A 53-year-old male presented with bowel habit change and significant weight loss for 3 months. Physical examination revealed an ill-defined mass at right lower abdomen. His stool examination was normal. Colonoscopy was performed and revealed multiple friable polypoid masses with erosions and white debris on top at the cecum (Figures 1 and 2). Blue laser imaging endoscopy (BLI) showed mucosal inflammation (Figure 3). Ileocecal valve was markedly swelling and causing narrowing of the lumen precluding the passage of a colonoscope into the terminal ileum; however, the remaining colon was normal. Biopsy was done at the mass. Histopathology showed foci of granulomatous inflammation with focal caseous necrosis, and aggregated epitheloid histiocytes (Figure 3). Tissue AFB and PCR-TB were negative.
Colonoscopic findings showed a polypoid cecal mass.

White debris on top of polypoid cecal mass.

Blue laser imaging endoscopy (BLI-bright) showed slightly brown mucosa comparing with the lighter background. The surface pattern and vasculature were normal.

Histopathology demonstrated caseous granulomatous inflammation. Diagnosis:
Caseous granulomatous colitis, most likely TB colitis

Discussion:
Gastrointestinal tract is one of the common tuberculosis-infected organs, although it is not as commonly seen as pulmonary tuberculosis. Less than one-fourth of patients with gastrointestinal TB have concomitant pulmonary TB. TB colitis can present with different endoscopic characteristics: ulcerative lesion (60%), hypertrophic lesion or mass-like lesion (10%), or ulcero-hypertrophic lesion (30%).

Pattern of distribution is useful for diagnosis. Most cases showed segmental involvement and the most common involvement is at the ileocecal area. Entire colonic involve-ment is uncommon.

Additive clues for suspicious TB colitis are...
patulous IC valve, circumferential ulcers, dirty based ulcer, and rarely anorectal involvement. The differential diagnosis are Crohn’s disease, lymphoma, Bechet’s disease, and amebic colitis. Caseation from histology provides very high specificity (100%) and PPV (100%) for TB diagnosis.

References
A 38-year-old male presented with chronic watery diarrhea and significant weight loss for 1 year. Physical examination was normal. Anti-HIV test was non-reactive. Stool examination showed numerous white blood cells. Stool concentration for parasite, stool for AFB and stool culture were also negative. Colonoscopy was performed and revealed extensive longitudinal deep clean base ulcers along colon with intervening normal mucosa. (Figures 1 and 2). Endoscopic ultrasound demonstrated white bracket comprises the enlarged mucosa, muscularis propria and marks thickened submucosal layer of the ascending colon (Figure 3). Biopsy was obtained. Histological report showed active and chronic colitis with vague granuloma. The tissue was negative for AFB and PCR-TB. The diagnosis was colonic Crohn’s disease.
Diagnosis:
Colonic Crohn’s disease

Discussion:
Crohn’s disease (CD) is a chronic inflammatory bowel disorder. Diagnosis by clinical, endoscopic findings, pathological findings characterized by focal, asymmetric, transmural, and granulomatous inflammation affecting gastrointestinal (GI) tract.\(^1,2\) Colonoscopic and ileoscopic findings showed redness, friability, edema or granular appearance with results in a cobblestone appearance then progresses to ulcers which punctate pattern, longitudinal pattern or extensive pattern and repeated ulceration causes pseudopolyps.\(^3\) Endoscopic ultrasound (EUS) allows clear and reliable differentiation of the various layers of the gastrointestinal wall (GI). EUS can be used to differentiate patients with active CD from UC. A recent study showed that a new forward-viewing radial-array echoendoscope can be used to confirm the significantly thicker colonic wall in CD than that of in UC. In addition, EUS can demonstrate that CD had a characteristic fusion of all 5 layers.\(^4\)

References
A 51-year-old male was admitted to receive an autologous stem cell transplantation. Three days after transplantation, he developed mucous bloody diarrhea and fever. Stool examination for WBC and stool for *C. difficile* toxin were negative. His condition did not improve with an empiric antibiotic. Subsequently, he underwent colonoscopy with random biopsy. His first colonoscopy appeared normal. Two days following procedure, he developed hematochezia. The second colonoscopy revealed post-biopsy ulcers with visible vessel (Figure 1). Endoscopic clipping was applied to prevent future recurrent bleeding (Figure 2).

