



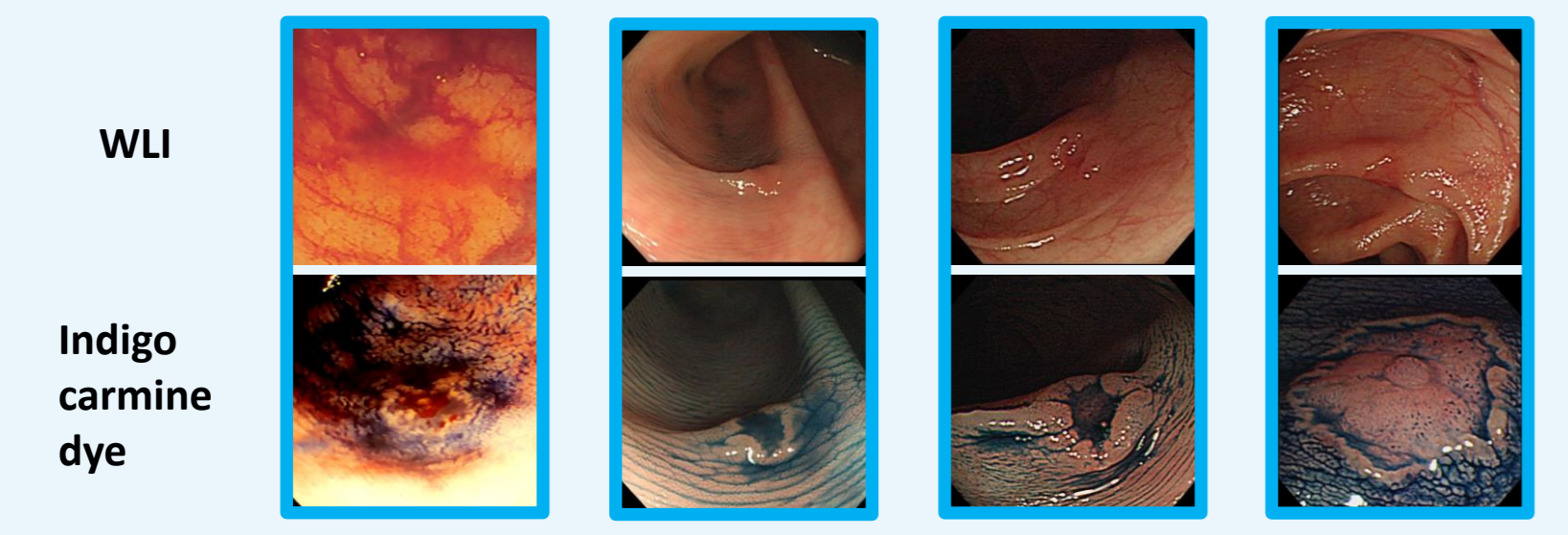
“O-ring Sign” as a Novel Colonoscopic Finding with Narrow-Band Imaging for Detecting Depressed-Type Colorectal Lesions

