Measurement of colorectal polyp size: End of a long-running story?

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Bibliography

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Although colonoscopy is effective at detecting and removing polyps, which can prevent colorectal cancer (CCR), there is room for improvement. Accurate characterization is necessary to predict histology and to select the most appropriate treatment method; these range from cold-snare polypectomy to surgery through mucosal resection techniques or submucosal dissection. Improvements in CCD captors, optical and numerical zoom functions of colonoscopes, together with virtual chromoendoscopy, can enhance analysis of morphology, pit pattern, and vascular pattern. However, polyp size measurement is problematic, despite it being the basis of all recommendations on polyp resection and monitoring [1–3].

Several thresholds of polyp size are relevant. Diminutive polyps are ≤ 5 mm and do not require resection in cases of high confidence of a hyperplastic lesion or can be considered for resect and discard in cases of adenoma. Removal of lesions ≥ 10 mm indicates a 3-year surveillance interval because of an elevated risk of progression to adenocarcinoma or metachronous CCR [1]. Misclassification is common and leads to inadequate surveillance [4]. Regarding resection technique, 10- to 19-mm lesions should be resected by hot-snare polypectomy (HSP) or endoscopic mucosal resection (EMR). En bloc EMR resection is advised for lesions > 20 mm but is mandatory in cases of suspected submucosal invasion. For lesions > 40 mm, referral to an expert center is recommended [5].

Although not included in the guidelines, a 25- or 30-mm cut-off is important because the rate of en bloc resection decreases markedly despite the use of techniques such as tip-in or underwater EMR [6, 7]. In daily practice, accurate measurement of the lesion could avoid errors in the choice of snares and limit the use of unnecessary material, reducing the environmental impact. When referring patients with large lesions to expert centers, knowledge of the size of the lesion can promote positive outcomes and better organization [8].

Despite the availability of methods of size evaluation using dedicated devices or biopsy forceps, subjective visual estimation is typically performed because of its low cost and rapidity [9].

In the current issue of Endoscopy International Open, Djinbachian et al. report a well-designed preclinical randomized trial of measurement of the size of artificial colorectal polyps (created from modeling clay) using a virtual scale endoscope, an endoscopic ruler, and biopsy forceps. The virtual scale had significantly greater accuracy than the other two techniques. This study completes that carried out by the same Montreal team, in which a virtual scale was compared to visual evaluation [10]. The main advantage of the clay model is that the polyps are of defined sizes. An in vivo study is underway.

However, the issue is far from settled. Indeed, although the virtual scale used demonstrates the possibility of measurement despite lateral placement of the endoscope and different morphologies of Paris, evaluation of large lesions is insufficient. The virtual scale allows a circular measurement, suitable for small lesions, or a linear one, enabling measurement of only one axis of the lesion. However, evaluation of the cranio-caudal projection of large lesions is difficult, and colonic relief for le-

sions on one or several folds is problematic. The size of large lesions is needed for planning of complex resections by adapting the procedure duration and the choice of resection strategy. The virtual scale needs to be further improved to allow dynamic measurements despite movement of the endoscope. The dream of an endoscopist performing complex endoscopic resection would be to be able to evaluate not lesion diameter but, rather, its surface area in square millimeters!

We look forward to the data from the ongoing in vivo study, which will determine performance in all situations: behind a fold, on several folds, in a corner. It would also be interesting to compare the results of the virtual scale to those of other tools under development, such as those based on artificial intelligence [11]. This may be but the beginning of the story.

Competing interests

The authors declare that they have no conflict of interest.

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