Deep Endometriosis Surgery
pro conservative surgery?

Introduction
Feasability of conservative surgery
No need to be that radical
Conclusions
Deep endometriosis: definition

- **The past** > 5 mm PK 94
  - Too much typical lesions included

- **The future** Adenomyotic nodule
  - Generally unique
  - Generally > 1 cm
  - End stage
  - Infiltrating
  - Metastatic:
Expertise required

pain ++
perineal
Radiation

All exams Negative
Clinical, MRI, contrast enema

hysterectomy
Our aim of deep endometriosis surgery

• Treat symptoms: pain or infertility

• With a minimum of complications

• Without recurrences
Our aim of deep endometriosis surgery

- Treat symptoms: pain or infertility
  - Infertility without pain

- With a minimum of complications
  - No surgery
  - Surgery before IVF

- Without recurrences
Cardinal Sins in medicine

- Money
- Dreaming
- Ignorance
- Arrogance

Conservative surgery
Deep endometriosis

Feasability
Sigmoid endometriosis

< 50% occlusion

< 2.0 cm length
Our rules

If bowel obstruction: > 50% > 3cm

Try to excise

Elective bowel resection

- Contrast enema
- Size & symptoms

Rectum
< 0.1%

Sigmoid
5%

1%
Our practice:

If bowel obstruction: > 50% > 3cm bowel resections in

- Rectum: <1% (All > 4 cm)
- Sigmoid: 10% (All > 1 cm)

What could help preoperatively?

- US: Size - confirmation of clin exam
- MRI: Size - caecum
- Coloscopie: ??
Our practice

Bowel resection

Rectum
<1 %
All > 4 cm

Sigmoid
10%
All > 1 cm

Conservative excision

Nodule diameter
2-3 >3

1 layer suture
10-40 % 60-100%

2 layer suture
5-20 % 10- 30 %
Results and complications

• Complications
  • Nerves
  • Late perforations

• Results
  • Recurrences
  • Pain - fertility
  • Any comparison compares first the surgeon and the environment, rather than the technique
Resection anastomosis.

Complications

- 1% leak
- 5-15% leak

Sigmoid

Rectum

L Ret Davalos, de Cicco, D’Hoore, P Koninckx J Min Invas Surg 2007
a review of all cases since 1990 = > 10,000
Less and less resections

- Clinical
- Pathophysiology

Conservative surgery
Deep endometriosis
History of deep endo surgery

- Those that tried to be conservative became less aggressive over time without increasing recurrences with similar results

- Based upon understanding of the disease
Why a Complete excision

• Derived from oncology surgery: ie abnormal cell with permanent abnormal behaviour
• Does not apply to endometriosis. Moreover it is theoretically impossible to be complete
Completeness of surgery

- Fibrosis around deep endometriosis
- Cut the head and the rest dies
- Microscopical and subtle lesions are not disease
  - Progression of subtle lesions
  - 10-15% microscopic lesions in normal peritoneum
  - 15% microscopic endometriosis in lymph nodes
  - Microscopical lesions in the bowel > 5cm
SHOULD WE REVISE THE DEFINITION OF ENDOMETRIOSIS?

Clinical evidence strongly suggests that the mere presence of endometrial glands and stroma outside the uterus should no longer be considered to be a clinical pathology by definition. Unfortunately, we cannot distinguish between glands and stroma that have no clinical importance and may disappear spontaneously and those that will develop into endometriosis causing pain and infertility. Hopefully, immunohistochemistry and/or molecular biology one day will allow us to define specific activities or processes causing the endometriosis pathology and therefore to distinguish between normal and pathologic “endometrial-like tissue outside the uterus.”

ENDOMETRIOSIS SURGERY AND ERADICATION OF ALL ENDO METRIAL CELLS AND STROMA
Ultramicro-trauma in the endometrial-myometrial junctional zone and pale cell migration in adenomyosis

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Conclusion(s): The myofiber disarray in the inner myometrium, and the nuclear membrane irregularities in adenomyosis, are evidence for ultramicro-trauma in adenomyosis. The migrating nonleukocytic pale cells may be involved.

