



Appreciating Endoscopic and Surgical Team Collaborations in the Removal of Complex Polyps

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1 Background

Benign appearing polyps that cannot be removed during a colonoscopy may require a bowel resection to adequately assess for cancer pathology. With advanced technologies and clinical skills, experts in the field of gastroenterology and surgery can now partner in a less invasive combined endoscopic and laparoscopic surgery (CELS).

2 Problem

Some polyps identified during a colonoscopy cannot be effectively and thoroughly removed using endoscopic techniques. Surgical intervention is needed for polyp removal and assessment for cancer pathology.

3 Purpose

To educate peers on the patient experience, technique, and the collaboration of the endoscopy nurse and other interdisciplinary team members in Combined Endoscopic Laparoscopic Surgery (CELS).

4 Patient Selection

Patients with large and/or complex polyp(s) :

- unable to be removed during a colonoscopy
- with previous benign endoscopic biopsies
- with a benign endoscopic appearance
- able to undergo surgical intervention safely

Reference

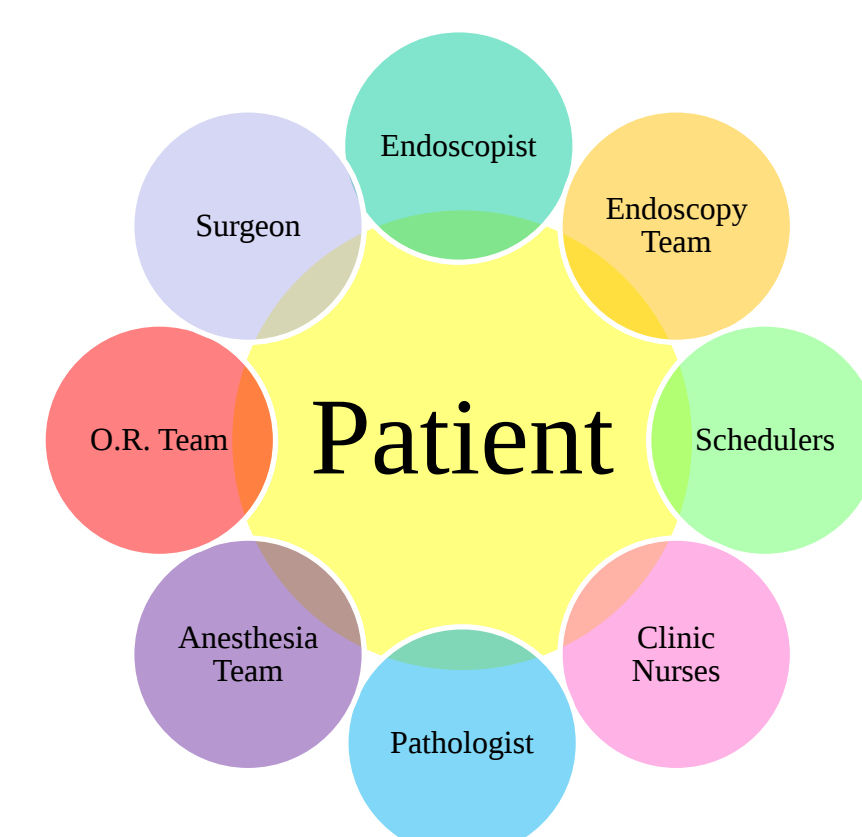
Garrett, K. A., & Lee, S. W. (2013). The Evolution of Minimally Invasive Colorectal Surgery Combined Endoscopic–Laparoscopic Approaches. *Seminars In Colon And Rectal Surgery*, 32-35. doi:10.1053/j.scrs.2012.10.009



5 Pre-Procedure Planning

Collaboration between multidisciplinary teams includes:

- Physician explanation and education to patient regarding polyp status and possible plans of care including surgical intervention
- Scheduling of CELS
 - Consult with surgeon
 - Anesthesia consultation/evaluation
 - Surgery room with required equipment
 - Collaboration with endoscopy staff to provide personnel and equipment
- Preoperative evaluation by anesthesia
- Bowel preparation for CELS
- Admission intake for possible post surgery hospital stay
- Education to patient and family/support person(s)



Multidisciplinary
Patient-Centered
Care

6 Intraoperative Planning

It is imperative for the OR team and Endoscopy team to plan ahead for the procedure. The following is an abbreviated list for respective teams to consider:

One week prior :

- Operating room service leader receives upcoming procedure schedule, arranges for adequate staff, location, and instruments. Securing large surgical suite to accommodate added equipment is key.
- Service leader discusses plan with Endoscopy team charge nurse to coordinate estimated time, instrument needs, and staffing.

