



## ENDO-AID CADe – Study

### Artificial intelligence (AI) colonoscopy in affecting the rate of polyp detection in colonoscopy: A single centre retrospective study

#### Study

A single center retrospective study was performed at Tin Shui Wai Hospital. PDR in CLN from 11/2020 to 03/2021 after the application of ENDO-AID (AI group) was compared to the cases from 12/2019 to 11/2020 before the application of the practice (non-AI group). Procedures were performed by a single endoscopist with experience in performing >3,000 CLN. Variables, such as patients' demographic data, indications, incidence of PDR, Boston Bowel Preparation Scale BBPS, withdrawal time, post CLN complication rate between the 2 groups, were compared. <sup>1</sup>

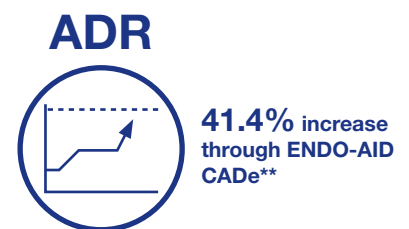
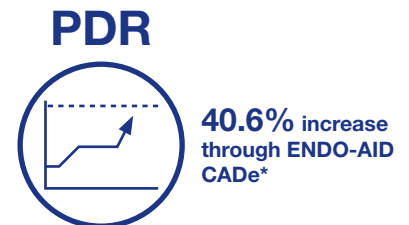
#### Results

Total 234 patients were recruited. 115 patients (49.1%) were in the non-AI group while 119 patients (50.9%) were in the AI group. The mean age of the non-AI was higher than the AI group (65.3 vs 59.2,  $p < 0.001^*$ ), otherwise, there was no significant difference in sex ( $p = 0.05$ ), percentage of smokers (20.8% vs 27.7%,  $p = 0.22$ ), past medical history of IBD (0 vs 0,  $p = 1.0$ ), family history of colorectal cancer (9 vs 9,  $p = 0.94$ ), indications for CLN (e.g. follow up CLN for polyp/ cancer, per-rectal bleeding, altered bowel habit etc.  $p > 0.05$ ), BBPS (7.88 vs 8.04,  $p = 0.217$ ), withdrawal time (7.65 min vs 7.48 min,  $p = 0.935$ ), completion rate (95.6% vs 98.3%,  $p = 0.27$ ) and complication rate (0% in both groups,  $p=1.0$ ) between groups. <sup>1</sup>

In the contrary, PDR was significantly higher in the AI group than the non-AI group (64.7% vs 46.0%,  $p = 0.003^*$ ). Besides, adenoma detection rate was also found significantly higher in the AI group than the non-AI group (52.9% vs 37.4%,  $p = 0.017^*$ ). <sup>1</sup>

<sup>1</sup> Wong YT, Tai TF, Wong KF, et al. The study on artificial intelligence (AI) colonoscopy in affecting the rate of polyp detection in colonoscopy: A single centre retrospective study. Surg Pract. 2022;1-5. doi:10.1111/1744- 1633.12559.

\*p-value of 0.003, relative percentage change, \*\*p-value of 0.017, relative percentage change.



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## ENDO-AID CADe – Study

### Artificial intelligence improves adenoma detection rate during colonoscopy

#### Study

A single-centre retrospective study was performed at Waitematā Endoscopy, a private endoscopy centre in Auckland, New Zealand. An Olympus Endo-AID module was utilised for the first time by 13 experienced endoscopists. Outcomes from AIAC between 10 March 2021 to 23 April 2021 were compared to a subsequent non-AI conventional colonoscopy (CC) control group from 27/4/21 to 20/6/21.<sup>1</sup>

#### Results

A total of 213 AIACs were compared with 213 CCs. Baseline patient age, gender, indication for procedure, bowel preparation scores and specialty of proceduralist (gastroenterologist or surgeon) were well matched ( $p > 0.05$ ). The withdrawal time was significantly longer in the AIAC group compared to CC controls (15 vs 13 minutes;  $p < 0.001$ ). The adenoma detection rate (ADR) was significantly higher in the AIAC group compared to CC group (47.9% vs 38.5%; odds ratio 1.59; 95% CI [1.05–2.41];  $p = 0.03$ ).

The overall polyp detection rate (PDR) was similar between groups (70% vs 70%;  $p = 0.79$ ). Analysis by polyp size, location and other histology was not significant between groups.<sup>1</sup>



**24.4% increase**  
through ENDO-AID  
CADe\*

<sup>1</sup> Schauer, C., Chieng, M., Wang, M., et al. *Artificial Intelligence Improves Adenoma Detection Rate During Colonoscopy*. 2022 Sep 2; 135(1561). ISSN 1175-8716.

\* p-value of 0.03, relative percentage change.

As medical knowledge is constantly growing, technical modifications or changes of the product design, product specifications, accessories and service offerings may be required.



## ENDO-AID CADe – Study

### Usefulness of a novel computer-aided detection system for colorectal neoplasia: A randomized controlled trial

#### Study

This randomized controlled trial included 370 consecutive patients who were randomized 1:1 to CADe (n=185) versus standard exploration (n=185) from November 2021 to January 2022. The primary endpoint was the ADR. Advanced adenoma was defined as  $\geq 10$ mm, harboring high grade dysplasia or with villous pattern. Otherwise, the adenoma was non-advanced. ADR was assessed in both groups stratified by endoscopist ADR and colon cleansing.<sup>1</sup>

#### Results

In the intention-to-treat analysis the ADR was 55.1% (n=102/185) in the CADe group and 43.8% (n=81/185) in the control group (P=0.029). Nonadvanced ADRs (54.8% vs. 40.8%, P=0.01) and flat ADRs (39.4 vs. 24.8, P=0.006), polyp detection rate (67.1% vs. 51%; P=0.004) and number of adenomas per colonoscopy were significantly higher in the CADe group than in the control group (median [Percentile 25th-75th]: 1 [0-2] vs. 0 [0-1.5], respectively; p= 0.014). No significant differences were found in serrated adenoma detection rate. After stratification by endoscopist and bowel cleansing, no statistically significant differences in ADR were found.<sup>1</sup>



**31.6%** increase through ENDO-AID CADe\*



**34.3%** increase through ENDO-AID CADe\*\*



**58.9%** increase through ENDO-AID CADe\*\*\*

<sup>1</sup> Gimeno-García, A.Z., Negrin, D.H., Hernández, A., et al. *Usefulness of a Novel Computer-Aided Detection System for Colorectal Neoplasia: A Randomized Controlled Trial*. *Gastrointestinal Endoscopy*, October 8, 2022; doi: <https://doi.org/10.1016/j.gie.2022.09.023>.

\* p-value of 0.004, relative percentage change, \*\* p-value of 0.01, relative percentage change, \*\*\* p-value of 0.006, relative percentage change.

As medical knowledge is constantly growing, technical modifications or changes of the product design, product specifications, accessories and service offerings may be required.