

# USEFULNESS OF CHROMOENDOSCOPY WITH INDIGO CARMINE DYE SPRAYING FOR DETECTION OF CECAL ADENOMA

P185



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## Background

Chromoendoscopy with indigo carmine dye spraying has been shown to be a useful technique for detection of colorectal adenoma. However, application of the staining agent over the entire colorectal mucosa during chromoendoscopy has been reported to be associated with diagnostic difficulties in patients with poor bowel preparation or in areas of the mucosa whose view is obstructed by spray fluid residue. Thus, chromoendoscopy combined with narrow-band imaging (NBI) is currently drawing attention in numerous reports as a useful modality for detection of colorectal adenoma. In this study, we focused attention on the cecum to examine the ability of chromoendoscopy with indigo carmine spraying to detect adenoma.

## Objective

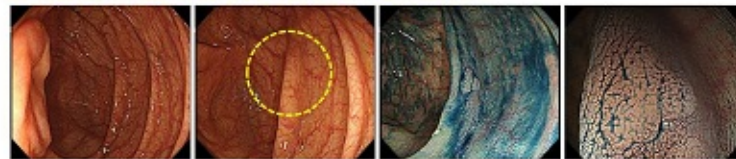
To evaluate the usefulness of chromoendoscopy with indigo carmine dye spraying for detection of adenoma in the cecum.

## Methods

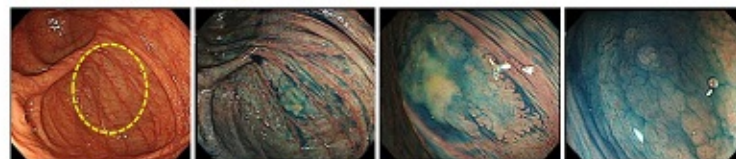
Indigo carmine staining was applied to the cecum in a total of 547 patients who underwent chromoendoscopy between March 2012 and March 2013 (indigo group), and routine colonoscopy was conducted in a total of 9,918 patients (routine group) to compare the frequency of detection of adenomas and serrated polyps (SSA/Ps, and TSAs) between the two groups.

## Indigo Group

Case1; 72y, Male, Cecum, Ila, 6mm, Tubular adenoma



Case2; 80y, M, Cecum, Ila, 13mm, SSA/P



Case3; 69y, Male, Cecum, LST-G, 12mm, Tubular adenoma



## Results

The cecal adenoma detection rate was significantly higher at 16.1% (88/547) in the indigo group compared to 5.4% (538/9918) in the routine group, while the detection rate of serrated polyps was not significantly different at 6.8% (6/88) (6 SSA/Ps) in the indigo group compared to 7.8% (42/538) (38 SSA/Ps and 4 TSAs) in the routine group. The mean adenoma size was 6.1mm in diameter (range, 1-30mm) in the routine group vs. 4.2mm (range, 1-18mm) in the indigo group, with smaller adenomas tending to be detected in the indigo group. By macroscopic appearance, the number of Polypoid type/Non-polypoid type adenomas detected in the routine and indigo groups was 152/386 (0.39) and 7/81 (0.09), respectively, with more Non-polypoid type adenomas tending to be detected in the indigo group.

## Histological Diagnosis of Cecal Lesions

Group	HP	SSA/P	TSA	adenoma	Sub Total	Mucosal Ca.	Invasive Ca.	Total
Routine	133	38	4	496	538	3	9	699
Indigo	10	6	0	82	88	0	0	97

HP, hyperplastic polyps; SSA/P, sessile serrated adenomas/polyps; TSA, traditional serrated adenomas

