Management of Colonic Polyposis Syndromes

By

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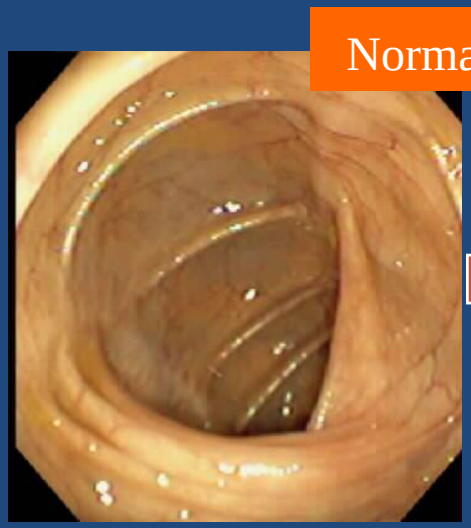
It is widely accepted that more than 95% of colorectal cancers arise from adenomatous polyps, which are generally defined as benign lesions with dysplastic epithelium that have variable potential for malignancy. This adenoma-carcinoma sequel can take many years to fully manifest after a stepwise accumulation of genetic alterations and appear benign endoscopically but poses a difficult and often controversial clinical scenario.

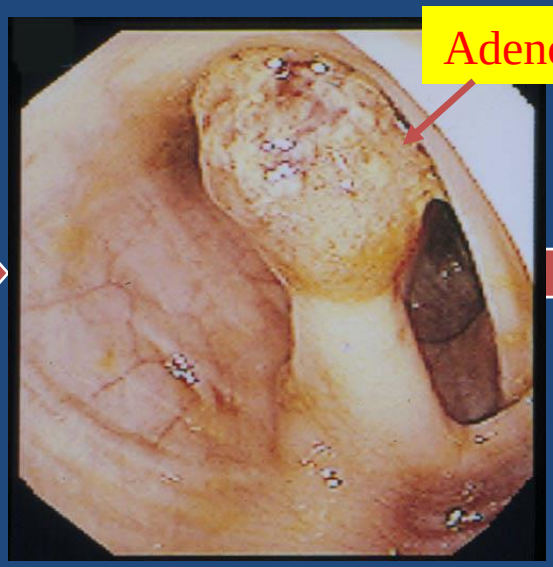
(Aarons et al; World J Gastroenterol .2014)

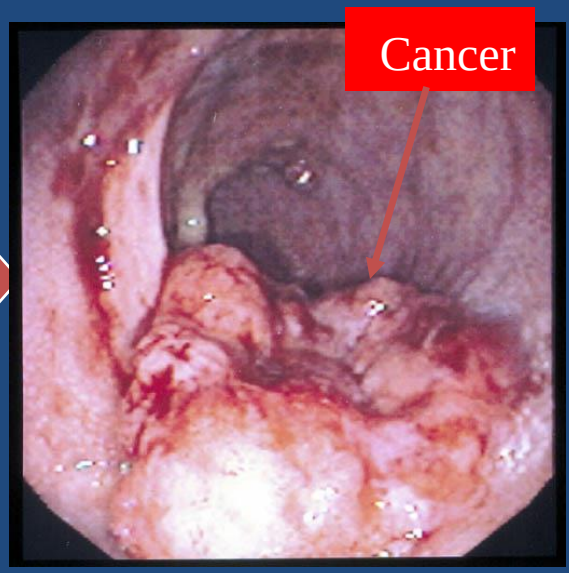
The probability of carcinoma is related to:

1. The size of the polyp.
2. The relative proportion of its villous features.
3. The presence of significant dysplasia in cells.

Adenoma to Carcinoma Pathway







APC loss

K-ras mutation

Chrom 18 loss

p53 loss

Normal Epithelium → Hyper-proliferation → Early Adenoma → Intermediate Adenoma → Late Adenoma → Cancer

Emphasis should be focused on the endoscopic assessment. As *Colonoscopy is the diagnostic procedure of choice for:*

*- accurate detection of polyps of all sizes

- Allows immediate biopsy or polypectomy.

Most polyps found during colonoscopy can be completely and safely resected.

Scientific studies now conclusively show that resecting adenomatous polyps prevents colorectal cancer. *(Bond. AJG; 2000)*

(Aarons et al; World J Gastroenterol .2014)

Polyp classifications

- Shape
- Size
- Histology

Endoscopic Evaluation

Thieme

Colorectal polypectomy and endoscopic mucosal resection (EMR): European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline

Ferlitsch Monika et al. Colorectal polypectomy and ... Endoscopy 2017; 49

RECOMMENDATION

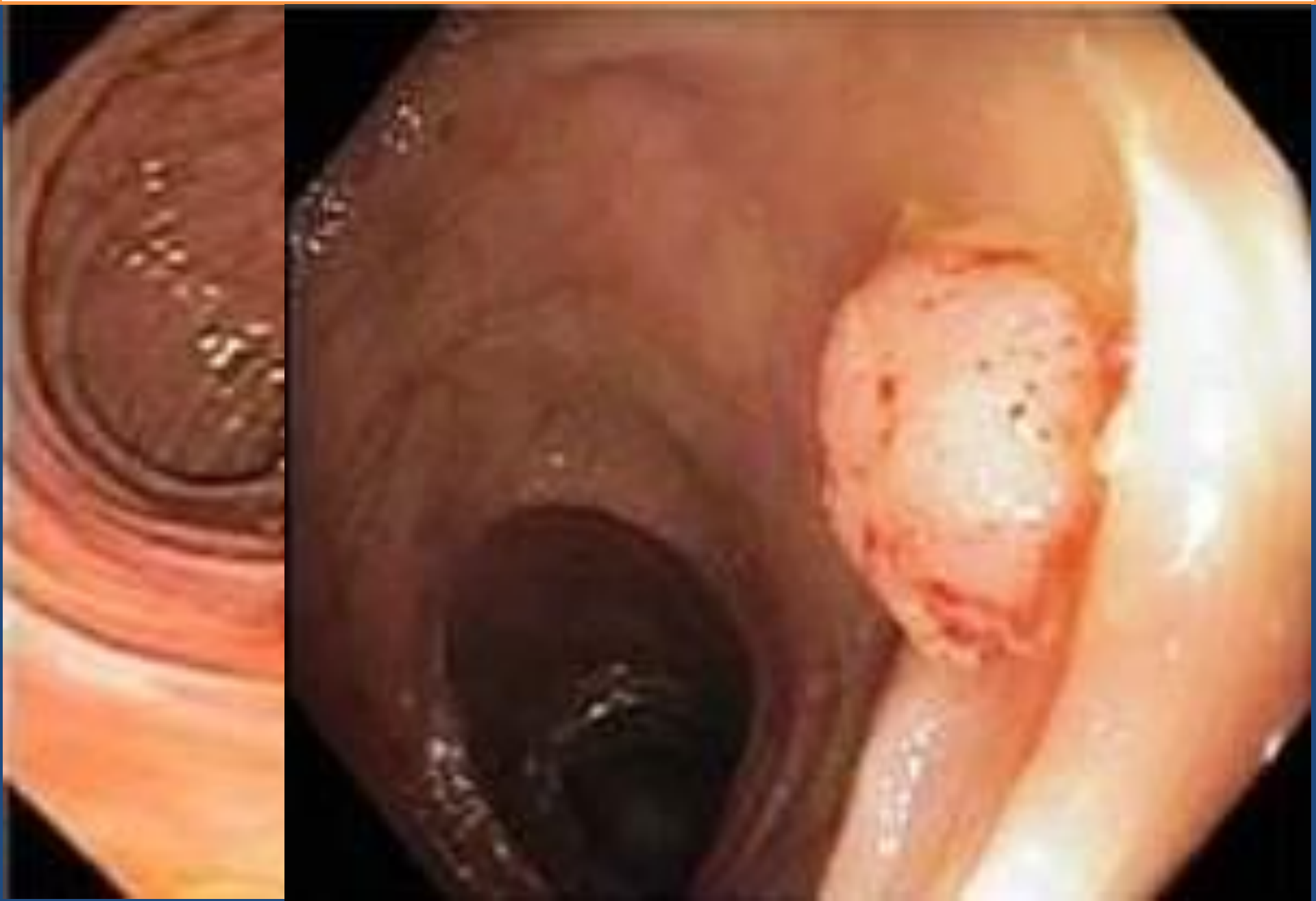
ESGE recommends that gross morphology of polyps should be described using the Paris classification system and sized in millimeters. (Moderate quality evidence; strong recommendation.)

▶ **Table 1** The original Paris classification of superficial neoplastic lesions

Pedunculated	Ip
Semipedunculated	Isp
Sessile, higher than height of closed forceps (2.5 mm)	Is
Slightly elevated, below height of closed forceps (2.5 mm)	IIa
Completely flat lesion, does not protrude above mucosal surface	IIb
Slightly depressed, lower than mucosa but depth less than 1.2 mm	IIc
Excavated/ulcerated, deep ulcer below mucosa below 1.2 mm	III

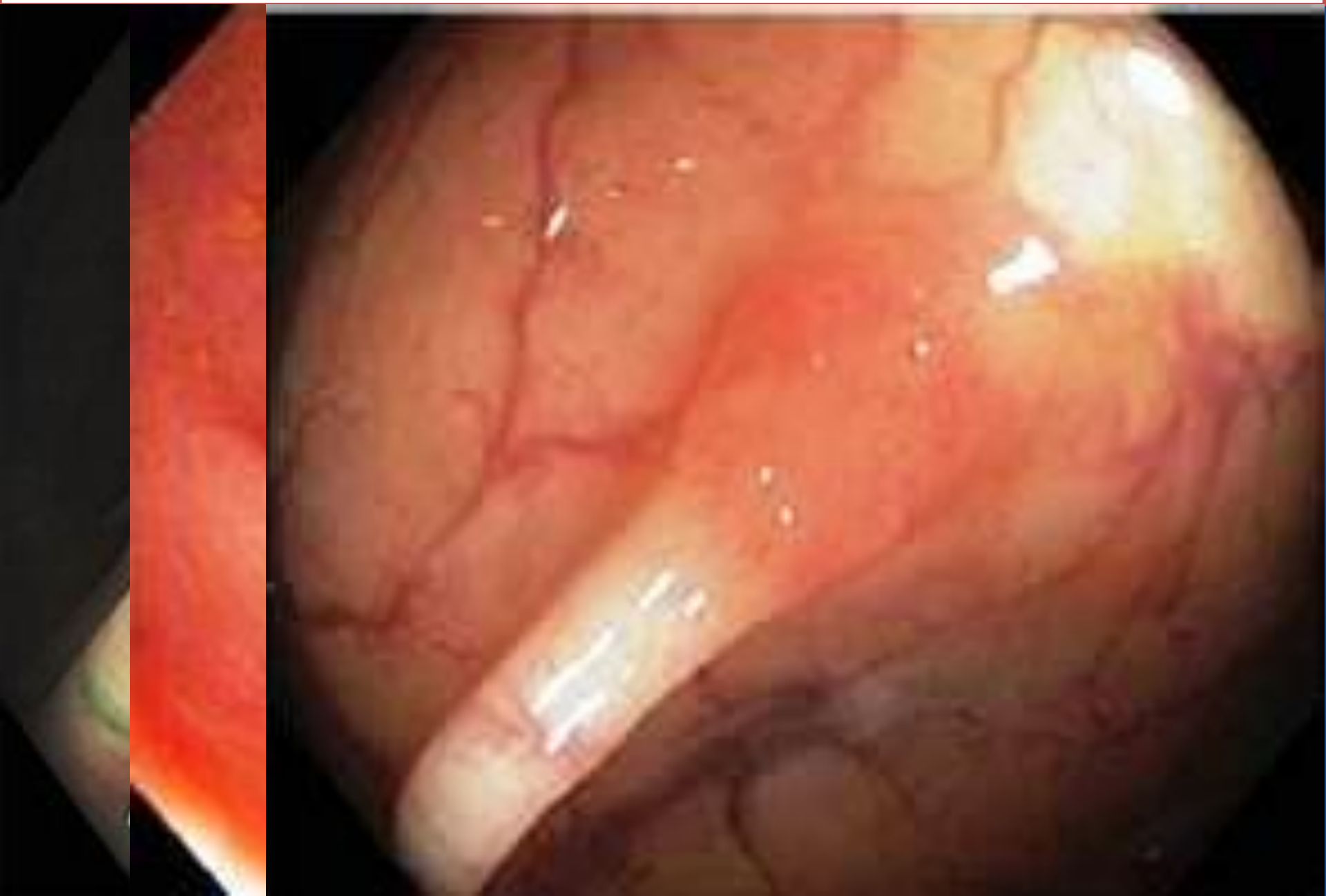
Type Ip: Pedunculated polyp

Type Isp: Semiedunculated polyp



Type Is: Sessile polyp (Is)

Type IIa: Slightly elevated lesions



- Lateral spreading tumor (essentially a large IIa lesion: often called "carpet lesion" in U.S.)
  - Granular (most common, least worrisome)
  - Non-granular(less common, worse histology)

RECOMMENDATION

ESGE recommends that for flat and sessile (Paris II and Is) polyps ≥ 10 mm, termed laterally spreading lesions (LSLs) or laterally spreading tumors (LSTs), surface morphology should be also described as granular or nongranular. (Moderate quality evidence; strong recommendation.)

Type IIb: Flat lesions

Type IIc: Slightly depressed lesions

- Any given endoscopic technique is more likely to miss flat and depressed lesions than polypoid lesions

Singh et al; Journal of Clinical and Diagnostic Research. 2015

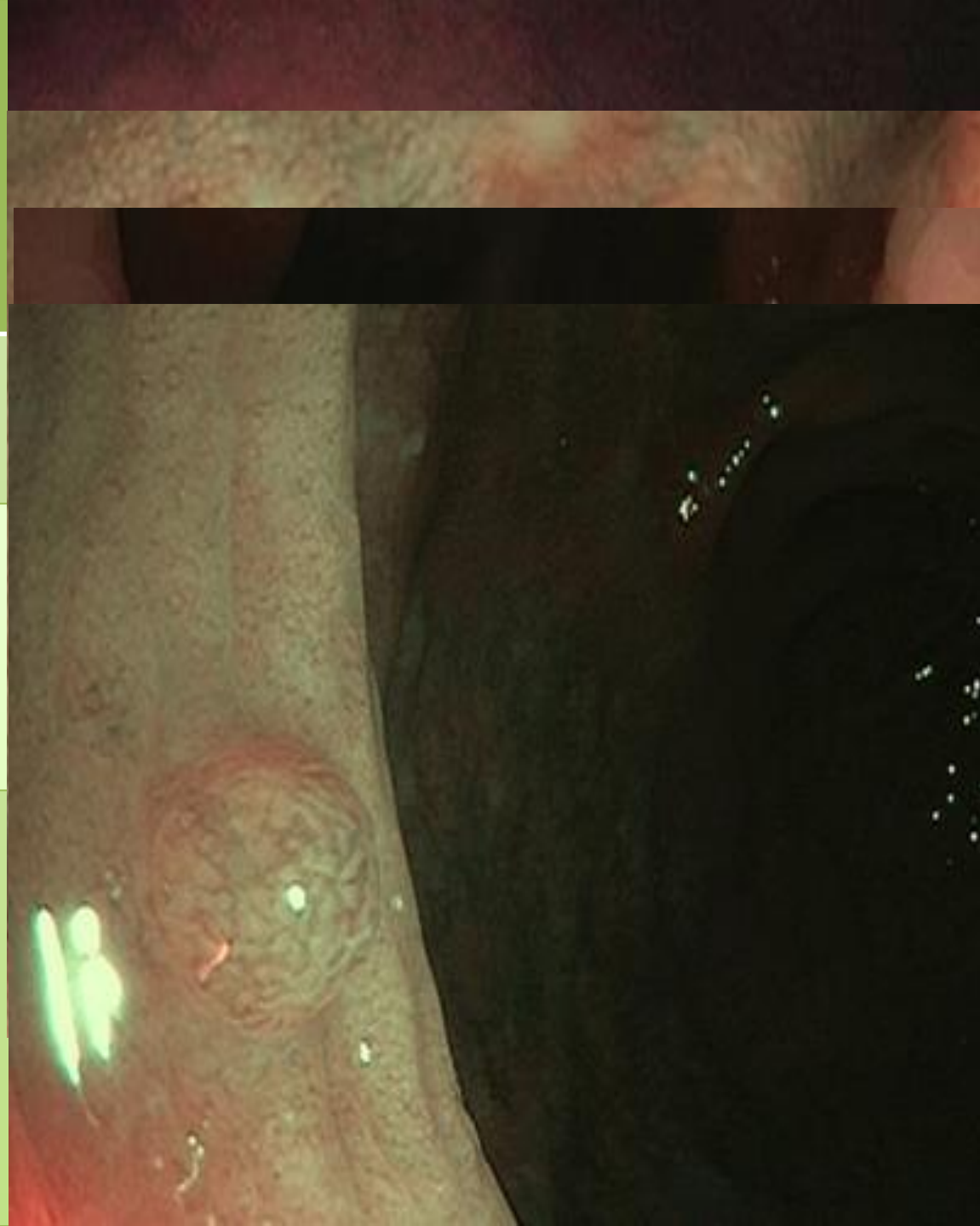
NICE Classification for D.D. of polyps

NBI International Colorectal Endoscopic classification is based on narrow-band images of colon polyps using staining, vascular patterns, and surface patterns to distinguish between polyps. Although it is linked to the Olympus company's endoscopes, similar differential-diagnostic approaches have also been reported for devices manufactured by other companies. Clinically, the classification is used for small polyps (< 5 mm or < 10 mm). *(Ladabaum et al; Gastroenterol. 2013)*