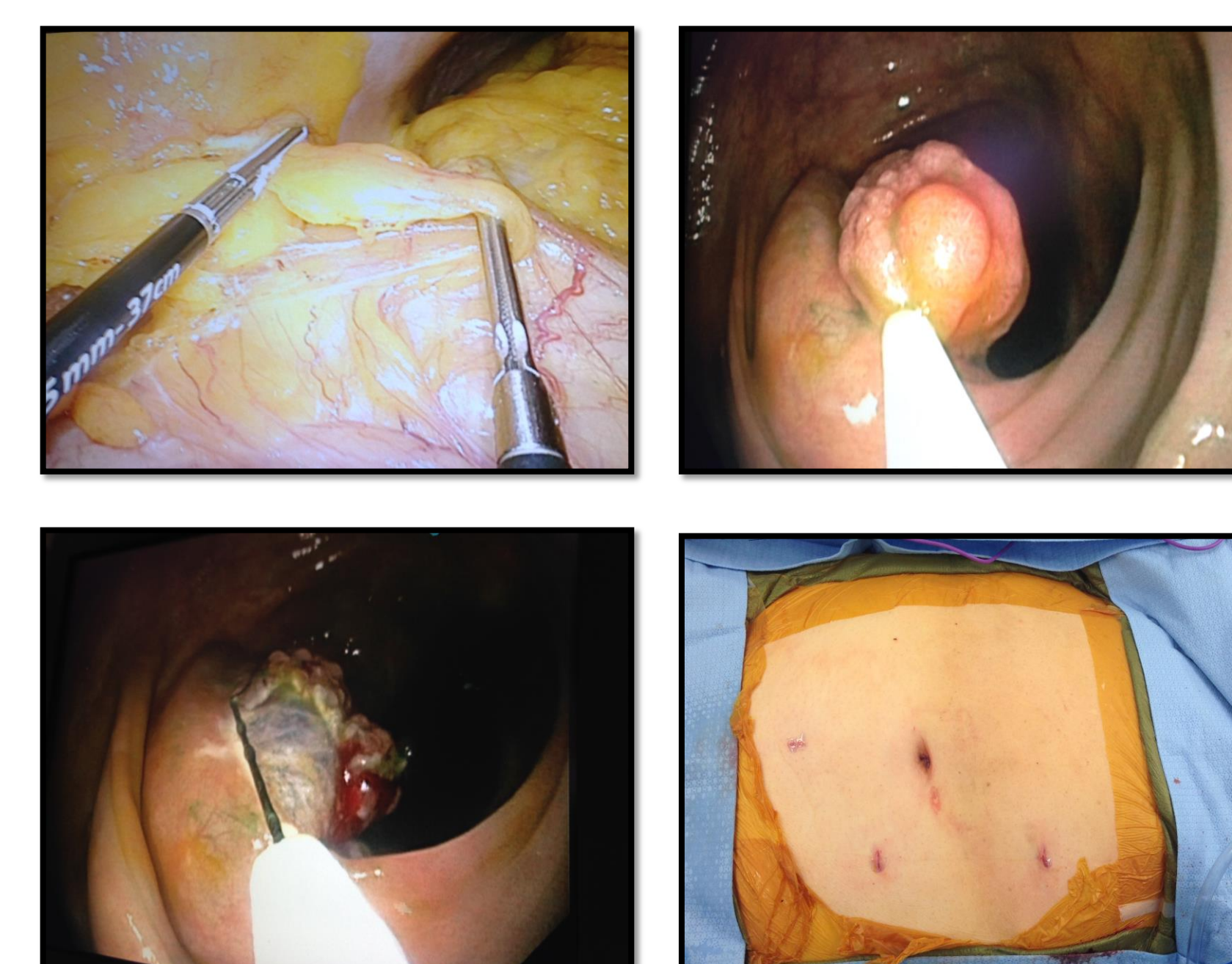
Day of:

- Operating room service leader and charge nurse communicate previously discussed plan and make revisions if needed. Antibiotics are ordered.
- Endoscopy charge nurse arranges for travel endoscopy cart and needed equipment to be set up in operating suite. Endoscopy technician and RN updated and plan of care confirmed.