**Diagnosis:**
Post-biopsy colonic bleeding
Discussion:

Colonic biopsy and polypectomy can result in bleeding complication. Bleeding divided to immediate and delayed (up to 30 days) bleeding. Post-biopsy bleeding significantly increased in patients taking aspirin, and having conditions associated with primary or secondary platelet dysfunction.¹ Post-biopsy colonic bleeding can be controlled by endoscopic therapy. The technique for hemostasis depends upon the severity of bleeding and individual endoscopist preference.² Hemoclipping is one of the effective methods to achieve hemostasis and to prevent recurrent bleeding.³⁴

References

An 81-year-old female was admitted to the intensive care unit because of septic shock. She had underlying diseases of chronic kidney disease and hypertension. Two days after hospitalization, she was diagnosed with non-occlusive ischemic colitis. Her symptoms improved with conservative treatment. Two months later, she developed massive hematochezia. Subsequently, she underwent colonoscopy. Colonoscopy showed longitudinal ulcers (single-stripe sign) with granular mucosa, and decreased haustrations. Colonic stricture was found at the rectosigmoid colon and this precluded the passage of the standard colonoscope (Figures 1-3). By replacing with the DBE therapeutic scope (EN-450T5, 9.4 mm. outer diameter and 2.8 mm. accessory channel) the scope was able to pass the stricture, within 60 cm. reach, an active bleeding vessel was detected. Endoscopic therapy with adrenaline injection and bipolar coaptation was successfully performed.
Diagnosis:
Chronic ischemic colitis with stricture and bleeding visible vessel

Discussion:
Ischemic colitis is the second most common cause of lower gastrointestinal bleeding, accounting for approximately 50-60% of all gastrointestinal ischemic episodes. The findings of colonoscopy depend on the stage and severity of ischemia. In the early stages of ischemia, pale, friable or edematous mucosa alone with petechial hemorrhages, scattered erosion, segmental erythema, with or without ulcerations and bleeding, may be observed. The chronic stage of ischemia is characterized by stricture, decreased haustrations, and mucosal granularity. The stricture usually precludes the passage of the standard colonoscope and thus a smaller diameter DBE scope may be applied to reach the upstream colon and to find the target lesion.

References
A 68-year-old female was referred to colonoscopy due to positive stool occult blood test and anemia. She had no experience of visible gastrointestinal bleeding. Colonoscopy revealed multiple flat vascular lesions with enhanced coloration in blue laser imaging (BLI) at the cecum (Figures 1 and 2). Otherwise all of the colon and the rectum examinations were normal.

**Diagnosis:**
Angiodysplasia of the colon

**Discussion:**
Angiodysplasia is the most common vascular malformations in gastrointestinal tract.\(^1\) It is defined as the abnormal, ecstatic, dilated, tortuous and usually small (less than 10 mm.) blood vessels visualized within the mucosal and submucosal layers.\(^2\) Angiodysplasia can be found frequently in colon, especially in cecum and ascending colon.\(^3\) About one-third of colonic angiodysplasia has multiple lesions.\(^3\) There are several conditions associated with angiodysplasia such as aortic stenosis (Heyde’s syndrome), Von Willebrand disease, and chronic kidney disease.\(^3\) Angiodysplasia causes 3% to 15% of LGIB cases.\(^4\)
The clinical manifestations of bleeding can be chronic blood loss or active bleeding. According to the ASGE guideline, argon plasma coagulation (APC) may be the preferred method to treat bleeding angiodysplasia. Whereas, endoscopic treatment of non-bleeding lesions is not recommended due to low prevalence of bleeding development.

