Short cap technique to complete EMR of very flat colorectal laterally spreading tumors

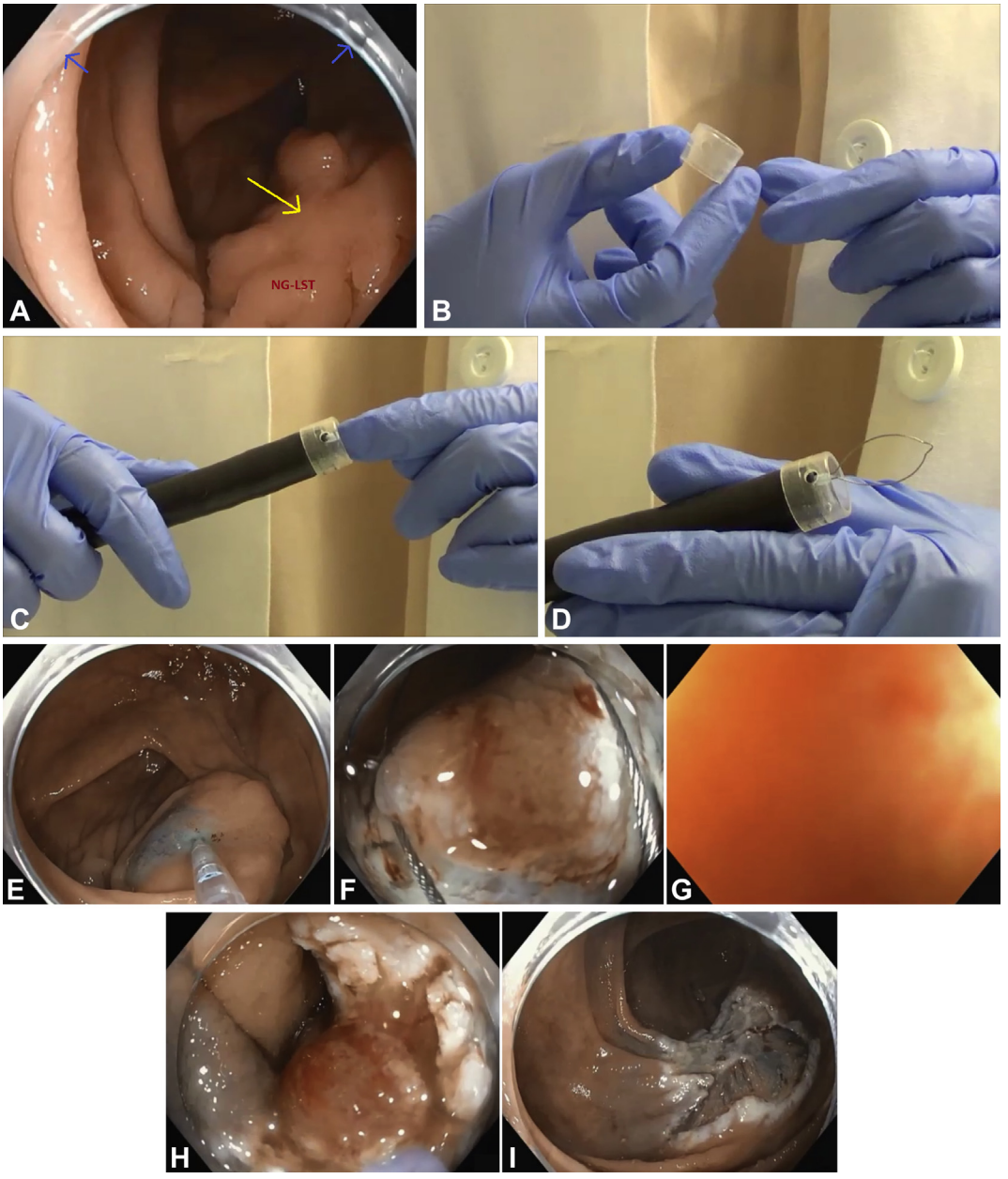

Figure 1. A, Nongranular laterally spreading tumor (NG-LST). *Yellow arrow* designates the very flat central portion of the NG-LST, which often resists snaring. *Blue arrows* indicate the short cap projecting from the colonoscope tip. **B,** The short cap. **C,** The short projection of the cap from the colonoscope tip prevents suctioning of the muscularis propria into the cap. **D,** A flexible snare has the advantage of opening and closing smoothly, making it easier for the technician to feel the tissue when grasped. The small size of the snare prevents excessive tissue from being grasped during closure. **E,** The proximal edge of the LST is injected with hetastarch and indigo carmine. **F,** The small, flexible snare is placed over the flat portion of the LST, and the tissue is approached very closely with the colonoscope tip. **G,** The endoscopic image is blinded by the tissue suctioned into the cap. **H,** Snared tissue after release of suction, before transection with electrocautery. **I,** Complete resection of the very flat LST after the margin has been cauterized with snare tip on soft coagulation.

Written transcript of the video audio is available online at www.VideoGIE.org.

We demonstrate the utility of a short cap placed over the colonoscope tip to facilitate EMR of very flat portions of laterally spreading tumors (LSTs) (Fig. 1A). Snare resection is preferred over ablative techniques for the removal of very flat portions that resist snaring. Snaring of very flat portions is often frustrating because even a stiff snare may slide over the very flat tissue.

Two options are available to rescue EMR of very flat tissue. One is avulsion, which uses hot forceps. Another is the short cap technique, which we demonstrate in this video (Video 1, available online at www.VideoGIE.org). The short cap technique is more efficient because a larger surface area of flat polyp can be removed in a single action. The short cap used in this video is the Olympus soft "distal attachment" (Fig. 1B). A similar cap is available from U.S. Endoscopy. The short cap is placed over the colonoscope tip so that it projects about 3 to 4 mm (Fig. 1C). The short projection of the cap from the colonoscope tip accounts for the safety of the technique. The projection does not have enough depth to pull the muscularis propria into the cap. The cap technique is as follows: a small snare, ideally 10 to 11 mm in diameter, is used (Fig. 1D). The small size of the snare prevents excessive tissue from being grasped. The largest snare we use for the technique is 15 mm. We prefer a flexible snare for the short cap technique, although it is not essential. A flexible snare has the advantage of opening and closing smoothly compared with a stiff snare. This smooth action makes it easier for the technician to feel the tissue as the snare closes, and feeling the tissue is essential for the short cap technique. After submucosal injection (Fig. 1E), the snare is placed over the tissue (Fig. 1F). It is necessary to approach the tissue very closely with the colonoscope tip. Failure to approach closely may result in undesired tissue coming into the cap when suction is applied. With the flat polyp tissue near the colonoscope tip, suction is applied so that the flat tissue passes through the open snare and enters the cap. With the endoscopic image blinded by the suctioned tissue, the technician closes the snare and reports verbally when the tissue is grasped (Fig. 1G). Suction is then released so that the snared tissue is visualized before transection (Figs. 1H and I).

The short projection of the cap from the colonoscope tip makes the technique safe in all sections of the colon and rectum, including the cecum. We have used this technique to complete part, or even most, of hundreds of EMRs and have never encountered a visible perforation or muscle injury associated with the technique. In some instances, flat tissue is resistant even to the cap technique, in which case we use avulsion to complete the EMR.

The cap should be considered whenever a patient referred for EMR is known to have a non-granular LST or a lesion that appears flat or partly flat on review of photographs. In routine practice, if difficulty is encountered snaring a flat LST during EMR, it may be worthwhile to withdraw the colonoscope, apply the cap, reinsert the colonoscope to the lesion, and then attempt completion of EMR.

DISCLOSURE

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