Figures Legend:

Supplemental Information Figure S1. Examination information of the CRC.

A, colonoscopy; B, biopsy pathology; C, surgical pathology. APCS: 2, moderate risk; FIT: 2560 ng/mL, positive; sDNA test: CT value 31.83, positive. Colonoscopy: From the anus 15-19 cm, circumferential ulcerative occupancy,diameter 4×5 cm. Biopsy pathology: (15-19 cm from the anal mucosa) tubular-villous adenoma with gland HGIN. Surgical pathology: one section of intestinal tube, 9 cm long, 5.5 cm circumference an ulcer mass was seen on the mucosal surface, 5×5×1 cm, 1.3 cm from one side and 3 cm from the other side. Pathological diagnosis: specimen type: intestinal segment resection; tumor location: rectum; resection specimen size: 9 cm long, circumference diameter 5.5cm; gross tumor type: ulcer type; tumor size: 5×5×1 cm (long diameter × transverse diameter × vertical diameter, cm); histological diagnosis: tubular-papillary adenocarcinoma; lymph node metastasis: total: (0 / 21) (number of metastases / total lymph nodes). Mesenteric lymph nodes (0 / 6), surrounding lymph nodes (0 / 15); distance from upper cut end of tumor resection: 1.3 cm; distance from tumor resection / dentine: 3 cm; depth of invasion: infiltration to subserosa; histological differentiation: moderate differentiation; thrombolysis: no tumor in artery; no nerve invasion; no cancer; lower resection: no cancer; another resection: no carcinoma. Abbreviations: APCS, Asia-Pacific Colorectal Screening; CRC, colorectal cancer; CT, cycling threshold; FIT, fecal immunochemical test; HGIN, high-grade intraepithelial neoplasia; sDNA, stool DNA.

Supplemental Information Figure S2. Examination information of the HGIN.

A, colonoscopy; B, biopsy pathology; C, surgical pathology. APCS: 5, high risk; FIT: 2331 ng/mL, positive; sDNA test: CT value 37.22, positive. Colonoscopy: multiple colorectal giant adenomas, thick and long ties, diameter 1.5-1.8 cm. Pathology: colon

descendens ring peripheral ulcer type occupied 40mm (descending colon mucosa) gland severe dysplasia, cancerous. Abbreviations: APCS, Asia-Pacific Colorectal Screening; CT, cycling threshold; FIT, fecal immunochemical test; HGIN, high-grade intraepithelial neoplasia; sDNA, stool DNA.

Supplemental Information Figure S3. Three positive results of the AA.

A, colonoscopy; B, biopsy pathology; C, surgical pathology. APCS: 4, high risk; FIT: 293 ng/mL, positive; sDNA test: CT value 37.52, positive. Colonoscopy: sigmoid colon giant adenomas, thick and long ties, diameter 3.0 cm. Biopsy pathology: ascending colon mucosa tubular adenoma with a LGIN; transverse colon mucosa tubular adenoma with LGIN; the rectum borders with the sigmoid colon mucosa tubular adenoma with gland LGIN. Surgical pathology: ascending colon mucosa tubular villous adenoma with LGIN; lower colon mucosa tubular adenoma with gland LGIN; sigmoid colon mucosa tubular villous adenoma with LGIN. Abbreviations: AA, advanced adenoma; APCS, Asia-Pacific Colorectal Screening; CT, cycling threshold; FIT, fecal immunochemical test; LGIN, low-grade intraepithelial neoplasia; sDNA, stool DNA.

Supplemental Information Figure S4. Two positive results of the AA.

A, colonoscopy; B, biopsy pathology; C, surgical pathology. APCS: 4, high risk; FIT:1 ng/mL, nagative; sDNA test: CT value 37.67, positive. Colonoscopy: colon ascenden a adenoma, diameter 1.2×1.0 cm. Biopsy pathology: (cecum) tubular villous adenoma with LGIN. (Rising colon) tubular villous adenoma with LGiN. (Sigmoid colon) Tubular adenoma with gland LGIN. Surgical pathology: (ascending colon mucosa) tubular-villous adenoma, LGIN. Abbreviations: AA, advanced adenoma; APCS, Asia-Pacific Colorectal Screening; CT, cycling threshold; FIT, fecal immunochemical test; LGIN, low-grade intraepithelial neoplasia; sDNA, stool DNA.

