XIV Международный конгресс
ПО РЕПРОДУКТИВНОЙ МЕДИЦИНЕ

XIV International Congress
ON REPRODUCTIVE MEDICINE

Pro's and cons of

Bowel resections versus conservative excision

Philippe R. Koninckx

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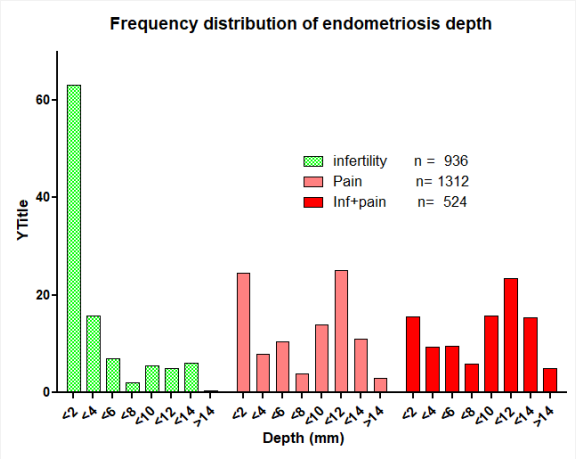
Gruppo Italo Belga, Leuven –Rome, Belgium Italy.
Disclosures: Shareholder Endosat NV

Definition of deep endometriosis ?

- > 5mm under the surface



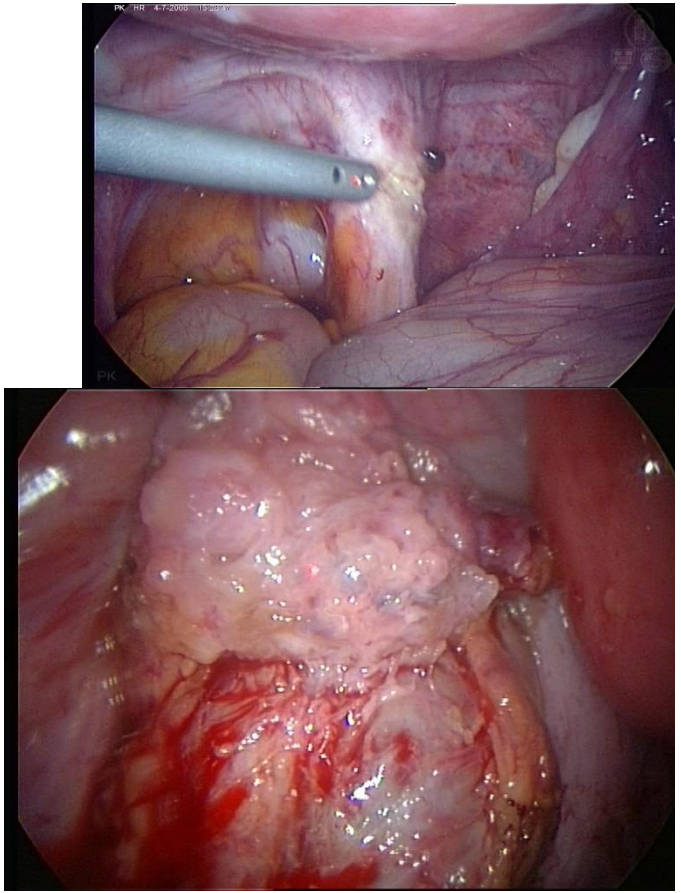
- Is consistent with
  - Deeper glands are more active than superficial glands
  - = escape from high progesterone in PF

- Thus overlap between typical and deep
- Adenomyosis externa: unclear whether this is a better definition
- Clinically 2 types : glandular and fibrotic
- Invasive in muscle and connective tissue – not in fat

Heterogeneity of deep endometriosis

- Predominantly fibrotic plaque with deeper areas
- Nodules : generally unique
- Some nodules are different
  - fast progressive and agressive

    (< 1%)



What is the problem

- Diagnostic accuracy of imaging

  Precision of Sensit/specif -> PPV & prevalence

  ->added value (Bayesian)

Preoperative imaging of deep endometriosis: pitfalls of a diagnostic test before surgery.

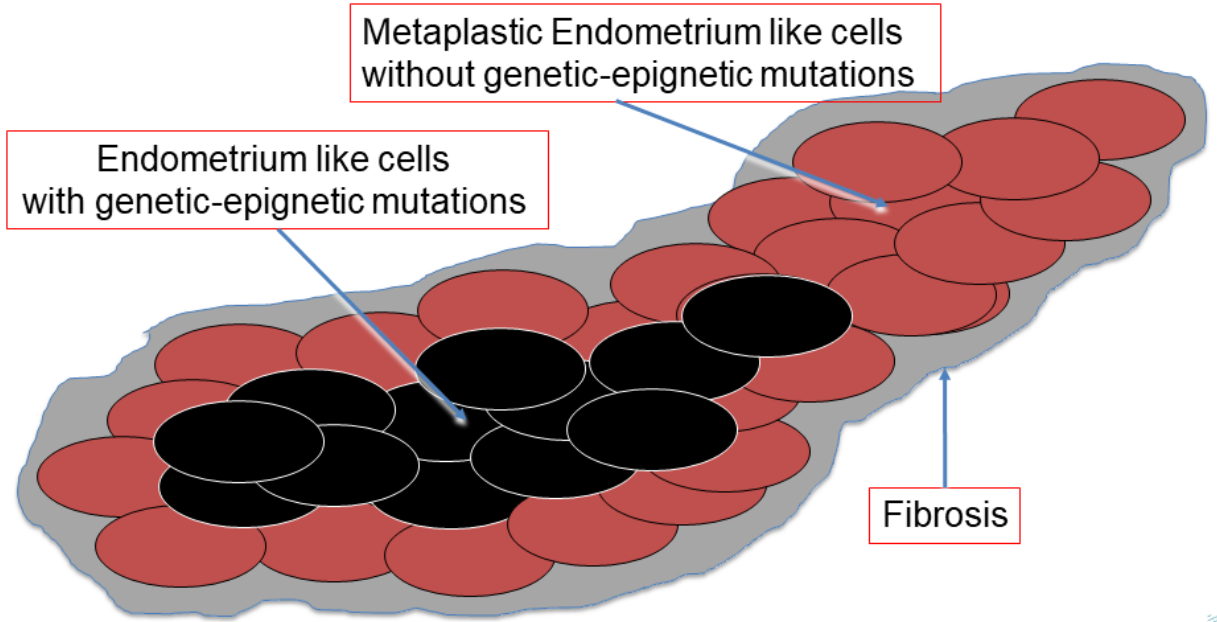
Koninckx Philippe R [1,2,3] Deslandes Alison[4] Ussia Anastasia [2] Hanan Gharbi [1] Muna Tahlak [1] Leila Adamian[5] Keckstein Jörg[6] Arnaud Wattiez [1,7],

- The majority of bowel nodules of more than 1 cm are treated by bowel resection
  - Necessary to be complete ?
  - Anorgasmia is a complication

- Try and see: excision is feasible in the large majority

P Koninckx, A Ussia, S Alsuweidi, B Amro, H Gharbi, M Tahlak, L Adamyan, A Wattiez.
Conservative surgery for bowel endometriosis, in press
Nodule surrounded by Metaplasia ?

Recurrence rate after excision or after even large bowel resections are similar



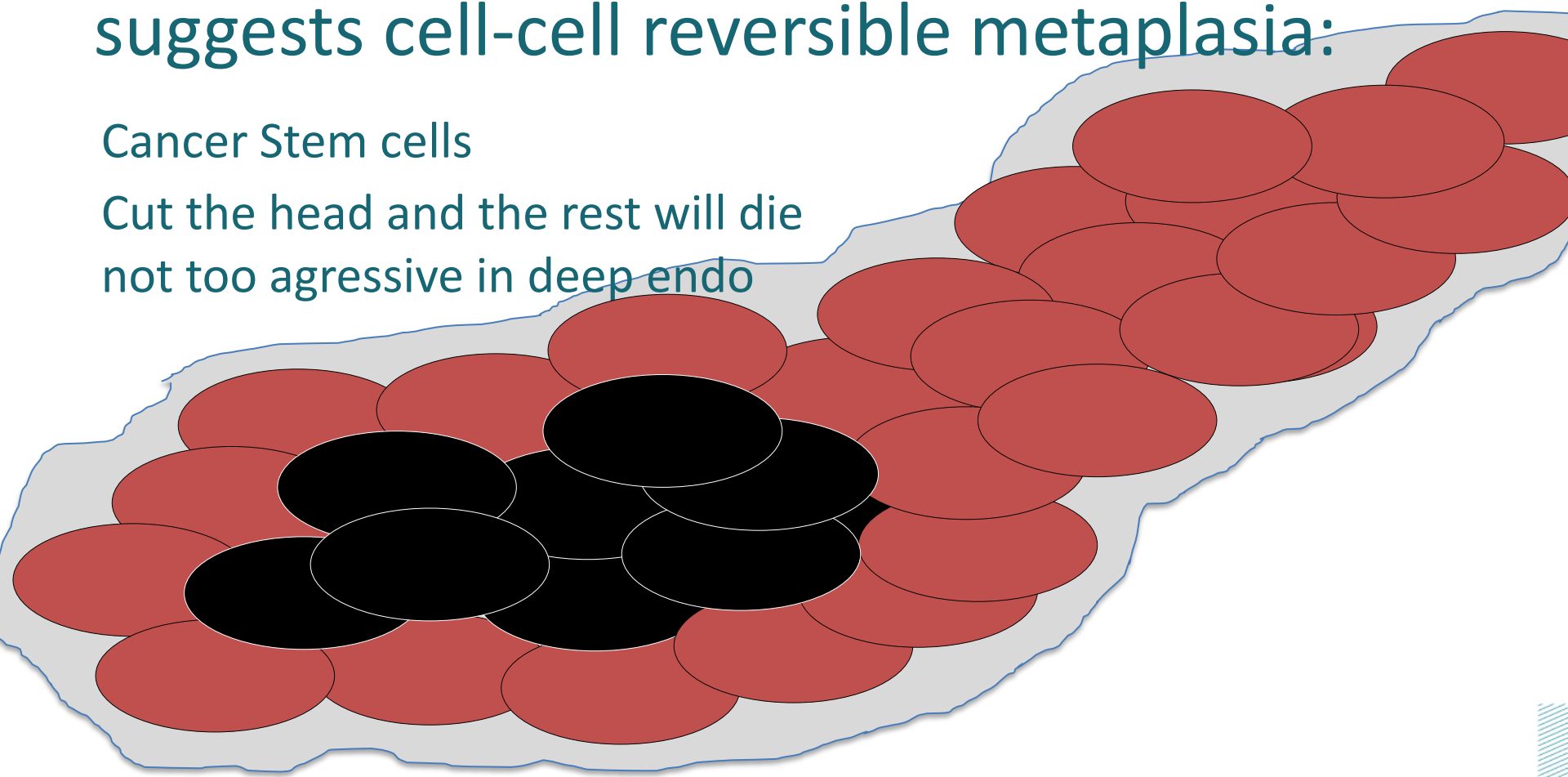
- Epigenetics and metaplasia
- If Reversible : cells return to normal

Recurrence rate: discoid <-> bowel resection suggests cell-cell reversible metaplasia:

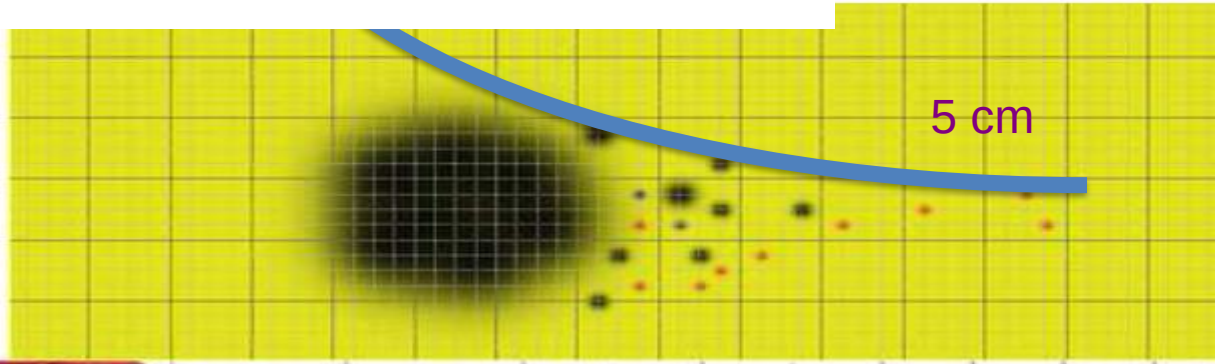
Cancer Stem cells

Cut the head and the rest will die

not too agressive in deep endo



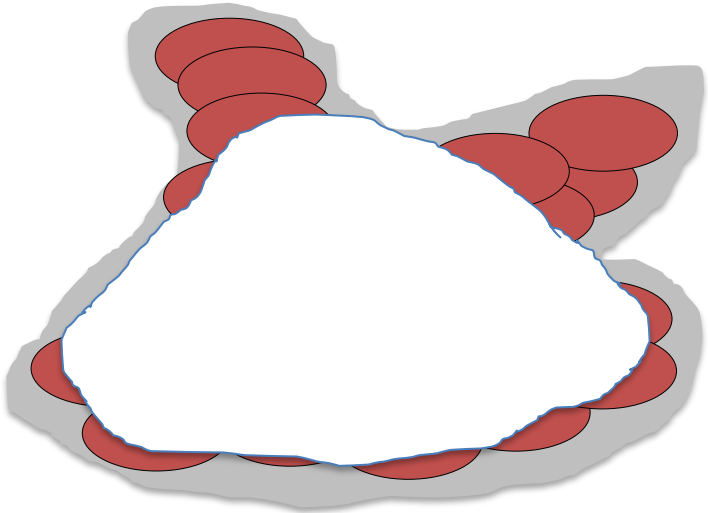
Roman H. Bowel occult microscopic endometriosis. Fertil Steril 2015. XXX: XXX–XX.
Badescu A, Roman H. Mapping of endometriosis microimplants surrounding deep endometriosis nodules infiltrating the bowel. Fertil Steril 2015. XXX: XXX–XX.



Completeness of surgery

- Fibrosis around deep endometriosis
  - Probably not endometriosis
- Probably metaplasia around the lesion
- Recurrence rates are not different after

  Excision versus bowel resection

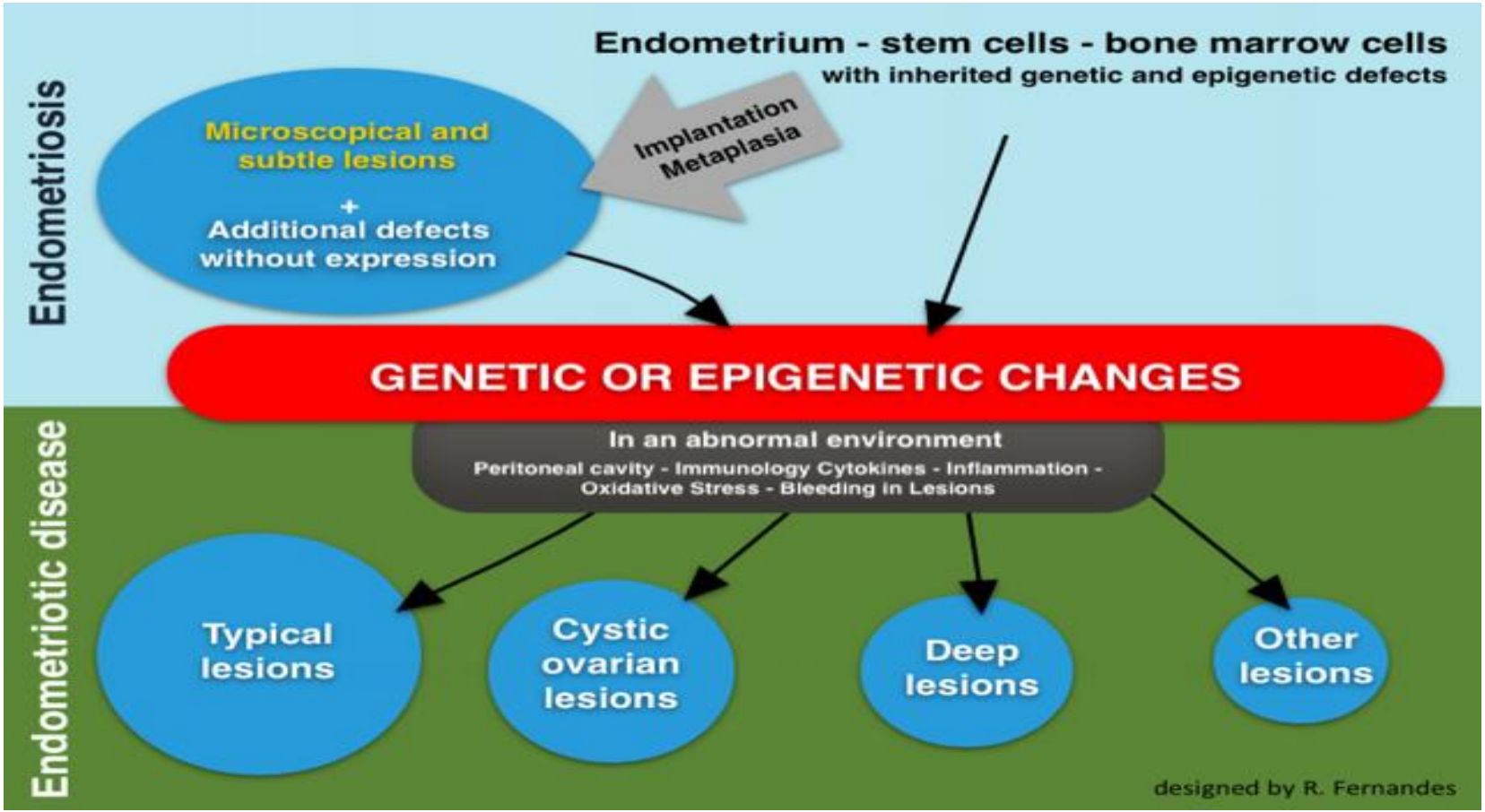


In conclusion, in the absence of solid evidence, we suggest that deep endometriosis surgery should be visually complete, but at the level of the bowel, a rim of fibrosis can be left behind. Because we found most recurrences at the posterior fornix of the vagina, and because the vaginal cuff heals well, we specifically emphasize completeness at this level.

Fertility and Sterility® Vol. 98, No. 3, September 2012
Deep endometriosis: definition, diagnosis, and treatment

The genetic epigenetic theory

KONINCKX PR, USSIA A, ADAMYAN L, WATTIEZ A, GOMEL V, MARTIN DC. Pathogenesis of endometriosis: the genetic/epigenetic theory. Fertil Steril 2019;111:327-39.



Infection as a potential cofactor in the genetic-epigenetic pathophysiology of endometriosis: a systematic review

FACTS VIEWS VIS OBGYN, 2019, 11 (3): 000-000

P.R. KONINCKX[1,2,3,4], A. USSIA[3,5], M. TAHLAK[1], L. ADAMYAN[6,7], A. WATTIEZ[1,8], D.C. MARTIN[9,10,11], V. GOMEL[11]

- More infections
  - Lower genital tract
  - Endometritis
  - PID
- Altered microbiome
  - Endometrium
  - Menstrual fluid
  - Peritoneum
  - Bowel
- In endometriosis
  - HPV and mollicutes

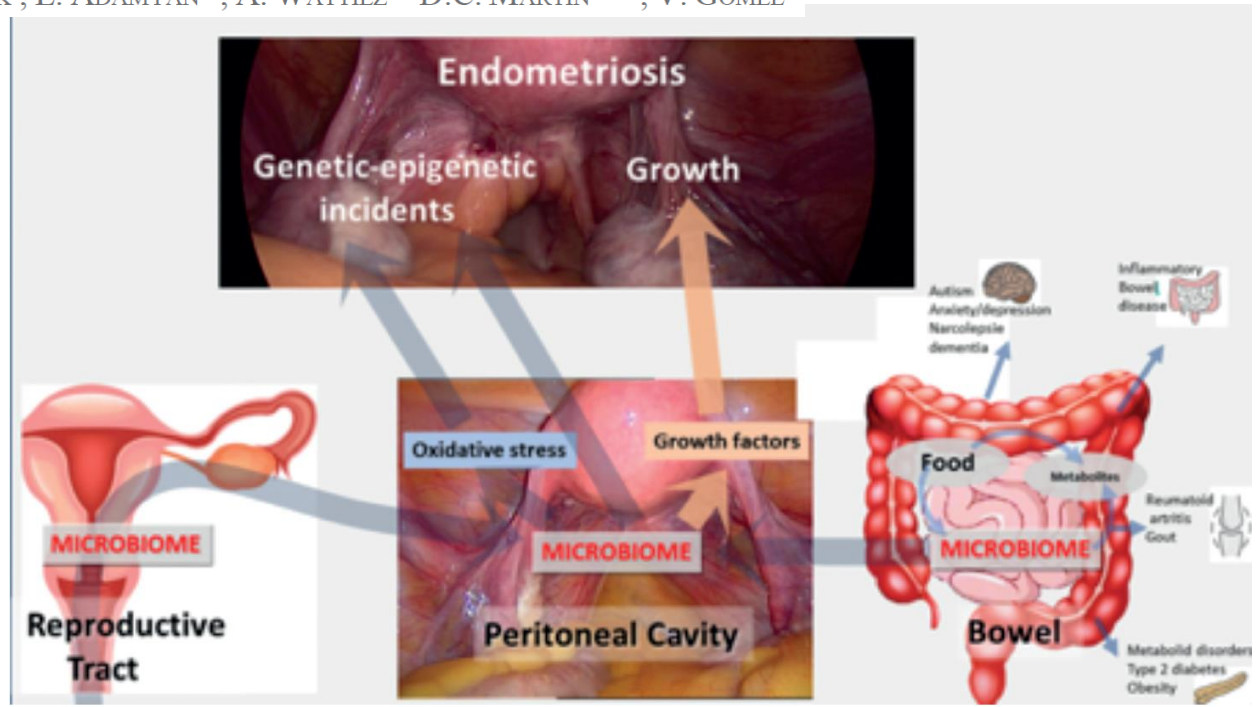


Figure 1: The peritoneal microbiome results from the uterine and upper-genital tract microbiome and the gut microbiome. The peritoneal microbiome can cause endometriosis by inducing genetic epigenetic incidents either directly or by increasing the oxidative stress. The peritoneal microbiome also can increase endometriosis growth through growth factors and immunologic changes. This explains why the gut microbiome, which is influenced by food intake and exercise, can influence the induction and growth of endometriosis, besides many other effects.