Takahiro Fujii, TF Clinic, Tokyo, Japan

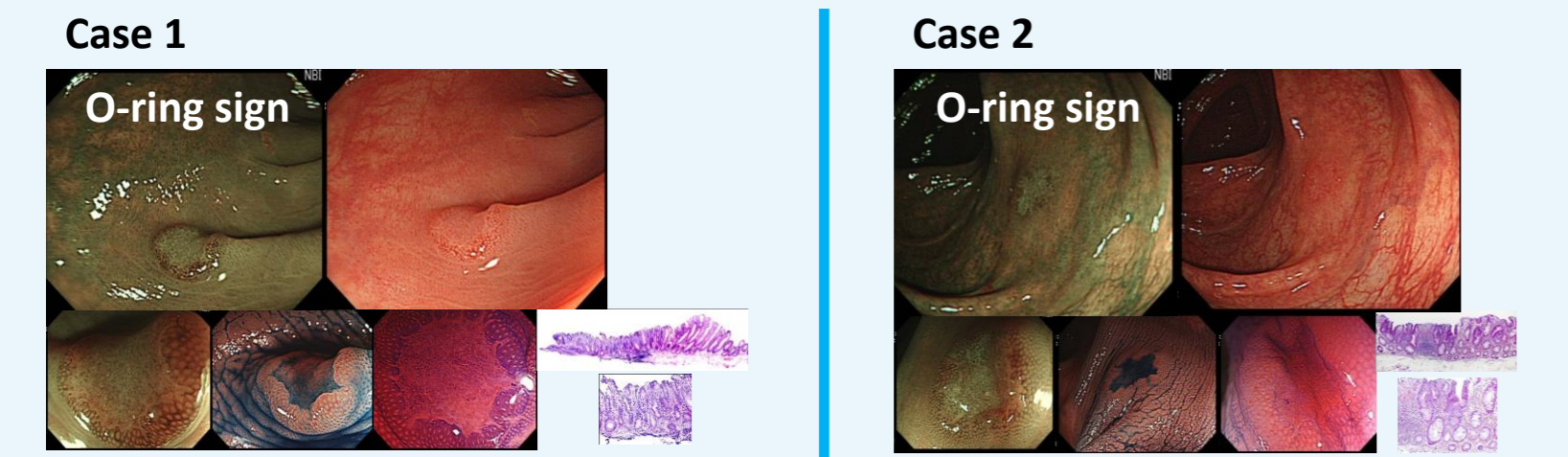
Background

In recent years, post-colonoscopy colorectal cancer (PCCRC) has become a focus of attention as likely representing “missed” or “rapidly-growing” lesions in colonoscopic screening for colorectal cancer (CRC). Currently, lesions thought responsible for PCCRC include sessile serrated adenomas / polyps or flat and depressed-type lesions occurring on the right side of the colon, and there is an increasing need for endoscopic modalities to prevent overlooking these lesions. Colorectal screening using narrow-band imaging (NBI) during colonoscope withdrawal from the cecum, which was started at our clinic since November 2008, suggested that NBI colonoscopy was superior to white-light imaging (WLI) colonoscopy in detecting flat and depressed-type lesions (1). With NBI, the depressed area of a lesion is recognized as “whitish” and the surrounding ring-like mucosa as “brownish”, which constitutes the “O-ring sign”.

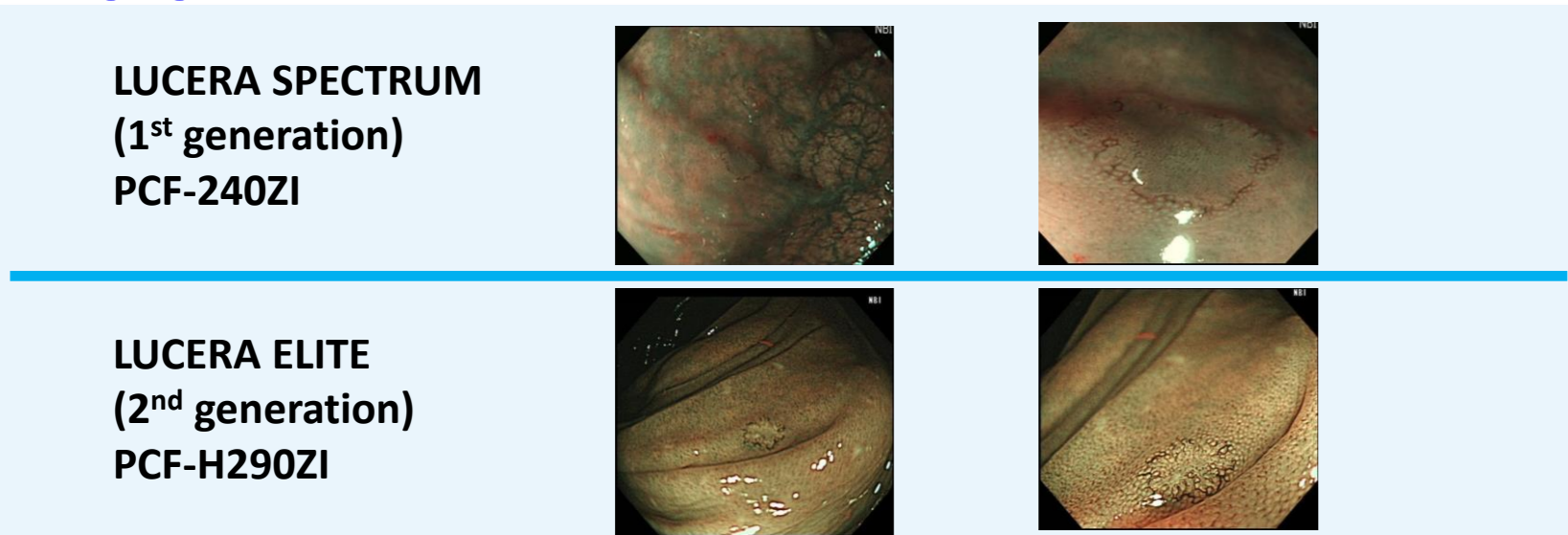
WLI limitation in detecting depressed type lesion is shown. The use of new colonoscopic methods are therefore recommended.