Supplemental Information Table S1. Asia-Pacific Colorectal Screening score for prediction of risk for colorectal advanced neoplasia

Risk factor	Criteria	Points
Age	<50	0
	50-69	2
	≥70 years	3
Gender	Female	0
	Male	1
Family history of colorectal cancer in a first-degree relative	Absent	0
	Present	2
Smoking	Never	0
	Current or past	1

Supplemental Information Table S2. ROC curves comparing different detection schemes for ACN

Primary screening group	AUC	SE	*p* value	95%CI
APCS	0.448	0.078	0.505	0.294-0.601
FIT	0.679	0.074	0.023	0.534-0.824
sDNA test	0.666	0.075	0.035	0.520-0.812
APCS + FIT	0.511	0.079	0.886	0.357-0.665
APCS + sDNA test	0.532	0.078	0.680	0.379-0.686
FIT + sDNA test	0.672	0.074	0.029	0.527-0.817
APCS + FIT + sDNA test	0.500	0.079	＞0.999	0.346-0.654

Abbreviations: ACN, advanced colorectal neoplasia; APCS, Asia-Pacific Colorectal Screening; AUC, area under area under the receiver operating characteristic curve; ROC, receiver operating characteristic; sDNA, stool DNA; SE, standard error.

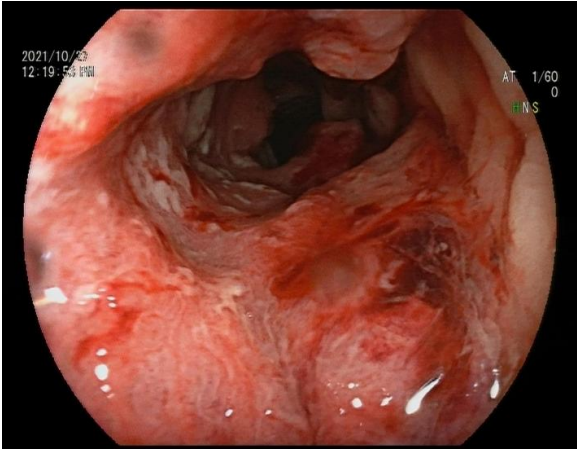**Supplemental Information Table S3. ROC curves comparing different detection schemes for NAA**

Primary screening group	AUC	SE	p value	95%CI
APCS	0.432	0.068	0.324	0.299-0.565
FIT	0.515	0.069	0.829	0.380-0.650
sDNA test	0.608	0.066	0.120	0.478-0.738
APCS + FIT	0.425	0.067	0.275	0.293-0.556
APCS + sDNA test	0.507	0.069	0.916	0.371-0.643
FIT + sDNA test	0.611	0.067	0.107	0.480-0.743
APCS + FIT + sDNA test	0.500	0.069	＞0.999	0.364-0.636

Abbreviations: APCS, Asia-Pacific Colorectal Screening; AUC, area under area under the receiver operating characteristic curve; NAA, nonadvanced adenoma; ROC, receiver operating characteristic; sDNA, stool DNA; SE, standard error.

Supplemental Information Table S4. ROC curves comparing different detection schemes for positive results

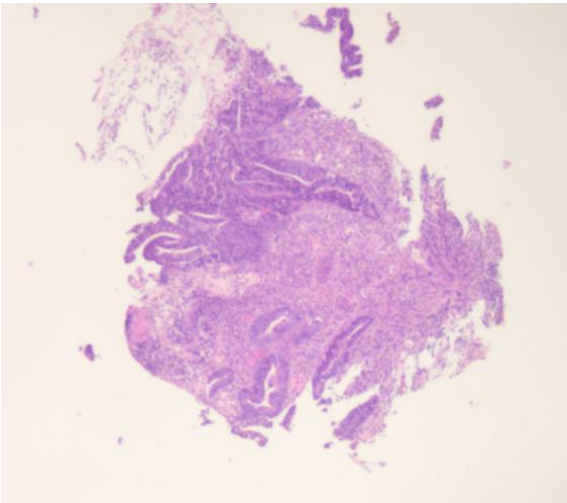| Primary screening group	AUC	SE	p value	95%CI
APCS	0.438	0.062	0.329	0.316-0.559
FIT	0.575	0.061	0.241	0.456-0.694
sDNA test	0.629	0.059	0.044	0.513-0.745
APCS + FIT	0.456	0.062	0.494	0.334-0.578
APCS + sDNA test	0.517	0.065	0.796	0.390-0.643
FIT + sDNA test	0.634	0.061	0.037	0.514-0.753
APCS + FIT + sDNA test	0.500	0.064	＞0.999	0.375-0.625