The cumulative genetic – epigenetic incidents

Inherited defects

- Endometriosis risk
- Endometrium
- Infertility
- pregnancy
- immunology

+1 +1 +1

- Radiation
- Pollution
- Oxidative stress
  - Blood
- infection

Endometriosis lesion

With a specific set of defects

variability

growth

types of endometriosis

estrogen production

progesterone resistance

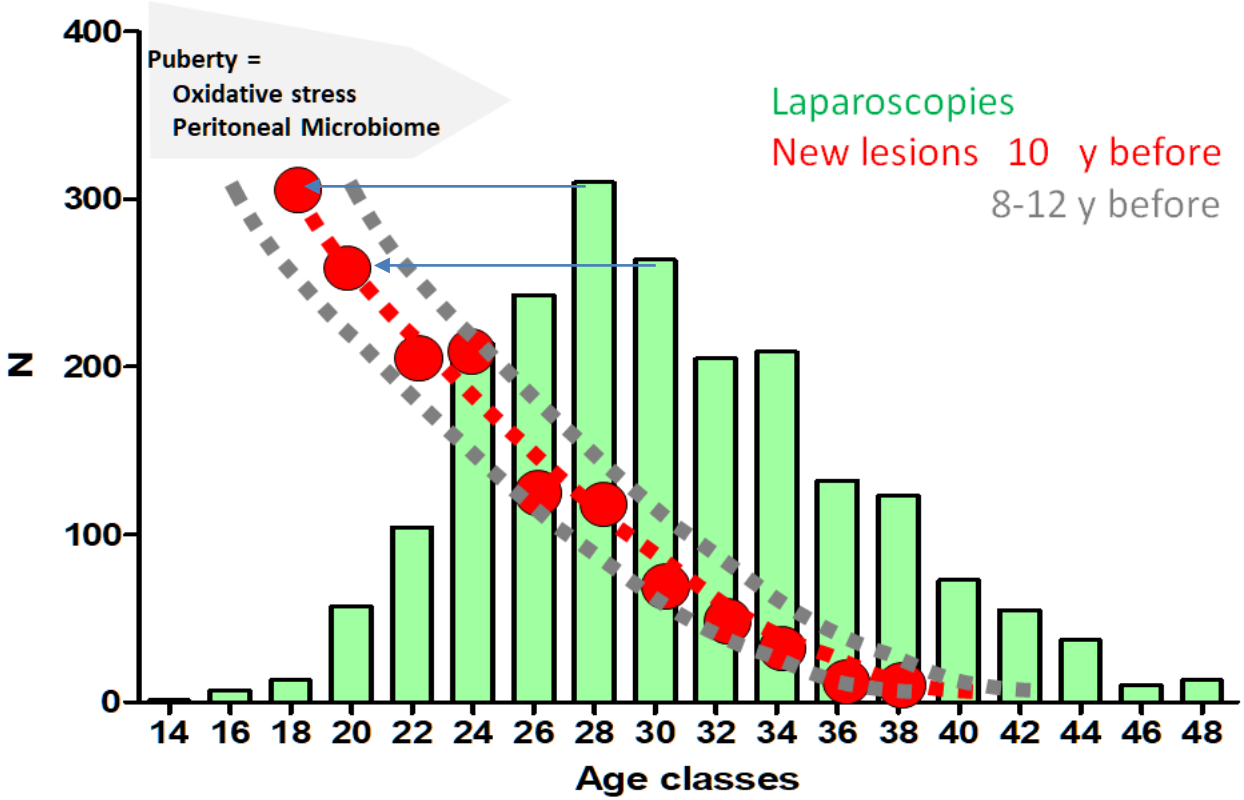
ReTIAR - bleeding

recurrence risk

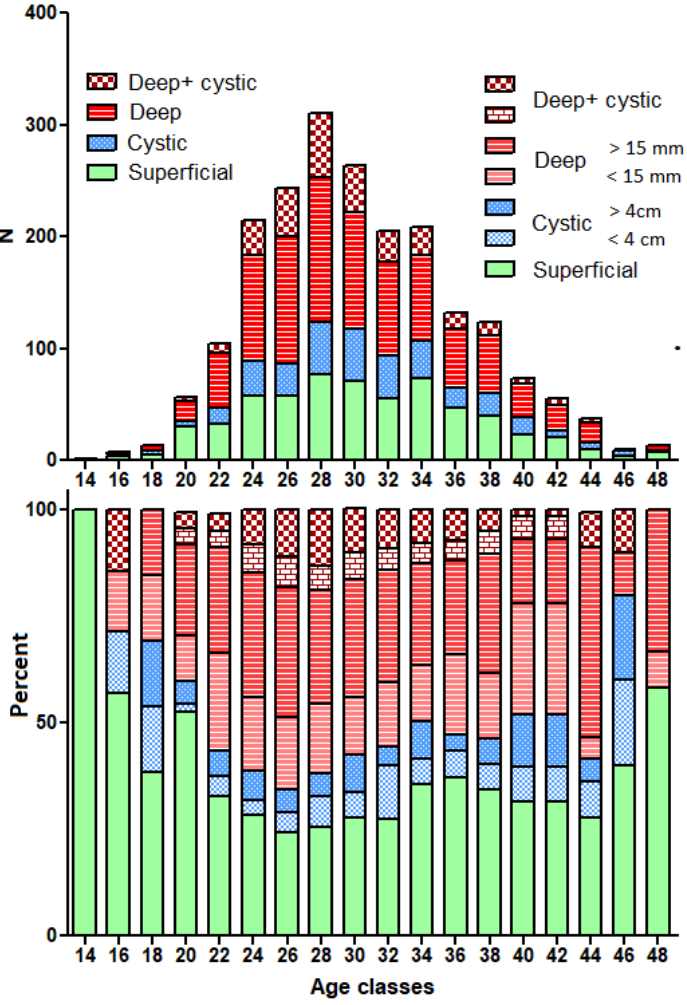
Risk decreases with age

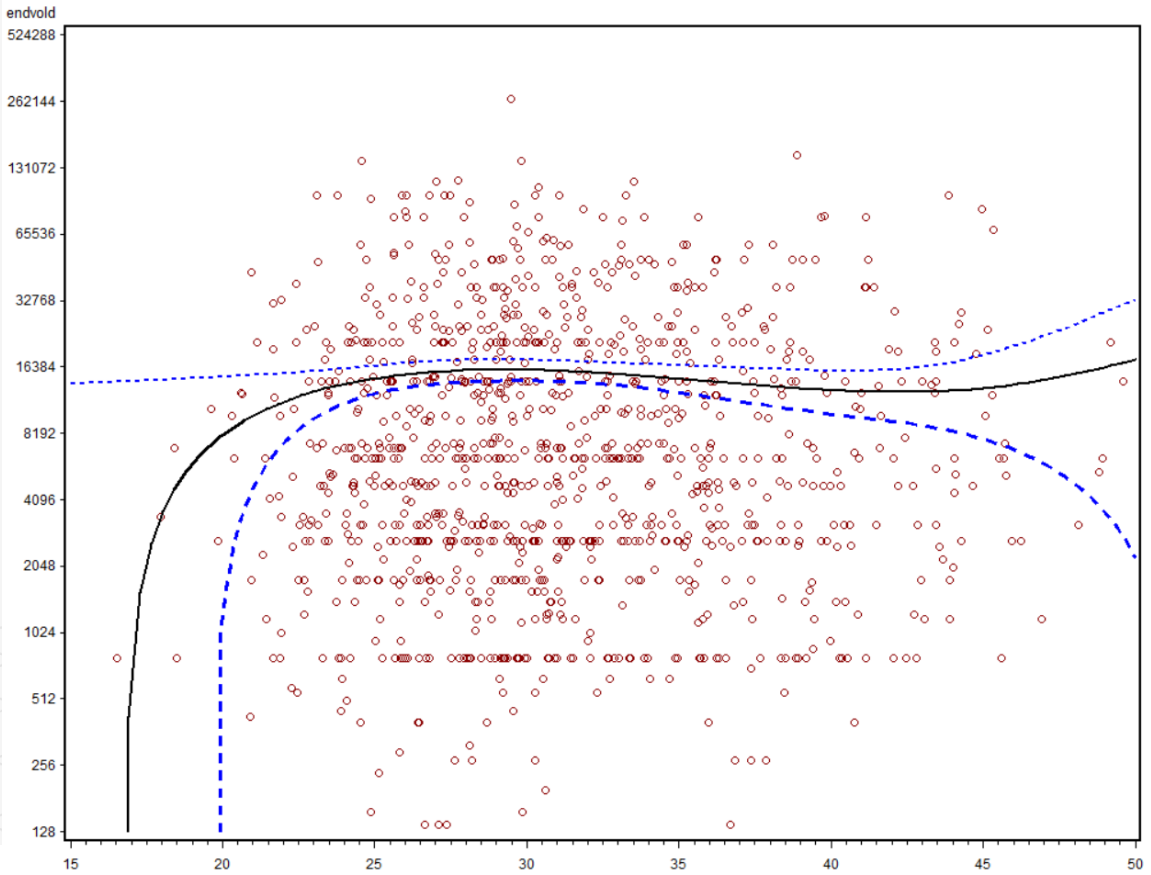
Koninckx, Ussia, Adamyan, Wattiez, Gordts, submitted

- 2-3 years
  -> symptomatic
- 8 years
  diagnostic delay



Self Limiting growth
Koninckx, Ussia, Adamyan, Wattiez, Gordts, submitted





Prevention of endometriosis - incidents

- **Reduce pollution**
  - **Investigate deep lesions**

Gynecol Surg (2016) 13:457–467
DOI 10.1007/s10397-016-0970-4

REVIEW ARTICLE

Epidemiology of subtle, typical, cystic, and deep endometriosis: a systematic review

Philippe R. Koninckx[1,2,3,4,5,6] · Anastasia Ussia[3,5] · Jörg Keckstein[7,8] · Arnaud Wattiez[9] · Leila Adamyan[4]

- **Prevention of oxidative stress**
  - **Less blood in peritoneal cavity and in the endometriosis lesions**
    = no withdrawal bleeding eg continuous OC
    early surgery – no delay in diagnosis
  - **Anti-oxidants food intake**

- **Infection**

Message 1

- Indication for surgery is clinical
- If deep endo is suspected : > 20% other endometriosis lesions
- Imaging is useful to guess severity and difficulty of surgery and for planning, informed consent etc
- Final Decisions are made during surgery

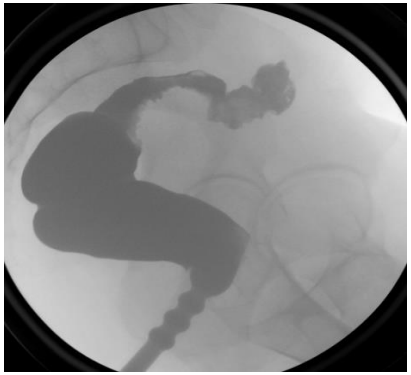
Pre-surgical diagnosis of bowel invasion

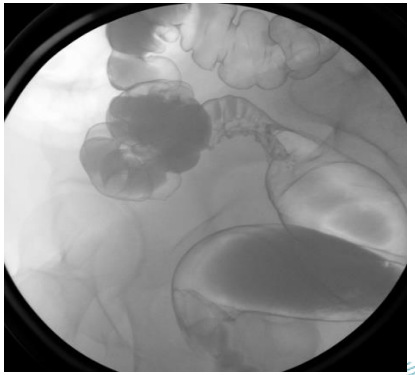
indication for surgery is clinical

- Contrast enema :
  - only reliable method to judge degree and length of occlusion
  - Occlusion at the level of the sigmoid

    If more than 50% over more than 2 cm = elective bowel resection
  - Occlusion of more than 50 % at the level of the rectum

    Till today, I have never seen

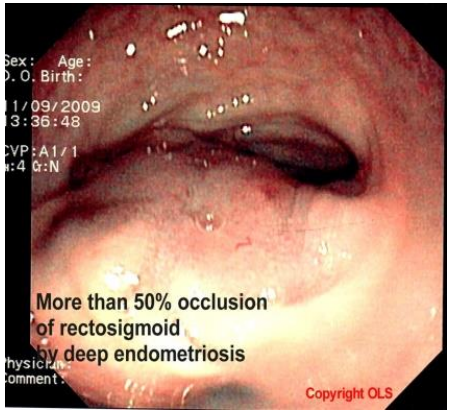




Pre-surgical diagnosis of bowel invasion

indication for surgery is clinical

- Colonoscopy
  - Only positive when very large nodule -> bowel resection
- Ultrasound – TVS transrectal
  - 95% sensitivity and specificity for presence of deep endo
  - No data for sensit-specif of 1 or 2 cm deep endo
  - No data for sensit-specif of depth of invasion
  - Data demonstrate significant correlations and differences
- MRI



Conclusion 2 : Excision of deep endometriosis

- **Complete excision of endometriosis**
  - Is an allusion
  - Is not necessary
- **Feasability of excision**
  - Cannot be predicted
  - except when more than 50% occlusion at contrast enema = 5% of sigmoid nodules
- **Therefore follow the borders of the endometriosis** :
  - try and see

Our practice > 2500 nodules

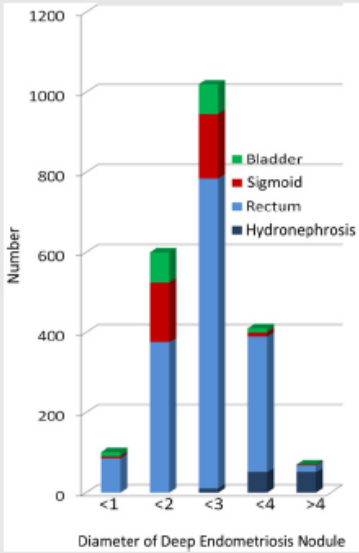
Bowel resection

Rectum	Sigmoid
<1 %	10%
All > 4 cm	All > 1 cm

Conservative excision

Nodule diameter	2-3	>3
1 layer suture	10-40 %	60-100%
2 layer suture	5-20 %	10- 30 %

