

Background

- High confidence optical diagnosis (OD) in combination with a 'resect and discard strategy' during screening colonoscopy has advantages over histology alone, provided accuracy is maintained regarding surveillance intervals.
- The PIVI criteria¹, is the only available benchmark for assessing optical diagnosis competence and sets a threshold of $\geq 90\%$ agreement in assignment of post-polypectomy surveillance intervals compared to histology in order to resect and discard colorectal polyps $\leq 5\text{mm}$.
- Low confidence diagnoses, and/or polyps $>1\text{cm}$ still require histology to complete individual patient polyp datasets and inform surveillance intervals.

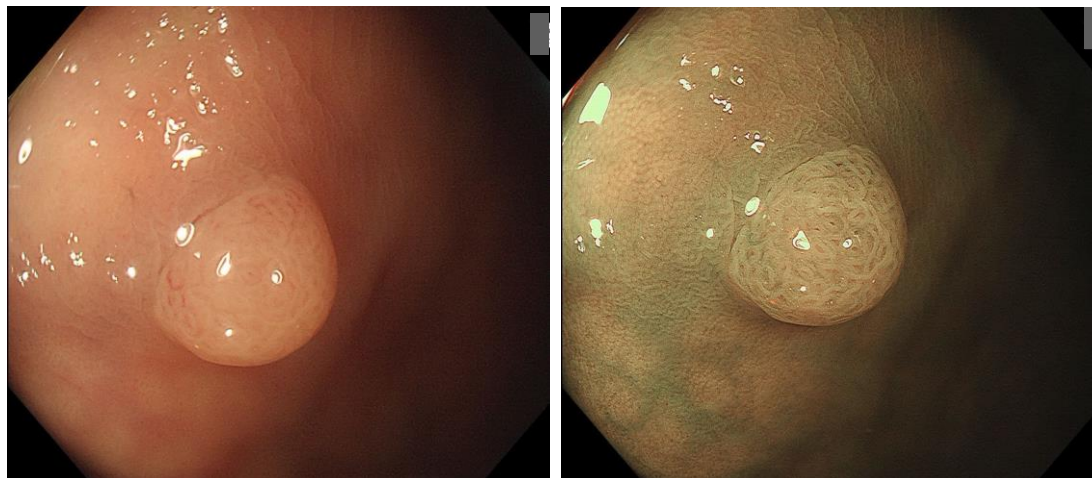


Figure 1 Polyp examined with white light and narrow band imaging for optical diagnosis

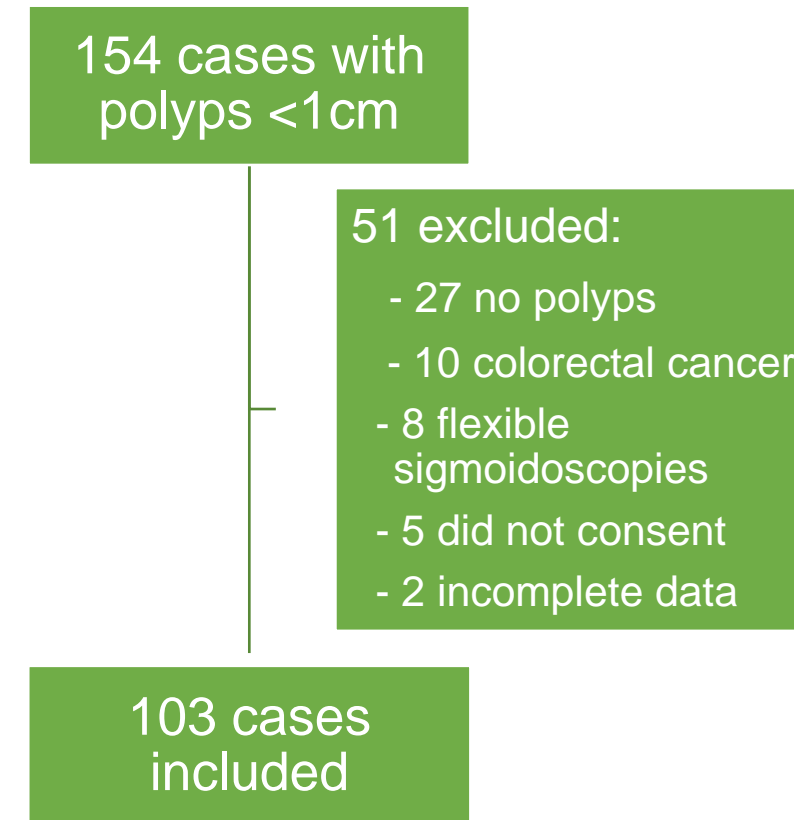
Aim

- Analyse the effect of OD on the accuracy of surveillance interval in a bowel cancer screening setting.

Methodology

- Eight screening colonoscopists used an OD approach for polyps $<1\text{cm}$ in patients between Feb 20 - Oct 21 in a prospective feasibility study (DISCARD3).
- After OD (white light+NBI) all polyps were resected and retrieved for histopathology where possible.
- Cases with polyps $\geq 1\text{cm}$ were excluded. The first 154 cases with polyps $<1\text{cm}$ were included.

Figure 2 Study overview



Results

Figure 3 Optical diagnosis – histopathology surveillance interval concordance

Group	Confidence in optical diagnosis (polyps $<1\text{cm}$)	BSG	ESGE	US
A	High confidence only	100% (55/55)	98.2% (54/55)	89.1% (49/55)
B	Mixed (high/low) confidence	97.9% (47/48)	91.7% (44/48)	91.7% (44/48)

- In Group A (colonoscopies with only polyps $<1\text{cm}$ and high confidence OD only), the PIVI threshold of $\geq 90\%$ agreement between OD and histopathology surveillance intervals was achieved using BSG and ESGE guidelines. Concordance with US guidelines was almost 90% in this early phase of DISCARD3.
- In Group B (colonoscopies with only polyps $<1\text{cm}$ and a mixture of high/low confidence OD), the PIVI threshold of $\geq 90\%$ agreement was achieved when applying BSG, ESGE and US guidelines.

Study groups

- The included cases were divided into 2 study groups:
 - A All polyps $<1\text{cm}$ and only high confidence OD
 - B All polyps $<1\text{cm}$ and mixed (high/low) confidence OD
- Each case had an OD surveillance interval assigned using BSG, ESGE and US guidelines and this was compared to a histopathology-derived surveillance interval.

Conclusions

- There is a high level of accuracy of optical diagnosis surveillance intervals compared with histology surveillance intervals.
- Optical diagnosis of polyps $<1\text{cm}$, with a resect and discard strategy, does not appear to adversely affect surveillance intervals across different levels of confidence.
- No unexpected polyp cancer cases detected.

¹ Rex et al. (2011). The ASGE PIVI on real-time endoscopic assessment of the histology of diminutive colorectal polyps. *GIE*, 73(3).