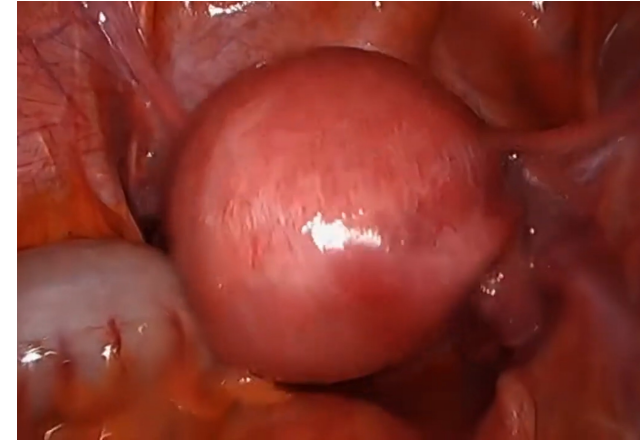
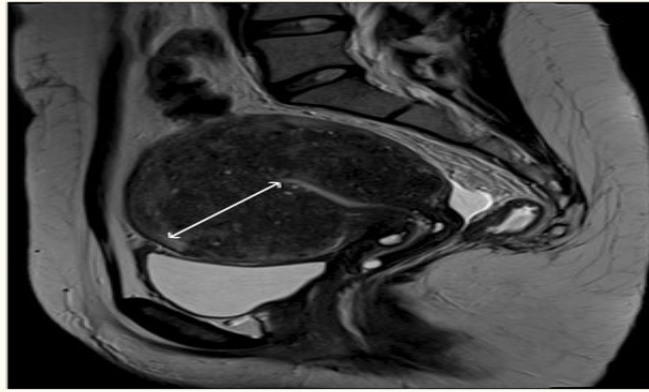
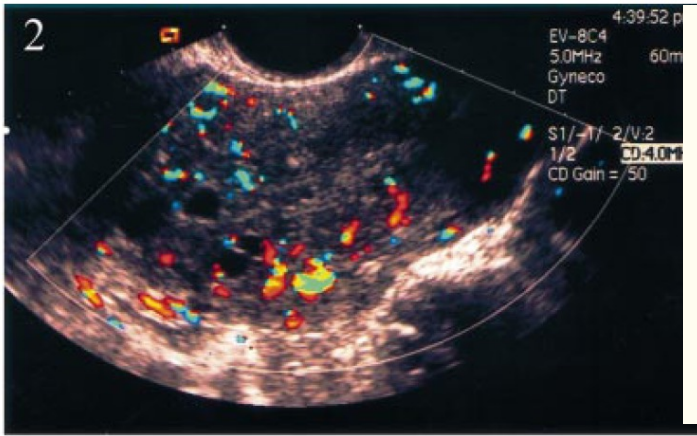




Chirurgie Conservatrice Adénomyose

Pr Abderrahim ABOULFALAH

aboulfalaha@gmail.com

CHU MOHAMMAD VI MARRAKECH



Background

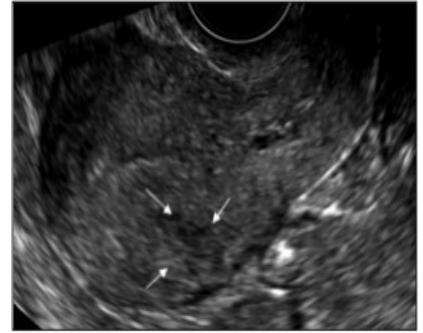
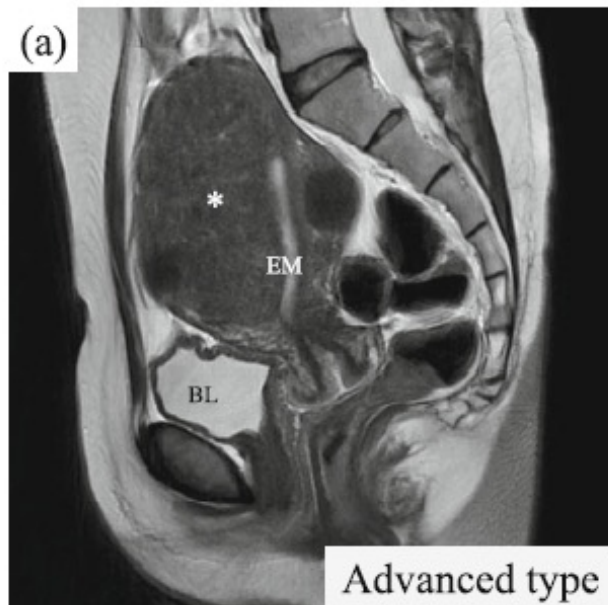
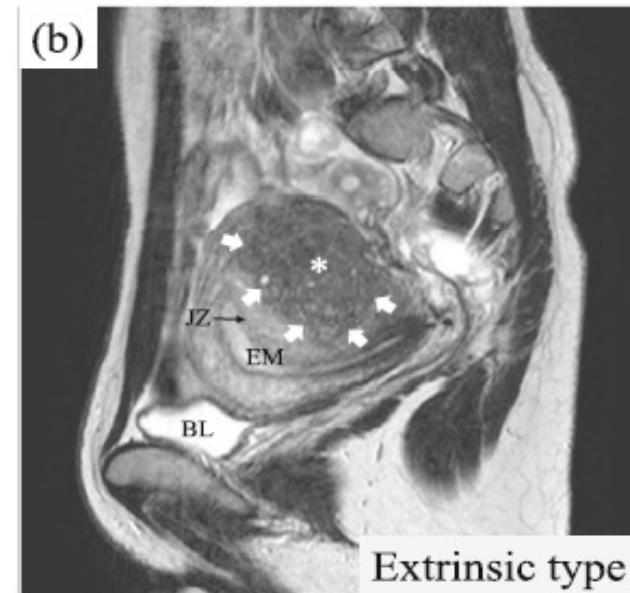