FIGURE 1

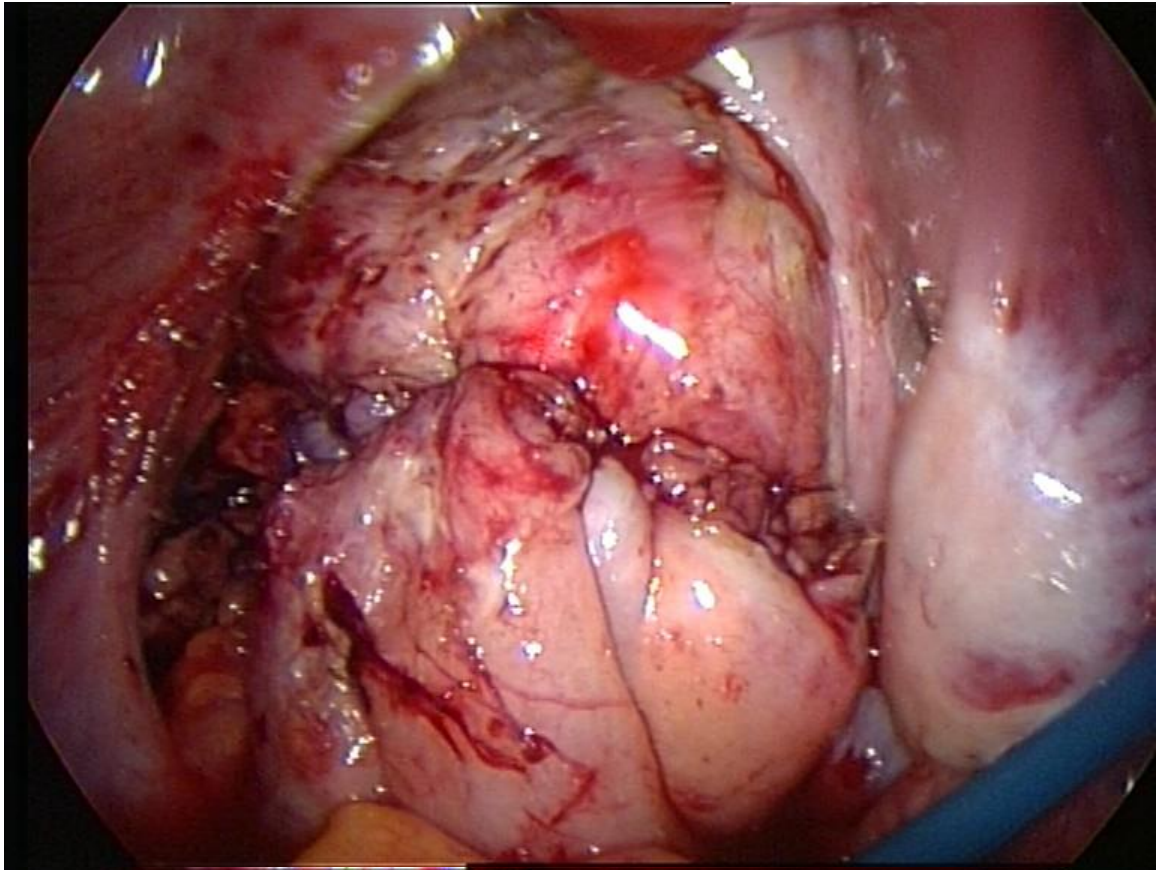


Distribution of deep endometriosis by localization and by size. Lesions larger than 4 cm are rare, whereas hydronephrosis is found predominantly in lesions larger than 3 cm. Ureteral lesions were found exclusively in women with hydronephrosis and/or in women with nodules larger than 4 cm (from Leuven database spanning 1989–2011).

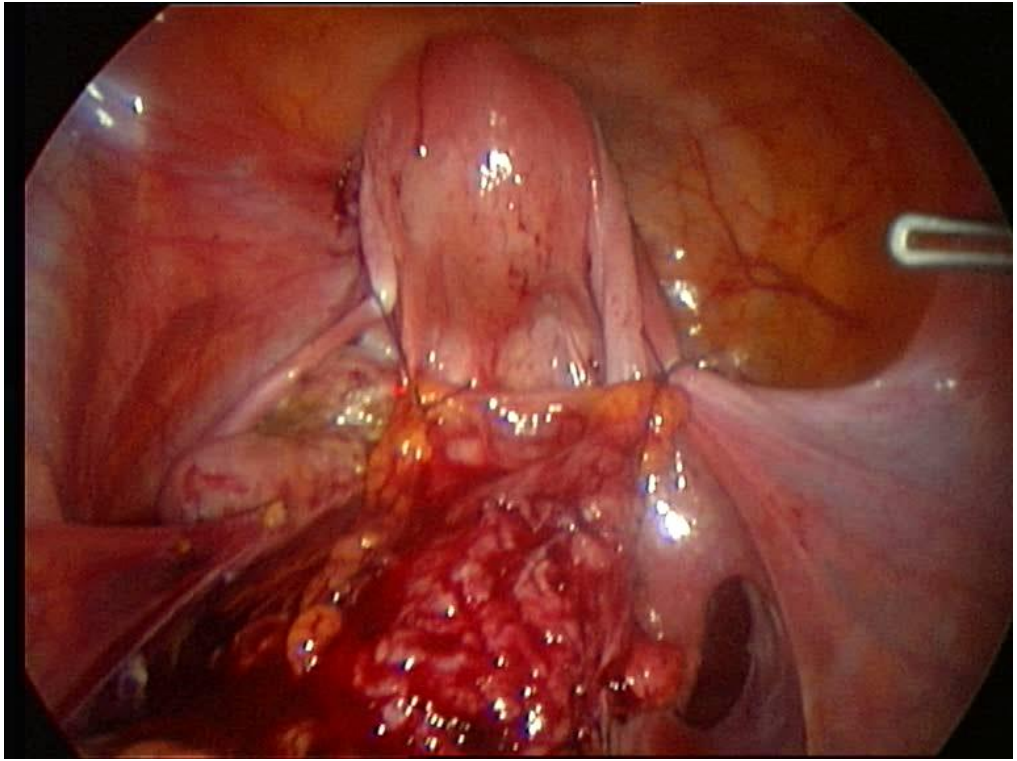
A fixed Surgical Strategy : en bloc resection

- First Lateral
  - Excise endometriosis around ureter
    - *risk : ureter lesion when hydronefrosis - when surrounding 100% nerves*
  - Extend to uretero-sacral and para rectal space *hypogastric nerve*
- Second : Posterior extension up to the ischeal spine *bleeding*
- The bowel nodule
  - Leave attached to the uterus = elevation
  - Dissect between bowel and nodule up to rectovaginal space
  - Excise nodule from vagina

