GLOBAL CONGRESS ON MIGS

SYLLABUS

Surgical Tutorial 3 - Endometriosis of the Bowel: When Anatomy Meets Surgery
Professional Education Information

Target Audience
This educational activity is developed to meet the needs of surgical gynecologists in practice and in training, as well as other healthcare professionals in the field of gynecology.

Accreditation
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Surgical Tutorial 3-Endometriosis of the Bowel: When Anatomy Meets Surgery

Co-Chairs: Simone Ferrero and Assia A. Stepanian

Faculty: Paulo Ayroza Ribeiro, Horace Roman

This course provides a comprehensive review of the anatomical and surgical principles of the treatment of bowel endometriosis. Nowadays, the surgical treatment of bowel endometriosis is usually performed by laparoscopy or by robotic surgery. The course will describe the techniques used to treat bowel endometriosis, including shaving, disk excision, or segmental bowel resection. Videos will be used to illustrate the techniques used to treat bowel endometriosis. High-quality evidence will be provided to facilitate the procedure's choice based on the nodules' characteristics (such as size, number of lesions, depth of infiltration in the intestinal wall). The course will also provide a detailed description of the anatomical landmarks and surgical tips and tricks that allow to decrease the risk of intraoperative and postoperative complications.

Learning Objectives: At the conclusion of this course, the participants will be able to: 1) Choose the appropriate surgical technique to treat bowel endometriosis; 2) describe the different techniques used to treat bowel endometriosis; and 3) describe the anatomical landmarks and surgical tip and tricks during surgery for bowel endometriosis.

COURSE OUTLINE

2:00 pm Welcome, Introduction and Course Overview
2:05 pm Classification, Locations, and Management of Bowel-Involving Endometriosis A. Stepanian
2:15 pm Choice of the Surgical Approach on the Basis of the Location on Bowel Endometriosis S. Ferrero
2:25 pm Anatomy of the Retrorectal Space: A Freeway to Functional Surgery P. Ayroza Ribeiro
2:35 pm Endometriosis Involving the Low/mid Rectum: Specific Anatomy Requires Specific Approaches H. Roman
2:45 pm Questions & Answers
3:00 pm Adjourn
PLANNER DISCLOSURE
The following members of AAGL have been involved in the educational planning of this workshop (listed in alphabetical order by last name).
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FACULTY DISCLOSURE
The following have agreed to provide verbal disclosure of their relationships prior to their presentations. They have also agreed to support their presentations and clinical recommendations with the “best available evidence” from medical literature (in alphabetical order by last name).
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Personal fees for involvement in masterclasses, workshops, webinars and clinical research: Olympus, Ethicon, PlasmaSurgical Ltd, Braun, Karl Storz, Gedeon Richter, Endodiag, Nordic Pharma
Assia A. Stepanian, MD
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Content Reviewers have nothing to disclose.
Asterisk (*) denotes no financial relationships to disclose.
All relevant financial relationships noted have been mitigated.

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Linda Michels, Executive Director, AAGL*
PERTINENT FACTS ABOUT ENDOMETRIOSIS:

- Endometriosis affects approximately 9-15% of all women of reproductive age and 20-60% of women with infertility.
- DIE is seen in 1-4% of women of reproductive age and 20% of women with endometriosis.
- Endometriosis of the bowel is seen in 8-12% of women with DIE; bowel endometriosis is located in the rectosigmoid region in 90% of cases.
- Recurrence is reported as 21.5% at 2 years and 40–50% at 5 years following conservative surgery.
- The malignant transformation of endometriotic lesions is estimated between 0.3% and 1% of endometriosis cases. KRAS mutation, commonly found in EAOCs, may be found in deep infiltrating endometriosis.
- Despite the fact that for more than 150 years scientists from all over the world have explored various hypotheses in search of the culprits of this disease, the etiology and pathogenesis of endometriosis to this day remain poorly understood.


Tsenov, D, Filipov S, Akush Ginekol (Solva); 1994; 33(2): 24-7

Endometriosis and endometriosis-associated cancers: new insights into the molecular mechanisms of ovarian cancer development
Amy Dawson,1 Marta Llauradó Fernandez,1 Michael Anglesio,1,2 Paul J Yong,1 and Mark S Carey 1,3Ecancermedicalscience. 2018; 12: 803.
Published online 2018 Jan 25. doi: 10.3332/ecancer.2018.803

Endometriosis - surgical disease

In the absence of effective pathogenic therapy, surgical treatment of endometriosis is the method of choice.