(Schachschal et al; Gut. 2014)

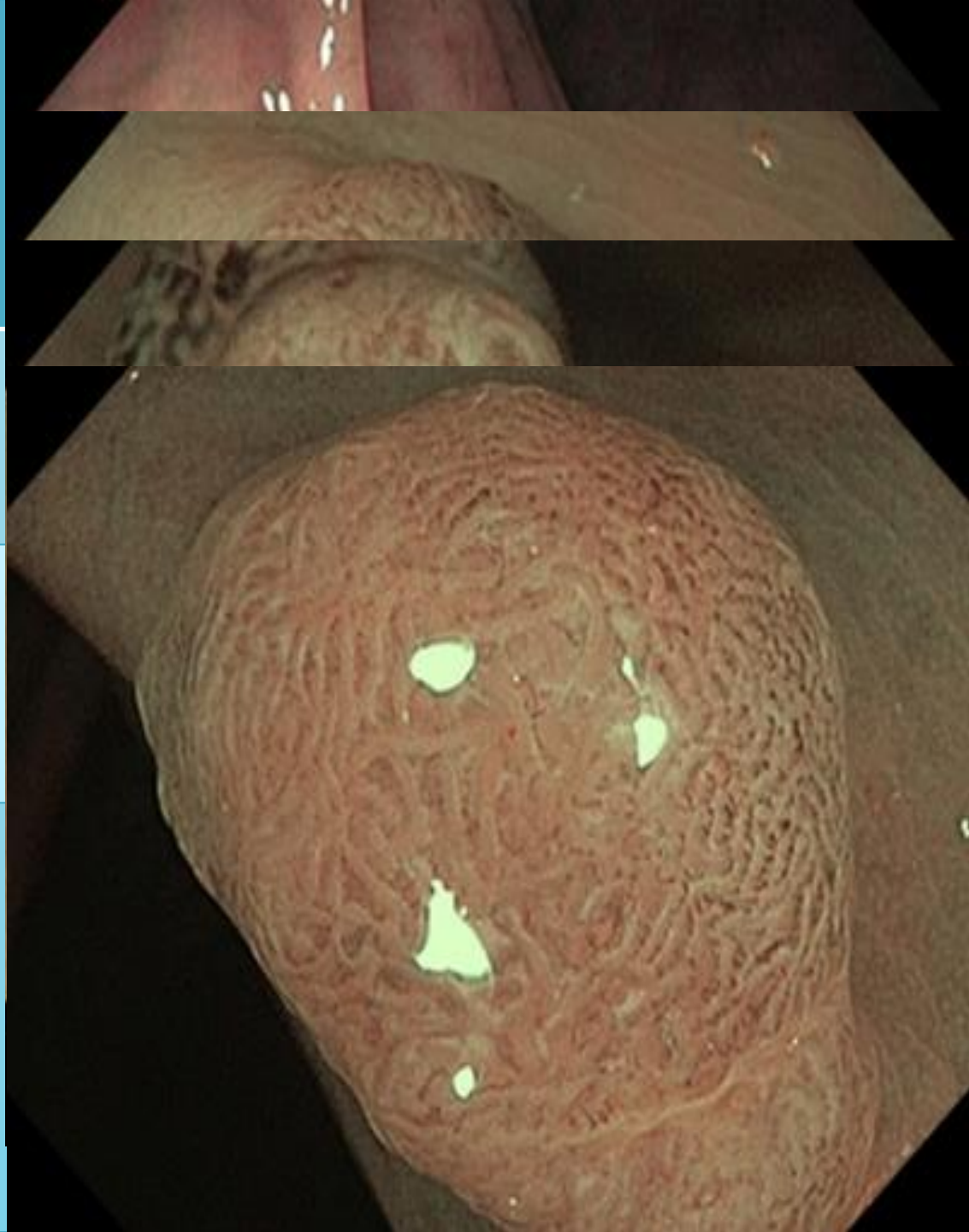
Type I CHARACTERISTIC FOR HYPERPLASTIC POLYP

Color	Lighter than or similar to the surroundings
Vessels	small vessels or a sparse network, with no recognizable pattern
Surface pattern	circular pattern with small dots — pattern with a darker area in the center, surrounded by lighter mucosa



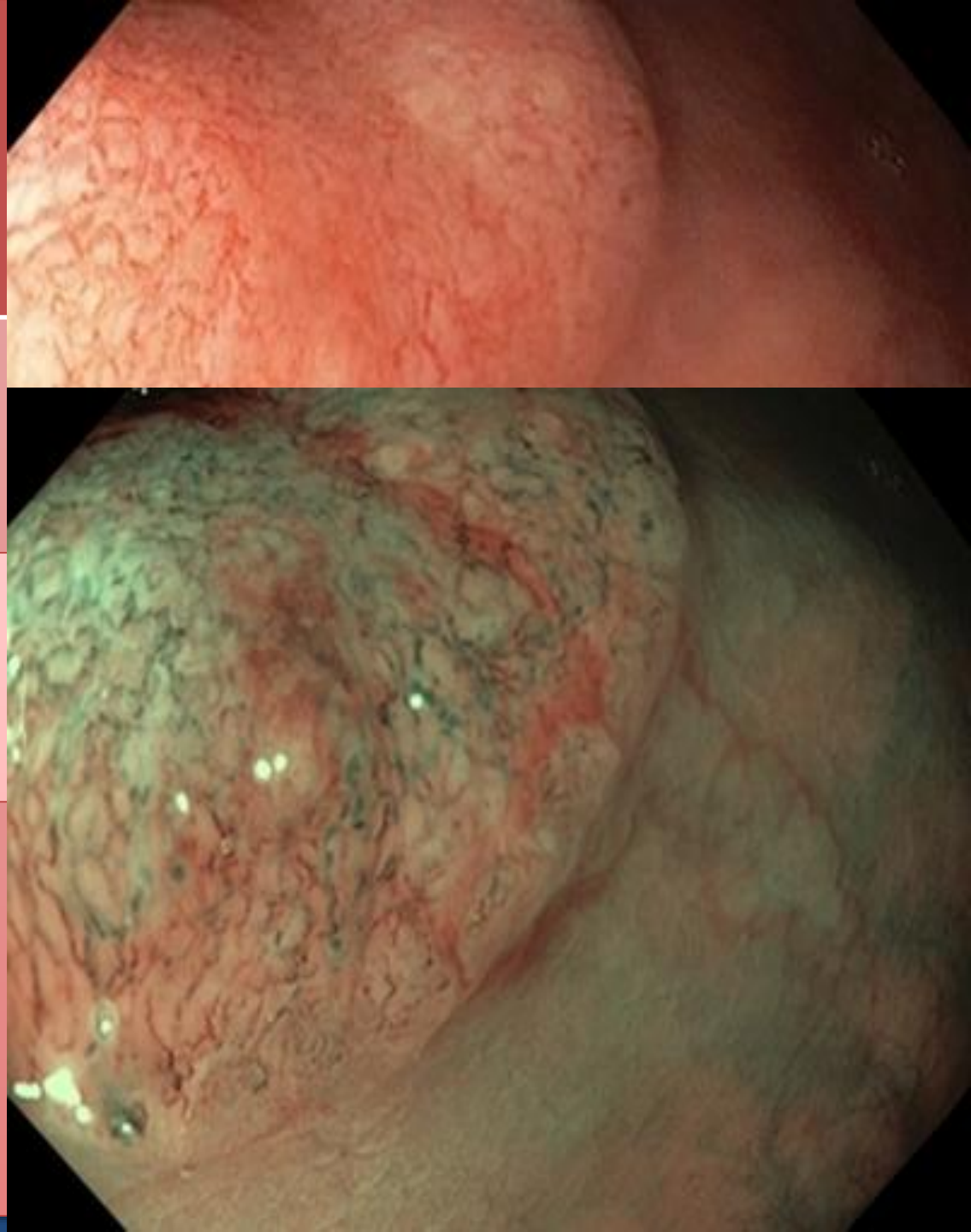
Type II CHARACTERISTIC FOR ADENOMATOUS POLYP

Color	Darker (browner) than the surroundings
Vessels	A Lighter area in the center, surrounded by thicker brown vessls
Surface pattern	Oval, tubular, gyrate – presence of tubuli, linear or bundled, with light area in center



Type III CHARACTERISTIC FOR MALIGNANT POLYP

Color	Darker than the surroundings brownish, sometimes with lighter patches
Vessels	areas with interrupted or absent vessels
Surface pattern	amorphous or no surface pattern



Polyp size

- Usual groupings
  - Diminutive (1-5mm) – about 80% of all polyps
  - Small (6-9) – about 10% of all polyps
  - Large (≥ 10 mm) – about 10% of all polyps

Ferlitsch Monika et al. Colorectal polypectomy and ... Endoscopy 2017; 49

Two histologies account for 99% of colorectal polyps

- Adenomas and adenomas with invasive carcinoma
- Serrated polyps
  - Hyperplastic polyps
  - Sessile serrated adenomas (SSAs)
  - Traditional serrated adenomas (TSAs)

Polyp size vs histology

Size	%adenoma	% serrated
1-5 mm	50%	50%
6-9 mm	60%	40%
≥ 10 mm	85%	15%

Hyperplastic serrated polyp

- Hype
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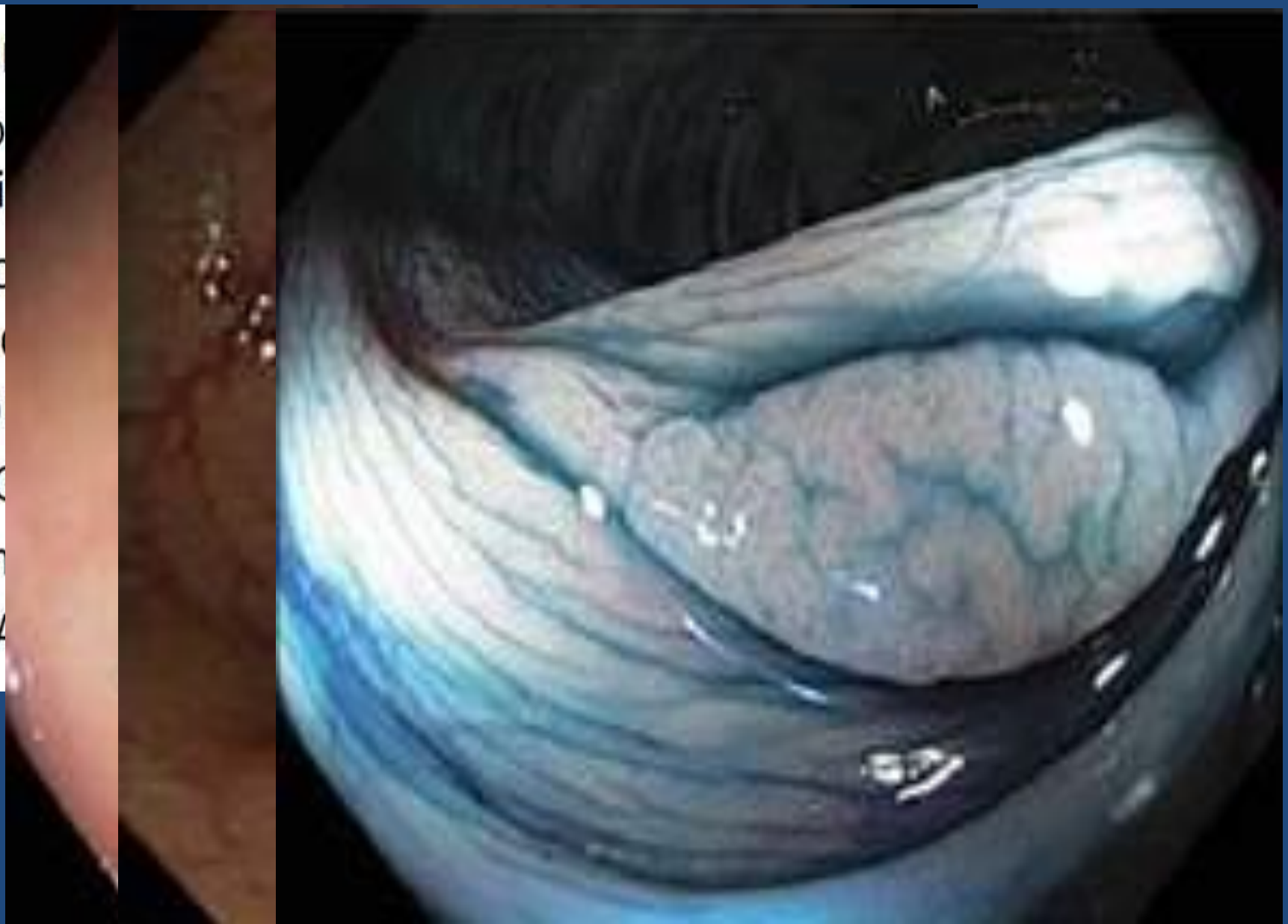
  - CpG
  - Son
  - BRA



