

## ENDOSCOPY

# No need for submucosal injection with ‘underwater’ EMR of large sessile colorectal polyps

‘Underwater’ endoscopic mucosal resection (UEMR) could eliminate the need for submucosal injection of large sessile colorectal polyps prior to resection.

Submucosal injection before EMR is used to lift polyps and create a ‘safety cushion’. Kenneth Binmoeller *et al.* hypothesized that UEMR would render submucosal injection obsolete as water does not thin the bowel wall to the same extent as air insufflation, and it creates a natural safety cushion by ‘floating’ the mucosa and submucosa relative to the outer muscularis propria. Endoscopic ultrasound (EUS) of the water-immersed bowel had also shown them that the outer muscularis propria remains ‘round’, but the submucosa and mucosa involute into the lumen. “A further advantage of UEMR is that, compared with air, a water interface provides better optics, mainly due to the magnification effect,” explains Binmoeller.

60 patients (with 62 polyps) took part in the study. Complete water immersion



Piecemeal ‘underwater’ EMR of a 50 mm Paris 2a laterally spreading tubulovillous adenoma of the cecum. Courtesy of K. F. Binmoeller.

of the polyp was followed by EUS, white light and image-enhanced narrow band imaging, argon plasma coagulation (to mark the perimeter), piecemeal resection using a duckbill snare, coagulation of vessels in the submucosa and quadrant biopsy of the resection margin. Follow-up colonoscopy was scheduled at 3 months.

All polyps were completely removed without submucosal injection. There were

no procedural complications; delayed bleeding in three patients was managed conservatively. No cases of perforation or postpolypectomy syndrome occurred. An adenoma was detected in one of 54 patients at the follow-up colonoscopy, but the authors believe it was a residual lesion.

“The underwater method challenges the standard practice of EMR for large colorectal polyps,” says Binmoeller; he believes an RCT comparing the two is now warranted. As there is growing interest in diagnostic colonoscopy using water immersion instead of air insufflation, Binmoeller concludes, “Conceivably, UEMR could be performed seamlessly after underwater colonoscopy, for polyps of any size, without any air insufflation.”

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