THE “MATRIX” OF ENDOMETRIOSIS.

- SYMPTOMS: may vary widely depending on the location and extension of endometriosis and impact quality of life
- ORGAN FUNCTION: inflammatory disorders, menstruation, and problems of the disease
- OBSTETRICAL RISKS: surgical trauma, tissue adhesions, and loss of uterine functions
- OBSTETRICAL RISK: surgical trauma, tissue adhesions, and loss of uterine functions
- RECURRENT RISK: surgical obliteration, uterine function, recurrence
- MALIGNANT COMPLICATIONS: intraperitoneal endometriosis, ovarian endometriosis
- FERTILITY: predominantly affects women of reproductive age
- PREVALENCE: of ovary-endometriosis is 1-4%
- CIVIL RISK: of ovary-endometriosis is 1-4%
- COMBINED EXTENDED PATHOLOGY, other known etiologic factors:
- Genetic, pathologic, trophoblastic, digestive pathology
Electroencephalography of patients with different locations of endometriosis demonstrates activation of different structures.

65% of women with retro-cervical lesions have changes in the activity of the limbic-reticular complex.

70% of women with ovarian endometrioma have changes in the activity of the thropho-tropic synchronizing structures of the brain stream.

Thropho-tropic system is parasympathetic nervous system, responsible for rest and relaxation after a stress response.

Difficulty in inhibiting the response to stress.

Classification (more than 10 classifications have been offered over the past 50 years.)

- By the origin (D. Redwine, 1987 "Mulleriosis")
- By the depth of invasion (D. Martin, 1989)
- Classification of extragential endometriosis (J. Rock et al., 1989)
- By the location and the surface of involvement, associated adhesive process (Rasrm, 1996)
- By anatomic involvement and the extent of surgical excision (A.A. Acosta, 1973)
- By the location and the surface of involvement, associated adhesive process (Rock and Larson, 1986)
- By anatomic involvement and the extent of surgical excision (Buttram et al., 1978)
- Classification of extragential endometriosis (Rock et al., 1989)

Endometriosis fertility index (EFI)
Purpose:

To define the correlation between the extent of the disease and clinical recommendations regarding the selection of the access and extent of surgery and generation of a postoperative rehabilitation program with a focus on retro-cervical endometriosis.

Adamyan, L.V., 1991


ADAMYAN CLASSIFICATION OF RETROCERVICAL ENDOMETRIOSIS

STAGE I

ADAMYAN STAGE I: ENDOMETRIOTIC LESIONS ARE CONFINED TO THE RECTOVAGINAL CELLULAR TISSUE IN THE AREA OF THE VAGINAL WALL

Located: posterior to the cervix at the level of the internal cervical os or posterior vaginal fornix.

Not growing through the vagina or peritoneum.

Palpated as sharply painful micronodular fixed structure.

Surrounding structures: Ureter, hypogastric nerve, vessels, rectum, are not continuously involved.

Surgical access: Laparoscopic or vaginal. Laparoscopy allows for full assessment of pelvis status and conduct chromo-pertubation.

No stents are needed. Pelvic sidewall dissection is not needed.

Surgical approach: Lateral-to-medial approach allows for clearer access to the cellular tissue beyond the lesion. Staying medial to uterosacral ligaments. Careful handling cervical endometriosis excision (avoiding damage to the cervix).

Energy Sources: Various sources of energy can be used: Lasers and bipolar instrumentation. Establishment of visualization. If concomitant pathology exists work on deeper structures first in order to minimize contamination of the surgical visualization by the oozing.

Adhesion prevention: Humidity or adhesion barrier when finished.

Complete excision is expected at this stage.

VAGINAL EXCISION OF RETROCERVICAL ENDOMETRIOSIS

ADAMYAN STAGE I: ENDOMETRIOTIC LESIONS ARE CONFINED TO THE RECTOVAGINAL CELLULAR TISSUE IN THE AREA OF THE VAGINAL WALL

Leila Adamyan, 1991

Development of endometriosis from less to more severe forms is not a rule!
ADAMYAN CLASSIFICATION OF RETROCEVICAL ENDOMETRIOSIS, STAGE III

Lesions: Prognostic signs of the formation of the adenomyoma and adenomyosis of various size. Some lesions are located in close proximity to the pelvic side walls, retroperitoneum and rectum. In this stage, the lesions involve the uterosacral ligaments and the uterine serosa. The fibro-adhesive process involves all surrounding tissues: posterior aspect of the uterus (isthmic region, sigmoid colon, laterally extending process). Retroperitoneal dissection takes place if endometriosis penetrates and involves the tissue surrounding the ureters.