Depressed-type lesions detected as a O-ring sign with NBI



Comparison between the 1st and 2nd Generation system in detecting O-ring sign with NBI



Objective

To evaluate the incidence and characteristics of the “O-ring sign” in depressed-type colorectal lesions.

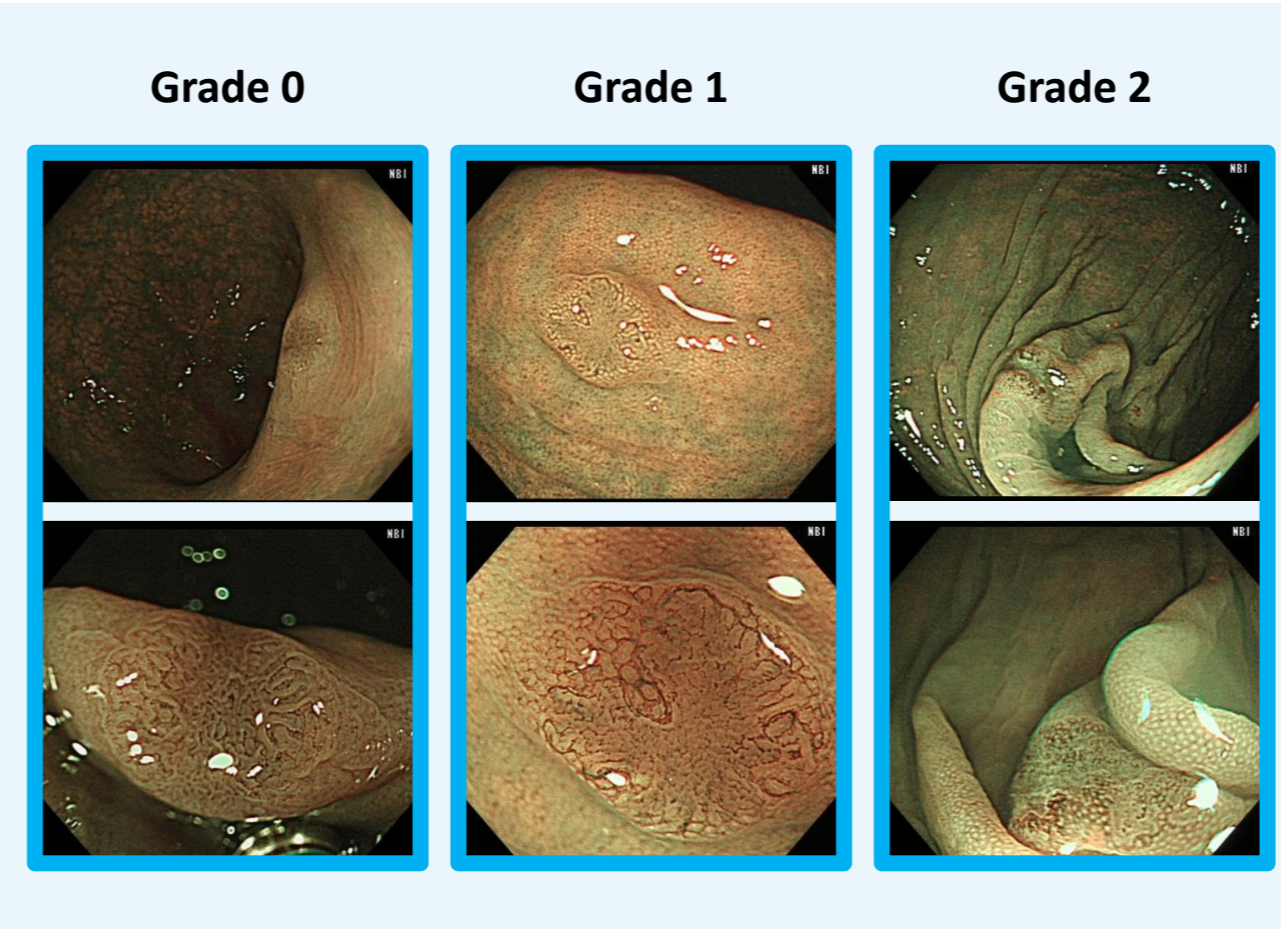
Methods

A total of 227 endoscopically resected and histologically confirmed depressed lesions (IIa + IIc, 156; IIc, 71) were included for analysis. The colonoscopic images of these lesions were retrospectively examined for “O-ring sign” positivity and intensity (grade 0, negative; grade 1, mildly to moderately positive; and grade 2, highly positive). Of these, 16 were excluded as unevaluable and a total of 211 evaluable lesions were analyzed.

Results

Of the 211 lesions (IIa + IIc, 141; IIc, 70) analyzed, 84 (IIa + IIc, 60; IIc, 24), 105 (IIa + IIc, 69; IIc, 36), and 22 (IIa + IIc, 12; IIc, 10) were found to be in grades 0, 1, and 2, respectively. Sixty point two percent (60.2%) of these shown to be “O-ring sign”-positive (127 / 211), with IIa + IIc and IIc accounting for 57.4% (81 / 141) and 65.7% (46 / 70), respectively. While an examination by tumor size and location revealed no clear tendency in “O-ring sign” positivity, an examination by grade revealed a higher “O-ring sign” positivity rate among those with high-grade dysplasia (84.6%; 11 / 13) than those with low-grade dysplasia (59.2%; 116 / 196).