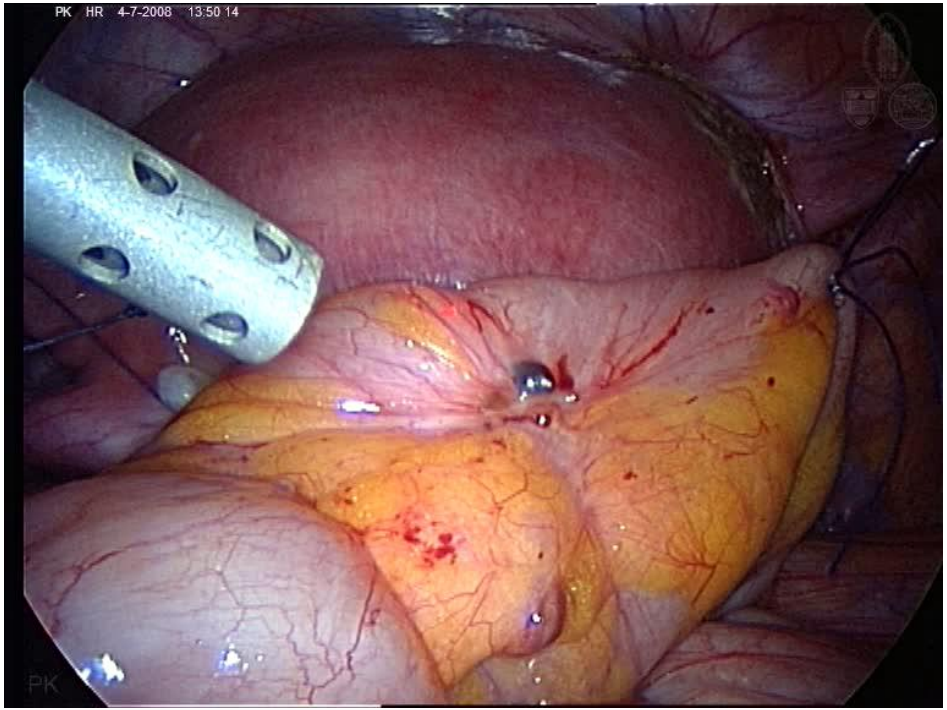
Rectovaginal nodule left

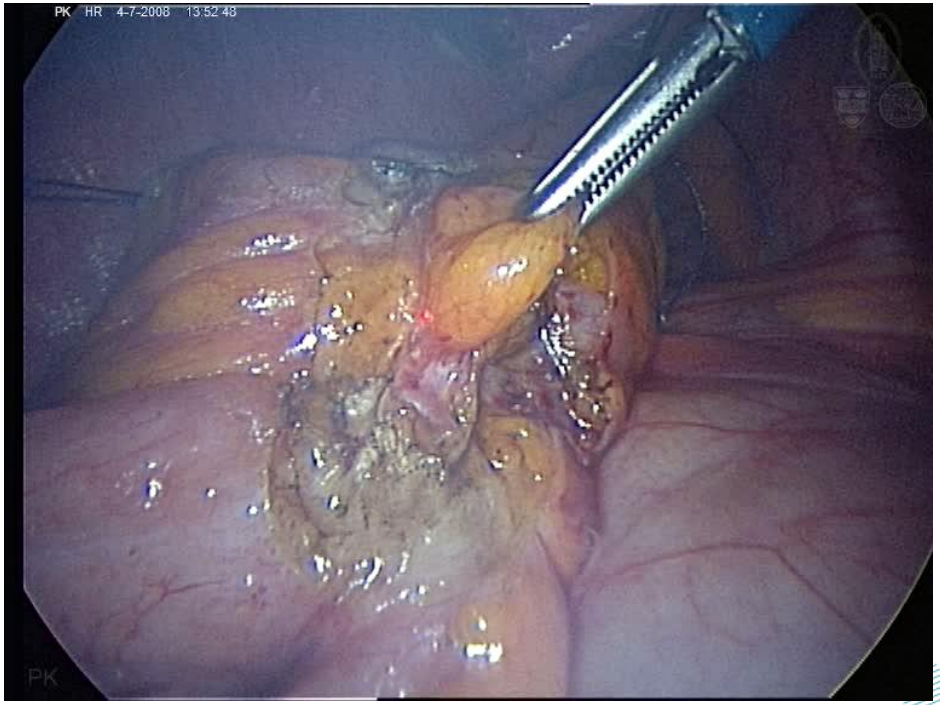


Sigmoid endometriosis : fix first

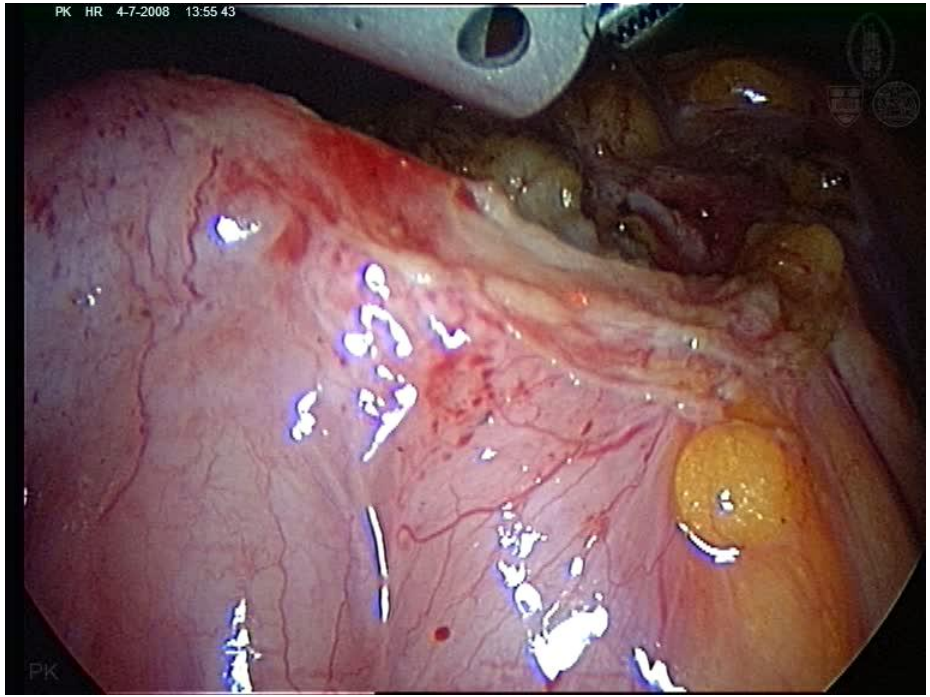


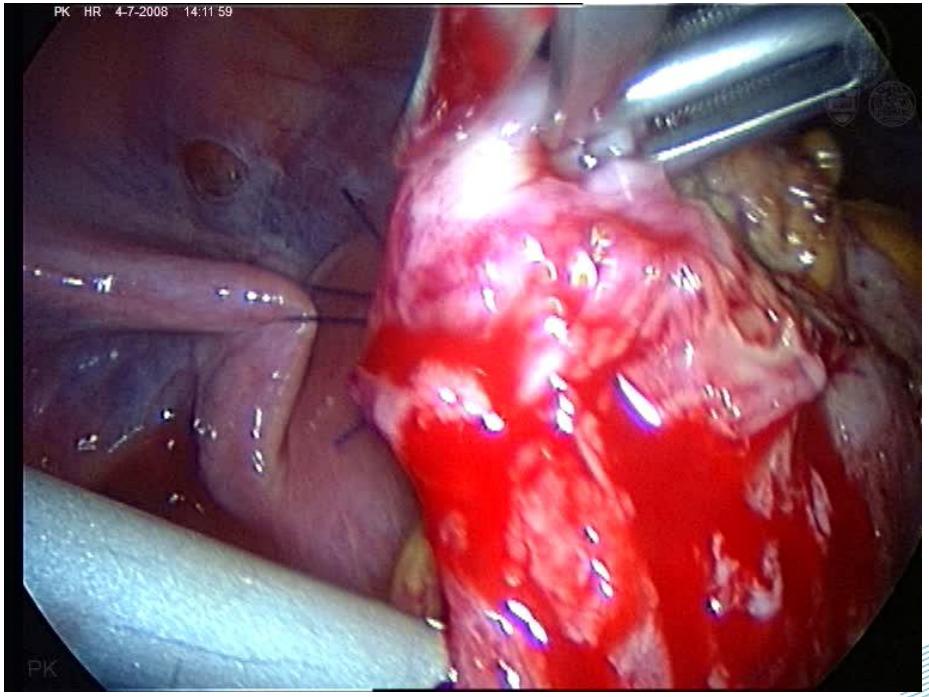
Sigmoid endometriosis





Sigmoid endometriosis



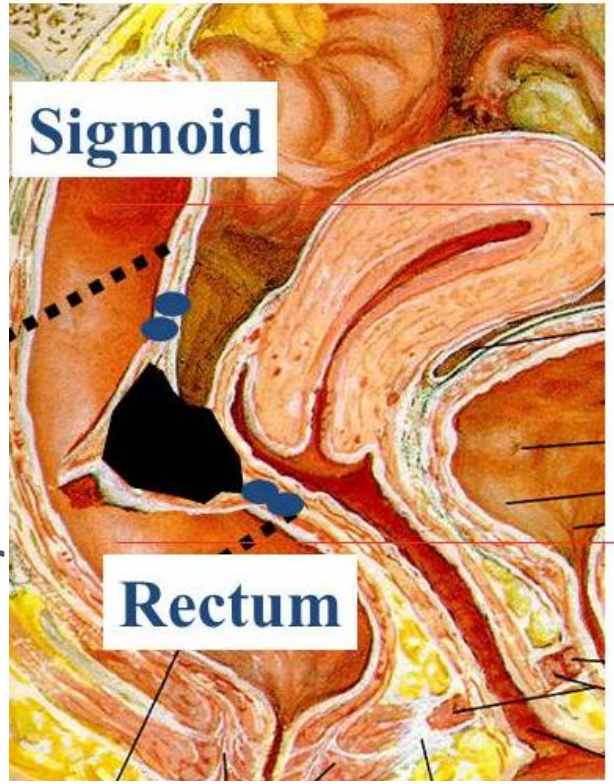


Conclusion: Sigmoid endometriosis

- Excision is
  - Feasable
  - Technically difficult

    mobile

- Little advantage over resection

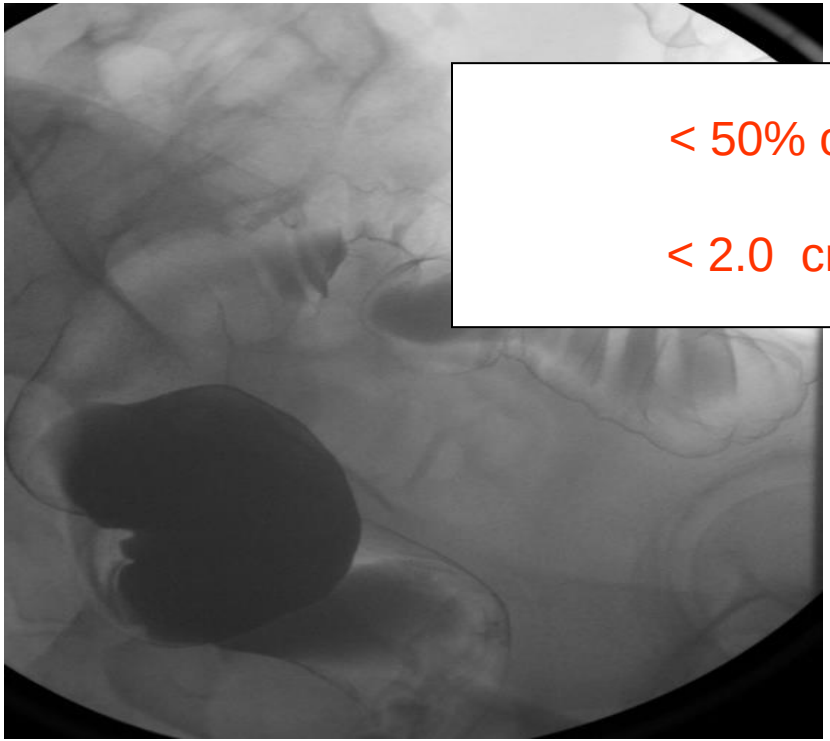


Complications

- 1% leak
- 5-15% leak

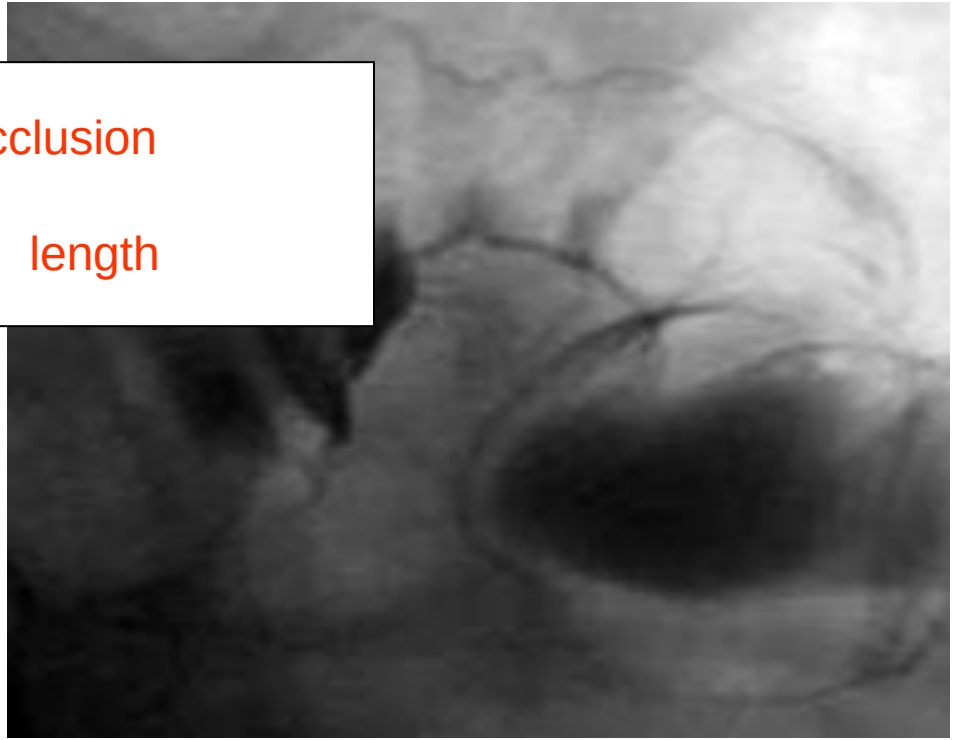
L Ret Davalos , de Cicco, D'Hoore, P Koninckx J Min Invas Surg 2007
a review of all cases since 1990 = > 10.000

