



Competency in endoscopic mucosal resection

Dexterity: skill and ease in the use of hands.
(Merriam-Webster dictionary)

Advanced endoscopic procedures such as ERCP and EUS are known to require substantial training to achieve competency. The guidelines of the American Society for Gastrointestinal Endoscopy (ASGE) and other societies suggest a minimum number of procedures before competency can be assessed.¹ With the growing use of EMR, how to assess competency in EMR is both unknown and increasingly important. In this issue of *Gastrointestinal Endoscopy*, Bhurwal et al² evaluate the learning curve for EMR of large colorectal lesions. This retrospective study was carried out in an endoscopy tertiary referral center. The authors analyzed all patients who underwent EMR of sessile colorectal polyps larger than 20 mm. The study took place over a considerable time span (9 years), during which 578 EMRs were performed in as many patients by 3 internationally renowned “senior” endoscopists. The authors evaluated any possible bias, the main one being the duration of the study period. The resections were carried out by use of a wide variety of polypectomy snares and a preliminary submucosal injection; cap-assisted EMR was used in 5.7% of cases. With the increase of this work, the improvement in results from the 3 endoscopists was noted. The EMRs were divided into groups of 20 so the resulting data could be analyzed in sequence. The follow-up was carried out in 427 (74%) patients. The main finding was that residual neoplasia rate was detected in 23% of patients. With the experts’ increasing experience, the rate of en bloc resection also improved (obviously when the lesion sizes allowed this [50.9%]). A reduction of residual neoplasia was observed in 2 of 3 endoscopists (>20%). This decrease occurred after 100 EMRs were performed. Even when the influence of variables such as prior therapy, piecemeal specimens, and polyp size were analyzed, the results did not change. The percentage of bleeding was no different in patients treated by the 3 endoscopists, nor did it vary in the sequential groups of 20 patients.

This study leads to an important reflection, which obliges us to reevaluate our formative path and our clinical outcomes; in other words, whether in our routine activity we are able to offer our patients a satisfactory treatment,

not only with a low rate of adverse events but with definitive cure of the pathologic condition treated.

So what should be the training process for young endoscopists as they learn how to perform colorectal EMR and, above all, acquire the appropriate competence? Furthermore, when we consider the rapid evolution of endoscopic techniques and devices, what teaching should be offered to our senior endoscopists who work outside referral centers or medical schools? Self-learning should belong to the past, when endoscopists carried out pioneering resection techniques not knowing the outcome but, with time, obtaining good results. Nevertheless, these results were not

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excellent in all centers, and this was repeated like a refrain in the literature. In a 2003 article evaluating how many polyps sent for surgical resection could have been treated endoscopically, Church concluded, “ask for second opinion before surgery.”³

EMR plays a pivotal role in the resection of large colorectal polyps, and it is the most used technique. Large lesions (in the present study up to 150 mm) can be efficiently treated, thereby avoiding surgical resection in an ever-increasing number of patients. Even though EMR is a less complicated procedure than endoscopic submucosal dissection, a resection performed imprecisely would cause a high rate of recurrence, with negative consequences for the patient. Scarring fibrosis could hinder suitable treatment of relapse or residual adenomatous tissue, leading to surgical intervention. This study was carried out in a well-known referral center where complex cases are directed, often having been previously treated in other centers. Although there are endotherapy methods that are more appealing for endoscopists because of their complexity, like endoscopic submucosal dissection (which, it should be remembered, has well-defined indications), EMR remains the most used technique.⁴ EMR has irreplaceable characteristics because it is minimally

invasive, allows faster resection of large precancerous colorectal lesions, has a negligible adverse event rate, and is relatively easy to master.

Notwithstanding the high number of patients with these lesions, thanks to the technical improvement of endoscopy, which makes it possible to identify flat lesions (LST), the teaching process of EMR is a critical point. Patients with large polyps and polyps located where the endoscopic approach is difficult should be sent to referral centers. Endoscopic skill contributes to the difference, but it is not sufficient. Competence is based on knowledge of the endoscopic technique but also on an understanding of which type of lesion should be treated endoscopically. The learning process of endoscopic techniques should not be based exclusively on animal experimentation or attendance at the plethora of courses offered worldwide. Viewing video clips in which the most vital phases of the procedure are condensed into short sequences of a few minutes can mainly help endoscopists who already have some experience with the technique. Witnessing the techniques performed by the best endoscopists can help, but it is certainly not enough to develop the competence of young trainees. There are techniques in which the assistance of a tutor is irreplaceable. Assisting with a high number of procedures before actually performing them in person is essential because it allows one to see what happens in the real world, to understand all endoscopic devices that are used in various situations, and above all how to cope with adverse events.

Not all endoscopists were created equal, but every endoscopist should have the same opportunity for learning. However, not all schools of specialization have the opportunity to teach advanced therapeutic endoscopy, because they do not have experts in these techniques, the volume of patients is low, or both. The wide range of local recurrence and adverse events reported in the literature is mainly related to the dexterity of the endoscopist. A difficult task is how to select the fellows who should learn advanced endoscopic procedures. Continuous monitoring of their progress, as reported in the present article, is an essential step that would allow such selection.

The technique generally used in EMR is snare resection after a submucosal injection. The wide variability of the level of relapse published in reports is due to the fact that it is a skill depending on the dexterity of the operator. For a few years now it has been observed that cap colonoscopy, compared with standard colonoscopy, allows faster

cecal intubation time, identifies more polyps, and is better tolerated by the patient.⁵ Cap-assisted EMR is little used because of the fear of a high level of adverse events, in particular perforation. In our experience, the residual neoplasia rate was 4%, one of the lowest of those reported in the medical literature.⁶ The available data do not allow us to draw a firm conclusion because this technique is under scrutiny. Obviously, even for this technique, a suitable training program to learn tips and tricks is necessary for the performance of an efficient resection.

The value of any given technique depends on its safety, efficacy, and above all its reproducibility. Videoendoscopy and other technological improvements have eased the learning process, but the role of a tutor in a high-volume referral center is irreplaceable.

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Abbreviations: EMR, endoscopic mucosal resection; ESD, endoscopic submucosal dissection.

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