- TSAs are more obvious endoscopically
- SSA
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- Mar
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- Risk
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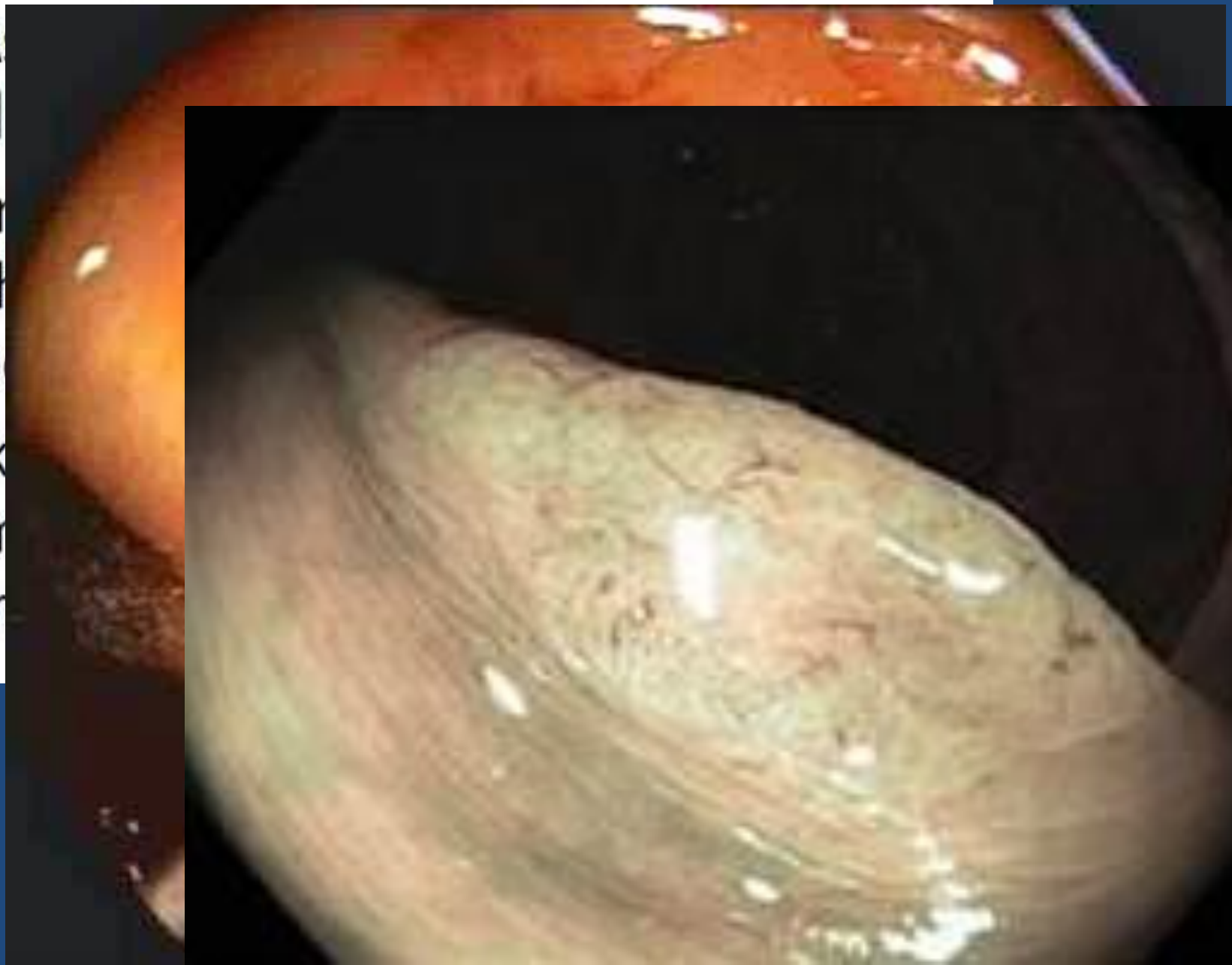
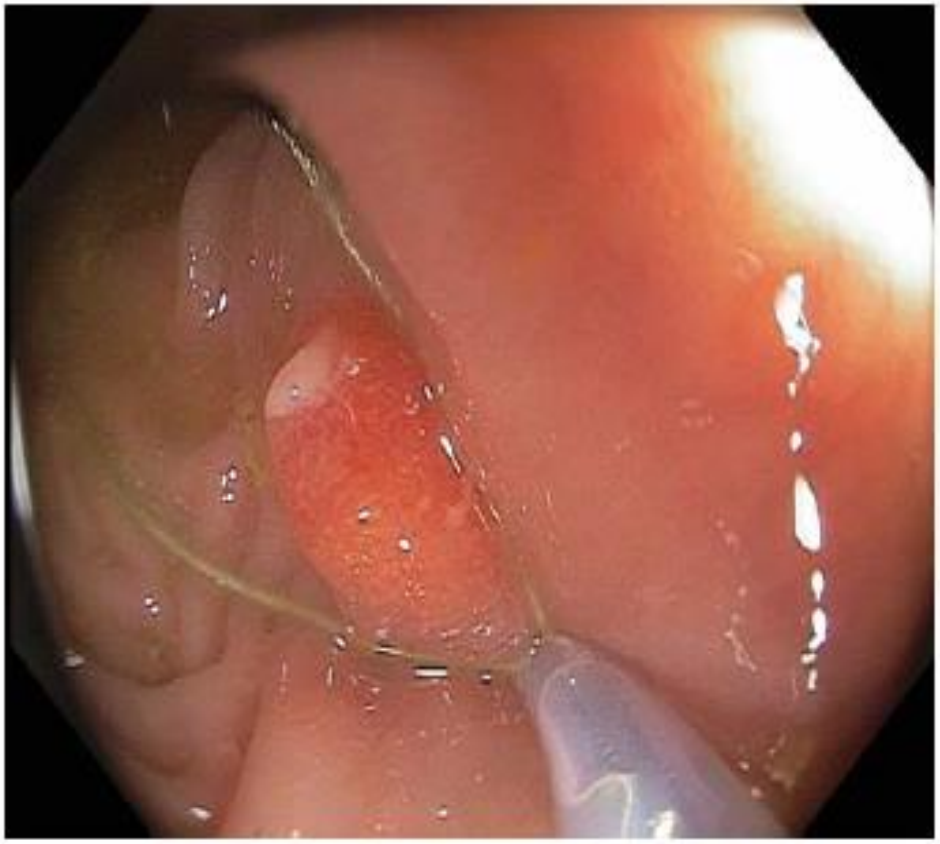


Serrated polyposis syndrome

- WHO definition
  - ≥ 5 serrated polyps proximal to sigmoid of which ≥ 2 are > 1 cm in size
  - 1 serrated polyp proximal to the sigmoid in patient with FDR who has SPS
  - > 20 serrated polyps "throughout the colon"
- Many patients with SPS do not have a family history of SPS or CRC
- Associated with smoking
- Genetic basis not yet established

Other histologies – inflammatory

- Often has exudate on surface
- Reflects prior injury to colon
- Common in IBD but occur sporadically also
- Vascular – brisk venous bleeding with resection or biopsy – rarely clinically significant



Hamartomas – and hamartoma syndromes

- 3 hamartomatous polyp syndromes
  - JPS (juvenile polyposis syndrome): SMAD4 or BMPR1A
  - PJS (Peutz-Jeghers syndrome): STK11 (also called LKB1
  - Cowden syndrome: (PTEN)

Juvenile polyp

- Synonymous with "retention polyp"
  - Distended mucus filled glands, multiple blood vessels, cystic dilation (hamartomas)
- Prevalence of 1-2 % in children age 4-14y
  - 70% of patients have only 1 polyp; most others have 2 or 3
- Sporadic juvenile polyps not associated with CRC risk

Juvenile polyposis syndrome (JPS)

- Mutations in SMAD4 or BMPR1A
- Increase risk of CRC, stomach, small bowel (if polyps present)
- No physical exam clues
- Consider if ≥ 3 JPs in colon, JPs in stomach or small bowel, JPs with + FH of JPS

Surveillance and Treatment

Endoscopic examination of the colon and upper gastrointestinal tract is recommended every two to three years in patients with JP. In patients with polyps, endoscopic screening should be performed yearly, until the patient is polyp free. Patients with mild polyposis can be managed by frequent endoscopic examinations and polypectomy,

Brosens et al; Current Molecular Medicine, 2007

Peutz-Jeghers Syndrome

- STK11(LKB1) mutations
- Oral and buccal mucosal hyperpigmentation
- Colorectal cancer, breast, stomach, small bowel, pancreas, testis, cervix, uterus, ovary, lung

Screening in PJS

- Colonoscopy q 2-3y
- Annual mammogram and breast MRI;biannual breast exam beginning at age 25 y
- MRCP or EUS q 1-2y beginning at age 30 y
- EGD and small bowel imaging q 2-3y beginning at age 10
- Annual pelvic, Pap smear, and transvaginal ultrasound beginning at age 18 y
- Annual testis exam beginning at age 10 y

Cowden's syndrome

- PTEN
- Hamartomas in all sections of the bowel including esophagus
- Not a clear increased risk of CRC
- Very high risk of thyroid and breast cancer

Adenomas

- All adenomas are dysplastic
- Atypia is an improper term in the description of adenomas
- Dysplasia should be classified as low grade or high grade
  - Mild,moderate,severe: too much interoberserver variation
- Most adenomas have LGD

FAMILIAL ADENOMATOUS POLYPOSIS

- <1% of all CRC
- autosomal dominant
- >95% penetrance
- hundreds of adenomas
- cancers in duodenum
- desmoid tumors
- Germline mutations in APC gene
- screening: sigmoidoscopy or colonoscopy
- commercial genetic testing available

Screening in FAP

- Colonoscopy q 1-2 y beginning at age 10
- Screening can be delayed to late teens in AAFP
- Prophylactic colectomy when polyps unmanageable
- EGD q 1-3 y beginning age 25y
- Annual physical exam including thyroid
- If remaining rectum or ileal pouch, screen every 6 mo to 2 y

Brosens et al; Current Molecular Medicine, 2007

Familial polyposis coli (FPC)

Familial Polyposis Syndrome

genetic tendencies to develop neoplastic polyps.

Familial polyposis coli (FPC)

- Genetic defect of Adenomatous polyposis coli (*APC*).
- *APC* gene located on the long arm of chromosome 5 (5q21).
- *APC* gene is a tumor suppressor gene
- Innumerable neoplastic polyps in the colon (500 to 2500)
- Polyps are also found elsewhere in alimentary tract
- Most polyps are tubular adenomas
- The risk of colorectal cancer is 100% by midlife.

Gardener's syndrome

Polyposis coli, multiple osteomas, epidermal cysts, and fibromatosis.

Turcot syndrome

Polyposis coli, glioma and fibromatosis

HEREDITARY NON POLYPOSIS COLORECTAL CANCER (LYNCH SYNDROME)

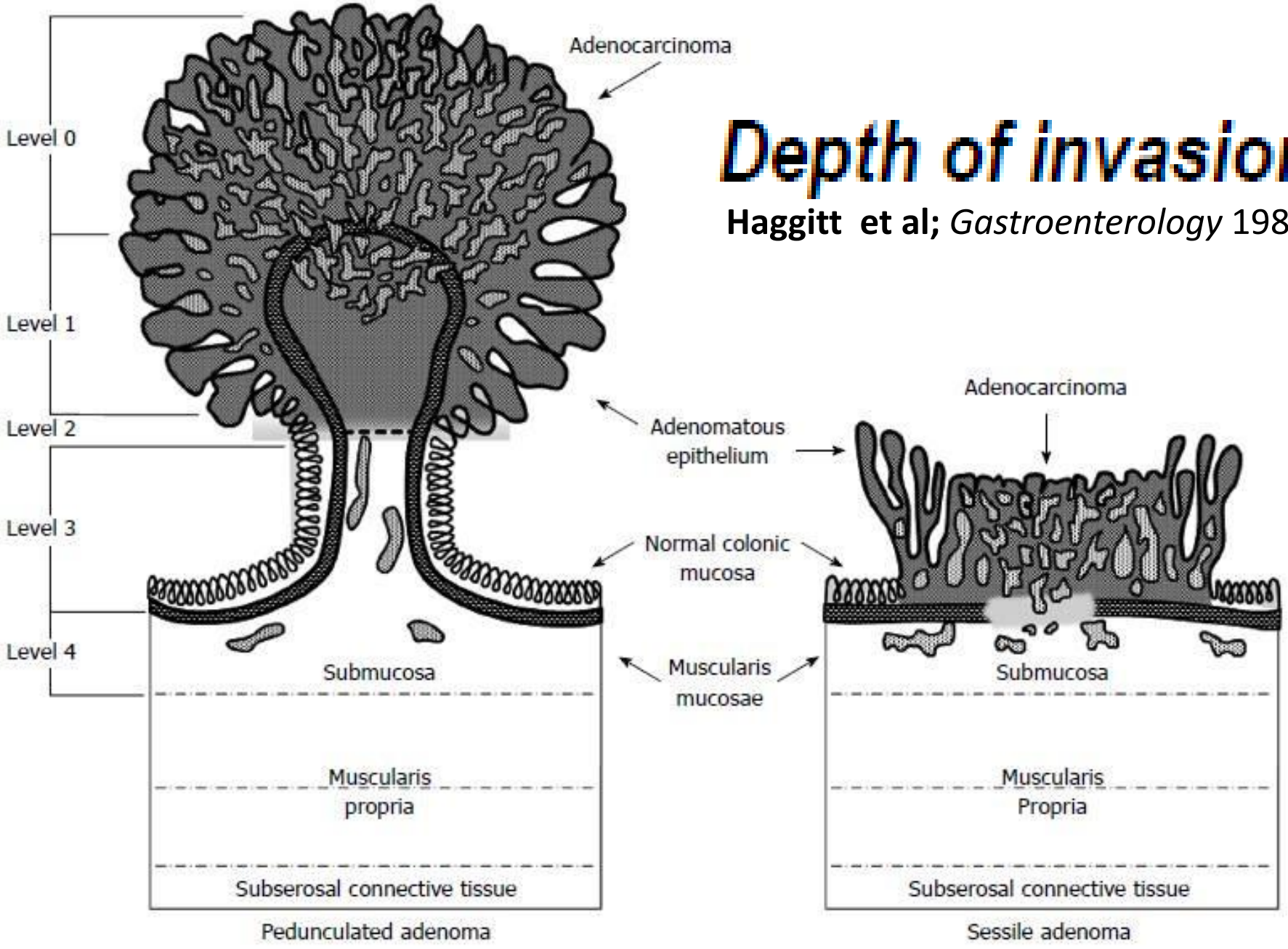
- 2-5% of all CRC
- Germline Mutation in Mismatch repair genes: MLH1, MSH2, MSH6, PMS1
- Patients usually have only a few adenomas
- Autosomal dominant
- 70% penetrance
- Cancers at young age
- Rightward distribution
- Cancers at other sites: endometrium, small bowel, renal pelvis,ureter, brain, ovary, stomach
- Microsatellite instability
- Screening: colonoscopy
- Commercial genetic testing available

Advanced adenoma

- Concept developed as a surrogate marker of risk in post-polypectomy studies
- Most common definition is an adenoma with any of the following:
  - Size ≥ 10 mm
  - HGD
  - Villous elements

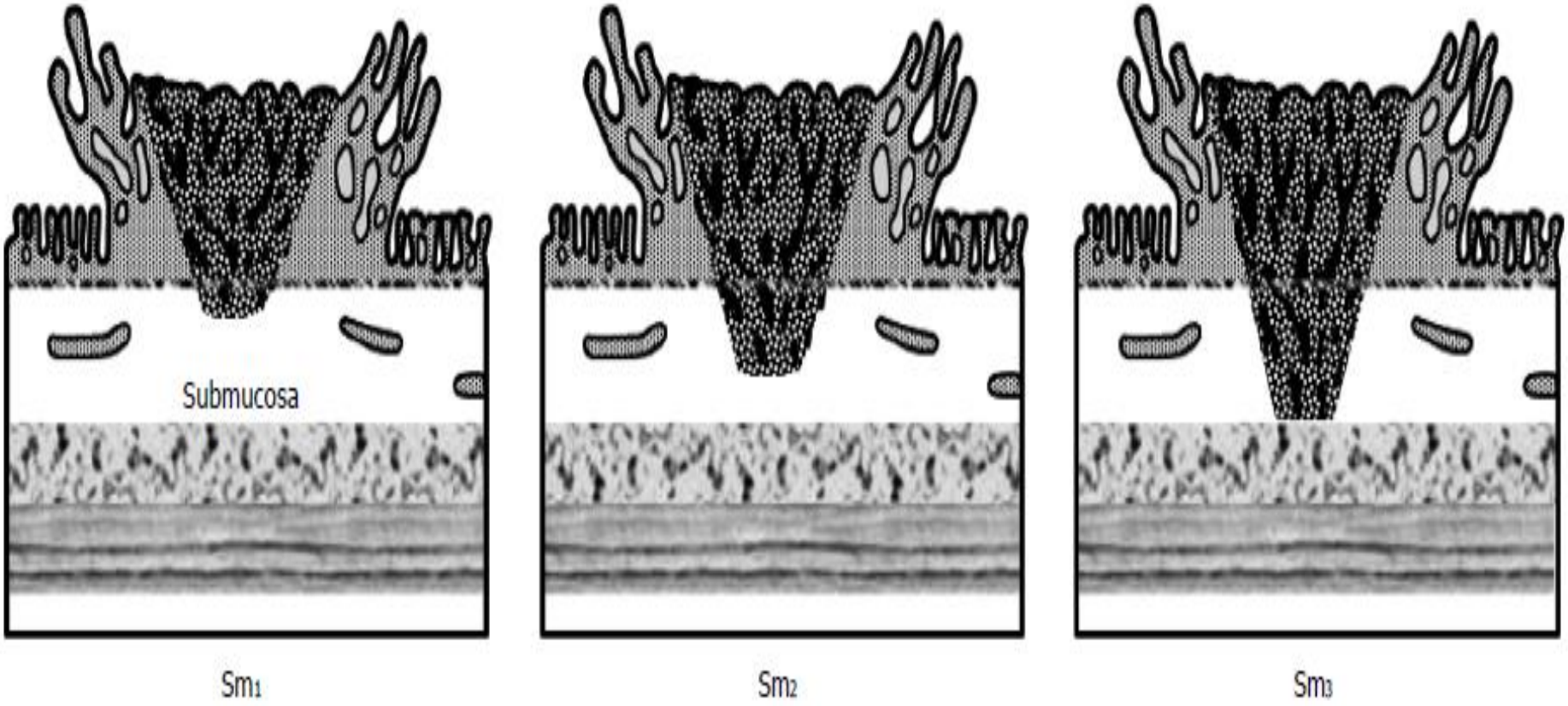
Depth of invasion

Haggitt et al; *Gastroenterology* 1985



Haggitt classification of pedunculated and sessile polyps.