Sigmoid endometriosis



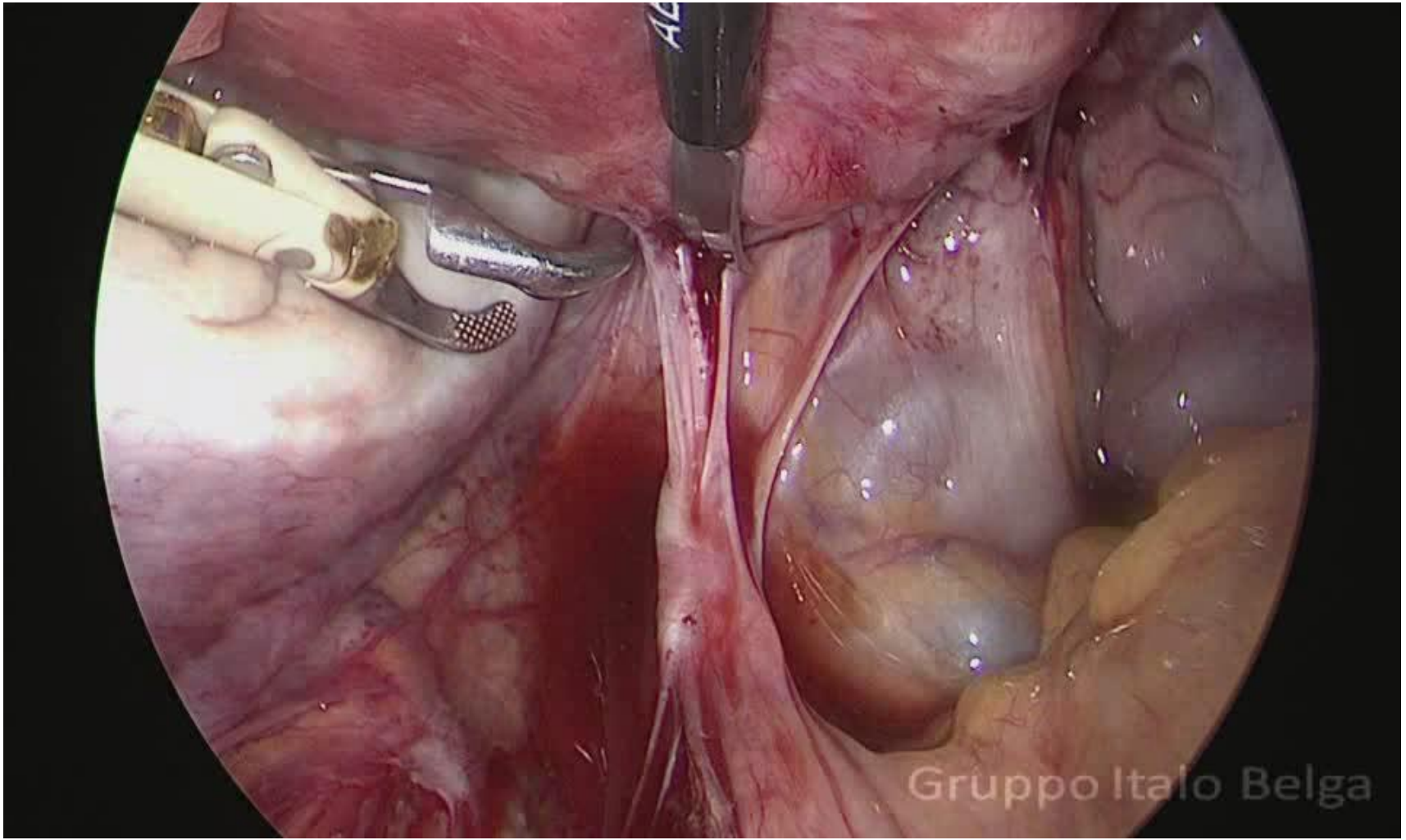
< 50% occlusion

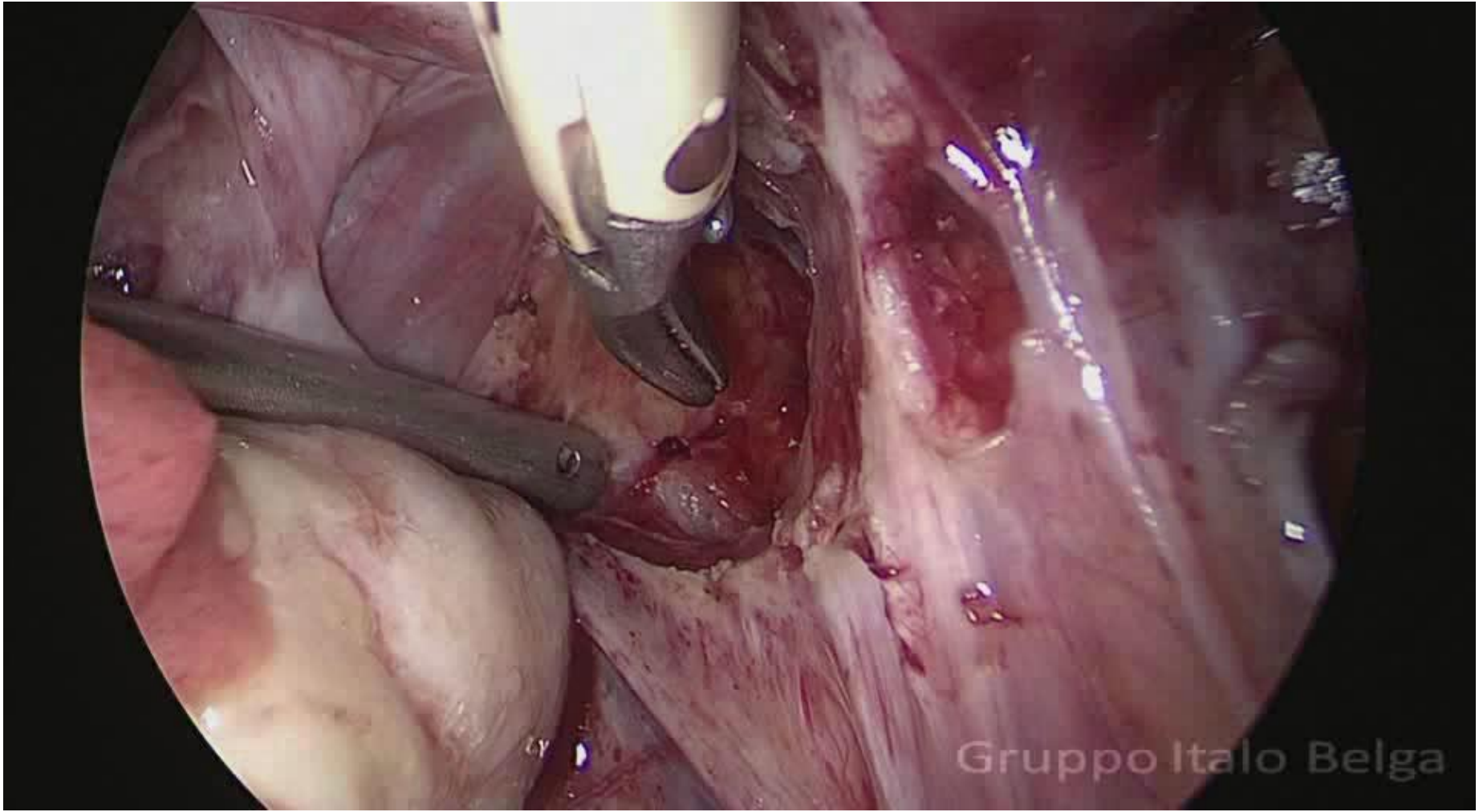
< 2.0 cm length



Rectum and recto vaginal septum

- After lateral excision up to pararectal spaces
- First dissection between rectum and nodule


Gruppo Italo Belga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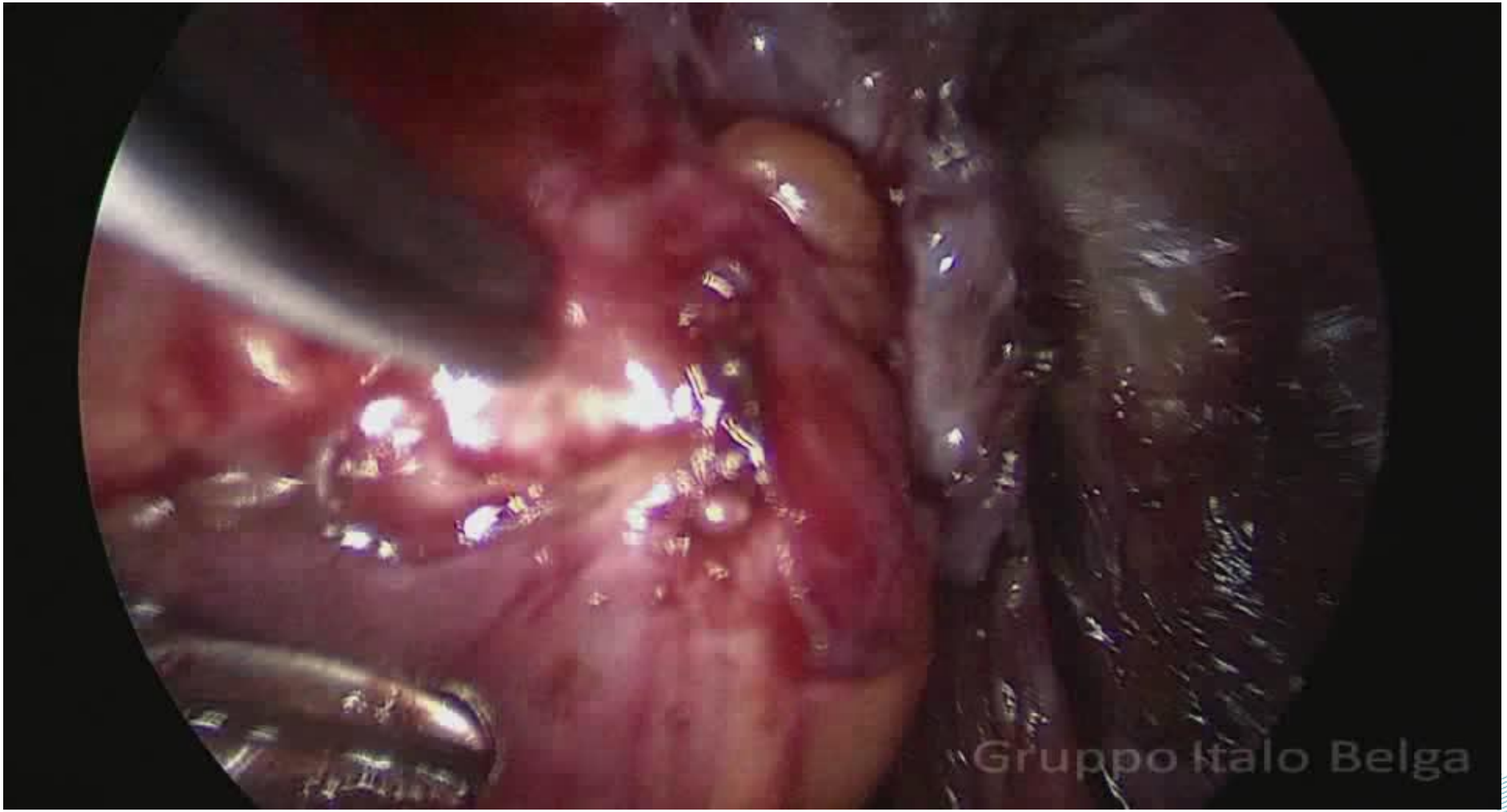
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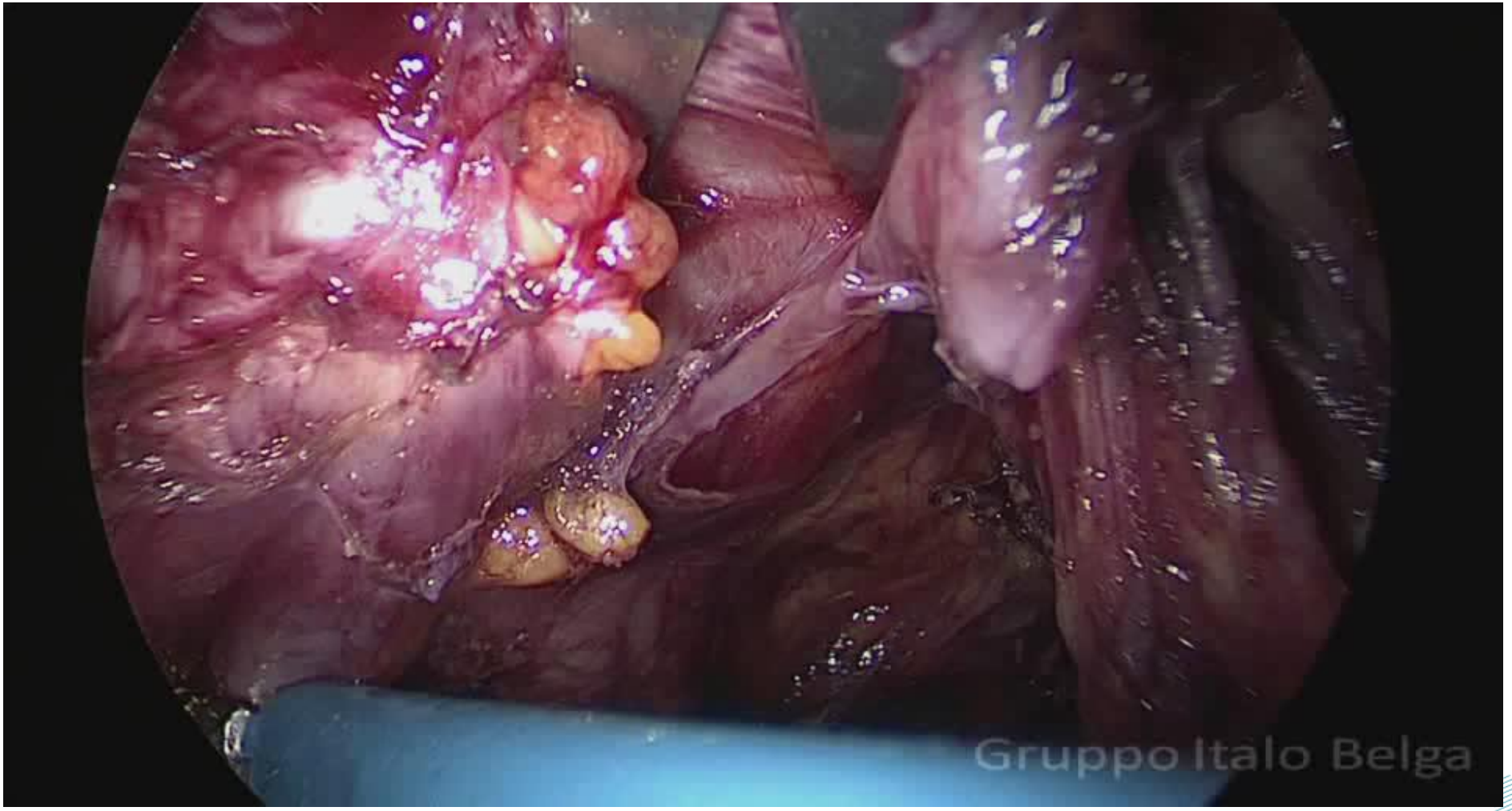
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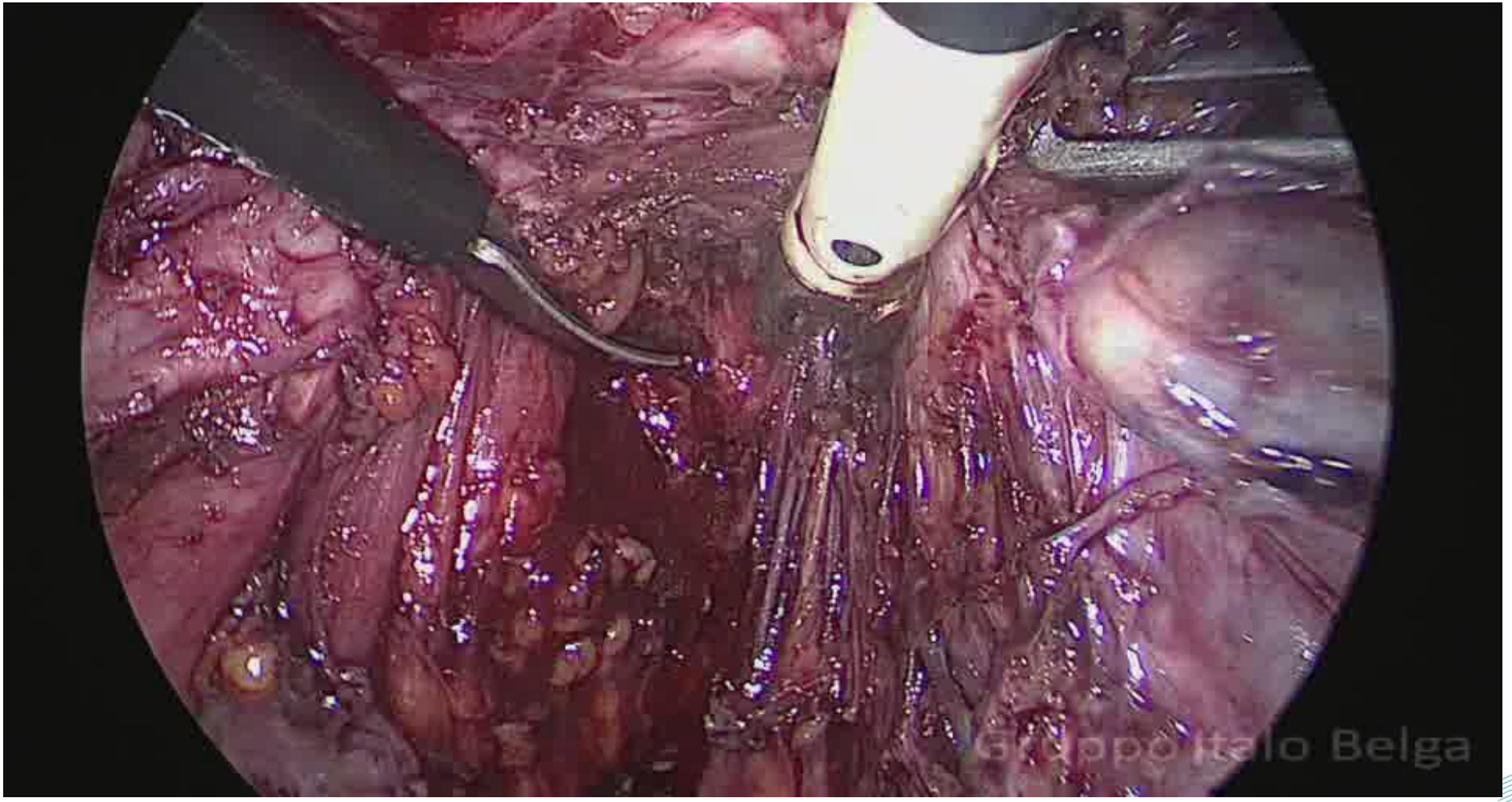
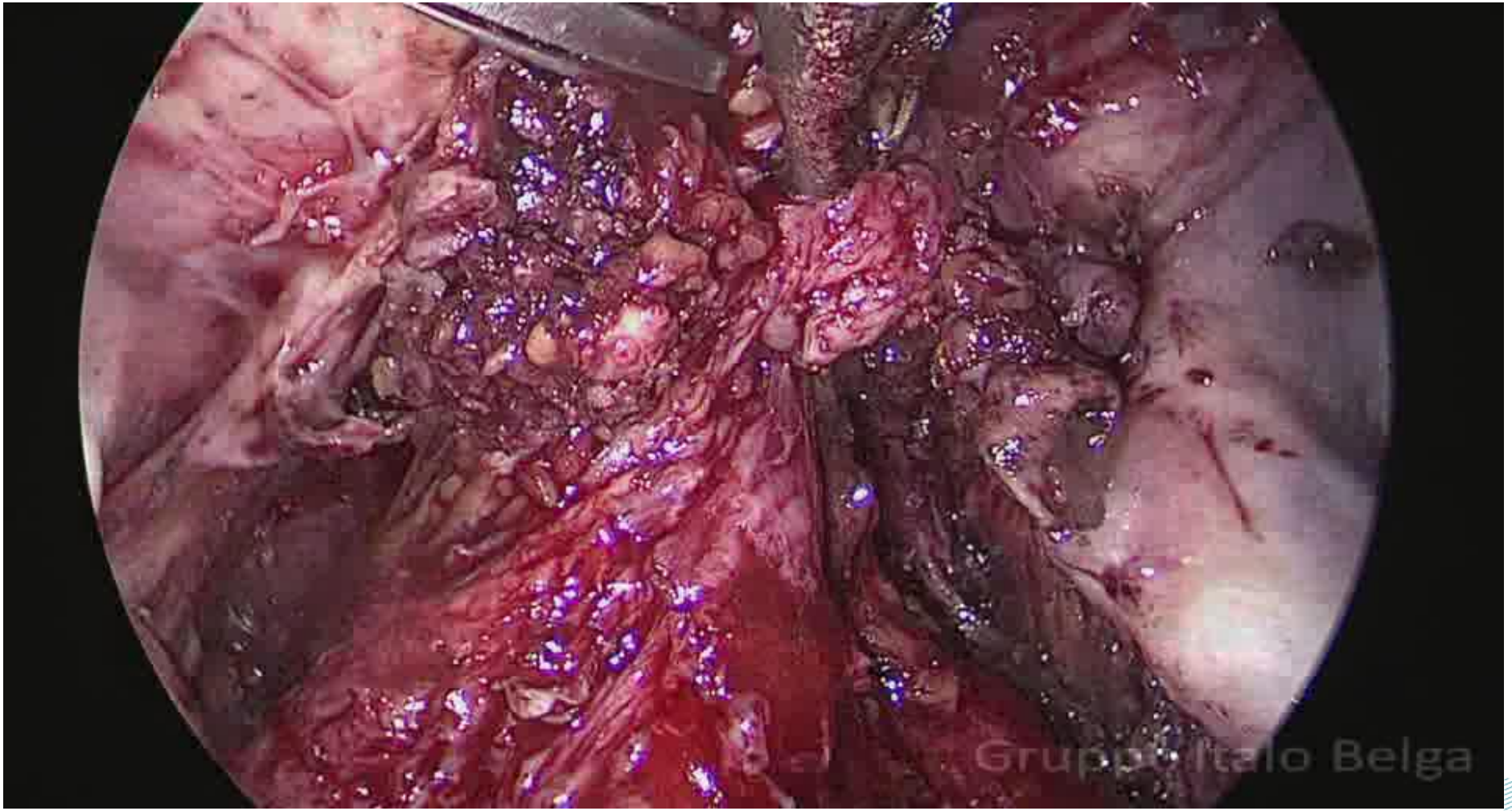