Stage III: Lesions spread into the uterosacral ligaments and the rectal serosa and muscularis.

- 4320 - endometrioma
- 242 - endometrioma rupture in adolescence
- 58% of patients with combined external, endometriosis, and endometrioma forms
- 92 nodules adenomyosis
- 7% had previous surgery
- 75% had previous surgery
- 35% of patients with combined external, endometriosis, and endometrioma forms
- 28% after endometrioma, 32% after DIE
- 35% of patients with combined external, endometriosis, and endometrioma forms
- 1-2% had genital malformations
- 75% had previous surgery
- 92 nodules adenomyosis
- 35% of patients with combined external, endometriosis, and endometrioma forms
- 1-2% had genital malformations
- 28% after endometrioma, 32% after DIE

ADAMYAN CLASSIFICATION OF RETROCEVICAL ENDOMETRIOSIS, STAGE IV

Stage IV: The rectal wall (rectal mucosa), rectosigmoid zone, and rectouterine peritoneum are totally obliterated.

ONCOLOGY AND ENDOMETRIOSIS:

Endometriosis is not a malignancy; small risk of malignant transformation in high-risk groups exists and can be minimized.

- The question about possible malignization of endometriosis is still under discussion despite low malignization frequency (0.15%).
- This issue is most important for postmenopausal women, because some forms of malignancy may cause a postmenopausal adenocarcinoma of the endometrioid ovarian cancer.

- It should be remembered that factors of endometriosis and ovarian cancer development are common, including obesity, administration of estrogen, age of first delivery, low frequency of OCs.

- Groups of high risk:
  - Non-regular bout of endometriosis (postmenopausal estrogen, average AGE: 51 YEARS)
  - Recurrent endometriosis with overlying history (more than 15 years)
  - Family history of ovarian endometriosis, obesity
  - Expression clinical symptoms of hormonolysis
  - Unopposed HRT in a patient with endometriosis
  - Typical forms: endometriomas and DIE

STAGE IV

- 89% - subset of patients with endometriosis (a)
- and healthy women (b)

ENDOMETRIOSIS SURGERY, LEILA ADAMYAN AND THE TEAM, 2017

RECURRENT AND PERSISTENCE OF ENDOMETRIOSIS:

Endometriosis lesions - paramagnetic iron centers/cast with high-temperature resistance

Resistance to medications or thermal treatment

Recurrence and persistence of endometriosis: Factors of inflammation, invasion, and growth

Spectrum of transferrin levels of patients with endometriosis (a) and healthy women (b)
CAUSES OF THE RECURRENCE OF ENDOMETRIOSIS:

1. Main mechanism in surgically untreated patients: damage at the interphase between fibrosis and normal tissue.
2. Main mechanism in surgically untreated patients: damage at the interphase between fibrosis and normal tissue.
3. Main mechanism in surgically untreated patients: damage at the interphase between fibrosis and normal tissue.
4. Main mechanism in surgically untreated patients: damage at the interphase between fibrosis and normal tissue.
5. Main mechanism in surgically untreated patients: damage at the interphase between fibrosis and normal tissue.
6. Main mechanism in surgically untreated patients: damage at the interphase between fibrosis and normal tissue.
7. Main mechanism in surgically untreated patients: damage at the interphase between fibrosis and normal tissue.
8. Main mechanism in surgically untreated patients: damage at the interphase between fibrosis and normal tissue.
9. Main mechanism in surgically untreated patients: damage at the interphase between fibrosis and normal tissue.
10. Main mechanism in surgically untreated patients: damage at the interphase between fibrosis and normal tissue.