References
A 57-year-old male underwent a screening colonoscopy. Endoscopic findings revealed sessile polyp 1.5 cm. in diameter with surface erosion at the sigmoid colon (Figure 1). Under BLI exam, it demonstrated dark brown mucosa with tortuous vessels with some areas of disrupted vessels and absent of normal surface pattern (Figures 2 and 3). It was compatible with NICE classification type 3. Endoscopic biopsy was performed. The pathological result showed a well differentiated adenocarcinoma.

**Diagnosis:**

Well differentiated adenocarcinoma of the colon

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**Figure 1** A 1.5 cm. sessile polyp with surface erosion.

**Figures 2 and 3** BLI demonstrated dark brown mucosa with tortuous vessels and some areas of mucosa with disrupted vessels and the absence of normal surface pattern.
Discussion:

Chromoendoscopy with magnification has been developed for enhancing visualization of the microvasculature, as well as the architecture of the mucosal surface. This helps to predict pathological results of the colonic polyps, which may lead to reduce in the number of unnecessary biopsies performed and the number of endoscopic removal of non-neoplastic lesions.\(^1\) One of the common uses endoscopic criteria to distinguish between non-neoplastic and neoplastic lesions is the NICE classification. It is a simple category classification consisting of types 1-3 and these are based on the three characteristics: (i) lesion color; (ii) microvascular architecture; and (iii) surface pattern.\(^2\) Each type can predict their histopathology and be helpful to specify the management. NICE type 1 and NICE type 2 can be distinguished with an accuracy of 89\%.\(^3\) The accuracy for differentiation between NICE type 2 and NICE type 3 was 84.3\%.\(^4\) NICE type 3 provides a high accuracy to diagnose carcinoma.\(^4\)

References

An 88-year-old female presented with iron deficiency anemia. She underwent a colonoscopy. Colonoscopy revealed a 1.5 cm. polyp (Paris classification) with friable mucosa and small erosion (Figure 1). Under BLI, a high density of capillary network with lack of uniformity (Sano’s classification type IIIa). The polyp also showed the irregular arrangement of pit pattern (Kudo’s classification type V) (Figure 2). Snare polypectomy was done. Histopathology diagnosis was intramucosal adenocarcinoma.

Figures 1 and 2 Pedunculated polyp with dense vascular network and irregular pit pattern under white light endoscopy BLI.
Diagnosis:
Malignant colonic polyp with intramucosal adenocarcinoma

Discussion:
Colon cancer is a common malignant tumor and its incidence rate is increasing in recent years. The key point is to improve the survival rate is to have diagnosis and treatment at the early stage. Digital chromoendoscopy liked NBI, FICE, and BLI can mainly detect the forms of pit pattern and capillary pattern and it helps in characterization of the lesions that could not be characterized with an ordinary endoscopy. However digital chromoendoscopy does not improve the detection rates of colorectal neoplasia. Thus it can effectively differentiate of neoplastic and non-neoplastic lesions. Its sensitivity and specificity for the diagnosis of colonic neoplasm are 91.5% and 91.7%, respectively.

References
Case 8

Akarawut Juntrapirat, M.D.
Satimai Aniwan, M.D.
Anapat Sanpavat, M.D.
Rungsun Rerknimitr, M.D.

A 53-year-old male underwent a colonoscopy for colorectal cancer screening. Colonoscopy showed a sessile polyp sized 0.5 cm. at the sigmoid colon. BLI showed vascular pattern with meshed capillary vessels surrounded with mucosal gland (Sano’s classification type II). Pit pattern showed tubular pit (Kudo’s classification type III). Based on the NICE classification, its color was darker relative to the background and its vessels were thick brown. Surface pattern revealed tubular white structure surrounded by brown vessels. Therefore it was compatible with NICE classification type II (Figures 1-2). Polypectomy was done. Histopathological result demonstrated dilated tubular crypts lined by low grade dysplastic epithelium (Figure 3). Tubular adenoma was diagnosed.