Figure 2. Focal adenomyoma (arrows).

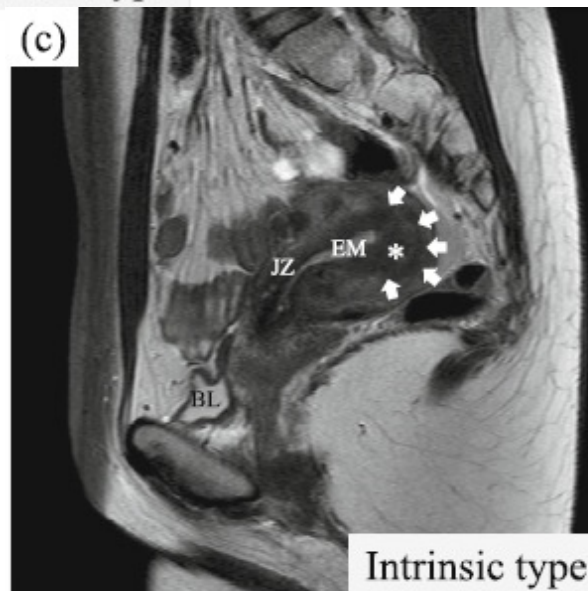
- Adenomyosis is defined by ectopic location of endometrial and stromal tissue distal to the endometrial-myometrial junction with associated myometrial smooth muscle hypertrophy.
- Approximately 20% of cases of adenomyosis involve women younger than 40 and 80% are aged 40 to 50.
- The most accepted hypothesis for the etiology of adenomyosis stems from the *invagination of the endometrial basalis layer into the myometrium*.
- Adenomyosis can be *asymptomatic* or present with *menorrhagia, dysmenorrhea, metrorrhagia, pain, infertility and implantation failure*
- *Diagnosis: US, MRI*