7 The Procedure - A Case Study

A 67 year old female with a complex, multi-lobular, tubular adenomatous hepatic flexure polyp found on routine colonoscopy. There is no evidence of invasive carcinoma. However, due to the risk of these polyps progressing into cancer (approximately 15%), options for treatment were discussed in detail.

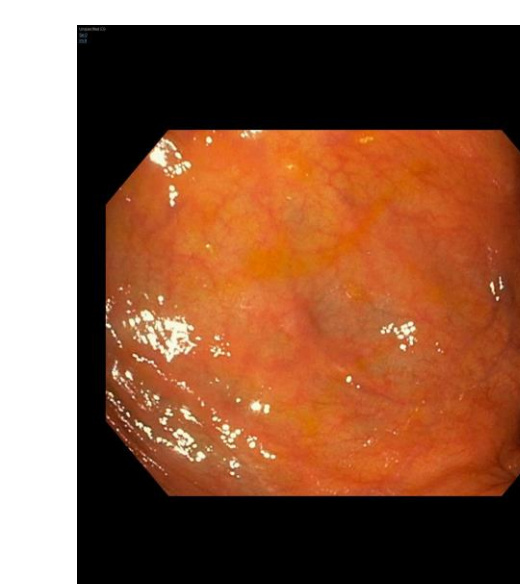
- Informed consent obtained for CELS as well as for possible hemicolectomy if frozen section results are malignant.
- Patient prepped previous day with standard colon prep solution. Preoperative nursing and anesthesia assessments performed.
- IV access obtained, lab results reviewed, and antibiotics given. Patient to operating suites and placed in lithotomy position, abdomen prepped and draped in sterile fashion.
- Surgical pneumoperitoneum was established and surgical trocars strategically placed. The colon was mobilized by colorectal surgeon and team to enhance visualization of polyp.
- Endoscopist performed digital rectum exam and perianal inspection which were within normal limits. Endoscopist continued with colonoscopy and identified the polyp of interest.
- Submucosal bleb created to lift polyp for Endoscopic Mucosal Resection (EMR). Polyp removed with hexagonal snare in piecemeal fashion and tissue submitted for frozen section and further pathology.
- Frozen section revealed a diagnosis of adenoma without evidence of invasive carcinoma. EMR site cleared by surgical team with underwater leak test which showed no bubbles.
- No further masses or polyps were identified. Trocars were removed and access sites closed. Patient was received by the Post Anesthesia Care Unit (PACU) and was discharged the same day without complications.



8 Patient Follow Up

Repeat colonoscopy performed in the Endoscopy Center six months post CELS.

- Residual polypoid tissue at hepatic flexure removed with snare.
- Small transverse colon polyp identified and removed.
- Diminutive polyp at sigmoid colon visualized and removed.
- Pathology results show no evidence of dysplasia or invasive adenocarcinoma.
- Plan : repeat surveillance colonoscopy in one year .



9 Challenges and Successes

Collaboration between both teams provided opportunities to develop solutions and efficiency enhancements for future cases:

- Room size: Large surgical suite not available. *Teams creatively placed endoscopic equipment while maintaining surgical sterility. Larger room requested for future cases.*
- Sterility: Patient prepped for possible surgery. Endoscopy is not sterile. *Close monitoring of sterile sites and education from O.R. team to Endoscopy team provided to maintain patient and staff safety.*
- Equipment: Endoscopy cart with rolling CO2 for insufflation, which added time and extra equipment to case prep. *CO2 and cart-sized insufflation equipment secured to travel cart for future cases.*
- Documentation: Two different systems are used for documenting surgery and endoscopy. *Testing of seamless flow between documentation systems confirmed.*
- Patient Outcomes:
 - Potential malignancy eliminated with polyp removal
 - Minimal recovery time
 - No need for hospital stay
 - Minimal disturbance of bowel function
- Patient voiced complete satisfaction of procedure process and attentive nursing care