PATHOPHYSIOLOGY OF ENDOMETRIOSIS-ASSOCIATED INFERTILITY

**CAUSES OF THE RECURRENCE OF ENDOMETRIOSIS:**

- Variety of visual appearances (30)
- Distinct borders of the lesions
- Superficial peritoneal lesions may mask deep infiltrative lesions ( iceberg phenomenon)
- Intended palliative surgery to minimize trauma after cessation of hypoestrogenic state or anovulation
- Intended palliative surgery to minimize trauma after cessation of hypoestrogenic state or anovulation
- Relapse of cyclic changes, proliferation, invasion, and growth

**RELAPSE OF CYCLIC CHANGES, PROLIFERATION, INVASION, AND GROWTH:**

- Endometriotic cysts have a toxic effect on the ovarian tissue and follicles.
- Genital endometriosis (including CDH and endometrioid cysts) does not lead to the occlusion of the fallopian tubes.
- Reduction of the endometrial receptivity as a result of endometriosis.
- Pro-inflammatory changes in the follicular fluid affect ovulation.
- Perioperative fluid in patients with endometriosis may cause pelvic inflammation and debris damage to the oocyte.
- Perioperative fluid in patients with endometriosis may cause pelvic inflammation and debris damage to the oocyte.

**ENDOMETRIOMA LEADING TYPE:**

- Minimal peritoneal inflammation presence of ovarian disease
- Significant peritoneal inflammation presence of ovarian disease

**RELAPSE OF CYCLIC CHANGES, PROLIFERATION, INVASION, AND GROWTH:**

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**ENDOMETRIOSIS, RESPECTIVELY:**

- Evidence for surgical treatment of endometriosis is obtained from opinions or existence of experts.

**ENDOMETRIOMA:**

- Evidence for surgical treatment of endometriosis is obtained from opinions or existence of experts.
Special considerations:
Advanced retro-cervical endometriosis and Diffuse Adenomyosis.

- MRI: Presence of extensive adenomyosis infiltrating and invading the anterior wall of the rectum (3).
- Uterus with diffuse adenomyosis (1) infiltrating the rectum (2) and extending into the right parametrium toward the sacro-uterine ligament.

Special considerations:
Advanced endometriosis: multiple lesions, caecum bladder infiltration, bowel infiltration. Infiltrating or symptomatic endometriosis of the caecum is a subject for resection.

In which case is 2-step surgery needed?

Special considerations:
- Multiple endometriotic lesions
- Augmented reality in gynecologic laparoscopic surgery: development, evaluation of accuracy and clinical relevance of a device useful to identify ureters during surgery

Results:
- Improved ability to detect the ureter in 60.3% of cases.
- Found to be useful by 91.3% of surgeons.

Application:
- Complex procedures (severe endometriosis, pelvic oncology, patients with fibrosis and multiple previous surgeries)
- Reduces a need for preoperative imaging

DIRECT MASS SPECTROMETRY

Mass spectrometry (MS) is an analytical technique that ionizes chemical species and sorts the ions based on their mass-to-charge ratio. In simple terms, a mass spectrum measures the masses within a sample.1


DIRECT MASS SPECTROMETRY

- Weight of substances, allowing to identify the molecule
- Mass spectrometry (MS) is an analytical technique that ionizes chemical species and sorts the ions based on their mass-to-charge ratio. In simple terms, a mass spectrum measures the masses within a sample.1
In step 1, we examined samples of endometriosis tissue. The second stage was targeted at displaying the identified changes in lipids and fatty acids in the blood and peritoneal fluid of patients with endometriosis.

- Our results suggest that endometriosis is associated with elevated levels of sphingo- and phospholipids.
- Elevated levels of sphingo- and phospholipids are present in peritoneal fluid and blood of patients with endometriosis.
- These categories of lipids have been directly involved in implantation, inner heightened proliferation, and decreased apoptotic properties of endometriotic tissues.
- Validation of these lipids as serologic biomarkers in subsequent studies may enhance non-surgical diagnostic capabilities for patients with suspected endometriosis and may reduce the need for diagnostic laparoscopy.
- The research is in progress.

DIRECT MASS SPECTROMETRY:
We used the lipidomic approach to analyze blood plasma, peritoneal fluid, and endometriotic tissue in women with endometriosis in order to understand the dysregulation in the metabolism and fluxes of lipids.

GOALS FOR FUTURE DEVELOPMENTS IN ENDOMETRIOSIS SCIENCE AND PRACTICE:
1. ANTICIPATE AND PREVENT.
2. DIAGNOSE EARLY.
3. MINIMIZE PROGRESSION; POSSIBLY RESOLVE.
4. MINIMIZE TRAUMA.
5. MAXIMIZE FERTILITY POTENTIAL.
6. MINIMIZE THE RISK OF MALIGNANCY.

