Hassan. Basic-
ally, the potential indications for the colon capsule are the same as those for CT colonography (contraindications to sedation, colonoscopy refusal, incomplete colonoscopy) and, as with the latter, the target population is people with a low inci-
dence of lesions. All agree that capsule is a very attractive technology with already interesting re-
sults and that more data are needed in terms of the target populations prospective.

As James East pointed out in his presentation on the new colonoscopes, instruments have re-
ained similar for the last 40 years with the ex-
ception of electronic video endoscopy. Recently a number of aspects of “push” colonoscopy have been challenged by new devices and instruments. These include the following:(1) Balloon enteroscopy has been successful for previously failed procedures.(2) The concept of avoiding looping by advancing from the tip is used in the Invendo device.(3) An alternative approach to looping is the NeoGuide device in which articulated seg-
ments follow each other in a “follow-the-leader” style around colonic angulations.(4) The Aer-O-
Scope has an optical head in a balloon that is pu-
ushed around the colon by gas pressure. A joystick has replaced the classical bending controllers. Other new advantages include disposability of at least part of the instrument, and the use of light-emitting diodes in the tip to avoid the need for light guides. The Aer-O-Scope provides a 360-de-
gree view of the colonic surface. Nevertheless, taking on the challenges of colonoscopy is not simple: apart from balloon colonoscopy, these new technologies are still under evaluation and some have been abandoned. Therapeutic instru-
ments may also be changing. Dedicated therapeutic platforms have been developed out of the needs of natural orifice transluminal endoscopic surgery research programs that may provide su-
perior tissue manipulation, including triangula-
tion.

Diminutive polyps – Siwan Thomas-Gibson’s sec-
topic – rarely harbor advanced pathology, but advanced polyps derive from diminutive polyps. We thus have an opportunity to safely interrupt the pathway to malignant transformation at the earliest phase when the resection carries very low risk. Nevertheless, polyectomy of diminu-
tive polyps must be performed safely and com-
pletely. There are multiple therapeutic options. Hot biopsy has gone out of vogue in the UK, ex-
plained Siwan Thomas-Gibson, especially proxi-
mal to the splenic flexure, because of the risk of delayed bleeding and perforation. These compi-
lations are likely to be due to suboptimal tech-
nique, and safer options are available. Polyps smaller than 3 mm can be removed using cold for-
ceps, but care should be taken to remove the en-
tire polyp. Slightly larger polyps can be removed by cold or hot snare, with or without lifting solu-
tion. Retrieving the histological sample from a di-
minutive snare polypectomy is frequently and frustratingly difficult. The speaker presented tips for retrieval during her talk.

The session then became totally interactive, with case presentations on difficult polypectomy, en-
doscopic mucosal resection, and management of bleeding and perforation. Experts had enough time to explain tricks and answer the many ques-
tions.

How to manage a malignant adenoma, whether by endoscopy or surgery, was Evelien Dekker’s sub-
ject. For each individual person the risk of re-
sidual disease should be weighed against the risks of the surgical procedure. Risk factors for re-
sidual disease and/or lymphatic invasion in the case of endoscopic resection include a positive or unknown resection margin, nonpeculated morphology, deep submucosal invasion (beyond sm1 in the case of sessile lesions), poor tumor dif-
ferentiation, and lymphovascular invasion. The pathologist should perform a very precise and completely examination of the specimen, while the operator should advise the patient on the possibility and need for further treatment. Ideally the endoscopist should recognize in vivo that the adenoma may possibly be invasive, so as to pre-
vent the useless performance of a polypectomy with its accompanying risk of complications. This will also offer the opportunity to tattoo the loca-
tion of the polyp when suspicious for malignancy.

The main feature of invasive growth is the Kudo V pit pattern, which must be known by all endos-
copists.

“We do not need to learn and perform colorectal endoscopic submucosal dissection” (ESD) is one of the more controversial topics, and it was cov-
ered by the fourth Great Debate, between Alessandro Repici and Thierry Ponchon. ESD aims to get a R0 resection, i.e., one in one piece with a normal margin laterally and in depth. In fact, ESD, even when performed by Japanese experts, does not always result in an R0 resection and car-
ries a significant risk of perforation. The two de-
baters concluded that ESD has a role and should be performed in referring centers. Indications for ESD are adenomas with a carcinomatous compo-
nent (Kudo V) and adenomas that carry a high risk of carcinomatous component, such as the nonnodular lateral spreading tumor.

The fifth and final Great Debate was on the role of colonic stenting. Indications for colonic stents have broadened from palliation to bridge to sur-
gery, in patients who are potentially operable who have an acute obstruction. In either situa-
tion, the main goals are to avoid emergency sur-
gery and stoma creation. The major side effect is the risk of perforation, which results in peritoneal tumor spread and is increased by bevacizumab therapy. Another issue is the risk – so far theoreti-
cal – related to circulating tumor cells. Recent ran-
donized studies have generated a debate espe-
cially regarding the bridge-to-surgery situation, and this was also a matter of discussion between the debaters, Alessandro Repici and Philippe Rou-
gier. A multidisciplinary approach to the use of colonic stents is needed – and more randomized studies are still necessary.

Competing interests: None.

Corresponding author
Professor Thierry Ponchon
Hôpital Edouard Herriot
Dept. of Digestive Diseases
Place d’ Arsonval
69437 Lyon
France
Phone: +33-4-7211 0146
Fax: +33-4-7211 0147
thierry.ponchon@chu-lyon.fr

Find more information on ESGE activities at www.esge.com or contact the ESGE Secretariat:
European Society of Gastrointestinal Endoscopy (ESGE)
HG Editorial & Management Services
Mauerkircher Str. 29
81679 Munich
Germany
Tel: +49-89-9077936-11
Fax: +49-89-9077936-20
secretariat@esge.com