Ospedale Belga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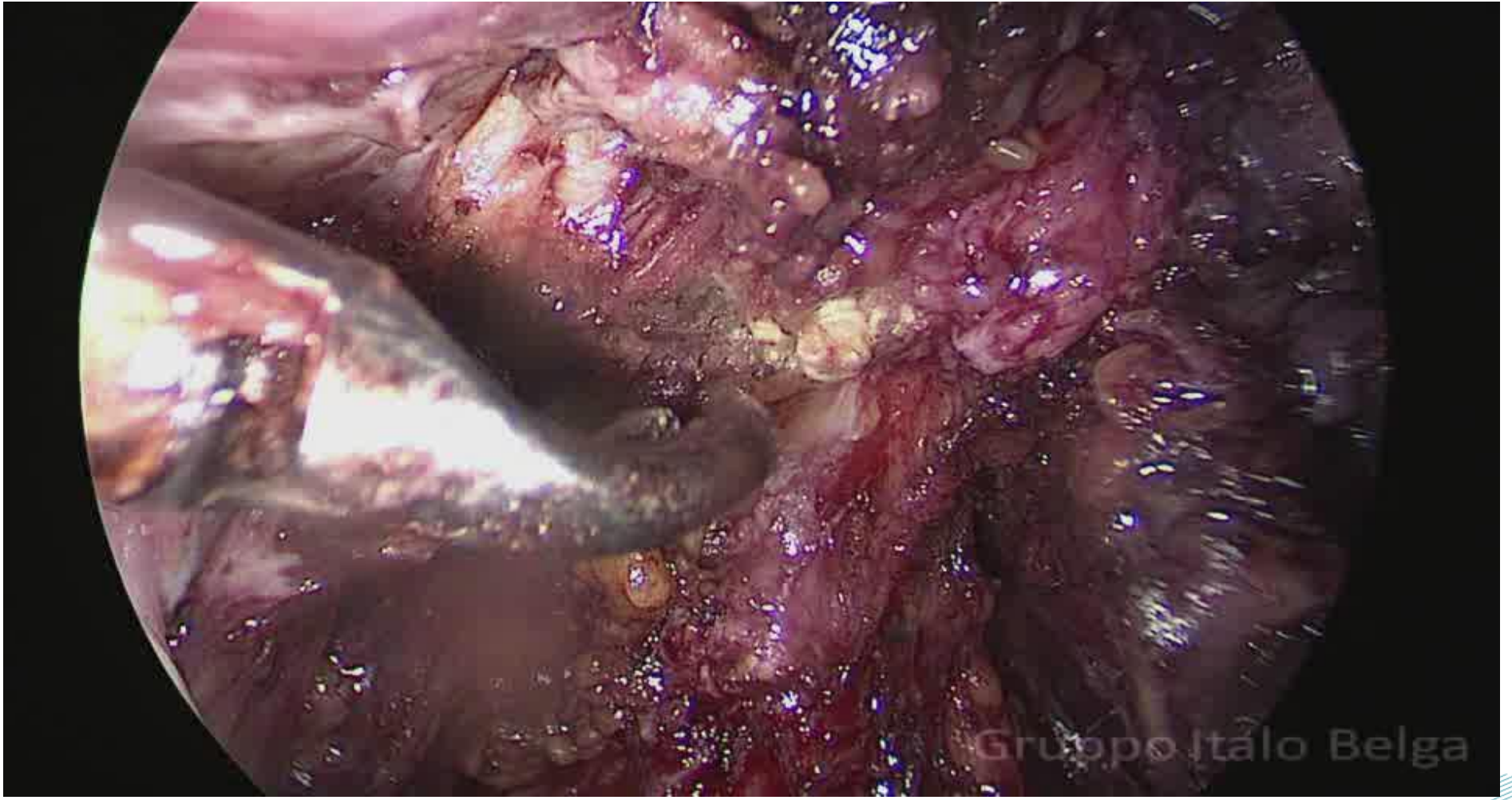
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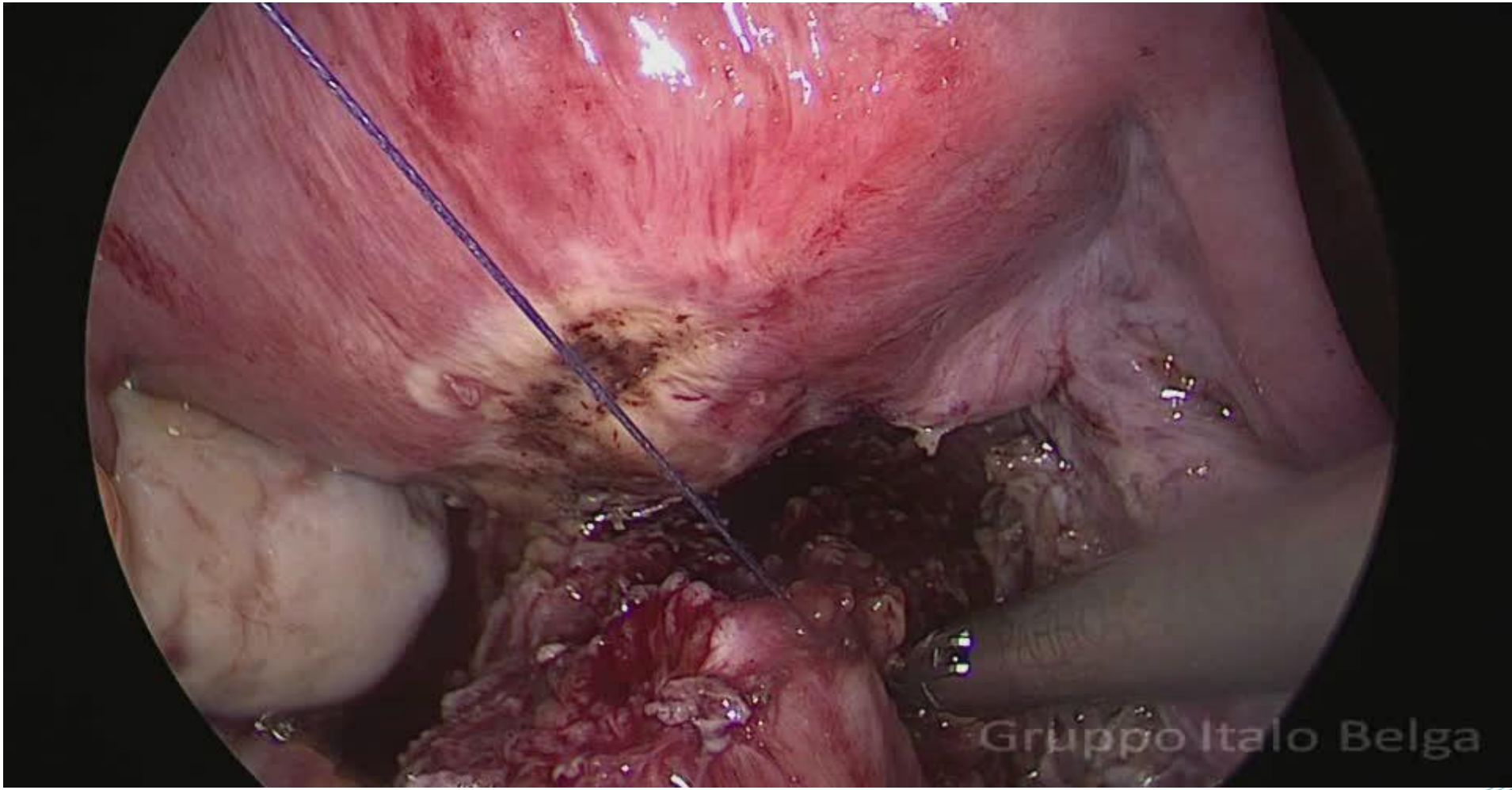