"BEST TREATMENT IS PREVENTION"
CHOICE OF THE SURGICAL APPROACH ON THE BASIS OF THE LOCATION OF BOWEL ENDOMETRIOSIS

Simone Ferrero, MD PHD
University of Genova, Italy

DISCLOSURE
I have no financial relationships to disclose

3 SURGICAL APPROACHES

The choice of technique depends on:
- depth of infiltration of endometriosis on the intestinal wall
- extent of bowel wall circumferential invasion
- number of nodules
- main diameter / volume of the nodule
- presence or absence of stricture
- location of bowel lesion

SHAVING EXCISION
removal of endometriosis layer-by-layer until healthy, underlying tissue is encountered

DISC EXCISION
full-thickness excision of the diseased portion of the bowel wall with the resultant defect stapled or sutured

SEGMENTAL RESECTION
complete resection of a diseased segment of bowel with subsequent reanastomosis

MORE CONSERVATIVE

SIGMOID COLON
Extensive retroperitoneal dissection is not required
The risk of injuries of the nervous and vascular plexuses is low
Segmental or disc resection is feasible with a relatively low risk of intraoperative and postoperative complications

1st choice: shaving
2nd choice: disk excision
3rd choice: segmental resection
- occlusive symptoms, multifocal lesions, diameter > 3 cm, lesion that involves >2/3 of the bowel lumen, failed conservative surgical treatment
- minimize dissection of the retroperitoneal space and lateral pelvic wall

RECTOSIGMOID COLON
Resection requires lateral mobilization and entry into the retrorectal space (to allow adequate mobilization)

1st choice: shaving
2nd choice: disk excision
3rd choice: segmental resection (failed conservative surgical treatment)

RECTUM
Resection resection requires extensive dissection of the retrorectal space, where extensive vascular and sympathetic and parasympathetic nerve bundles are located (pelvic splanchnic nerves, and the superior and inferior hypogastric plexus)

Damage to these structures can lead to short- and long-term morbidity (bowel stomas, bowel ischemia resulting in fistula formation, severe constipation, urinary retention)

1st choice: shaving (recommended)
2nd choice: disk excision
3rd choice: segmental resection (acute obstruction)
leaving disease on the rectum
- damage to vascular and sympathetic and parasympathetic nerve bundles
- perforating the bowel

DISTAL SMALL BOWEL, ILEOCOLIC REGION, RIGHT EMICOLON, APPENDIX

Segmental resection is recommended
The risk of nerve damage is very low

REFERENCES

Anatomy Of The Retrorectal Space: A Freeway To Functional Surgery

Paulo Ayroza Ribeiro, MD, PhD
Associate Professor at Santa Casa School of Medical Sciences
Chairman Obstetrics Department at Santa Casa de São Paulo

Disclosure

○ Consultant: Karl Storz, Johnson and Johnson

Objectives

● Describe the anatomy of the Retrorectal Space
● Define landmarks of the retrorectal Space
● Describe the possible interference of the knowledge of the anatomy on surgical outcomes

• video
To avoid complications in Gynecologic Surgery... just follow the rules

- The Basic Rules
- Anatomy
- Ergonomics
- Energy
- Dissection & Suturing (use two hands, follow the bubbles)
- Vision

Pelvic Spaces

- Pelvic Cavity
  - Vesicouterine Space
  - Rectovaginal Space

- The Retroperitoneum
  - Retzius Space
  - Paravesical Space
  - Pararectal Space
  - Retrorectal Space

LAPAROSCOPIC ANATOMY
PELVIC SPACES

“I am convinced of my own limitations, and this gives me strength to move on”
Mahatma Gandhi
EMOTIONAL INTELLIGENCE: THE HUMAN FACTORS NEEDED FOR EFFECTIVE MULTIDISCIPLINARY

- Anatomy of Retroperitoneum

- RETRORECTAL SPACE
• Video
Radical towards disease ...

...Conservative towards function

Staging

Anatomy

Spaces and Nerves
Reto ureter direito

Spaces

Bowel Resection!