Figures 1 and 2 A sessile polyp with meshed capillary vessels surround tubular pit pattern under BLI-bright.
Diagnosis:
Tubular adenoma

Discussion:
Adenomatous polyps have been found 20-40% of screening colonoscopies in people older than 50 years\(^1\) and sub-classified by their histological appearance as tubular, villous, or tubulo-villous adenomas. Tubular adenoma is the most common histological subtype, constituting approximately 65-80% of all adenomatous polyps with histological appearance of branched tubular glands. Tubular adenomas are most often pedunculated polyps and generally less atypia than villous adenomas which are more commonly sessile polyps. Polyps with high-grade dysplasia are more likely to harbor cancer.\(^2\)

References
A 58-year-old male underwent a colonoscopy surveillance after polypectomy for many years. Colonoscopy revealed two polyps. A polyp with Paris classification I measured as 1.0 cm. was found in the rectum (Figure 1). BLI showed high density of branching capillary vessel (Sano’s classification type IIIa) and gyrus-like pit pattern (Kudo’s classification type IV) which compatible with NICE classification type 2 (Figures 1 and 2). Polyp removal was done. Pathological result confirmed as a tubular adenoma.

Figures 1 and 2 Sessile polyps with high density of capillary vessels and gyrus-like pit pattern under BLI-bright.
Diagnosis:

Tubular adenoma

Discussion:

There are four types of colonic polyps: adenomatous, hyperplastic, harmartomatous and inflammatory. In addition to these histologic features, polyps are generally described as being either sessile or pedunculate. Sessile adenomas are larger in size, and they have more granular or nodular surface and more irregular or vague margin than hyperplastic polyps. Adenomatous polyps are considered precursors for colorectal cancer. The risk of malignancy increases with the size of the polyp and the degree of villous component.

References

Case 10

Wichitra Khongkha, M.D.
Satimai Aniwan, M.D.
Rungsun Rerknimitr, M.D.

A 67-year-old female underwent a screening colonoscopy. She had a family history of first degree relative of colon cancer. Colonoscopy revealed a 1.2 cm. Ip polyp (Paris classification) in the ascending colon (Figure 1). Under BLI-bright showed white branched structure of pit pattern (Kudo’s classification type IV) surrounded by irregular brown vessels (Sano’s classification type IIIa) (Figure 2). Snare polypectomy with prophylactic hemoclip was performed (Figure 3). Pathology report confirmed as a tubular adenoma with high grade dysplasia.

Diagnosis:
Tubular adenoma with high grade dysplasia

Figures 1 and 2 White light image showed a 1.2 cm. pedunculated polyp (above) with white branched pit pattern surrounded by irregular brown vessel under BLI-bright (below)

Figure 3 Snare polypectomy with prophylactic hemoclip.
Discussion:

Polyps of the colon are mucosal lesions which project into the lumen of the bowel. According to autopsy studies, colonic polyps occur in more than 30% of people over the age of 60. Approximately 70-80% of resected polyps are adenomatous. Adenomatous lesions have a well-documented relationship to colorectal cancer.1 Endoscopic findings show round, oval, honeycomb-like pit pattern. Pit pattern may be elongated and large diameter compatible with adenomatous polyp classified by Kudo.2 The overall accuracy of magnified endoscopy in predicting adenomatous histology was 93.4%.3 The negative predictive value for diagnosing adenomatous histology in the diminutive rectosigmoid polyps was 93.3%.3 Mostly, the polyps can be removed during colonoscopy using snare polypectomy and/or electrocautery techniques.4

References

A 55-year-old male visited to our hospital for colorectal cancer screening program. Colonoscopy was performed and showed a 1 cm. sessile polyp (Paris classification Is) with abrupt cessation of capillaries at the margin of the polyp (Figure 1). Under BLI and magnified BLI-bright revealed wavy pits surrounded by brown vessels (Figures 2 and 3). Endoscopic mucosal resection was done. Histopathology diagnosed serrated sessile adenoma.
Diagnosis:
Serrated sessile adenoma