Van Gieson staining: Collagen fibers stain red; cytoplasm stains brown. (A) The inner myometrium in a nonadenomyosis patient. The smooth muscle fibers are parallel to the basal endometrial glands. (B) The endometrial-myometrial interface in adenomyosis: The basal endometrium dips down (circle) into the inner myometrium, disrupting the regular interface (magnification outside of inset: ×100). (C) The inner myometrium in adenomyosis: The smooth muscle fibers are arranged in diverse directions. Magnifications are ×200, unless otherwise noted.
Ultramicro-trauma in the endometrial-myometrial junctional zone and pale cell migration in adenomyosis


Immune-expression of (A, B) CD45 and (D, E) CD68 in the basal endometrium in adenomyosis. The glandular epithelial cells could not show any positive staining. (C and F) Positive controls: (C) CD45 positive immune cells in spleen and (F) CD68 positive macrophages among intestinal crypts. (A and D) Dapi stain. (G and H) E-cadherin immune-expression in the basal glands at the EMJZ in adenomyosis. (G) magnification: ×200; (H) ×400. (I) Diagrammatic illustration of the pale cells’ (shown in yellow) role in the common pathogenesis of endometriosis and adenomyosis. Because they are located eccentrically in the basal endometrial glands, the pale cells can migrate into the myometrium (lower section), where they develop into adenomyotic lesions. Those in close contact with the glandular lumen (concentric position) can migrate through the uterine cavity into the peritoneal cavity, where they develop into peritoneal endometriosis.

Deep Endometriosis surgery

- **Pathophysiology**
  
  Not all endometriotic cells outside the uterus are pathology ie they do not cause symptoms.
  
  Key are the genetic changes leading to at least 3 different diseases
  
  At diagnosis most lesions are no longer progressive

- **Most lesions** are non progressive and not recurrent, surrounded by fibrosis as a remnant of the inflammatory reaction  
  
  -> remove the lesion not the fibrosis

- **Clinical judgment** : Some lesions are progressive and aggressive
  
  -> be more aggressive
  
  -> Therefore better not to operate under medical treatment
Deep endo : clinical data

• Unreported : individual cases of very aggressive, multifocal deep endometriosis  eg
  • HM 135 grams of deep endo, VU, RV and sigmoid. Friable and cellular  -> after conservative excision  -> late perforation  -> an extended bowel resection  with undiagnosed deep endo. 6 years later under medical treatment   ok
  • CK: a 6cm RV-RS nodule + rectal bleeding: at excision we were surprised not to have to open the bowel  + neg colonoscopy.  -> extented bowel resection + liver nodule  -> 3 years later adrenal nodule

• Suggestion : be more aggressive  in these rare cases (2/2500)with tumor like behaviour
Why to avoid a bowel resection?

1. Unnecessary bowel resection
   - no endometriosis
   - outside the muscularis
   - little endometriosis
   - published up to 14%
   - up to 12%
   - our series 6/2000
   - ............... exaggeration
   - artefacts
Why to avoid a bowel resection?

2 Unavoidable complications of bowel resection

- Leak -> fistula .......
- Innervation – hypogastric nerve reservoir funcion

Most important is localisation

- Leak: 1% -> 15%
- Low rectum live long
  - 30% bowel
  - 30% bladder
  - 40% sexual

In endometriosis

- Localisation rarely given
- >90% rectum resections leaks >10%
- No data on bowel bladder sexual
The future

Deep endometriosis
Belongs to the
Pelvic surgeon
Discoid excision = try and see

• During surgery
  • Muscularis lesion
    No problem if less than 5 cm in length
    Prophylactic suturing: running suture
  • Full thickness resection
    Suture in 2 layers: since November 2006, introduction of lavage, n=65, no more problems

• After Surgery
  • Late bowel perforation: has disappeared with extensive lavage (submitted)
  • Urinary retention
    Severe 2/2000
    Size of nodule dependent