Depth of invasion



Kudo et al; *Endoscopy* 1993, and **Kikuchi et al;**. *Dis Colon Rectum* 1995

Colorectal polyps can be diagnosed by endoscopy or barium radiography. When there is an indication to examine the entire large bowel, colonoscopy is the diagnostic procedure of choice. It is the most accurate method of detecting polyps of all sizes and it allows immediate biopsy or polypectomy. Most polyps found during colonoscopy can be completely and safely resected. Scientific studies now conclusively show that resecting adenomatous polyps prevents colorectal cancer. (**Bond.** *AJG; 2000*)

Drugs & Diseases > Radiology

Imaging in Colon Polyposis Syndromes

Updated: Aug 19, 2016 | Author: Ali Nawaz Khan, MBBS, FRCS, FRCP, FRCR; Chief Editor: Eugene C Lin, MD more...

The role of the radiologist in the diagnosis and evaluation of intestinal polyposis syndromes cannot be overemphasized, as missed polyps are potentially missed cancers. For polyps larger than 1 cm, the sensitivity of single- and double-contrast barium enema (DCBE) examination is 90-95%. DCBE is more sensitive in the detection of polyps smaller than 1 cm.


R
L

CT and MR colonography allow an analysis in both the cross-sectional and virtual endoscopic formats. both offer the capability of imaging extra-intestinal disease associated with many of the colon polyposis syndromes.

MR colonography shares several limitations with its CT counterpart. Inadequate colon distention, contrast opacification, and the presence of air bubbles and fecal masses may potentially cause problems in interpretation. None of the above techniques are useful in differentiating hamartomatous polyps from adenomatous polyps.

The Egyptian Journal of Radiology and Nuclear Medicine (2013) 44, 425–432

Egyptian Society of Radiology and Nuclear Medicine

The Egyptian Journal of Radiology and Nuclear Medicine

www.elsevier.com/locate/ejrnm
www.sciencedirect.com

ORIGINAL ARTICLE

Role of CT virtual colonoscopy versus conventional colonoscopy in the evaluation of colonic polyps

Ayman Osama [a,*], Hazem Hamed Solieman [b], Hossam A. Zaytoun [c]

Table 6 Comparative study for the sensitivity of polyp detection according to size was done between virtual colonoscopy and conventional colonoscopy.

	Virtual colonoscopy sensitivity (%)	Conventional colonoscopy sensitivity (%)
Small polyp	87	100
Medium polyp	90	100
Large polyp	100	90

Conventional colonoscopy is a little bit ahead in front of virtual colonoscopy, yet the results are more or less comparable to each other.

The main critics of virtual colonoscopy were:

- It cannot detect small polyps with enough certainty.
- Methodologically it cannot detect small flat adenomas.
- It is incapable of obtaining information about the etiology even when a small polyp is detected, patients must undergo flexible endoscopy with biopsy anyway.
- It does not depict early inflammatory changes or allow recognition of small ulcerations, since the surface is artificial and includes no information about the mucosa.
- It fails to provide information on movement or motility.
- Mucus and stool residues cannot be removed during the examination.
- It goes hand in hand with ionizing radiation.
- It necessitates interpretation of large amount of data; thus consuming lot of time and effort.

Supporters of virtual colonoscopy for the following points:-

- It can be implemented simply and reliably.
- It boasts high patient acceptance, since the complete examination lasts only a few minutes.
- It is much less painful, since the mechanical manipulation is limited.
- It requires no sedation, eliminating the associated risks.
- It bears no noteworthy risk of perforation (flexible diagnostic endoscopy: 1:1000–1:5000).
- It is cheaper than flexible endoscopy in various western countries.
- It does not only offer to see the bowels from within, but also complete abdominal assessment with the possibility of detecting side findings; staging can be accomplished simultaneously.
- It can accurately detect the exact site of the colonic lesion.
- It is a high technology examination and expected to improvements in the near future.
- Virtual colonoscopy has the advantage of assessment of the colon proximal to occlusive stenotic lesions, which is not available in several cases in conventional colonoscopy.
- The used low dose techniques in virtual colonoscopy decline the hazards of ionizing radiation.
- With advance of medical systems and experience the data analysis time is 10 min.
- The clinical significance of small polyps is doubtful. Also the gold standard, i.e. flexible endoscopy, has a 27% margin of error for polyps smaller than 5 mm. Furthermore several centers are reporting excellent virtual colonoscopy sensitivity for smaller polyps.
- Flat adenomas are very rare tumors and relatively more prevalent in Japan. They are also difficult to recognize in flexible endoscopy, and special techniques are necessary.

Colorectal Dis. 2014 Mar;16(3):O82-9. doi: 10.1111/codi.12506.

Comparison of the accuracy of CT colonography and colonoscopy in the diagnosis of colorectal cancer.

Martín-López JE[1], Beltrán-Calvo C, Rodríguez-López R, Molina-López T.

CT colonography has high specificity but hetrogenous sensitivity. In most cases it is not as sensitive as conventional colonoscopy, therefore be useful as a screening test for high risk patients.

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J Clin Diagn Res. 2015 Apr; 9(4): TC14–TC18.
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PMCID: PMC4437135

Role of CT Colonography in Colonic Lesions and Its Correlation with Conventional Colonoscopic Findings

Kunwarpal Singh,[1] Aparna Kaur Narula,[2] Chuni Lal Thukral,[3] Neeti Rajan Singh,[4] Amandeep Singh,[5] and Harmeet Kaur[6]

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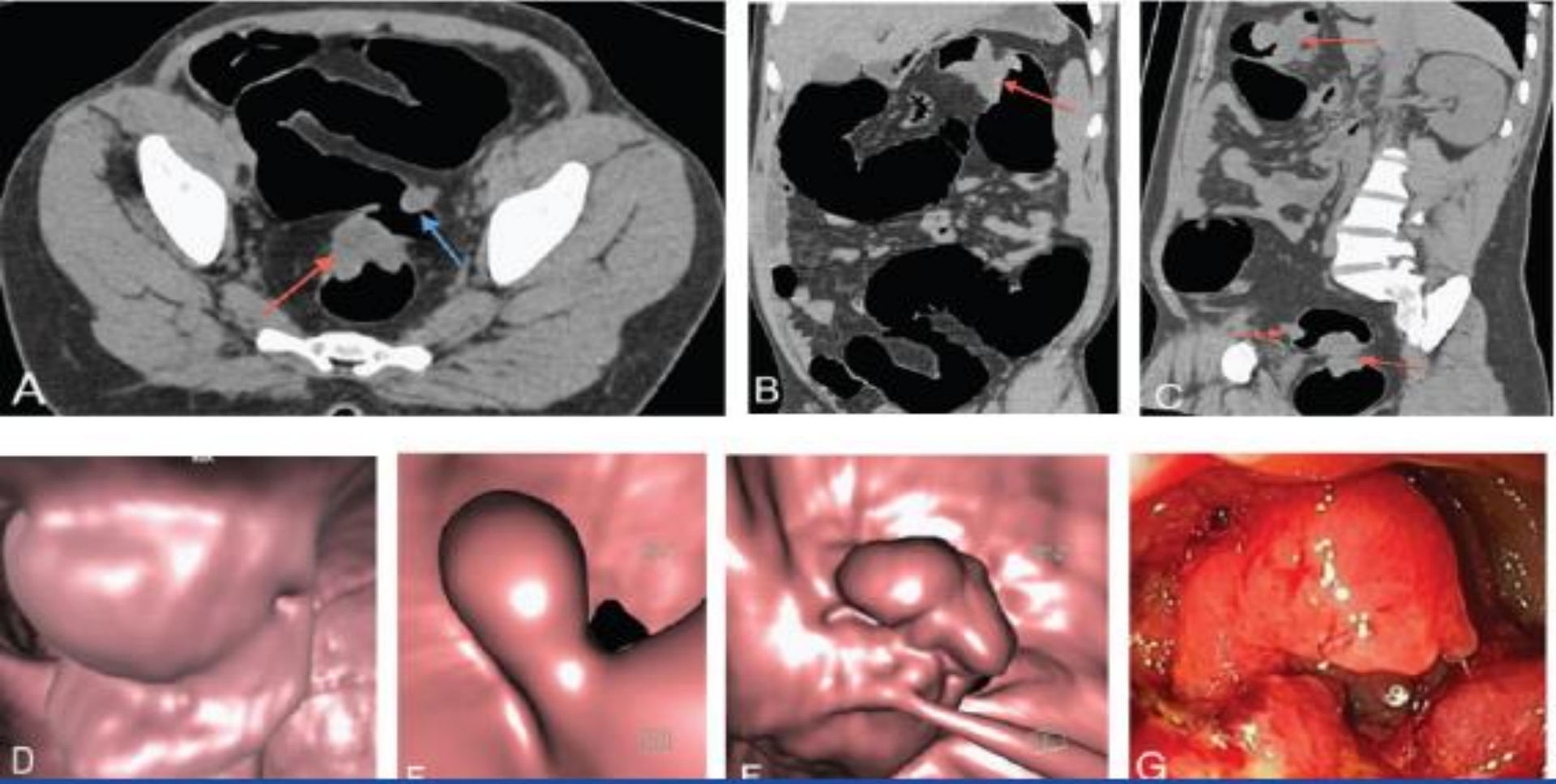
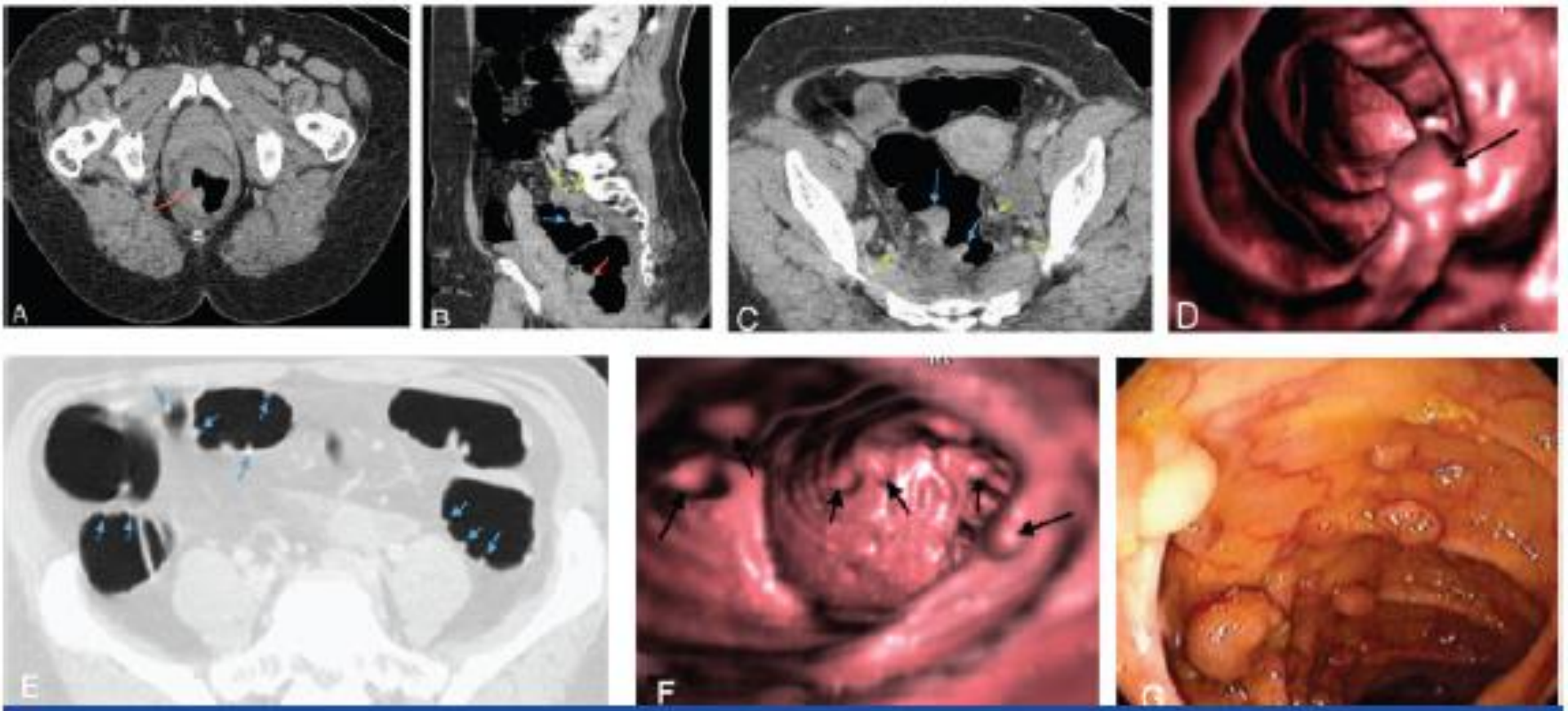
CT colonography has higher sensitivity than conventional colonoscopy for detection of colorectal carcinoma, including its ability to detect abnormalities proximal to obstructing lesion, accurate segmental localization of lesions and staging. However, some limitations of CT colonography were difficulty in detection of flat lesions and lack of information about hyperemia and superficial mucosal erosion.