Discussion:
Serrated sessile adenoma/polyp (SSA/P) is one of serrated lesions of the colon characterized histologically by a saw-tooth appearance of the crypt epithelium.\(^1\) Most common location of SSA/P is proximal colon.\(^2\) Endoscopic features are almost always sessile or flat lesion. Its color is typically similar to the surrounding mucosa or may be pale mucosa. Sometime it can present as prominent folds.\(^3\) Additionally, mucous cap, peripheral rim of debris or bubbles, or obscuring submucosal vessels can be commonly seen in SSA/P comparing to adenoma.\(^4\)

References
A 34-year-old female was diagnosed with extensive ulcerative colitis (UC) 2 years ago. Her symptoms partially improved with oral mesalamine 3 g/day. She had occasional streak of blood with stool. She underwent a colonoscopy for endoscopic assessment. Colonoscopy showed severe spontaneous bleeding and ulceration at the rectum. Under BLI, the bleeding and inflamed area in the dark brown color and the ulcers in the white area (Figures 1-2). The whitish round crypts and villous mucosa structure were detected in BLI-bright with magnification (Figures 3-4). The other part of colon presented with multiple pseudopolyps (Figures 5-6). Biopsy from inflamed area was obtained. Histopathology confirmed as active UC.
**Discussion:**

Ulcerative colitis usually shows the loss of vascular pattern, hyperemia of mucosa, mucosal edema, friable with easily contact bleeding mucosa, coalescence of small ulcers resulting in large ulcers and pseudopolyps that can defined severity of disease by Mayo score endoscopic findings; normal or inactive disease (grade 0) defined as normal endoscopy, mild disease (grade 1) defined as erythema, decreased vascular pattern, mild friability, moderate disease (grade 2) defined as marked erythema, absent vascular pattern, friability, erosions, and severe disease (grade 3) defined as spontaneous bleeding, ulceration. A previous study of applied NBI for the assessment of ulcerative colitis severity. Under NBI magnification, active UC was shown as round crypts, villous or granular mucosal surface.

**References**


A 69-year-old female presented with bowel habit change, iron deficiency anemia, and significant weight loss for 2 months. A colonoscopy revealed a circumferential mass measure as 6 cm. in size at the ascending colon with narrowing lumen. A colonoscope was not able to pass through the lesion (Figure 1). Under BLI-bright examination, it showed dark green color of the irregular colonic mucosa along with elongated, tortuous vessels which were compatible with NICE classification type 3 (Figure 2). Histopathological results confirmed as an invasive adenocarcinoma (Figure 3).
Diagnosis:
Invasive adenocarcinoma of the colon

Discussion:
An advanced endoscopic procedure removing early colorectal cancer such as endoscopic submucosal dissection (ESD) can be a better replacement than an invasive surgery. However, a deep invaded submucosal cancer occasionally has lymph node metastases. Therefore ESD could not be performed on this lesion. Thus, an accurate endoscopic diagnosis can determine the proper therapeutic approach. A novel blue laser imaging system (BLI) has been shown to be useful for the diagnosis of invasive colorectal cancers. The overall diagnostic accuracy for the differentiation between non-neoplastic and neoplastic lesion was 99.3%. In the view of diagnostic accuracy for deeply invaded submucosal cancer, BLI provided 94.3% in accuracy.

References
A 34-year-old homosexual male presented with constipation and scanty bleeding per rectum during defecation. Colonoscopy in BLI mode was performed and revealed whitish multiple fleshy cauliflower-like lesions with enlarged and elongated loop of capillary vessels (Figures 1-3). Other areas of the colon were normal. Biopsy was done. The pathological result showed a stratified squamous epithelium with papillomatosis and acanthosis (Figure 4). There were dysplastic cells in the epithelium (Figure 5). Condyloma acuminata with anal intraepithelial neoplasia was diagnosed.