Routine group: July 2003–March 2012  
Indigo group: March 2012–March 2013

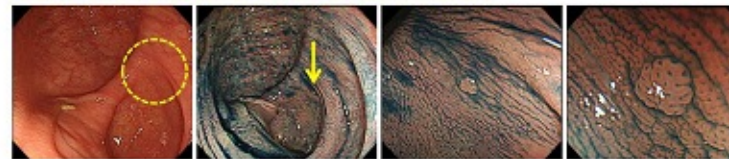
## Adenoma Detection Rate in Cecum

- Routine colonoscopy vs. Chromoendoscopy -

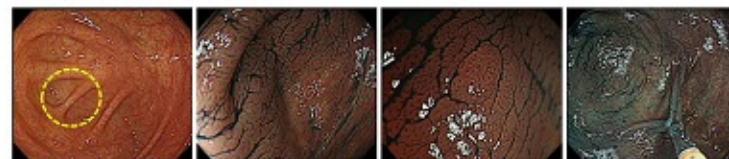
Group	Male/Female	Mean Age	Adenoma detection Rate (ADR)	Mean lesion size	Diagnostic accuracy rate (adenoma/Endoscopic resection)
Routine (n = 9918)	5461/4457	57.8yrs (16-90)	5.4% (538/9918) SSA/P 0.4% (38/9918)	6.1mm (1-30mm)	73.3% (538/734)
Indigo (n = 547)	309/238	59.2yrs (20-91)	16.1% (88/547) SSA/P 1.1% (6/547)	4.2mm (1-18mm)	49.7% (88/177)

\*, \*\*, p < 0.001, \*\*\*, p < 0.05

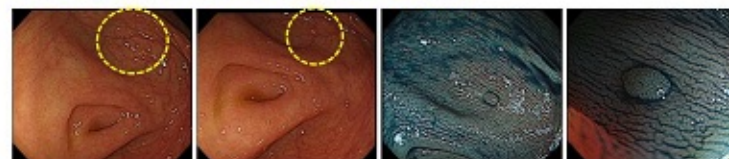
Case4; 62y, Female, Cecum, Ila, 1mm, Tubular adenoma



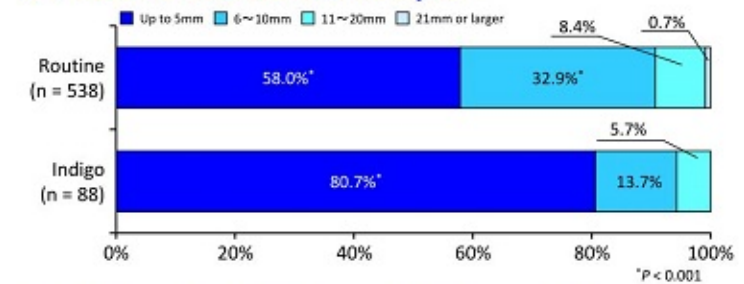
Case5; 57y, Male, Cecum, Ila, 2mm, Tubular adenoma



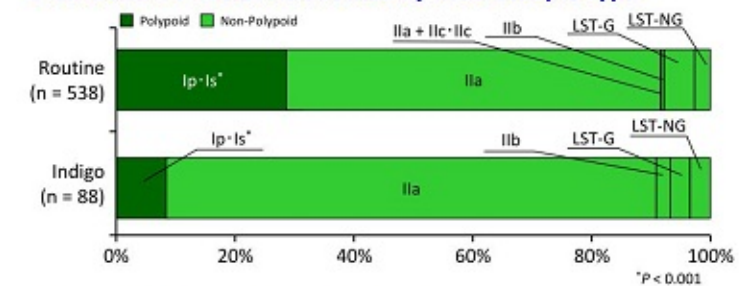
Case6; 36y, Male, Cecum, Ila, 4mm, Tubular adenoma



## Distribution of Cecal Adenomas by Size



## Distribution of Cecal Adenomas by Macroscopic Type



Case7; 50y, Male, Cecum, Ila, 1mm, Tubular adenoma



## Conclusions

Chromoendoscopy with indigo carmine spraying to the cecum was shown to be more effective than routine colonoscopy in detecting adenomas, which tended to be smaller, non-polypoid type adenomas and SSA/Ps.