Intensity of O-ring sign in depressed-type lesion



Depressed-type lesion of IIc & IIa+IIc -Positive rate of O-ring sign in each location-

| | Rectum | Sigmoid | Descending | Transverse | Ascending | Cecum | Total |
|---------|--------|--------------|--------------|--------------|--------------|-----------|---------------|
| IIc | 1 / 1 | 57.9% (n=19) | 75% (n=12) | 61.3% (n=31) | 83.3% (n=6) | 1 / 1 | 65.7% (n=70) |
| IIa+IIc | | 58.8% (n=34) | 47.6% (n=21) | 61.4% (n=70) | 58.3% (n=12) | 25% (n=4) | 57.4% (n=141) |
| Total | 1 / 1 | 58.5% (n=53) | 57.6% (n=33) | 61% (n=101) | 66.7% (n=18) | 40% (n=5) | 60.2% (n=211) |

Depressed-type lesion of IIc & IIa+IIc -Histology and O-ring sign-

| Histology | Grade 0 | Grade 1 | Grade 2 | Positive rate of O-ring sign |
|----------------------|---------|---------|---------|------------------------------|
| Low grade dysplasia | 80 | 98 | 18 | 116 / 196 (59.2%) |
| High grade dysplasia | 2 | 7 | 4 | 11 / 13 (84.6%) |
| Submucosal cancer | 2 | 0 | 0 | 0 / 2 (0%) |
| Total | 82 | 103 | 22 | 127 / 211 (60.2%) |