Figure 1 White light examination showed whitish fleshy cauliflower-like lesions with edematous mucosa in the anal canal.

Figures 2 and 3 BLI with magnification demonstrated enlarged and elongated loop of capillary pattern without irregularity.
Diagnosis:
Condyloma acuminata with anal intraepithelial neoplasia

Discussion:
Condyloma acuminata or squamous papilloma, caused by human papilloma virus (HPV) is usually common in the oropharynx and the esophagus. Papilloma in the anus and the rectum is an uncommon entity.\(^1\) HPV serotype 16 and 18 are frequently found in dysplasia and malignancy.\(^2\) Anal HPV disease is linked to the immunosuppression caused by HIV infection and is associated with the practice of anal intercourse.\(^2\) Clinical manifestations include rectal bleeding, mucoid discharge, pain, and pruritus ani.\(^2\) The endoscopic feature is shown as a gray or pink fleshy cauliflower-like lesion in the perianal area, the anal canal or the rectum.\(^2\) It can be treated by many methods including excision, cryotherapy, or podophyllin painting.\(^3\) Malignant transformation should be suspected in atypical or pigmented lesion, the lesion that refractory to standard treatment and the detection of dysplastic cells.\(^2\)

References

Figures 4 and 5 Histology showed stratified squamous epithelium and acanthosis with dysplastic epithelial cells.
An asymptomatic 50-year-old male underwent a colonoscopy for colorectal cancer screening. Magnifying white light image showed a 0.3 cm. sessile polyp (Paris classification Is) at the sigmoid colon (Figure 1). Magnifying BLI and BLI-bright demonstrated uniform round pit (Kudo’s classification type I), surrounding by lacy-like pattern of capillary vessels (Sano’s classification type I), which was compatible with NICE classification type 1 (Figure 2). Polyp removal was done with biopsy forceps. Pathological diagnosis was confirmed as hyperplastic polyp (Figure 3).

**Figure 1** Under white light endoscopy, a 0.3 cm. sessile polyp was found at sigmoid colon.

**Figure 2** Under magnifying BLI and BLI-bright, a sessile polyp with lacy capillary vessels and surround uniform round pits with central dark dots was diagnosed as hyperplastic polyp.
Diagnosis:

Hyperplastic polyp at the sigmoid colon

Discussion:

Colonoscopy is considered an effective approach for the detection and diagnosis of colorectal neoplasm. Using chromoendoscopy, NBI, FICE, i-Scan, and recently BLI systems which have advantages for the diagnosis of colorectal polyps can enhance on the reading of vascular patterns and pit-like structures, which were termed “surface patterns” at the Japanese consensus symposium. These endoscope systems can predict the histopathological diagnosis and are useful for selecting a therapeutic method.

In the image evaluation of BLI magnification, the diagnostic accuracy of BLI without magnification for differentiating between neoplastic and non-neoplastic polyps <10 mm in diameter was 95.2%, which was greater than that of white light (83.2%).

References

A 44-year-old Thai female presented with abdominal pain, distension and constipation for 5 days. Seven years prior admission, she had been diagnosed as colonic Crohn’s disease. Mistakenly, she lost to follow-up because she had no symptoms. She took no medications until this admission. A computed tomography of the abdomen showed markedly dilated bowel containing fecal content of the ascending and transverse colon (proximal to the distinct transitional zone of collapsed sigmoid colon) (Figure 1). There were no signs of stragulation or perforation. Four days after intravenous fluid and NG tube insertion for bowel decompression, she could pass stool with the improvement of distension. She subsequently underwent a sigmoidoscopy. Sigmoidoscopy demonstrated inflammed mucosa at the rectosigmoid colon with multiple discrete deep inflammed ulcers causing luminal stricture. The endoscope was able to pass through the stricture site (Figures 2 and 3). Biopsy was obtained. Histopathology showed acute organizing ulcer with cryptitis but without dysplasia or organism (Figure 4). Intravenous corticosteroids was given. Her symptoms improved after 7 days of medical treatment.
Diagnosis:
Active colonic Crohn’s disease with partial colonic obstruction.