[Table/Fig-3a-g]: Synchronous carcinoma
(A) CT colonographic images (performed after incomplete conventional colonoscopy) shows two synchronous polypoidal lesions in recto-sigmoid region. The sessile polyp in the sigmoid colon shows pericolonic nodular stranding (blue arrow) (B) Another lobulated polypoidal lesion (third synchronous lesion) causing luminal narrowing was seen at the splenic flexure (C) Oblique saggital reconstructed CT image shows all the three polypoidal lesions; two in rectosigmoid region and one at splenic flexure. Endoluminal fly through images (D,E,F) shows the polypoidal lesion in rectum, sigmoid colon and splenic flexure, respectively. Conventional colonoscopic image (G) shows the constricting lobulated mass in the rectum

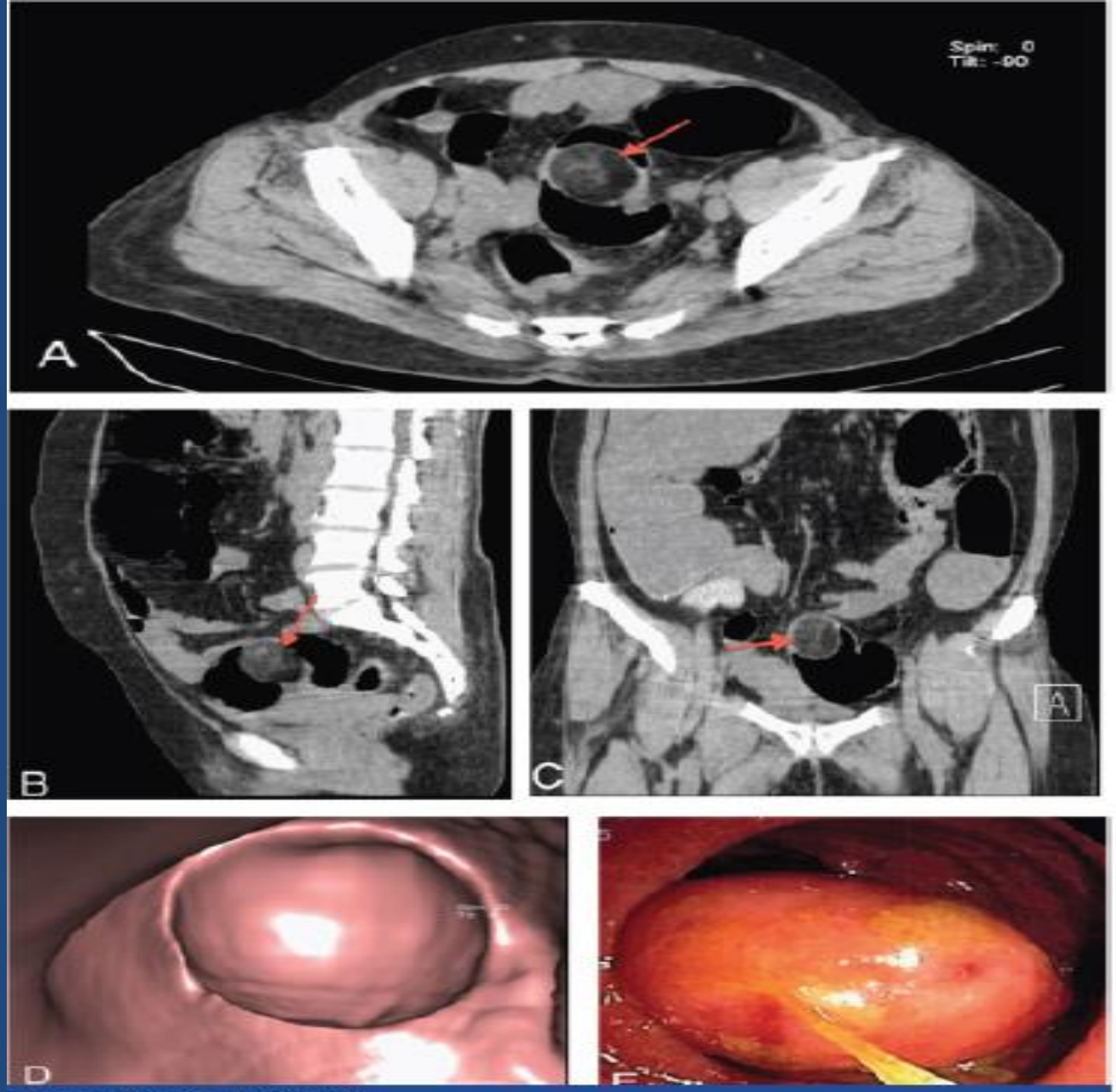


[Table/Fig-7a-g]: Familial adenomatous polyposis

Axial and reconstructed sagittal CT images (A, B) shows irregular thickening of the anterior and right lateral walls of the rectum (red arrows) with multiple enlarged regional lymph nodes (green arrows). On HPR, this turned out to be moderately differentiated adenocarcinoma.

(B,C) shows multiple broad based sessile polyps with smooth surface in rectosigmoid region (shown by blue arrow). Endoluminal fly through view (D) depicts a smooth surfaced sessile polyp (black arrow) of sigmoid colon.

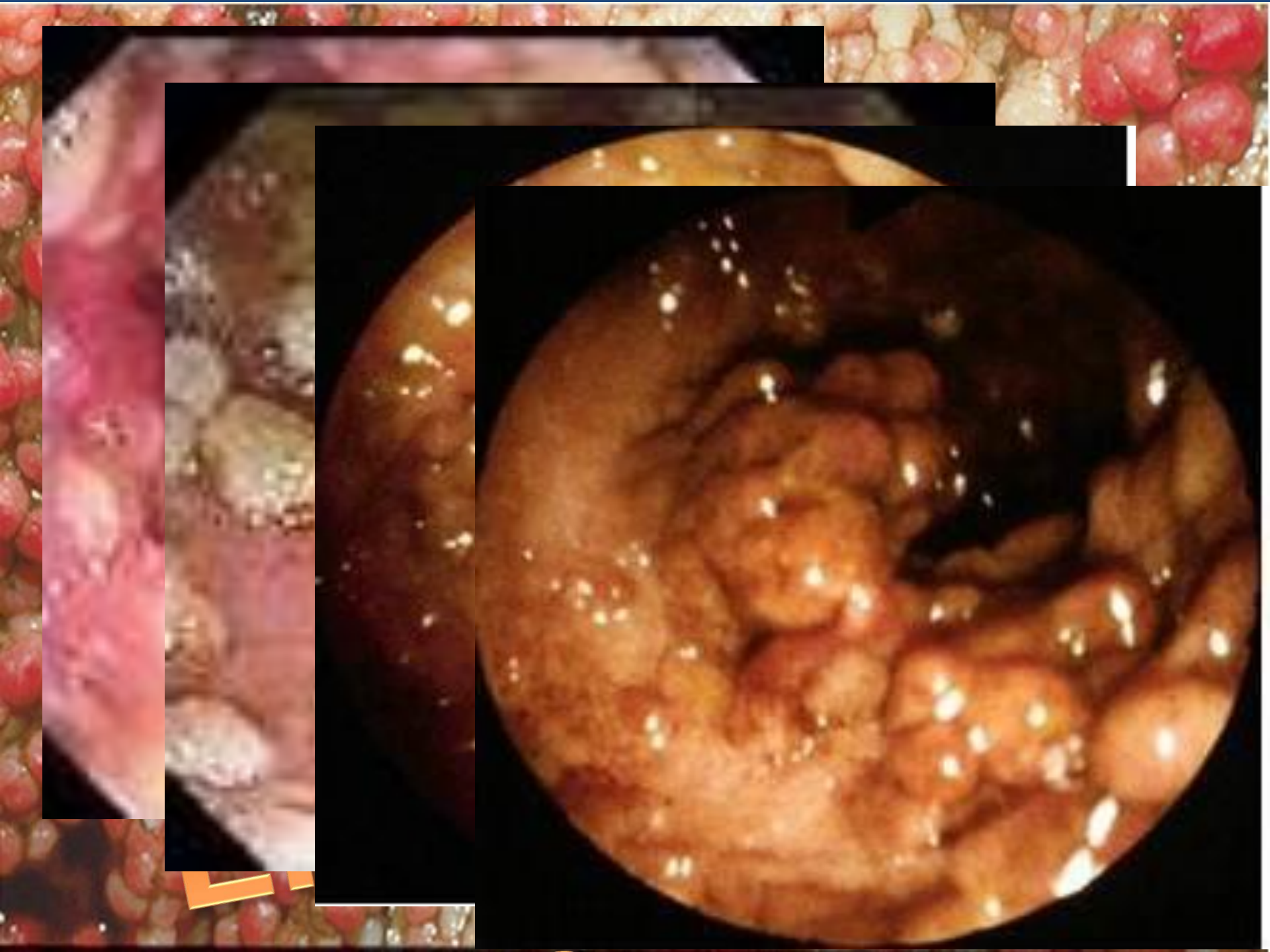
Numerous small sessile polyps (blue arrows) were seen in the entire large bowel (E). On endoluminal fly through views (F) these small sessile polyps (black arrows) were better demonstrated. Conventional colonoscopy image (G) showed similar findings



[Table/Fig-8a-e]: LIPOMA
Axial (A), reconstructed Coronal and Saggital CT images (B,C) shows a well defined broad based smooth surfaced sessile polyp arising from left lateral wall of sigmoid colon; showing CT attenuation number of -30 to -50 HU(fat attenuation). Virtual and conventional colonoscopy images (D,E) shows a large smooth sessile polyp. Histopathological analysis showed the polyp to be lipoma

Approximately 80%-90% of adenomas are less than 1 cm (polyps ≤ 5 mm have negligible risk of malignancy) therefore amenable to standard endoscopic removal with conventional snare (especially pedunculated polyps). . Larger polyps between 1.5 and 3.5 cm have higher malignant potential (**19%-43%**) and should be approached with more caution. It is more challenging and require more advanced techniques, such as endoscopic mucosal resection (EMR) or endoscopic submucosal dissection (ESD), which are being used with increasing frequency in specialized centers.

(Aarons et al; World J Gastroenterol .2014)

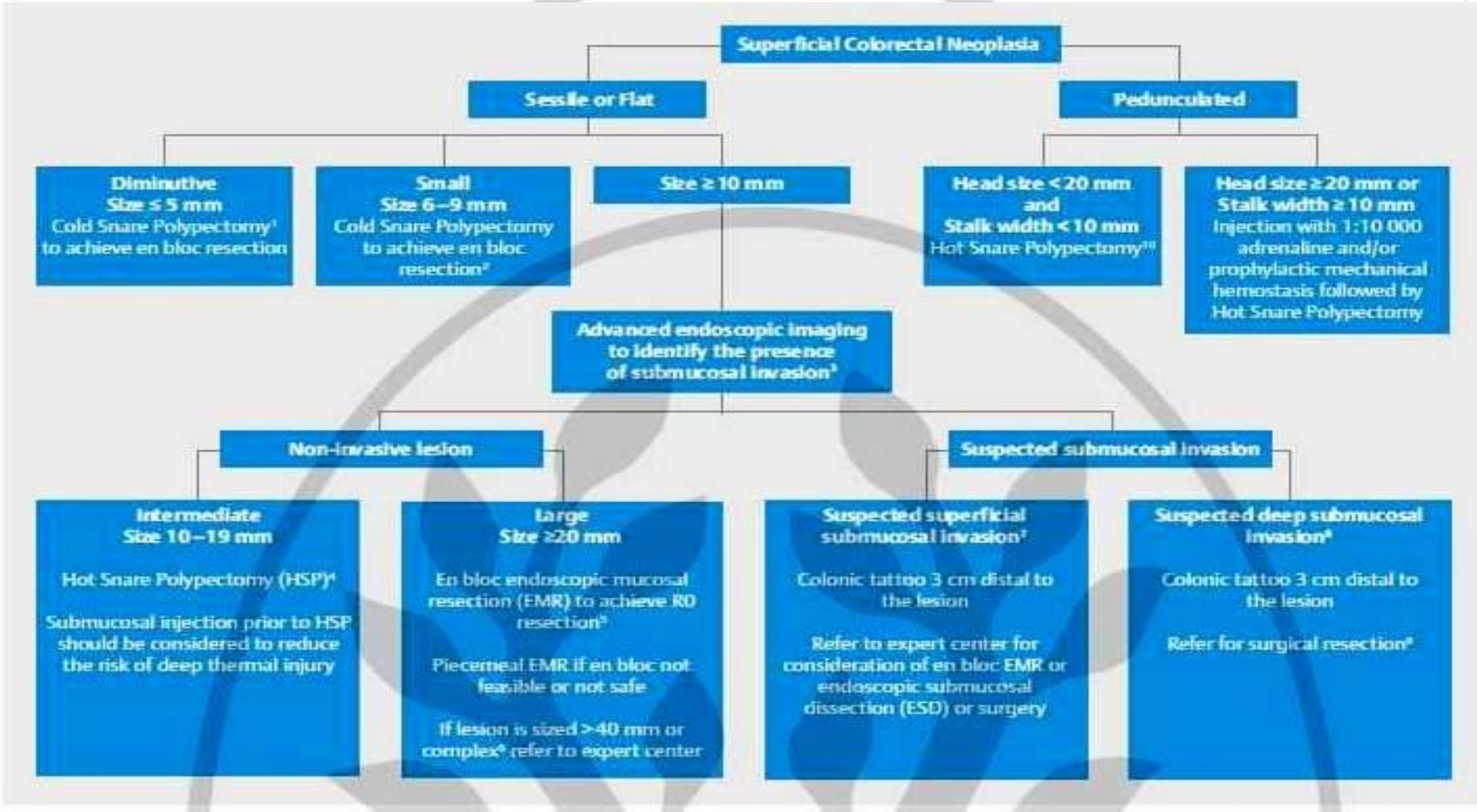


Thieme

Colorectal polypectomy and endoscopic mucosal resection (EMR): European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline

ESGE

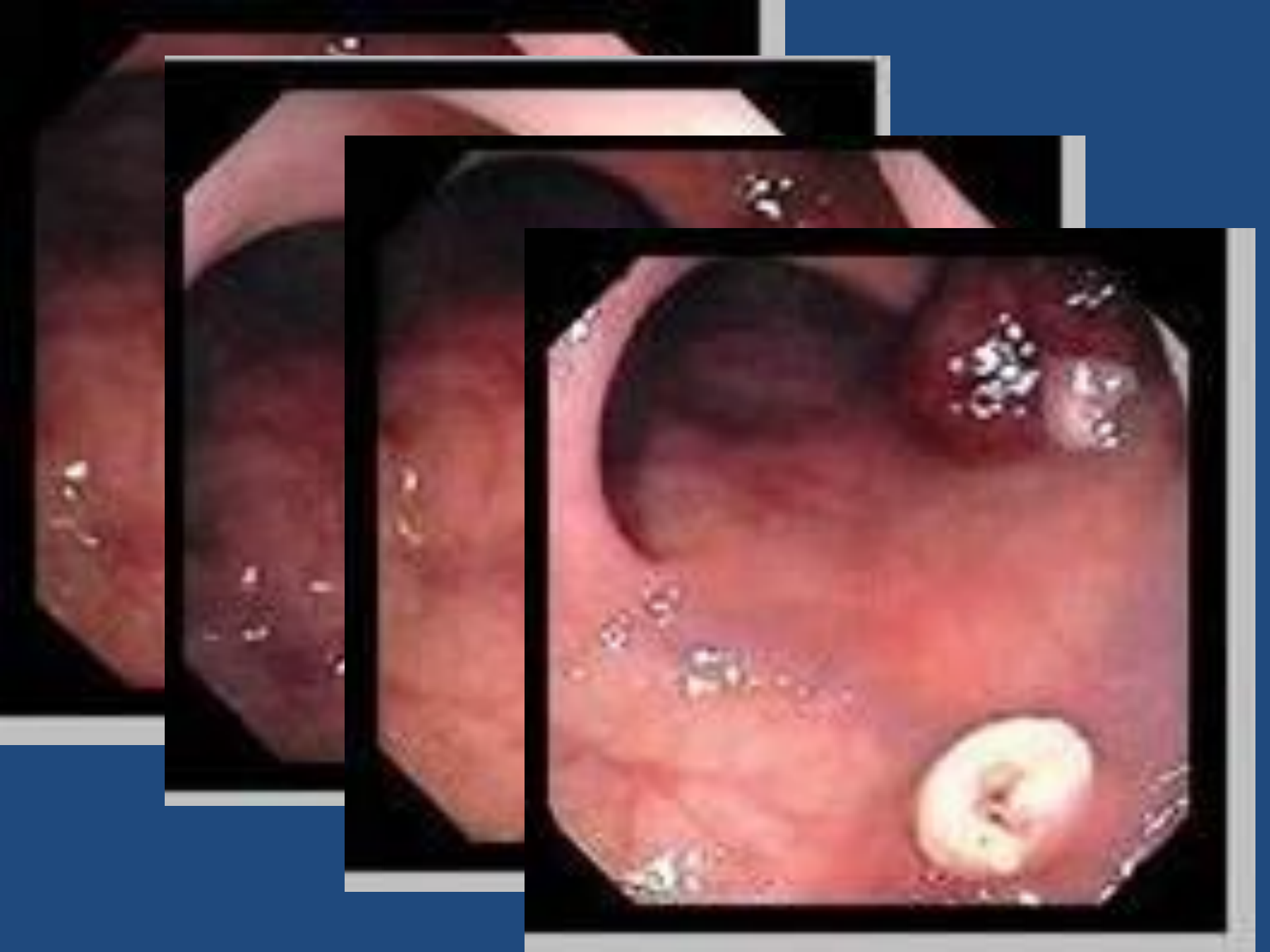
Ferlitsch Monika et al. Colorectal polypectomy and ... Endoscopy 2017; 49