• video

Transversal Linear Stapler

Linear Stapler: 2-3 x
Linear Stapler: 2-3 x

Reviewing anatomy

End to end anastomosis

CONCLUSION

Knowing and respecting the anatomy is the key to a safe surgery and to avoid complications.
Acknowledgments

• Helizabet Salomão MD, PhD
  • Associate Professor Santa Casa de São Paulo
  • Chairman Gynecological Endoscopy and Endometriosis Division

• Fabio Ohara, MD
  • Assistant
Endometriosis involving the low/mid rectum: Specific anatomy requires specific approaches

Rectum anatomy
- Last segment of the digestive tract
- Limits:
  - inferior: anal verge (limit between skin and endothelial tissue)
  - superior: recto-sigmoid junction (S3 vertebra)
- Length 15 cm
- 2 segments:
  - rectal ampoula – pelvic: 9-11 cm
  - anal canal – perineal: 3-3.5 cm

Rectal ampoula
- Elastic organ!!
- Virtual cavity (empty): 2-3 cm diameter
- Mid filled by stools: 5-6 cm diameter
- Full filled: even larger
- Mid volume 300-400 cm³
- High compliance
- Protection of the anal sphincter against high intracolonic pressure
- These properties explain the occurrence of the Low Anterior Rectal Resection Syndrome (LARS) after low rectal resection

Rectal innervation
- Involves the autonomic nervous system
- Motor function
- Sensory function
- Sympathetic nerves regulate the tone of the smooth muscle of the rectum.
- Parasympathetic nerves stimulate the smooth muscle of the rectum.
- Visceral afferent nerves provide sensory input from the rectum to the brain.
Colorectal deep endometriosis

The most frequent type of deep severe endometriosis
- 1,400 cases/year in France (60,000,000 habitants)
- 350 cases/year in our center (IFEMEndo)

A veritable marker of the volume of surgical activity
However, specific knowledge on anatomy and function are required

Colorectal endometriosis surgery: 3 major techniques

Shaving
Disk excision
Segmental resection

Postoperative function depending on each technique:
should we attempt to preserve the anatomy?

LARS: low anterior rectal resection syndrome

Surgery of the mid/low rectum may result in:
1. Rectal denervation: constipation, hypotonic rectum, major exonerating trouble
2. Rectosigmoid stenosis: constipation, dyschezia
3. Reduction of rectal reservoir: frequent bowel movements, urgency
4. Risk for fecal incontinence and urgency
   + preoperative voiding troubles (anal sphincter hypotonia, dysynergia, etc)

Avoiding postoperative rectal dysfunction = challenging, because multifactorial

Aarhus series

Low anterior resection syndrome score in women managed by colorectal resection
% of women with LARS unchanged 1 year later...

Pelvic organ function before and after laparoscopic bowel resection for rectal endometriosis: a prospective, observational study

Table 1: Pelvic function before and after surgery for endometriosis

Avoiding postoperative rectal dysfunction = challenging, because multifactorial
Conservative approach vs. colorectal resection

• ENDORÉ randomized trial  - Ham Reprod 2018
  - 60 patients randomized between conservative and radical approaches
  - No significant difference in terms of overall digestive function
  - Significant risk of bowel stenosis after colorectal resection
  - Rectal shape is not the unique factor conditioning the rectal function

Long term improvement: ENDORÉ RCT

• 5 years follow up
• 1 recurrence / 60 patients
• Constant improvement in:
  1. Pain
  2. Gastrointestinal scores
  3. Quality of life
• 80% pregnancy rate
• 75% pregnancy rate infertile women
• A majority of which are natural conceptions

How about low rectum <8 cm height?

• Low disc excision may be preferable to low rectal resection
• 172 women with rectal nodules <=8 cm height
• Low disc excision vs. low rectal resection: normal bowel movements were more likely

Bowel fistula

• 1,102 procedures on the rectosigmoid
• 37 bowel fistula (3.4%)
• Risk factor: bowel suture

Could stoma prevent fistula?

• JMG 2021
• Probably not
• It prevents leakage / RVF-related complications
• 363 patients with rectal AND vaginal EXCISION/RESECTION
• Unique risk factor: Height of rectal suture
Techniques: what choice?