Discussion:
Intestinal stricture is a major complication of Crohn’s disease, occurring in one third of patients after 10 years of disease. The stricture can occur anywhere in the gastrointestinal tract, especially ileocecal valve, ileocolonic anastomosis, duodenum, sigmoid colon, and anal canal. The obstruction occurs because of either luminal narrowing from inflammation or post-inflammation scar tissue. Corticosteroids is the main stay of treatment in inflammatory stricture. However, in case of fibrotic stricture, medical therapy was shown to be ineffective.

References
A 46-year-old female presented with chronic constipation and a history of straining for 5 years. She had an intermittent rectal bleeding. Colonoscopy revealed an erythematous polypoid lesion with white slough and multiple shallow ulcers (Figure 1) at the anterior wall of rectum (10 cm. above the anal verge). Under BLI-bright, the ulcer showed as a white area surrounded with regular vessels in the dark brown mucosa (Figure 2). Biopsy was performed. Histopathological result showed superficial mucosal ulceration, prominent fibromuscular hyperplasia within the lamina propria and crypt elongation with focal dilation (Figure 3).

**Diagnosis:**
Solitary rectal ulcer syndrome
Figure 3 Histopathology showed fibromuscular obliteration of the lamina propria.

Discussion:

Solitary rectal ulcer syndrome (SRUS) is a benign disease. It is a misnomer because multiple ulcers can be found in 40% of the patients, while 20% of the patients have a solitary ulcer, and the rest of the lesions differ in shape and size, including hyperemic mucosa, polypoid lesions mimicking rectal cancer.\textsuperscript{1,3} The etiology and pathogenesis are associated with direct trauma, local ischemia and uncoordinated defecation.\textsuperscript{1} Clinical features are rectal bleeding, copious mucus discharge, prolonged excessive straining, perineal and abdominal pain, feeling of incomplete defecation and constipation.\textsuperscript{3} However, up to 26% of the patients can be asymptomatic.\textsuperscript{3,4} Endoscopy usually discovers the lesions at the anterior wall of rectum and the distance of lesion(s) from anal margin varies from 3 to 10 cm.\textsuperscript{1} Biopsy should be taken to exclude other diseases. Key histological features include fibromuscular obliteration of the lamina propria with upward extension from hypertrophic and splayed muscularis mucosae and glandular crypt abnormalities.\textsuperscript{5} Several treatment options have been used for SRUS including conservative treatment such as high-fiber diet with additional bulking agents, medical therapy, biofeedback and surgery.\textsuperscript{1}
References:


A 75-year-old Thai female underwent a colonoscopy for colorectal-cancer screening. A flat polyp was found. Chromoendoscopy with indigo carmine showed a slightly elevated lesion or laterally spreading tumor (LST) granular type size 2.0 cm. at the descending colon. The surface of LST was composed of superficially homogenous small nodules which was consistent with LST-granular with homogeneous type 0-IIa in Paris classification (Figures 1 and 2). Under BLI and BLI bright, it showed brown color surface with short tubular pit pattern (Kudo’s classification type IIII) surrounded by regular thick brown vessels (Sano’s classification type II) (Figures 3 and 4). Endoscopic mucosal resection was performed (Figures 5 and 6). Histological diagnosis confirmed the presence of tubular adenoma without malignant transformation (Figure 7).
Diagnosis:
Laterally spreading tumor of the colon granular type