**P185** TF clinic

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## Background

Chromoendoscopy with indigo carmine dye spraying has been shown to be a useful technique for detection of colorectal adenoma. However, application of the staining agent over the entire colorectal mucosa during chromoendoscopy has been reported to be associated with diagnostic difficulties in patients with poor bowel preparation or in areas of the mucosa whose view is obstructed by spray fluid residue. Thus, chromoendoscopy combined with narrow-band imaging (NBI) is currently drawing attention in numerous reports as a useful modality for detection of colorectal adenoma. In this study, we focused attention on the usefulness of chromoendoscopy with indigo carmine dye spraying.

## Objectives

To evaluate the usefulness of chromoendoscopy with indigo carmine dye spraying.

## Methods

Chromoendoscopy with indigo carmine dye spraying was performed in a total of 547 patients between March 2012 and March 2013. The study was conducted in a total of 300 patients to compare the frequency of detection between SSA/Ps and TSAs.

## Results

The cecal adenoma detection rate was significantly higher at 15.1% (88/547) in the indigo group compared to 5.4% (58/933) in the routine group, while the detection rate of serrated polyps was not significantly different at 6.8% (5/86) in SSA/Ps in the indigo group compared to 7.3% (42/538) in SSA/Ps and 4 TSAs in the routine group. The mean adenoma size was 6.5mm in diameter (range: 0-20mm) in the indigo group, with smaller adenomas tending to be detected in the indigo group. By macroscopic appearance, the number of Polypoid type/Non-polypoid type adenomas detected in the routine and indigo groups was 150/386 (3.9%) and 7/61 (11.5%), respectively, with more Non-polypoid type adenomas tending to be detected in the indigo group.

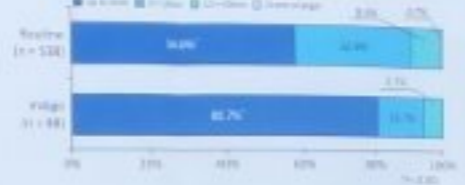
### Histological Diagnosis of Cecal Lesions

Group	HF	SSA/P	TSA	adenoma	Sub total	Macroscopic	Indigo (%)	Total
Routine	120	44	4	0	168	168	16.6%	1017
Indigo	30	6	0	88	124	124	15.1%	823

### Adenoma Detection

Group	Male	Female	Total
Routine	144/	44/	188/
Indigo	50/	34/	84/

### Distribution of Cecal Adenomas by Size



# Endoscopy

P185

## USEFULNESS OF CHROMOENDOSCOPY WITH INDIGO CARMINE DYE SPRAYING FOR DETECTION OF CECAL ADENOMA

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### Background

Chromoendoscopy with indigo carmine dye spraying has been shown to be more effective than routine colonoscopy in detecting adenomas. However, the usefulness of chromoendoscopy with indigo carmine dye spraying for the detection of cecal adenomas has not been fully evaluated. This study was designed to evaluate the usefulness of chromoendoscopy with indigo carmine dye spraying for the detection of cecal adenomas.

### Objective

To evaluate the usefulness of chromoendoscopy with indigo carmine dye spraying for the detection of cecal adenomas.

### Methods

Chromoendoscopy with indigo carmine dye spraying was performed in 100 patients who underwent colonoscopy. The number of adenomas detected in the cecum was compared between the routine colonoscopy and chromoendoscopy with indigo carmine dye spraying.

### Results

The number of adenomas detected in the cecum was significantly higher in the indigo group (14/100) compared to the routine group (4/100) (p < 0.05). The mean size of adenomas was significantly smaller in the indigo group (4.2 mm) compared to the routine group (6.5 mm) (p < 0.05). The number of adenomas detected in the cecum was significantly higher in the indigo group (14/100) compared to the routine group (4/100) (p < 0.05).

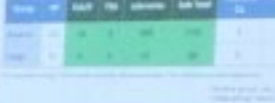
### Conclusions

Chromoendoscopy with indigo carmine dye spraying was more effective than routine colonoscopy in detecting cecal adenomas. The number of adenomas detected in the cecum was significantly higher in the indigo group (14/100) compared to the routine group (4/100) (p < 0.05).