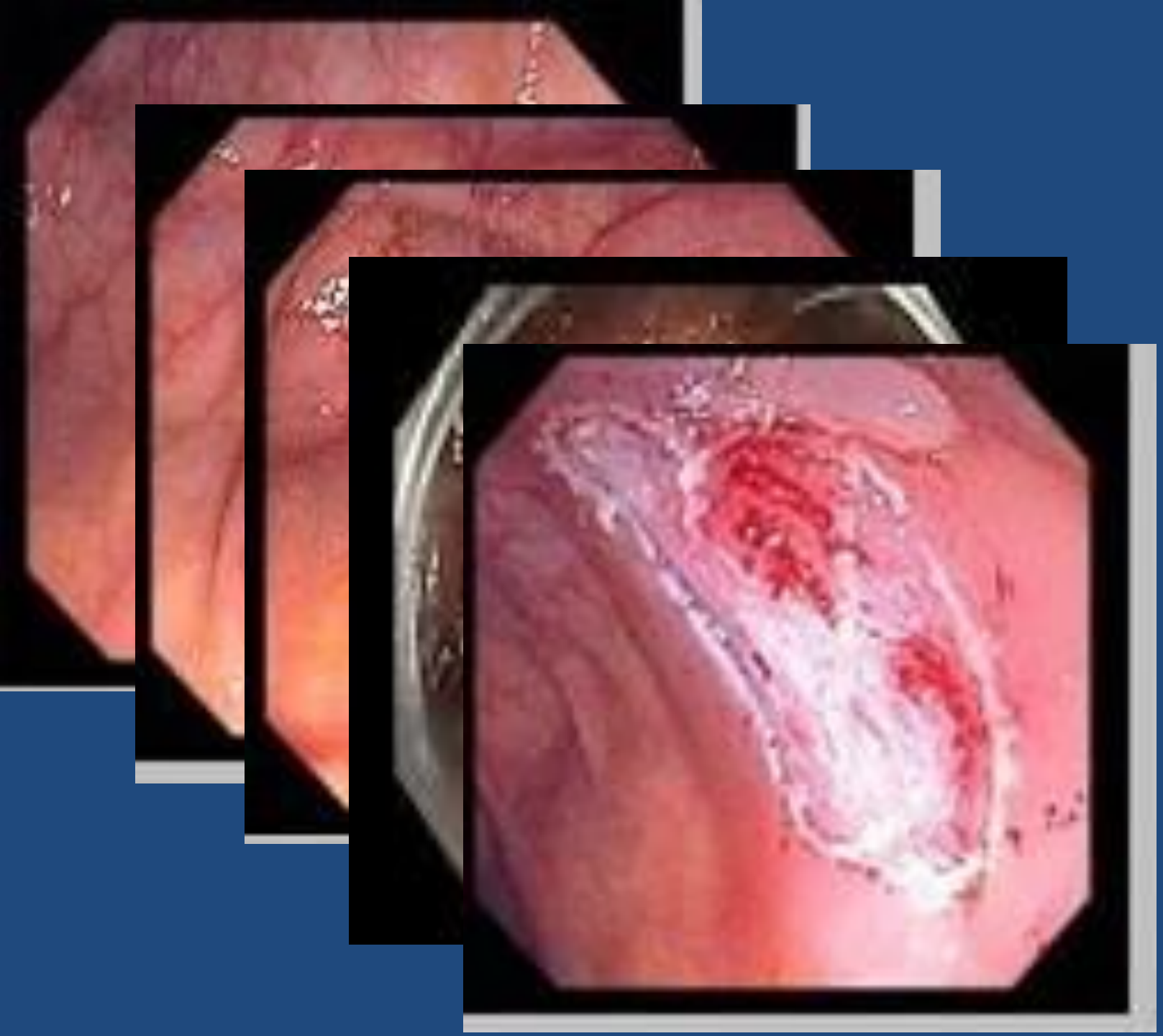


Polypectomy resection margin:

The requisite margin is a matter of much debate due to the risk of luminal recurrence. This ranges from 0% to 2% in malignant polyps with a margin of resection greater than 1 mm. However, when the resection margin is involved, or < 1 mm, the percentage of relapse ranges between 21% and 33%. Subsequently, many authors believe that a resection margin of ≥ 2 mm is ideal

(Butte et al; *Dis Colon Rectum 2012)*





EMR is a safe and effective treatment for large difficult polyps with an overall complication rate of 7%. It avoided surgery in 93% of cases with substantial cost savings. EMR of large and difficult benign polyps should be the new standard of care.

Hindawi Publishing Corporation
Diagnostic and Therapeutic Endoscopy
Volume 2013, Article ID 412936, 5 pages
http://dx.doi.org/10.1155/2013/412936

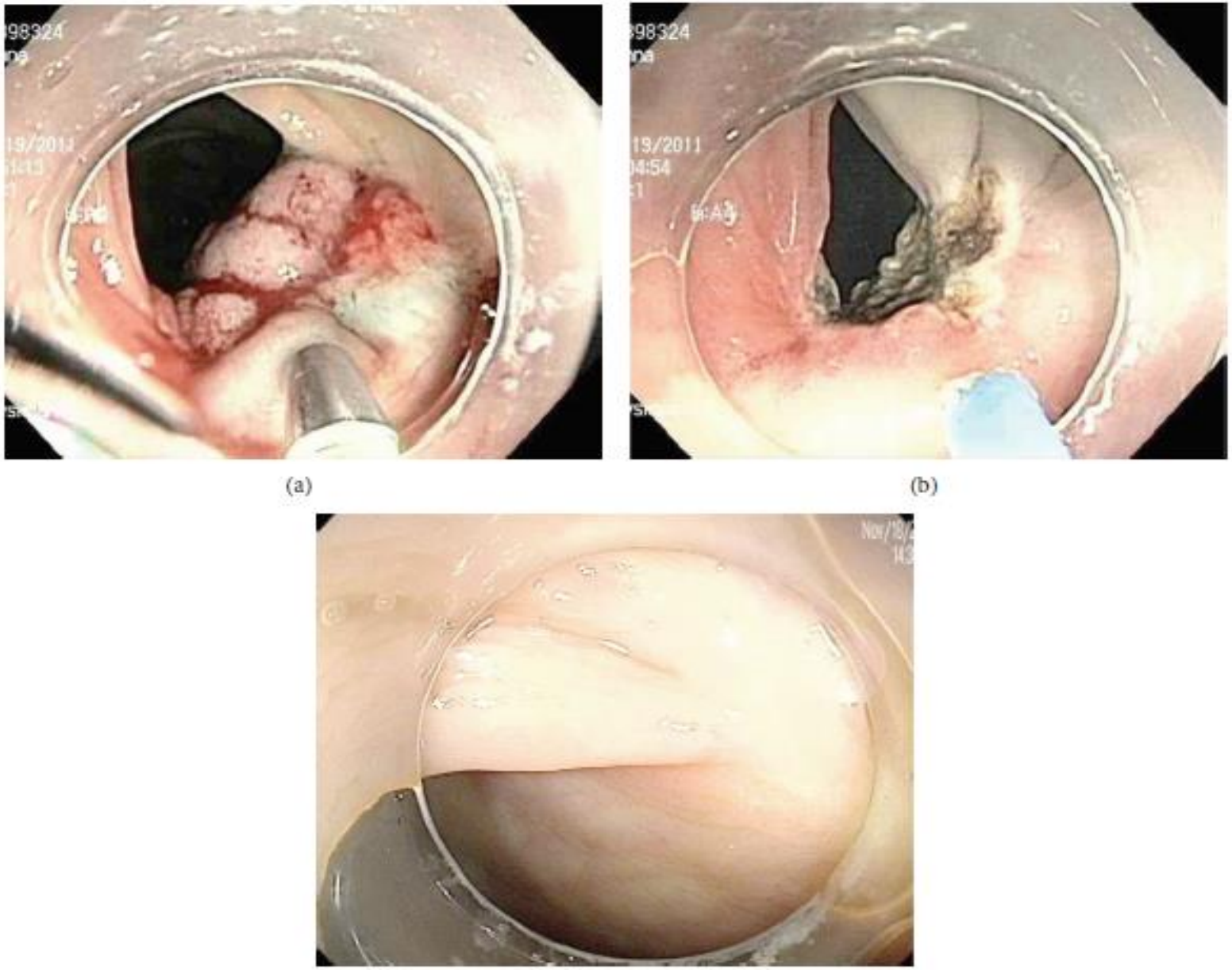
Hindawi

Research Article

Endoscopic Management of Nonlifting Colon Polyps

Shai Friedland,[1,2] Andrew Shelton,[3] Shivangi Kothari,[1] Rajan Kochar,[1] Ann Chen,[1] and Subhas Banerjee[1]

Despite limitations of the study as limited number of patients, single endoscopist, retrospective design, and short term followup, however, we suggest that when faced with a lesion that is nonlifting due to a prior intervention, it may be reasonable to proceed with endoscopic treatment if the patient is adequately informed of the risks, and the endoscopic team is sufficiently experienced



(a) (b)

(c)

FIGURE 1: (a) Sigmoid villous adenoma. Piecemeal polypectomy was attempted twice at an outside facility prior to referral. The lesion demonstrates nonlifting with indigo carmine stained saline raising only the normal mucosa adjacent to the lesion. (b) Appearance of the site immediately after polypectomy and argon plasma coagulation. (c) There was no recurrence on follow-up procedures.

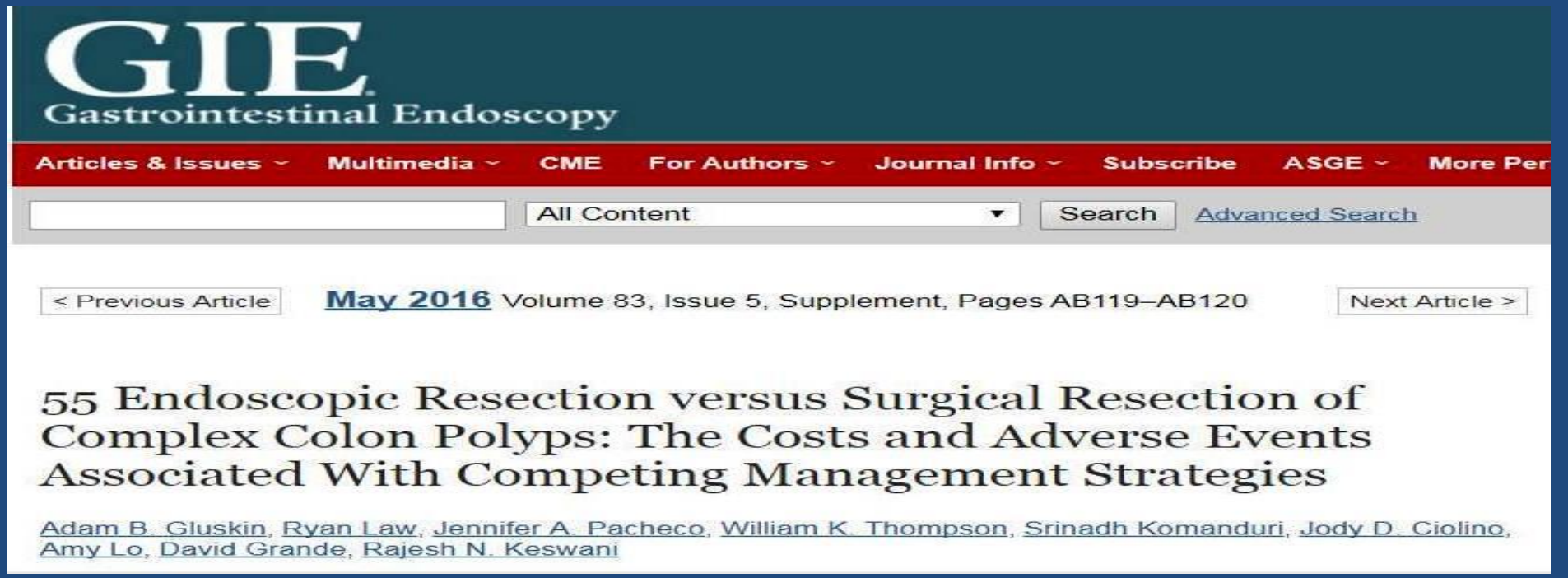
Gastroenterology & Endoscopy News

In this news
NOVEMBER 9, 2015

Endoscopic Resection Favored Over Surgery For Complex Colon Polyps

by Caroline Helwick

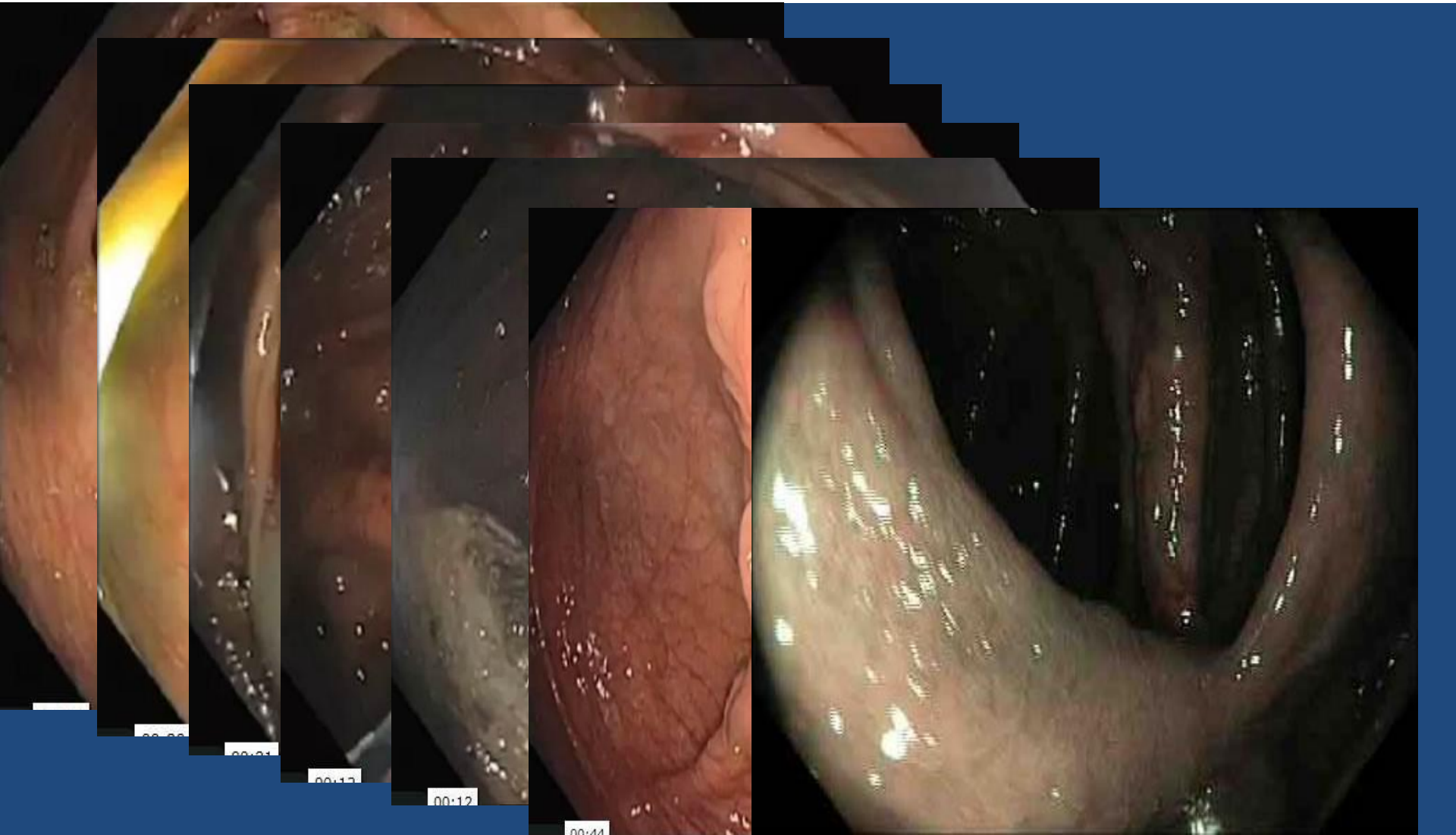
For smaller lesions, mucosal resection (EMR) is very promising, potentially sparing patients an open or laparoscopic surgery. For larger lesions, submucosal dissection [ESD] may provide a similar opportunity. Neither EMR nor ESD preclude subsequent surgical resection if required. For many polyps the endoscopic approach can be curative, tend to reduce cost, lower the observed adverse event rate and, most importantly, spare patients a significant surgery and partial colectomy,"



Although endoscopic resection is a safe and effective treatment for benign complex colorectal polyps ('complex polyps'), surgical resection remains prevalent despite limited outcomes data.