Discussion:
Laterally spreading tumor (LST) of the colon was defined as a lesion greater than 10 mm. in diameter with typically extends laterally rather than vertically along the colonic wall and belongs to the class non-polypoid colorectal neoplasia. They were classified into two subtypes as the granular-type (LST-G) which endoscopically consist of numerous nodules having a homogenous color in comparison with the surrounding colonic mucosa and non-granular (LST-NG) which consist of a smooth surface.¹²
Because of their morphological features, these lesions may be missed by standard white light colonoscopy.\(^3\) LSTs have an increased rate of submucosal invasion. Rates of invasion, particularly for the LST-NG subtype are as high as 30%-40%, whereas the granular subtype is significantly lower (about 5%-10%).\(^4\) Therefore, endoscopists need to have an awareness of their potential presence and follow-up on them accordingly. The therapeutic strategy for LST-G is endoscopic mucosal piecemeal resection with the area including the large nodule resected first, whereas LST-NG should be removed en bloc with endoscopic submucosal dissection (ESD) because of the higher potential for malignancy, often multifocal and greater difficulty in diagnosing depth of submucosal invasion.\(^5\)

References

An asymptomatic 72-year-old male underwent colonoscopy for colorectal cancer screening. During white light colonoscopy a polyp Isp (Paris classification) size 1.5 cm. (Figure 1) was detected. Under magnifying BLI and BLI-bright examination, they revealed dendritic pits (Kudo’s classification type IV) surrounding with irregular capillaries pattern (Sano’s classification type IIIA) (Figures 2 and 3). Snare polypectomy was performed. Pathology demonstrated villous adenoma (Figure 4).
Diagnosis:
Villous adenoma

Discussion:
Blue laser imaging (BLI) colonoscopy has a high diagnostic accuracy for differentiation neoplastic from non-neoplastic polyps and adenomatous from cancerous lesions, (99.3% and 85.0% respectively). Additionally, BLI technique could provide a better (95.2%) accuracy for differentiation small neoplastic from small non-neoplastic polyps (<10 mm.) as compare to white light endoscopy (83.2%). The characteristics of vascular and surface pattern enhancement were divided into three groups by Sano’s classification. Type I was absence meshed capillary pattern which observed in hyperplastic polyp, Type II was regular and uniform capillaries pattern that detected in adenomatous polyps, Type III was irregular and non-uniform meshed-like capillaries pattern which observed in cancerous lesions.

References
An 80-year-old male presented with iron deficiency anemia. Colonoscopy revealed a large pedunculated polyp size 2.5 cm. in diameter in the sigmoid colon. Under magnifying blue laser imaging, it demonstrated an elongated and branched pit pattern surrounded by a regular thick brown vessel which was compatible with NICE classification type II (Figures 1 and 2). The endoloop-assisted snare polypectomy was done (Figures 3-5). Histopathological result showed a tubulovillous adenoma.
The technique of deploying an endoloop involved opening the loop, then maneuvering it around the polyp, and bringing it down to the level of the pedicle. After securing the endoloop in good position around the pedicle, endoloop was tightened and then released from the sheath.

Figure 5 The snare was manipulated around the polyp and tightened around the stalk, above the closed endoloop, and snare polypectomy can be performed.

Diagnosis:
Endoloop-assisted polypectomy for a large tubulovillous adenoma

Discussion:
Currently, endoscopic polypectomy is the standard procedure for polyp removal, as it is the least invasive and effective in reducing the incidence of colorectal cancer. However, it is not a risk-free procedure and its complications are bleeding (0.3-6.1%), perforation (0.5%) and post-polypectomy syndrome (0.5%). The incidence of post-polypectomy bleeding is more often after the removal of large pedunculated polyps due to the presence of a large blood vessel within the stalk. To minimize the risk of bleeding after resection of large pedunculated
polyps, several preventive endoscopic techniques have been used such as epinephrine injection, hemoclip and endoloop (detachable snare). The endoloop procedure was originally developed by Hachisu in 1991. The principle technique of deploying an endoloop is tightening of a loop around the polyp stalk for completely stops the blood flow in the stalk, act like a tourniquet. After securing the endoloop in a good position around the stalk, the snare cautery polypectomy is performed above the closed endoloop. The endoloop-aided snare resection is more effective than snare polypectomy and as effective as prophylactic clip in prevention post polypectomy bleeding in large pedunculated colonic polyps.

References