Depressed-type lesion -Positive rate of O-ring sign-

| Macroscopic type | Grade 0 | Grade 1 | Grade 2 | Positive rate of O-ring sign |
|------------------|---------|---------|---------|------------------------------|
| IIc (n=70) | 34.3% | 51.4% | 14.3% | 65.7% |
| IIa+IIc (n=141) | 42.6% | 48.9% | 8.5% | 57.4% |
| Total (n=211) | 39.8% | 49.8% | 10.4% | 60.2% |

Conclusions

NBI colonoscopy screening for the “O-ring sign” as an index appears to improve the detection of depressed-type colorectal lesions.

There are no potential conflicts of interests related to this presentation.

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Final Programme

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CLINICAL USEFULNESS OF THE SMSA DIFFICULTY SCORE AND COMPARISON WITH A SUBJECTIVE SCORE FOR THE MANAGEMENT OF LARGE NON-PEDUNCULATED COLORECTAL LESIONS. A MULTICENTER STUDY FROM THE SPANISH ENDOSCOPY SOCIETY ENDOSCOPIC RESECTION GROUP.

Eduardo Albéniz Arbizu, Spain; M. Fraile González; C. Guarner Argente; D. Martínez-Ares; B. Ibañez Beroiz; A. Herreros de Tejada; J. Santiago; M. A. Alvarez; X. Bessa Casserras; M. Rullan; O. Nogales Rincón; F. Ramos-Zabala; E. Valdivielso Cortazar; R. Pardeiro Pertega; P. Alonso; J. Cobian; F. Mugica; C. J. Gargallo Puyuelo; A. Elosua; J. de la Peña; J. G. Martínez-Cara; E. Redondo Cerezo; M. Pellisé Urquiza; L. Rivero Sánchez; A. Huerta; J. Gonzalez Santiago; A. Alvarez Delgado; J. Espinós; A. Repiso Ortega; F. J. Navajas; J. Carbo Perseguer; J. Merlo; M. Rodriguez Tellez; V. A. Jimenez-Garcia; F. Sabado; E. Saperas Franch; P. Huelin Alvarez; M. Concepcion-Martin; Spanish Endoscopy Society Endoscopic Resection Group members

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Carolina Palmela, Portugal; P. Marques Da Costa; A. O. Ferreira

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“O-RING SIGN” AS A NOVEL COLONOSCOPIC FINDING WITH NARROW-BAND IMAGING FOR DETECTING DEPRESSED-TYPE COLORECTAL LESIONS

Takahiro Fujii, Japan

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THE LEARNING CURVE FOR COLORECTAL ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD) BETWEEN EXPERT AND TRAINEE ENDOSCOPIST

Naohiko Akimoto, Japan; K. Mitsui; T. Teramoto; S. Fujimori; K. Iwakiri

Endoscopy, ERCP

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LARGE BALLOON DILATATION VERSUS MECHANICAL LITHOTRIPSY AFTER ENDOSCOPIC SPHINCTEROTOMY IN MANAGEMENT OF LARGE COMMON BILE DUCT STONES AMONG CIRRHOTIC PATIENTS

M. I. Radwan; Mohamed Hassan Emara Elzanan, Egypt; I. M. Ibrahim; M. E. Morsy



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P0882 "O-ring Sign" as a Novel Colonoscopic Finding with Narrow-Band Imaging for Detecting Depressed-Type Colorectal Lesions
Takahiro Fujii, TF Clinic, Tokyo, Japan

Background
Colorectal adenomatous polyps (APs) are the most common precancerous lesions of colorectal cancer (CRC). However, it is difficult to detect small APs, especially depressed-type APs (DTAPs), by conventional white-light colonoscopy (WLC). Narrow-band imaging (NBI) is a useful technique for detecting DTAPs. However, the detection rate of DTAPs by NBI is still low. We hypothesized that the "O-ring sign" (OS) is a novel finding with NBI for detecting DTAPs. The aim of this study was to evaluate the utility of the OS for detecting DTAPs.

