

Cold or hot snare in endoscopy – that is the question




Authors

Michael Vieth¹, Markus F Neurath^{2,3}

Institutions

- 1 Institute of Pathology, Klinikum Bayreuth, Friedrich-Alexander-University, Erlangen-Nuremberg, Erlangen, Germany
- 2 Internal Medicine II, Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Germany
- 3 Deutsches Zentrum Immuntherapie, DZI, Erlangen, Germany

Bibliography

Endosc Int Open 2022; 10: E580–E581

DOI 10.1055/a-1776-7685

ISSN 2364-3722

© 2022. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Georg Thieme Verlag KG, Rüdigerstraße 14,
70469 Stuttgart, Germany

Corresponding author

Michael Vieth, Klinikum Bayreuth – Institute of Pathology,
Friedrich-Alexander-University, Erlangen-Nuremberg,
Preuschwitzerstr. 101 Bayreuth 95488, Germany
Fax: +49 921 400 88 5602
vieth.lkpathol@uni-bayreuth.de

In the current issue of Endoscopy International Open, Ikeda et al. [1] present a feasibility study on cold snare removal of colonic polyps. The aim was to elucidate whether the quality of the cold snare specimens can be increased by placing the tissues on filter paper.

To our knowledge, acetate supports or filter paper are widely used in Italy, even for biopsies to allow a perpendicular cut as perfect as possible in histopathology [2].

There is no doubt that quality, and thus evaluation, of the removal margin increases with such a perfectly oriented specimen. In most pathology labs, technicians orientate and embed such specimens and how perfectly the polyp is embedded and thus how the resection margin is evaluated clearly are dependent on how much time is spent on this embedding process.

So, the conclusion is very easy: If filter paper/acetate supports are used, quality increases! Unfortunately, due to time restrictions, gastroenterologists usually refuse to consider supports or organic substitutes like cucumber slices [3].

In most countries, a polyp-free colon is what we all aim for. This is feasible because in most countries, endoscopy service is readily and widely available. There are several methods for removing a polyp, including rubber band ligation (suck and cut), endoscopic resection methods, hot snare polypectomy, and cold snare removal. The latter represents the fastest and less expensive method for removing a polyp.

There is also worldwide consensus that colonic polyps should be removed completely rather than fragmented [4].

On the other hand, we know that individuals with polyps less than 0.5 cm in diameter can go back to the screening population even if not all their polyps have been removed [5]. One

could argue that hyperplastic polyps can stay but adenomas need to be removed. Unfortunately, endoscopic classification of polyps does not always work perfectly but it has improved a lot during the last decade [6]. In addition, incomplete or uncertain removal of an adenoma should lead to a follow-up endoscopy to check for possible remnants, irrespective of the size of the former polyp.

Reality in routine histopathology frequently shows a more complex situation. Often polyps up to a certain size, such as 1 cm in diameter, are removed by cold snare and also of larger polyps; thus, this approach results in fragmentation of specimens. In such a case, even placing specimens on a support does not allow for making any conclusion about the resection margin. Often, each colonic polyp is not placed in a single specimen jar, but rather, multiple polyps from the whole colon are placed in the same collection vial. This leads to the same situation as with heavily fragmented polyps: Few conclusions can be drawn about the resection margin for most such polyps.

So, in what situation might a support help? No doubt, it may help in cases in which a single polyp is placed perfectly on such an acetate support/filter paper. On the other hand, a well-trained technician can also achieve this by taking enough time to orientate the specimen perfectly during embedding. However, with multiple polyps, this technique becomes more difficult. If multiple biopsies or small polyps are placed on such supports, some biopsies or polyps may come off the support and float freely in formalin, again leading to a situation in which the resection margins may be hard to identify correctly. Once fragmented, histopathological evaluation is no longer possible.

Therefore, fragmentation needs to be avoided, as stated in all polypectomy guidelines worldwide [4].

This is probably the reason why Ikeda et al. [1] excluded fragmented polyps from the beginning and set the maximal size for a polyp eligible for cold snare removal at less than 10 mm. Setting the cut-off at a 10-mm diameter seems to be a very challenging goal, but the authors were able to show that this is really worked at their institution. Personally, we are very much doubt whether this approach could be easily transferred to all endoscopy units worldwide. To start with, we would probably suggest a cut-off at 0.5 cm because a regular biopsy forceps may not measure more than 10 mm, and thus, a polyp measuring up to 10 mm may not be removed completely. The frequency or number of fragmented polyps in the series by Ikeda et al was not provided by the authors. From our routine cases, one would assume that fragmentation can be expected in around 30% of patients who have small polyps.

Furthermore, it is known that after cold snare removal, most patients have no remnants on a follow-up endoscopy [7]. Therefore, the resect and discard strategy was promoted but abandoned because endoscopic classification of polyps could not be performed precisely enough worldwide, except in specialized dedicated centers [6], and histopathology is not that expensive and typically covered by health insurance.

Ikeda et al [1] state that placing the polyps on a support increases quality in at least 15% of cases. That percentage may not sound large, but if we could avoid follow-up endoscopy in those 15% of patients, it is definitively cost effective to place small polyps on a support before sending them to pathology.

The problem of acceptance is a different story. The full burden of time and cost for the support method would fall on gastroenterologists, whereas follow-up endoscopies are fully reimbursed. We assume that even it becomes very clear that quality would increase with use of supports, not many gastroenterologists would be willing to place anything on acetate or filter paper simply because they would not have the time to do so and would lose money on the procedure.

Ikeda et al [1] make an important contribution to processing of endoscopic specimens by demonstrating a marked increase

in quality assurance when polyps are placed on a support system. In fact, gastroenterology societies should promote this technique and fight for reimbursement strategies to “motivate” gastroenterologists to properly orient colonic polyps removed by cold snare. Also in this scenario, fragmentation should be avoided under all circumstances.

Competing interests

The authors declare that they have no conflict of interest.

References

- [1] Ikeda T, Yoshizaki T, Eguchi T et al. Efficacy of specimen pasting after cold snare polypectomy for pathological evaluation of horizontal margins. *Endosc Int Open* 2022; 10: E572–E579
- [2] Auriati L, Truini M, Sebastiani P et al. Utilizzo dei filtri millipore di acetato di cellulosa per un corretto orientamento delle biopsie endoscopiche in patologia digestiva [Use of cellulose acetate millipore filters for the correct orientation of endoscopic biopsies in digestive diseases]. *Pathologica* 2003; 95: 146–151
- [3] Ruiz GC, Reyes-Gomez E, Hall EJ et al. Comparison of 3 handling techniques for endoscopically obtained gastric and duodenal biopsy specimens: a prospective study in dogs and cats. *J Vet Intern Med* 2016; 30: 1014–1021
- [4] Pouw RE, Bisschops R, Gecse KB et al. Endoscopic tissue sampling - Part 2: Lower gastrointestinal tract. European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2021; 53: 1261–1273
- [5] Atkin W, Wooldrage K, Brenner A et al. Adenoma surveillance and colorectal cancer incidence: a retrospective, multicentre, cohort study. *Lancet Oncol* 2017; 18: 823–834
- [6] Kader R, Hadjinicolaou AV, Georgiades F et al. Optical diagnosis of colorectal polyps using convolutional neural networks. *World J Gastroenterol* 2021; 27: 5908–5918
- [7] Matsuura N, Takeuchi Y, Yamashina T et al. Incomplete resection rate of cold snare polypectomy: a prospective single-arm observational study. *Endoscopy* 2017; 49: 251–257