Abbreviations: APCS, Asia-Pacific Colorectal Screening; AUC, area under area under the receiver operating characteristic curve; ROC, receiver operating characteristic; sDNA, stool DNA; SE, standard error.
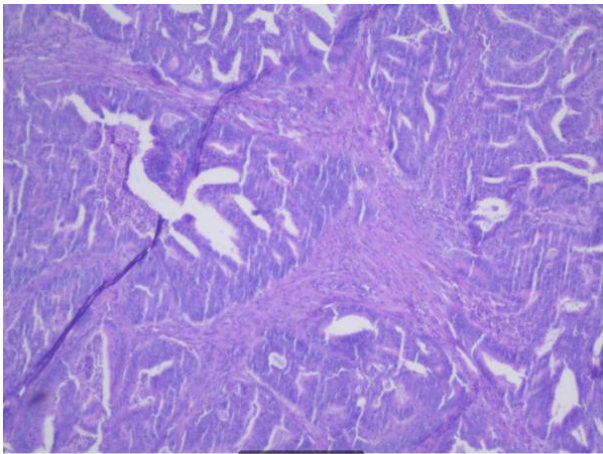
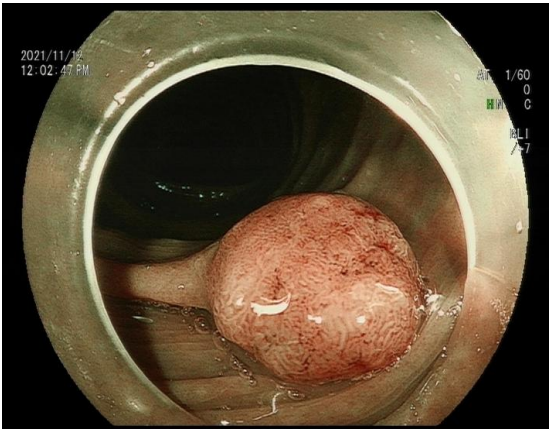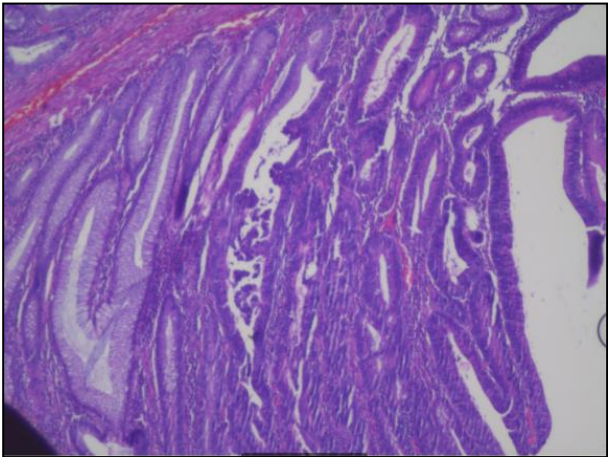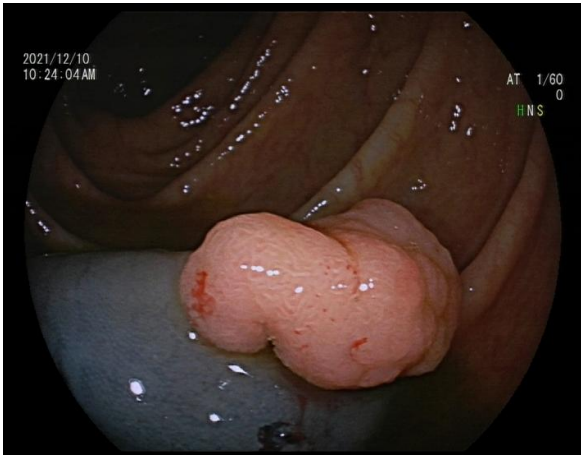Supplemental Information Figure S1.

