Quo vadis, NICE?

The diagnosis and management of both protruding and flat colonic lesions is based on endoscopic resection and subsequent histological examination. The information obtained from endoscopic and histologic findings allows to establish the presence of early adenocarcinomas in lesions, the risk for future metachronic lesions, and the need for and type of further surveillance (1,2). However, the detection of colonic lesions, whether adenomas or serrated lesions, is very common in our setting. In an asymptomatic population subjected to screening by means of direct colonoscopy adenomatous lesions were found in 31.8% and serrated lesions in 20.8% of subjects (only hyperplastic lesions in 87%) (3). Furthermore, up to 50% of the procedural cost is associated with histologic diagnosis (4).

Most individuals have colonic lesions smaller than 5 mm (diminutive). In these lesions, the probability of identifying an invasive adenocarcinoma or advanced lesion is limited, and a higher proportion of hyperplastic lesions is to be expected (5). Hypothetically, the optical diagnosis of endoscopy should avoid the histologic analysis of diminutive lesions (resect and discard), provide recommendations for post-polypectomy endoscopic surveillance immediately following the endoscopic procedure, and also leave behind non-adematous lesions in the rectum and sigmoid (leave in situ). In this regard optical diagnosis would reduce the costs associated with histologic diagnosis as well as the risks accompanying endoscopic resection. However, some minimum requirements must be met before common use. The American Society of Gastrointestinal Endoscopy (ASGE), through a committee set up for the assessment of novel technologies, has established the minimum requirements for a number of them in order to implement such strategies. For the “leave in situ” approach, the prediction of histology based on optical diagnosis must have a negative predictive value of 90% for adenomas. Regarding the “resect and discard” approach, there must be 90% agreement between follow-up interval recommendations as based on optical diagnosis and on polyp histopathology (6).

In the last few decades several optical technologies have been developed to assess gland crypt and vascular patterns with the goal of determining histology. However, the need for endoscopes fitted with magnification (not widely available), dyes (which may render the procedure more labor-intensive), and experience given its relative complexity have resulted in limited implementation in our setting (7). The international NICE (Narrow band imaging International Colorectal Endoscopic) classification attempts to overcome such limitations. This classification is designed to be used for high-definition endoscopes with narrow-band imaging (NBI) with or without magnification. In addition to its not requiring additional staining, it unifies the various criteria and classifications previously used, and simplifies diagnostic categories into three deemed to be most clinically relevant: NICE type 1 (hyperplastic lesion), NICE type 2 (superficial adenoma or adenocarcinoma), and NICE type 3 (adenocarcinoma with submucosal invasion) (8).

The study by Dr. Sola-Vera and colleagues (9), published in this issue of The Spanish Journal of Gastroenterology, analyzes whether the NICE classification meets the requirements established by ASGE in a routine clinical setting for the diagnosis of adenomatous histology. Following their training on the technique, the endoscopists included in the study assessed 311 lesions smaller than 10 mm (216 diminutive lesions) in 195 patients. In this study the diagnostic accuracy of the NICE system in diagnosing adenomas was limited as regards diminutive lesions - sensitivity 59%, specificity 92%, and negative predictive value 48%; this falls clearly short of ASGE recommendations for the “leave in situ” approach. In contrast, consistency with follow-up recommendations after histologic diagnosis was 92.2% and 93.3% as regards the European Quality in Screening Colonoscopy guidelines and European Society of Gastrointestinal Endoscopy guidelines, respectively (1,2). While in this case the NICE classification meets the minimum requirement for the implementation of the “resect and discard” approach, the fact that follow-up recommendations could be established for only 90 of the 195 patients included should be borne in mind, as it significantly limits clinical applicability.

The study conclusions must be limited to the use of the NICE system for diminutive polyps in order to predict an adenomatous histology. In this regard, the results published so far are conflicting. While the NICE classification and NBI are highly accurate in the diagnosis of adenomatous histology, their accuracy is considerably lower in non-academic settings (10-13), as is the case in the study by Sola-Vera and colleagues (9). On these grounds, their use may only be recommended in units where endoscopists already underwent proper training, completed the learning curve, assessed their results, and the minimum quality criteria were met. Assessing the diagnostic accuracy of the NICE classification for the identification of invasive adenocarcinoma (NICE 3) and invasion extent lies outside the scope of the present study (14). In this sense, multicenter studies are needed to assess the reproducibility of the NICE system in this scenario. The NICE system has two additional limitations for clinical use: it cannot...
detect advanced histology (villous or high-grade dysplasia) and, most important of all, it fails to discriminate sessile serrated adenomas. Thus, in a recently reported study, 61% of serrated adenomas were classified as adenomas, and the remaining 37% were classified as hyperplastic lesions (15).

Joaquín Cubiella

Department of Gastroenterology. Complexo Hospitalario Universitario de Ourense. Instituto de Investigación Biomédica Ourense, Pontevedra and Vigo. Galicia, Spain

REFERENCES