1. Upper rectum and sigmoid colon:
   - Shaving: superficial unique nodules
   - Disk excision: <3 cm deep unique nodule
   - Segmental resection: all other circumstances

2. Mid/low rectal nodules:
   - Shaving: superficial nodules
   - Deep nodules: as following

Conclusions

- Surgery of bowel endometriosis: a new specialty, challenging and complex
- Minimally invasive approach: feasible in >99% of cases
- Young women, living as long as 50-60 years after your surgery: take care at their postoperative long term quality of life!
- Conservative rectal surgery: feasible in a majority of cases
- Immediate complications risk: favors the shaving
- Functional outcomes: multifactorial! may be improved after conservative approach in low rectum: may favor disk excision over segmental resection
- Recurrences risk: favors the segmental resection
- No demonstrated benefit related to routine use of radical surgery
- Balanced use of 3 techniques = individualized / custom made management

Personal experience on colorectal endometriosis

- Jan 2005 - Mar 2020 (lockdown): 1,060 patients
- 60% conservative procedures = disc excision and shaving

References

Assembly Bill 1195 was signed into law on July 1, 2006 requiring local CME providers, such as the AAGL, to assist in enhancing the cultural and linguistic competency of California’s physicians (researchers and doctors without patient contact are exempt). This mandate follows the federal Civil Rights Act of 1964, Executive Order 13166 (2000) and the Dymally-Alatorre Bilingual Services Act (1973), all of which recognize, as confirmed by the US Census Bureau, that substantial numbers of patients possess limited English proficiency (LEP). It is the intent of the Legislature to encourage physicians and surgeons, continuing medical education providers located in California, and the Accreditation Council for Continuing Medical Education to meet the cultural and linguistic concerns of a diverse patient population through appropriate professional development.

**Cultural and Linguistic Competency**

**Linguistic Competence**: Providing readily available, culturally appropriate oral and written language services to limited English proficiency (LEP) members through such means as bilingual/bicultural staff, trained medical interpreters, and qualified translators.

**Cultural Competence**: A set of congruent behaviors, attitudes, and policies that come together in a system or agency or among professionals that enables effective interactions in a cross-cultural framework.1

**Cultural and Linguistic Competence**: The ability of health care providers and health care organizations to understand and respond effectively to the cultural and linguistic needs brought by the patient to the health care encounter.

**Cultural competence** requires organizations and their personnel to:

- Value diversity.
- Assess themselves.
- Manage the dynamics of difference.
- Acquire and institutionalize cultural knowledge.
- Adapt to diversity and the cultural contexts of individuals and communities served.

**California Business & Professions Code §2190.1(c)(3)** states that associations that accredit continuing medical education courses shall develop standards before July 1, 2006, for compliance with the cultural competency requirements. The associations may update these standards, as needed, in conjunction with an advisory group that has expertise in cultural and linguistic competency issues. Cultural competency means a set of integrated attitudes, knowledge, and skills that enables a health care professional or organization to care effectively for patients from diverse cultures, groups, and communities. At a minimum, cultural competency is recommended to include the following: (A) Applying linguistic skills to communicate effectively with the target population. (B) Utilizing cultural information to establish therapeutic relationships. (C) Eliciting and incorporating pertinent cultural data in diagnosis and treatment. (D) Understanding and applying cultural and ethnic data to the process of clinical care, including, as appropriate, information pertinent to the appropriate treatment of, and provision of care to, the lesbian, gay, bisexual, transgender, and intersex communities.

**Title VI of the Civil Rights Act of 1964** prohibits recipients of federal financial assistance from discriminating against or otherwise excluding individuals on the basis of race, color, or national origin in any of their activities. In 1974, the US Supreme Court recognized LEP individuals as potential victims of national origin discrimination. In all situations, federal agencies are required to assess the number or proportion of LEP individuals in the eligible service population, the frequency with which they come into contact with the program, the importance of the services, and the resources available to the recipient, including the mix of oral and written language services. Additional details may be found in the Department of Justice Policy Guidance Document: Enforcement of Title VI of the Civil Rights Act of 1964 [http://www.usdoj.gov/crt/cor/pubs.htm](http://www.usdoj.gov/crt/cor/pubs.htm).

**Executive Order 13166,“Improving Access to Services for Persons with Limited English Proficiency”,** signed by the President on August 11, 2000 [http://www.usdoj.gov/crt/cor/13166.htm](http://www.usdoj.gov/crt/cor/13166.htm) was the genesis of the Guidance Document mentioned above. The Executive Order requires all federal agencies, including those which provide federal financial assistance, to examine the services they provide, identify any need for services to LEP individuals, and develop and implement a system to provide those services so LEP persons can have meaningful access.

**Dymally-Alatorre Bilingual Services Act (Assembly Bill 305)** requires that state agencies that serve a substantial number of non-English-speaking people employ a sufficient amount of bilingual persons in order to provide certain information and render certain services in a language other than English.