

A novel endoscopic technique to obtain rectal biopsy specimens in children with suspected Hirschsprung's disease

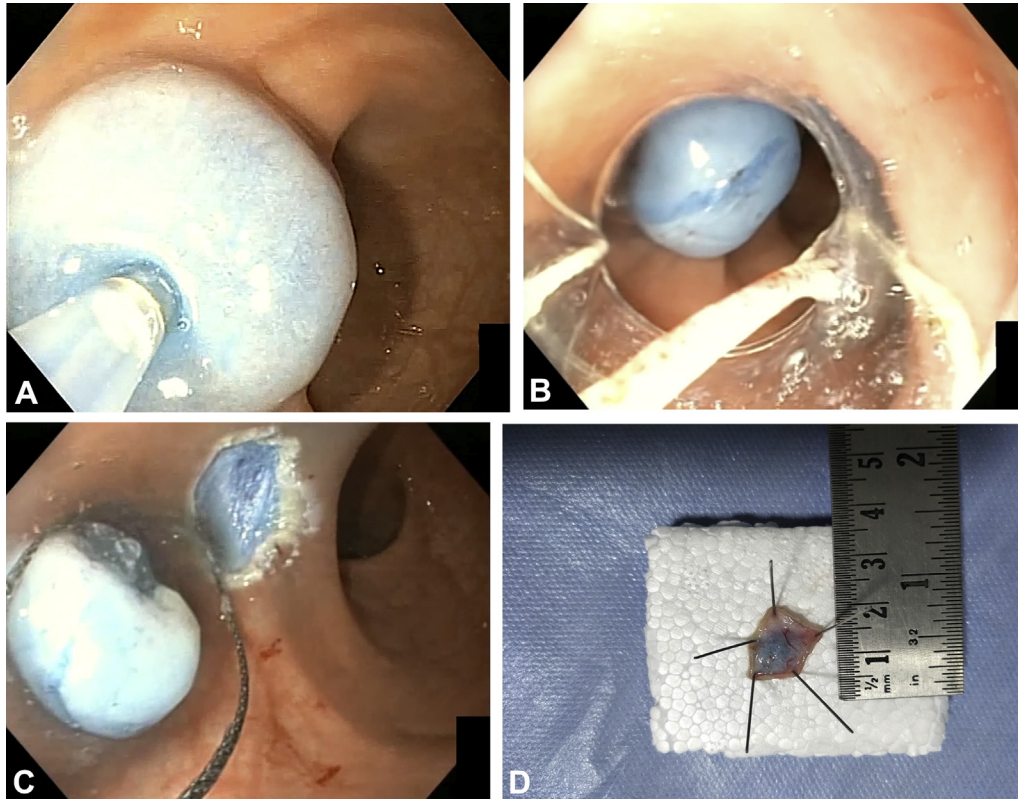


Figure 1. **A**, Injection of saline solution diluted with a few drops of indigo carmine to raise a mucosal bleb. **B**, Band ligator device mounted over the scope, and band deployed to create an artificial polyp. **C**, Resection of the polyp created with a polypectomy snare. **D**, Macroscopic evaluation of the sample obtained.

A 3-year-old girl with a history of constipation since early infancy was brought for medical attention. The child's condition did not improve with dietary intervention and laxatives. The results of evaluation, including serum calcium determination, thyroid function test, and neurologic examination, were within normal limits. Anorectal manometry revealed an absence of a rectoanal inhibitory reflex suggestive of Hirschsprung's disease. A rectal biopsy was planned to confirm the diagnosis. Both options, rectal suction biopsy and endoscopic biopsy, were discussed with the girl's parents.

Endoscopic sampling of the rectal tissue was performed after informed consent from the parents. An adult gastroscope (Olympus GIF HQ 190; Olympus Corp, Tokyo, Japan) was used for the procedure, and the entire procedure was

performed with the child under light sedation in the left lateral position (Video 1, available online at www.VideoGIE.org). The technique used for endoscopic acquisition of rectal tissue was as follows. The rectum was thoroughly washed and any residual fecal matter was cleared. The appropriate site was chosen along the posterior rectal wall about 3 cm from the anal verge. Approximately 5 mL of saline solution diluted with a few drops of indigo carmine was injected at the chosen site to raise a mucosal bleb (Fig. 1A). The gastroscope was withdrawn, and the band ligator device (Saeed multiband ligator; Cook Medical, Bloomington, Ind) was mounted over it. The mucosal bleb was sucked, and a band was deployed to create an artificial polyp (Fig. 1B). Subsequently, the band ligator was unmounted from the

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

gastroscope. The polyp created previously was cut by use of a polypectomy snare, and the specimen was collected (Fig. 1C). The base of resection site was carefully examined for the depth of resection and any bleeding.

The sample was inspected visually (Fig. 1D) and sent for histopathologic examination. In this child, hematoxylin and eosin staining in a low-power microscopic view revealed adequate inclusion of submucosa in the resected specimen. A high-power microscopic view showed ganglion cells. Calretinin immunohistochemical examination was performed, and the presence of ganglion cells was reconfirmed. Therefore, a diagnosis of Hirschsprung's disease was ruled out.

Endoscopic sampling with band-assisted EMR is a simple technique for rectal tissue acquisition and should be further evaluated in clinical trials.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

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