Gruppo Italo Belga

Deep endometriosis Statement III

Once the decision for surgery is taken

- Choose and know your instruments

  High flow insufflator + trocar with 7 mm side opening (to open vagina)

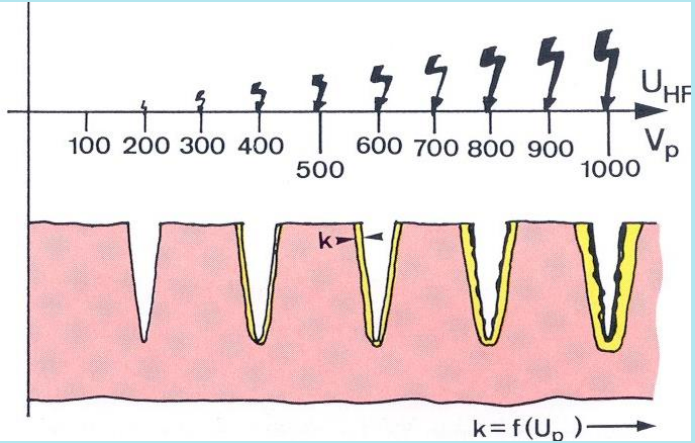
  Uterine manipulator

  Soft coagulation

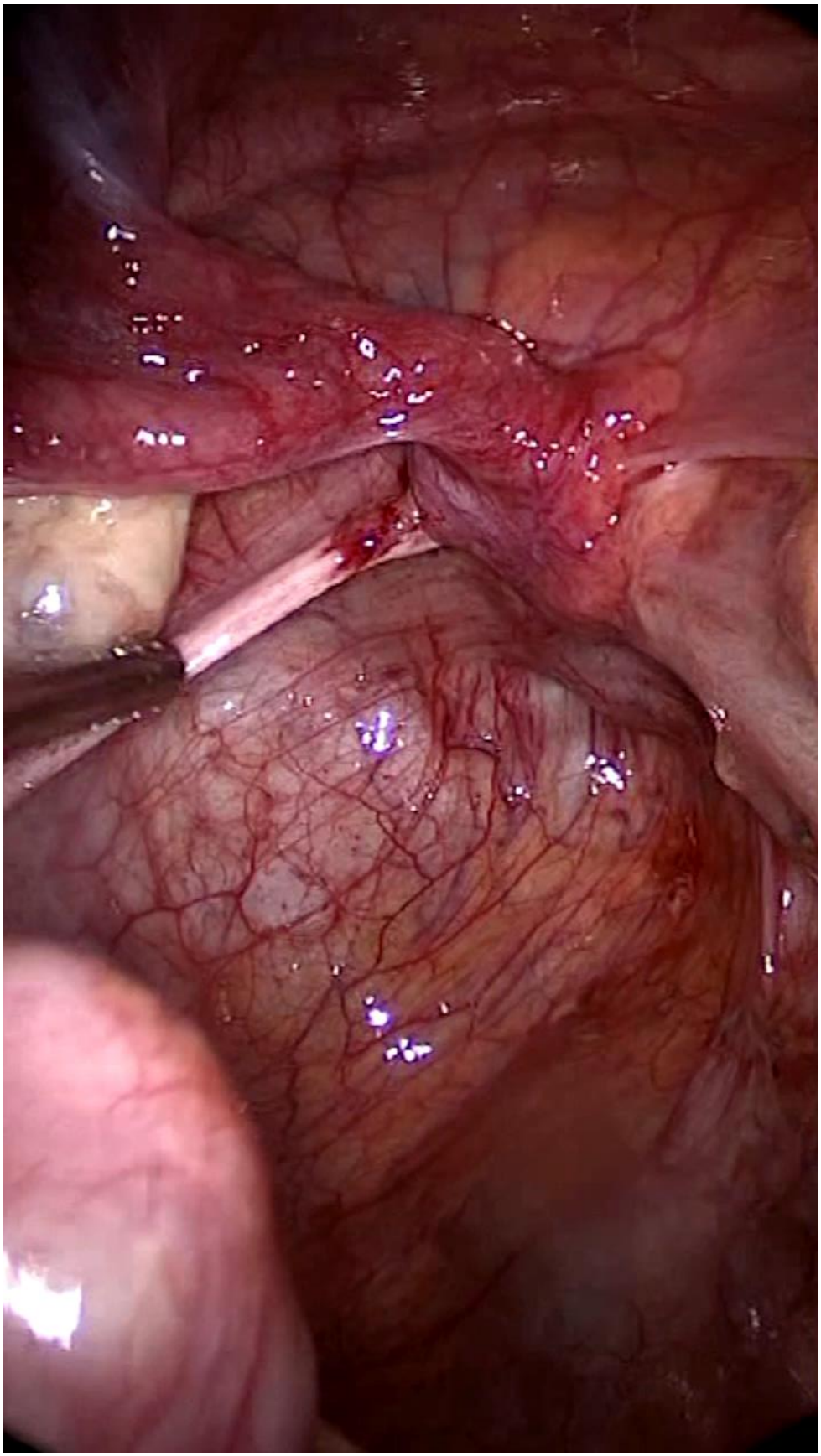
  bipolar and scissors

  CO2 laser,

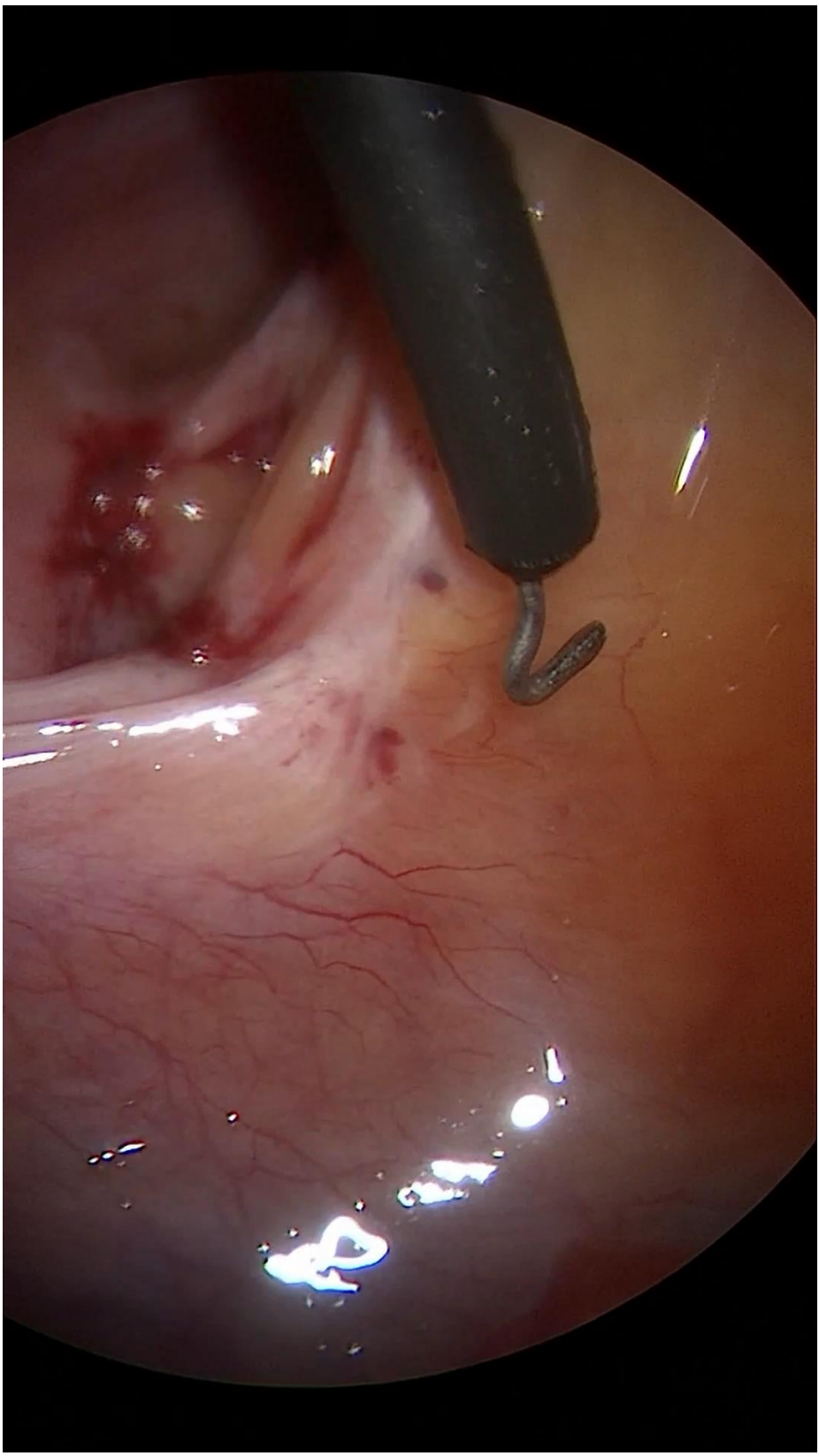
  Ultracision, hook



Courtesy of Marco Bassi



Courtesy of Marco Bassi



Conclusion: deep endometriosis excision

Facts

- Sexual problems are a complication
- The necessity of a bowel resection cannot be predicted
- Try and see if excision can be done = >95% of nodules <4*4cm
  - But 10 -> 1% small bowel openings
  - At the price of single and double layer suture

My interpretation today

- Disk excision with circular stapler is the future
  - Faster – before bowel opening – replaces extensive suturing
- Bowel resection is easier - faster – better standardised
  - Liberal use for sigmoid NOT FOR THE RECTUM

Thank you for listening