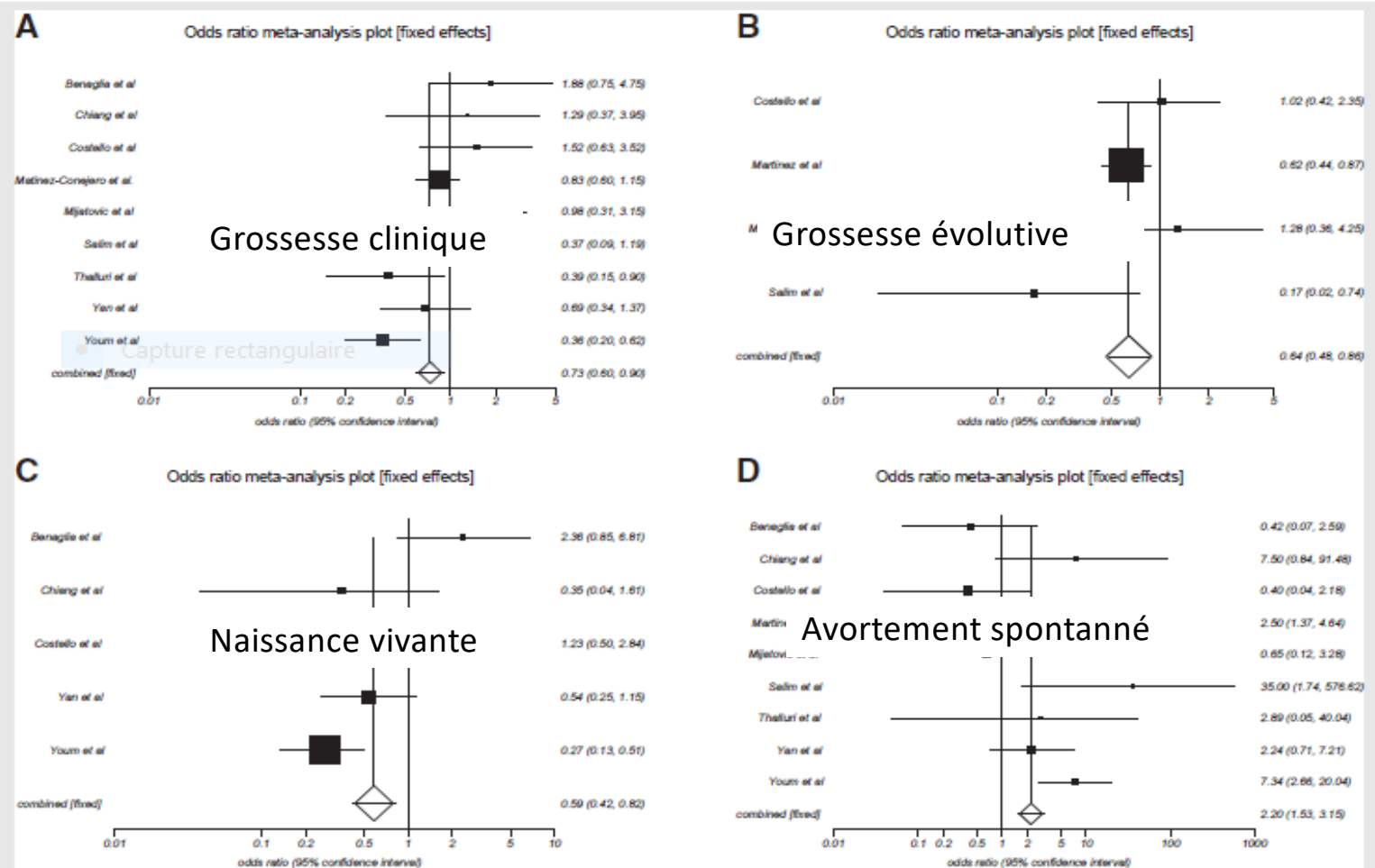
Adénomyose avancée
occupe toute l'épaisseur
du myomètre



Localisée du côté de la séreuse;
myomètre subnormal du côté
endomètre



Localisée du côté endométrial;
myomètre externe normal



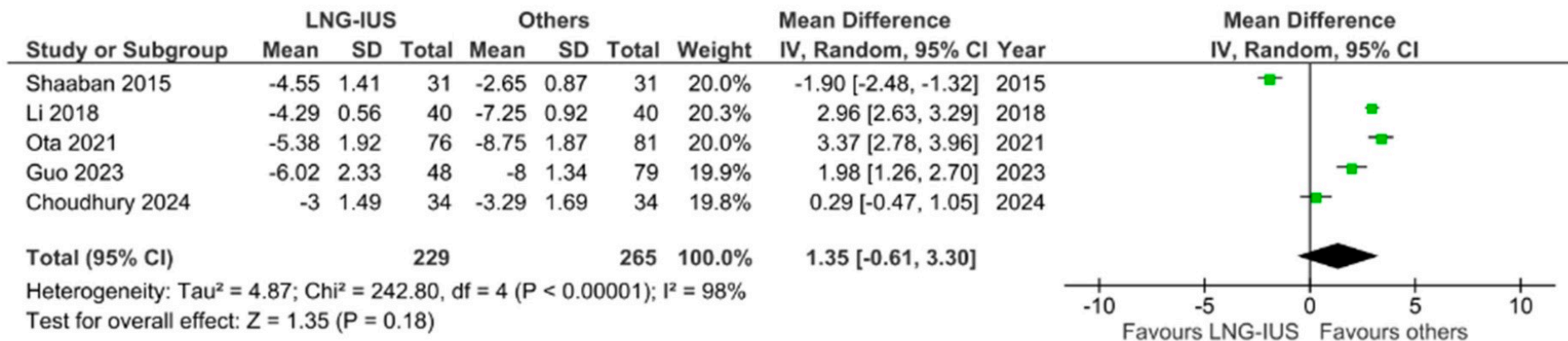
(A) Clinical pregnancy rate per cycle in women without and with adenomyosis. (B) Ongoing pregnancy rate per cycle in women without and with adenomyosis. (C) Live birth rate per cycle in women without and with adenomyosis. (D) Miscarriage rate in women without and with adenomyosis. Younes. Adenomyosis and IVF treatment outcomes. *Fertil Steril* 2017.