Removing a Large Flat Colon Polyp by EMR without Surgery

By Jim Sease — 6/8/2017 (revision)



Annals of Gastroenterology

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Published online 2016 Jul 28. doi: 10.20524/aog.2016.0075
PMCID: PMC5049559

Prophylactic clipping and post-polypectomy bleeding: a meta-analysis and systematic review

Christine Boumitri,[a] Fazia A. Mir,[a] Imran Ashraf,[a] Michelle L. Matteson-Kome,[a] Douglas L. Nguyen,[b] Srinivas R. Puli,[c] and Matthew L. Bechtold[a]

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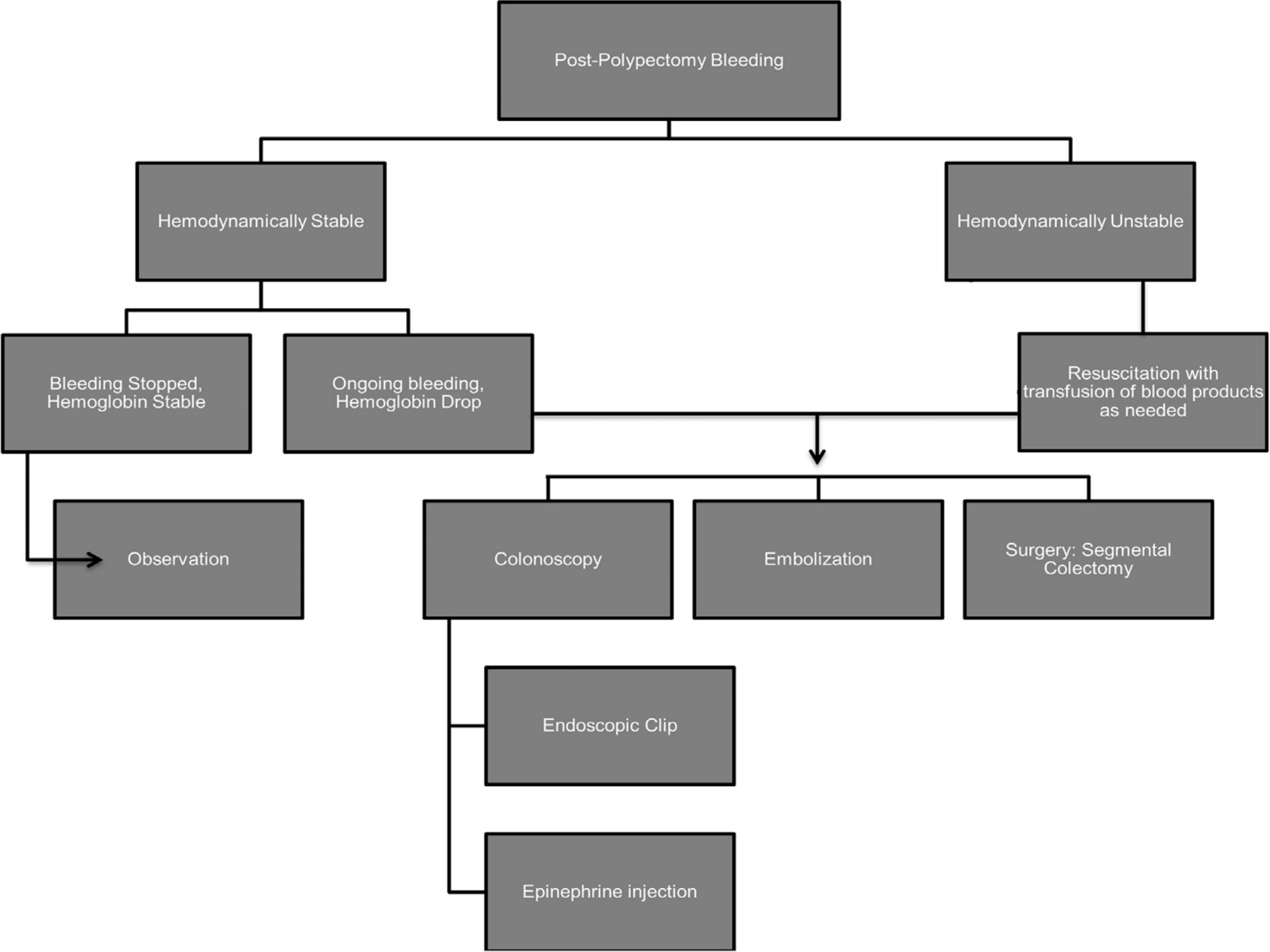
Summary Box

What is already known:

- *Post-polypectomy bleeding is a complication endoscopists' would prefer to prevent*
- *Prophylactic clipping before and after polypectomy has become widely used, although the literature is lacking regarding the efficacy of such a practice*
- *Prophylactic clipping before or after polypectomy remains controversial*

What the new findings are:

- *Prophylactic clipping does not appear to affect the rates of post-polypectomy bleeding for all polypectomies*
- *Given the cost and lack of efficacy, prophylactic clipping should not be routinely used in all polypectomies*
- *In polyps >2 cm, prophylactic clipping may or may not be beneficial in preventing post-polypectomy bleeding and further studies are required to fully assess this population*


Post-Polypectomy Bleeding
Hemodynamically Stable
Hemodynamically Unstable
Bleeding Stopped, Hemoglobin Stable
Ongoing bleeding, Hemoglobin Drop
Resuscitation with transfusion of blood products as needed
Observation
Colonoscopy
Embolization
Surgery: Segmental Colectomy
Endoscopic Clip
Epinephrine injection

Therapeutic Advances in Gastroenterology Original Research

Endoscopic management of iatrogenic perforations during endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD) for colorectal polyps: a case series

Dimitrios Pissas, Efthymios Ypsilantis, Savvas Papagrigoriadis, Bu'Hussain Hayee and Amyn Haji

Ther Adv Gastroenterol
2015, Vol. 8(4) 176–181
DOI: 10.1177/1756283X15576844

Conclusion: Surgery is no longer the first choice in the management of iatrogenic perforations during EMR and ESD for colorectal polyps; in selected patients with small perforations and minimal extraluminal contamination, conservative management with application of endoscopic clips, antibiotics and close patient monitoring constitute a safe and effective treatment option, avoiding the morbidity of major surgery.

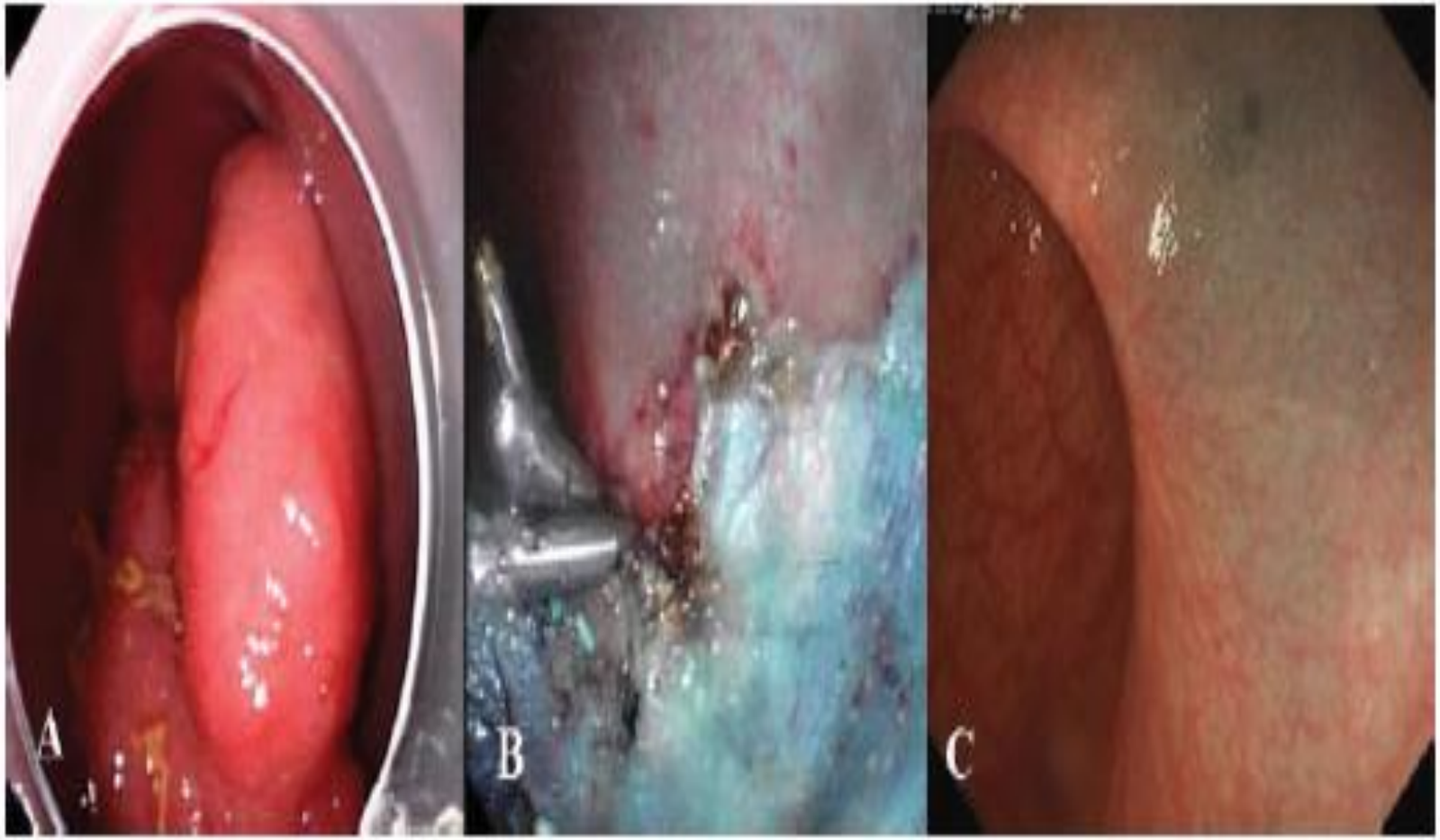


Figure 2. (A) Lateral spreading tumour granular-mixed nodular type lesion in the sigmoid colon. (B) During the EMR, a 1 cm perforation was noted and was subsequently closed with Boston Resolution Through The Scope Endoclips®. (C) Six months follow-up flexible sigmoidoscopy after the EMR, no evidence of recurrence or stenosis.

EMR, endoscopic mucosal resection.

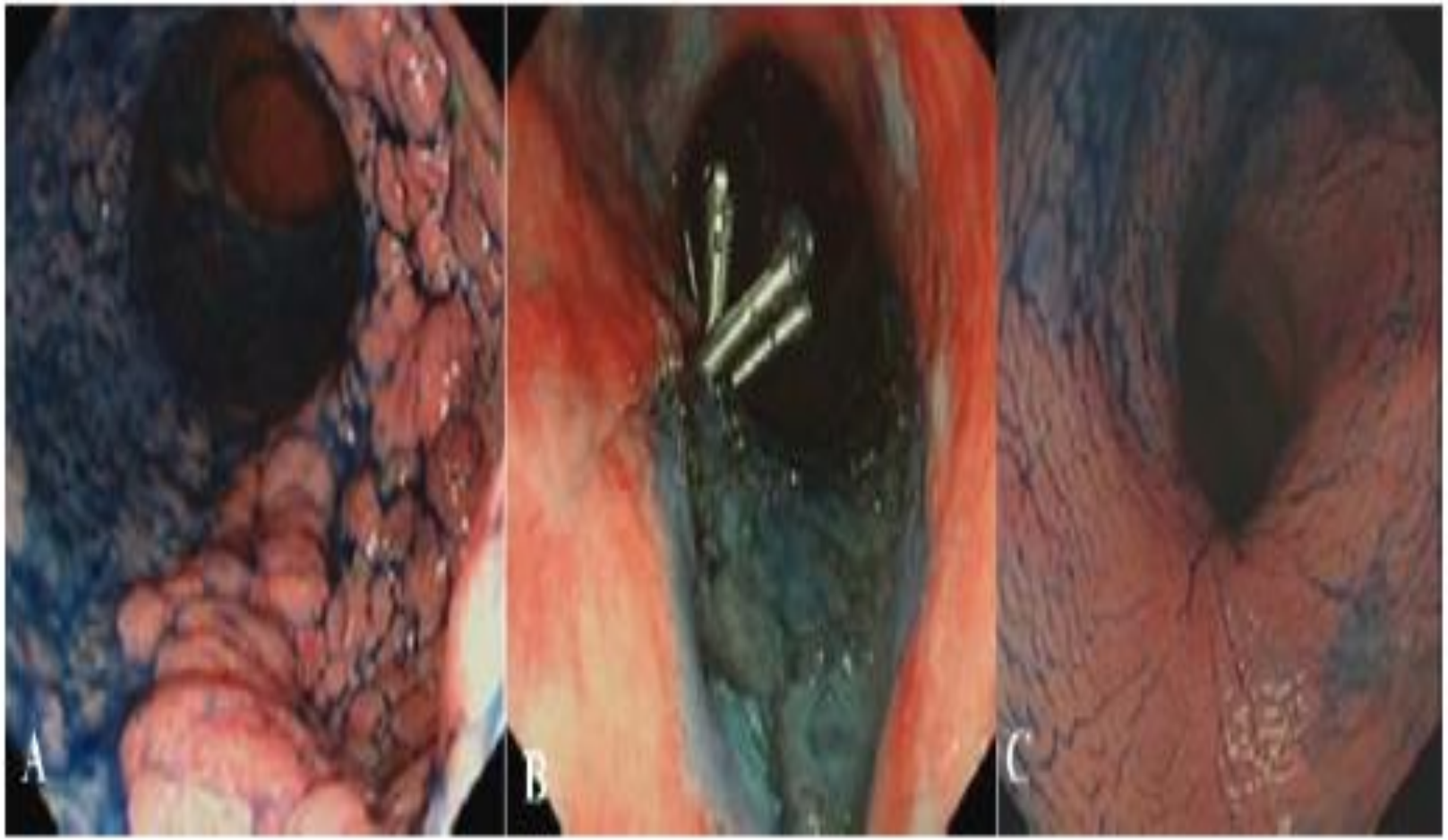
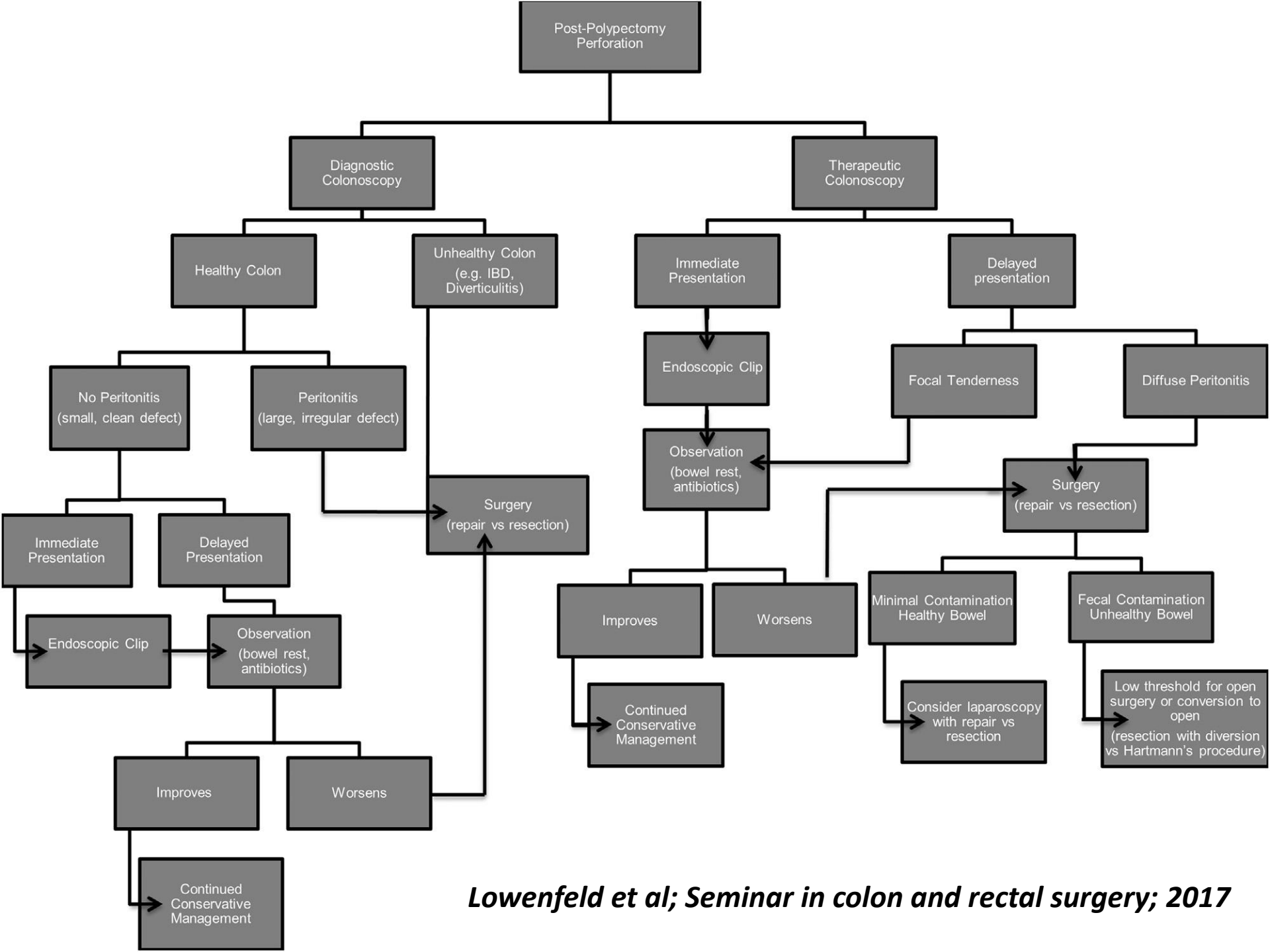


