

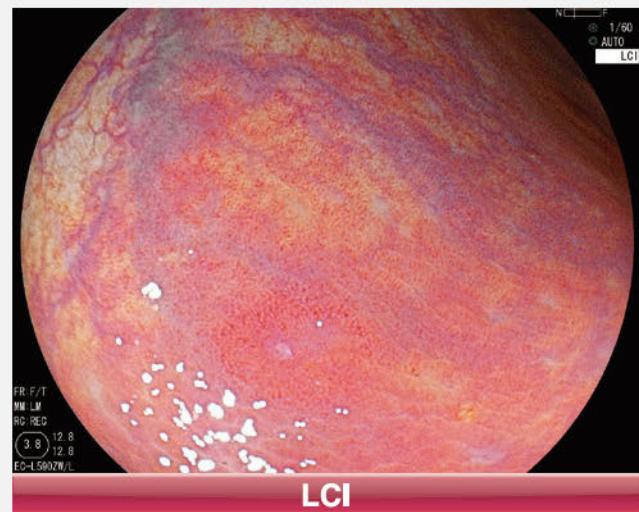
Impact of Linked Color Imaging on colorectal adenoma detection

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New clinical evidence

Linked color imaging (LCI) improves adenoma detection rate (ADR) and the mean number of adenomas per patient (MAP) compared with white light imaging⁽¹⁾.



Study Center

Santa Casa de Caridade Hospital, Bagé, RS, Brazil

Background and aim

Background

Colorectal cancer (CRC) is a leading cause of cancer death worldwide. Colonoscopy is recognized as the most effective method for the diagnosis of adenomas, and endoscopic resection of these lesions prevents CRC⁽²⁾. The adenoma detection rate (ADR) is considered an important quality indicator for colonoscopy. ADR is defined as the percentage of colonoscopies in which at least 1 adenoma was detected, whereas the number of adenomas per patient is defined as the total number of adenomas diagnosed divided by the total number of colonoscopies performed. LCI has been recently developed. Promising results have been reported for LCI in the detection of polyps and adenomas owing to improved visibility of the colorectal mucosa⁽³⁻⁴⁾.

Aim

To determine the impact of LCI on the detection of colorectal adenomas compared with white light imaging (WLI) and Blue laser imaging-bright (BLI-brt).

Study Design

Design: A single center, prospective, RCT

Registration: November 8th, 2018 – March 23rd, 2019

Equipment: Light Source (LL-4450), Processor (VP-4450HD), Colonoscope (EC-L590ZW/L)

Eligibility Criteria:

All adults aged ≥ 30 years who presented symptoms and who were referred for screening or surveillance.

Procedures:

Patients were randomized with a 1:1:1 allocation ratio into 3 groups (WLI, BLI-brt, and LCI) for examination during withdrawal of the colonoscope, which was timed with a stopwatch.

Outcome measures:

The primary outcome measure was the ADR between groups.

Results

A total of 451 patients were considered eligible for the study and randomized into examination by WLI, BLI-brt, or LCI. A total of 125 patients were examined by WLI, 124 by BLI-brt, and 130 by LCI, respectively. (Figure 1)

<ADR>

ADR was significantly higher in the LCI group than in the WLI group (P=0.03).

ADR were 43.2% in WLI, 54.0% in BLI-brt, and 56.9% in LCI. (Figure 2)

No significant difference was observed between LCI and BLI-brt (P=0.71)

and between BLI-brt and WLI (P=0.09).

<MAP>

MAP was significantly higher in the LCI group than in the WLI group (P=0.03).

MAP was 0.82, 1.06, and 1.38 for WLI, BLI-brt, and LCI, respectively. (Figure 2)

<Withdrawal time>

Withdrawal time did not differ between groups. (P=0.97) . (Figure 2)

Figure 1

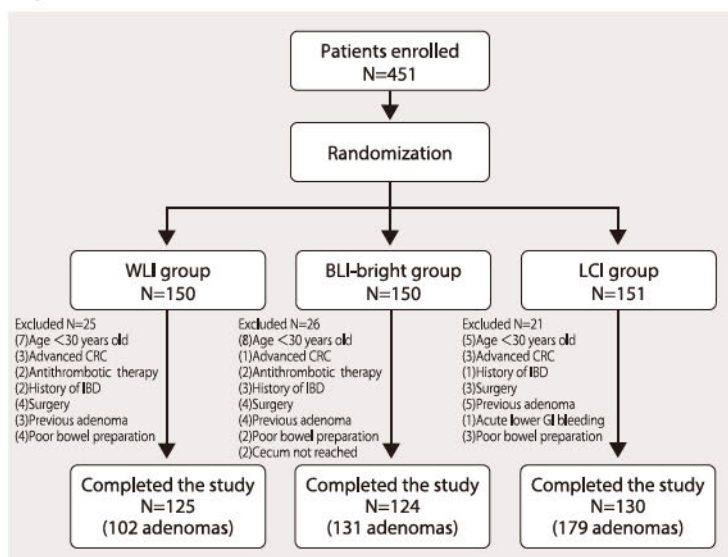


Figure 2

	WLI	BLI-brt	LCI
ADR (%)	43.2	54.0	56.9
MAP	0.82	1.06	1.38
Withdrawal time (min.)	10.6 ± 0.2	10.5 ± 0.37	10.89 ± 0.43

Conclusion

Our findings show that LCI increases the detection of colorectal adenomas during colonoscopy.

Reference

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