### Results

The number of adenomas detected in the cecum was significantly higher in the indigo group (14/100) compared to the routine group (4/100) (p < 0.05). The mean size of adenomas was significantly smaller in the indigo group (4.2 mm) compared to the routine group (6.5 mm) (p < 0.05). The number of adenomas detected in the cecum was significantly higher in the indigo group (14/100) compared to the routine group (4/100) (p < 0.05).

### Distribution of Cecal Adenomas by Size



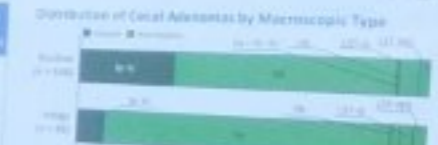
### Distribution of Cecal Adenomas by Macroscopic Type



### Distribution of Cecal Adenomas by Size



### Distribution of Cecal Adenomas by Macroscopic Type



### Conclusions

Chromoendoscopy with indigo carmine dye spraying to the cecum was shown to be more effective than routine colonoscopy in detecting adenomas, which tended to be smaller, non-polypoid type adenomas and SSA/Ps.



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Post



**Tele-Endoscopy assisted diagnosis of colo-rectal neoplasia: bringing the Pathologist closer to the endoscopic procedure room – A pilot study.**  
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 \*Viborgsykhus, Ryngbjerg Hospital, Tøndervej, Ryngbjerg, Viborg, Denmark

**Background:** The aim of this study was to evaluate the usefulness of tele-endoscopy assisted diagnosis of colo-rectal neoplasia. The study was conducted in a pilot study setting. The study was conducted in a pilot study setting. The study was conducted in a pilot study setting.

**Methods:** The study was conducted in a pilot study setting. The study was conducted in a pilot study setting. The study was conducted in a pilot study setting.

**Results:** The study was conducted in a pilot study setting. The study was conducted in a pilot study setting. The study was conducted in a pilot study setting.

**Conclusion:** The study was conducted in a pilot study setting. The study was conducted in a pilot study setting. The study was conducted in a pilot study setting.

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**USEFULNESS OF CHROMOENDOSCOPY WITH INDIGO CARMINE DYE SPRAYING FOR DETECTION OF CECAL ADENOMA**  
 T. Fujii  
 Gastroenterology, TF CLINIC, Tokyo, Japan

**Background:** Chromoendoscopy with indigo carmine dye spraying has been shown to be a useful technique for detection of colorectal adenomas. However, application of the spraying agent over the entire mucosal surface during chromoendoscopy has been reported to be associated with respiratory difficulties in patients with poor respiratory reserve. Thus, chromoendoscopy combined with narrow-band imaging (NBI) is currently being evaluated in patients with poor respiratory reserve. The aim of this study was to evaluate the utility of chromoendoscopy with indigo carmine spraying to detect adenoma.

**Objective:** To evaluate the usefulness of chromoendoscopy with indigo carmine spraying for detection of adenoma.

**Methods:** Indigo carmine spraying was applied to the mucosal surface of the cecum in 100 patients with adenoma. The mean adenoma size was 8.1 mm in the indigo group, and 7.5 mm in the NBI group. The number of adenomas detected in the indigo group was significantly higher than in the NBI group.

**Results:** The use of indigo carmine spraying was significantly higher in the indigo group (80.0%) than in the NBI group (50.0%) in the detection of adenoma. The mean adenoma size was 8.1 mm in the indigo group, and 7.5 mm in the NBI group. The number of adenomas detected in the indigo group was significantly higher than in the NBI group.

**Histological Analysis of Cecal Lesions**

Group	Adenoma	Polypoid	Hyperplastic	Total
Indigo	100%	0%	0%	100%
NBI	50%	50%	0%	100%

**Adenoma Detection Rate in Cecum**

Group	Adenoma	Polypoid	Hyperplastic	Total
Indigo	80%	0%	0%	80%
NBI	50%	50%	0%	100%

**Adenoma Size by Histological Type**

Group	Adenoma	Polypoid	Hyperplastic	Total
Indigo	8.1 mm	0 mm	0 mm	8.1 mm
NBI	7.5 mm	7.5 mm	0 mm	7.5 mm