Figure 3. (A) A granular homogenous lateral spreading tumour in the sigmoid colon 8 cm length, occupying 60% of the circumference, tubular adenoma with low grade dysplasia. (B) A 2 mm perforation was noted, closed with four Boston Resolution Through The Scope Endoclips®. (C) Six months follow-up flexible sigmoidoscopy.



Lowenfeld et al; Seminar in colon and rectal surgery; 2017

Surgical

Familial Adenomatous Polyposis: Challenges and Pitfalls of Surgical Treatment

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Clin Colon Rectal Surg 2012;25:83–89.

Original article

doi:10.1111/codi.12823

Colorectal polyposis: clinical presentation and surgical treatment

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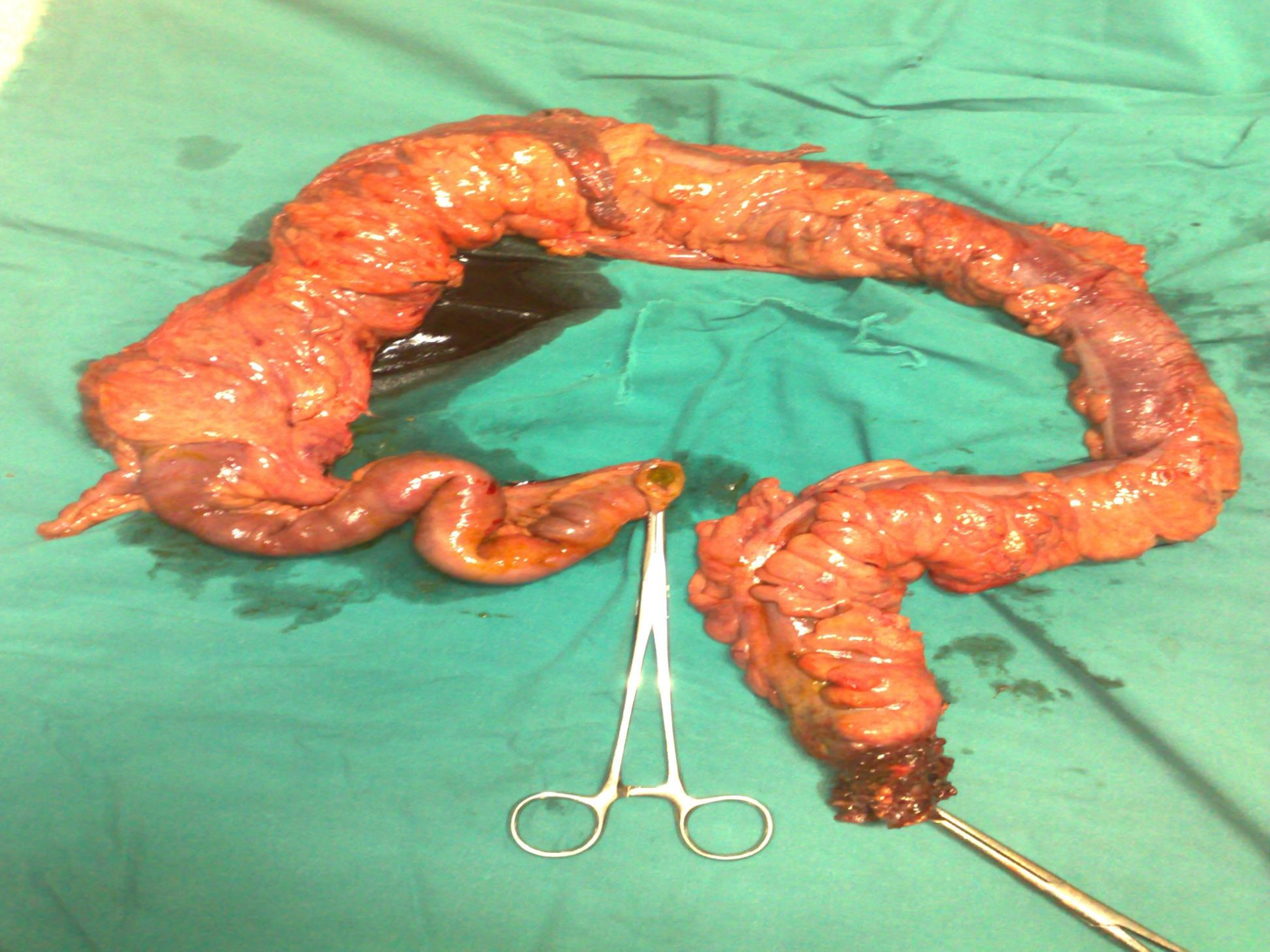
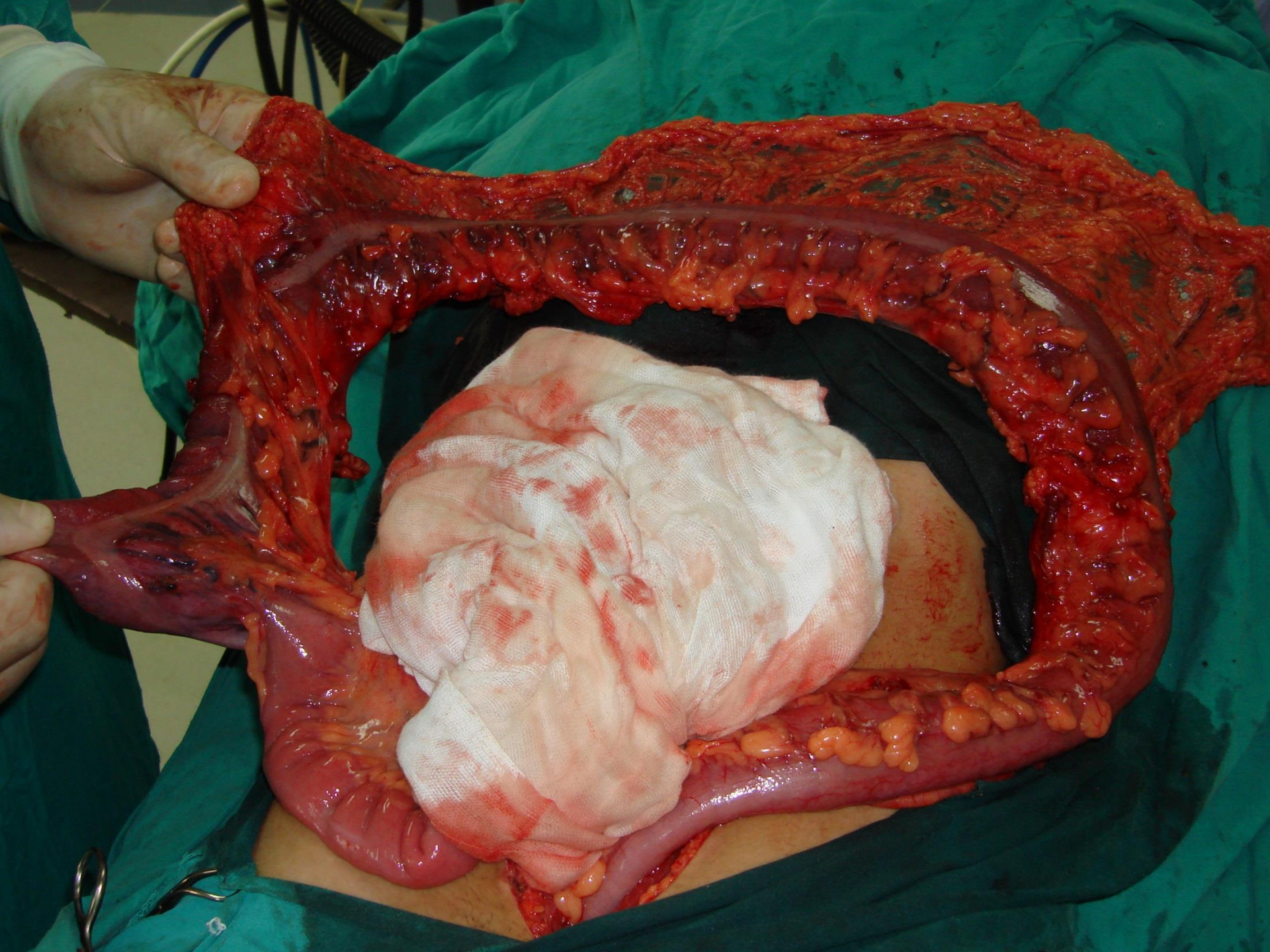
Colorectal Disease ª 2014. 17 (Suppl. 1), 61–66

There is general agreement that patients with FAP should undergo prophylactic colectomy. The surgical options include total colectomy with ileo-rectal anastomosis (IRA) and restorative proctocolectomy (RPC) with an ileo-pouch anal anastomosis (IAA). There are no guidelines for the timing of surgery. Considering that the risk of cancer becomes clinically significant after 18– 20 years of age and increases over time [4,5], surgery is usually planned after the legal age, unless large polyps or severe dysplasia are found before that time.

Urso et al; Colorectal Disease.2014





Laparoscopic approach

Advantages of safety, trauma reduction, improved short-term outcome, less intraoperative blood loss, less postoperative pain, a reduced incidence of small bowel obstruction and incisional hernia formation, and shorter hospital stay. In addition, the cosmetic benefits are relevant in this young population. Another question is the development of desmoid tumours after surgery. Moreover, the advantages of minimally invasive surgery is supported by fast-track rehabilitation. Some surgeons advocate a **hand-assisted techniques** using a hand port with shorter learning curve because some maneuvers are similar to those used in open surgery. The first **single-incision laparoscopic restorative proctocolectomy** was reported in 2010, and later studies showed that this can be safely performed with short-term results comparable to conventional laparoscopy with a significant reduction in the operation time and blood loss.

Urso et al; Colorectal Disease.2014

Journal List › JSLS › v.13(4); Oct-Dec 2009 › PMC3030791

JSLS Journal of the Society of Laparoendoscopic Surgeons

JSLS. 2009 Oct-Dec; 13(4): 555–559.
doi: 10.4293/108680809X12589998404407

PMCID: PMC3030791

Laparoscopic Surgery for Colorectal Polyps

Refael Itah, MD, Ron Greenberg, MD, Smadar Nir, MD, Eliad Karin, MD, Yehuda Skornick, MD, and Shmuel Avital, MD✉

CONCLUSION

Laparoscopic colectomy for endoscopic nonresectable colonic polyps is generally a safe procedure associated with a low rate of conversions and complications. The incidence of malignancy documented on final pathology may be high and cannot be ruled out before surgery. Results emphasize the fact that colonic lesions with benign pathology that have an endoscopic benign polypoid appearance may also harbor an invasive cancer. This is a major consideration when operating on these patients, mandating strict adherence to surgical oncological principles with adequate lymph node harvesting and wound precautions. Surgeons experienced with laparoscopy for colorectal cancer should be involved in these procedures.

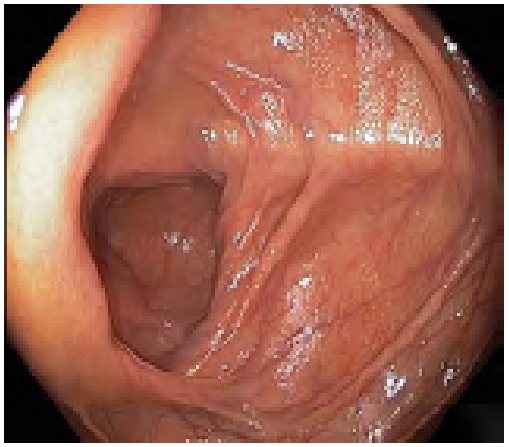
Summary

- Colonoscopy is operator-dependent, and quality varies widely
- Polyp miss rates highest on right
- Impact: population screen capture > quality/skill > ancillary tools

Clear opportunities to improve polyp detection

Methods Intended to Enhance ***Surface Exposure***

- Insertion to cecum
- Bowel prep & cleansing
- ~~Wide angle endoscopy~~
- Cap-assisted colonoscopy
- Through-the-scope retroscopes
- Retroflexion



Better views of flexures & prox sides of folds?

Methods Intended to Enhance ***Lesion Discrimination***

Tools

- Chromoendoscopy
- Narrow band imaging (NBI)
- High definition (HD)

Opportunity/need for optical innovations that better highlight flat/depressed lesions

Individual Performance/Skill

- Mindfulness, recognition clues, education
- Optimal metrics

Take home massages

- Colonoscopy is a complex task, meticulously done by expert or at least under his supervision.
- Done with good preparation, high resolution facilities, and the colon is thoroughly inspected during scope retrieval
- All tactics must be practiced during endoscopy as NBI imaging, cap-assisted colonoscopy (CAC), retroflexion, magnifying techniques, chromoendoscopy, tattooing and marking lesions, and different biopsy techniques
- Effort must be done for possibility of treatment if feasible

<u>But gastroenterologists and endoscopist : please consult GIT surgeons specially in challenging and debatable situations:</u>

*** Big polyp** *** Flat non-lifted polyps**

*** Large number, disseminated** *** recurrent polyps**

*** Complication, or suspected complications**

THANK YOU

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