A

B

C

Supplemental Information Figure S2.
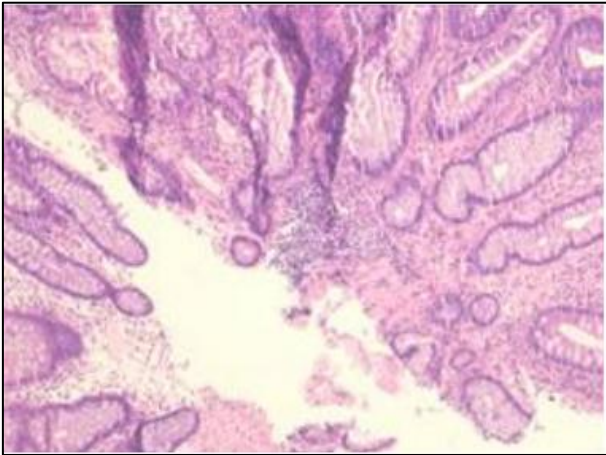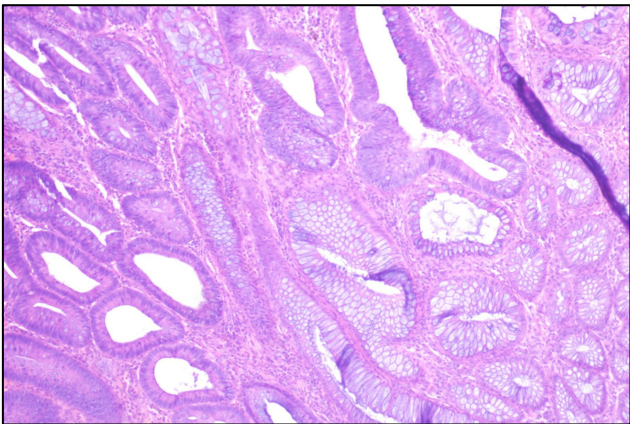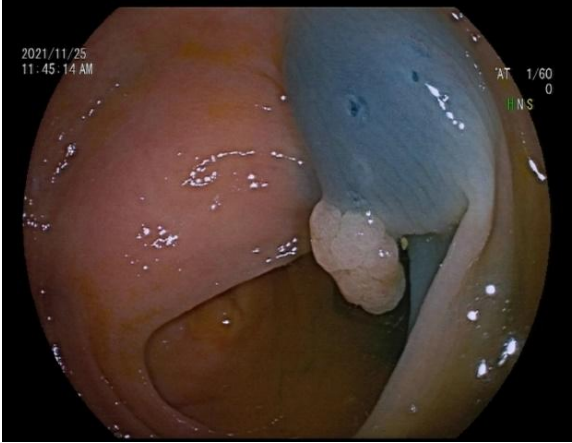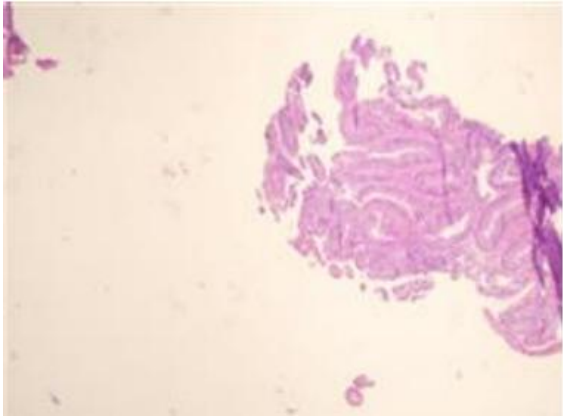
A

B

C

Supplemental Information Figure S3.

A

B

C

Supplemental Information Figure S4.

A

B

C