Methods
A total of 100 patients with DTAPs were enrolled in this study. The OS was defined as a ring-like structure with a diameter of 1-2 mm, which was observed by NBI. The OS was classified into three types: Type 1 (a complete ring), Type 2 (an incomplete ring), and Type 3 (a partial ring). The OS was observed in 70 patients (70%). The OS was observed in 100% of the patients with DTAPs. The OS was observed in 100% of the patients with DTAPs. The OS was observed in 100% of the patients with DTAPs.

Results
The OS was observed in 70 patients (70%). The OS was observed in 100% of the patients with DTAPs. The OS was observed in 100% of the patients with DTAPs. The OS was observed in 100% of the patients with DTAPs. The OS was observed in 100% of the patients with DTAPs.

Conclusion
The OS is a novel finding with NBI for detecting DTAPs. The OS was observed in 100% of the patients with DTAPs. The OS was observed in 100% of the patients with DTAPs. The OS was observed in 100% of the patients with DTAPs.

Table 1: Depressed-type lesion of N. & R. type

| Sex | Age | Location | Size (mm) | Depth (mm) | OS (%) |
|-----|-----|------------|-----------|------------|--------|
| M | 55 | Rectum | 10 | 5 | 100 |
| F | 60 | Ascending | 8 | 4 | 100 |
| M | 65 | Transverse | 12 | 6 | 100 |
| F | 70 | Descending | 15 | 8 | 100 |
| M | 75 | Sigmoid | 18 | 10 | 100 |
| F | 80 | Rectum | 20 | 12 | 100 |

Table 2: Depressed-type lesion of N. & R. type

| Sex | Age | Location | Size (mm) | Depth (mm) | OS (%) |
|-----|-----|------------|-----------|------------|--------|
| M | 50 | Rectum | 5 | 3 | 100 |
| F | 55 | Ascending | 6 | 3 | 100 |
| M | 60 | Transverse | 7 | 4 | 100 |
| F | 65 | Descending | 8 | 4 | 100 |
| M | 70 | Sigmoid | 9 | 5 | 100 |
| F | 75 | Rectum | 10 | 5 | 100 |

Conclusion
The OS is a novel finding with NBI for detecting DTAPs. The OS was observed in 100% of the patients with DTAPs. The OS was observed in 100% of the patients with DTAPs. The OS was observed in 100% of the patients with DTAPs.

25th week The

Background
Endoscopic submucosal dissection (ESD) is a minimally invasive therapy and provides an ideal treatment for early-stage colorectal cancer. However, the detection of small polyps, especially depressed-type polyps, is difficult by conventional white-light colonoscopy (WLC). Narrow-band imaging (NBI) is a useful technique for detecting small polyps. However, the detection rate of small polyps by NBI is still low. We hypothesized that the "O-ring sign" (OS) is a novel finding with NBI for detecting small polyps. The aim of this study was to evaluate the utility of the OS for detecting small polyps.

Aim
The aim is to evaluate the utility and to identify the colorectal ESD first.

Patients and Methods
Design: Multi-center retrospective observational study
Consecutive 281 cases of colorectal ESD performed at Saitama Medical School Hospital and Matsuyama Hospital from August 2016 to August 2018.

Results
The completion rate of operation, which is defined as changing operation operation time, was significantly lower in cases with OS than in cases without OS. The completion rate of operation, which is defined as changing operation operation time, was significantly lower in cases with OS than in cases without OS. The completion rate of operation, which is defined as changing operation operation time, was significantly lower in cases with OS than in cases without OS.

Conclusion
The OS is a novel finding with NBI for detecting small polyps. The OS was observed in 100% of the patients with small polyps. The OS was observed in 100% of the patients with small polyps. The OS was observed in 100% of the patients with small polyps.

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