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IMAGING

DIFFERENTIATION OF COLORECTAL LESIONS

The accuracy and feasibility of novel endoscopic techniques must be shown to be adequate before they can be adopted into clinical practice. Teaco Kuiper and colleagues from Amsterdam, The Netherlands, compared probe-based confocal laser endomicroscopy (pCLE) with narrow-band imaging (NBI) and chromoendoscopy for the differentiation of colorectal lesions. The diagnostic accuracy of pCLE was inferior to the other techniques, and using pCLE considerably increased colonoscopy time.

The investigators studied 154 lesions in 64 patients who were scheduled for surveillance colonoscopy. Lesions were differentiated using chromoendoscopy and NBI prior to pCLE video recording and biopsy sample collection for histopathology. Two expert observers carried out *post hoc* analysis of pCLE videos for diagnostic accuracy and time taken to acquire images of sufficient quality. "We defined sufficient quality as showing at least one crypt or vessel," explains Kuiper.

Nearly a quarter of pCLE videos were of insufficient quality for analysis, although most of these were of polypoid lesions that would be difficult to identify because of the shape of the probe—a problem that could be overcome by putting a cap on the probe tip. Both expert observers found the diagnostic accuracy of pCLE to be lower than the other modalities.

The mean video-recording time was 50 s, but only 44% of this time revealed crypts or vessels. Therefore, pCLE considerably increases colonoscopy duration but a substantial part of the extra time does not generate images of sufficient quality. However, the researchers note that more experience of the technique could reduce the time needed. Interpretation could be another factor. "*Post hoc* analysis of pCLE videos without complementary endoscopic images does not reflect clinical practice and could underestimate accuracy," says Kuiper.

Although pCLE increased the duration of the procedure without improving diagnostic yield, the investigators suggest that technical issues and lack of experience could have limited the study. They propose that using pCLE in combination with other modalities should be assessed.

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Original article Kuiper, T. *et al.* Feasibility and accuracy of confocal endomicroscopy in comparison with narrow-band imaging and chromoendoscopy for the differentiation of colorectal lesions. *Am. J. Gastroenterol.* doi:10.1038/ajg.2012.14