Réduction de 41% LBR en cas d'adénomyose et FIV

Medical therapeutic options

- Pills
- Progestins; dienogest
- LNG-IUS
- GnRHa
- Etonogestrel
- Combination

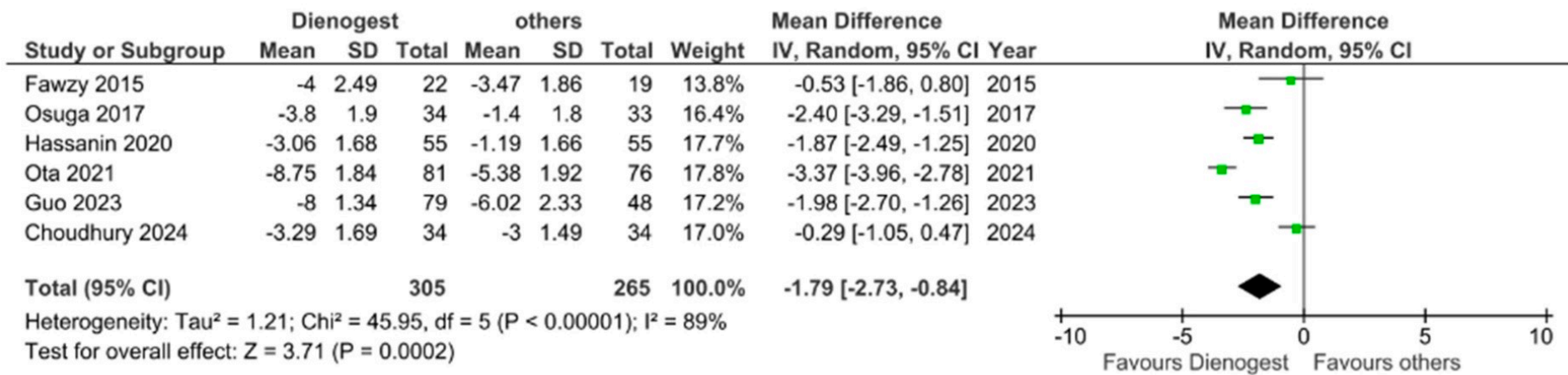
Effects of LNG-IUS in Dysmenorrhea



Forest plot—changes in dysmenorrhea: LNG-IUS vs. others in the short term

Galati, G.; The Role of Different Medical Therapies in the Management of Adenomyosis: A Systematic Review and Meta-Analysis. J. Clin. Med. 2024,13, 3302. <https://doi.org/10.3390/jcm13113302>

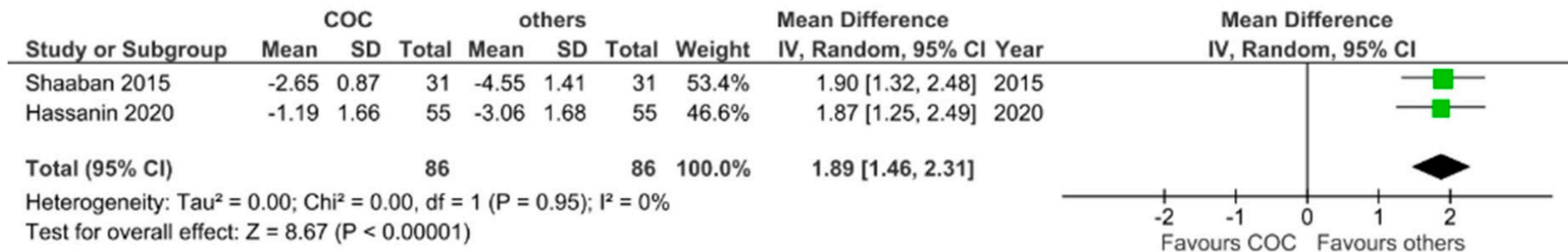
Effects of Dienogest in Dysmenorrhea



Forest plot—changes in dysmenorrhea: DNG vs. others in the short term

Galati, G.; The Role of Different Medical Therapies in the Management of Adenomyosis: A Systematic Review and Meta-Analysis. J. Clin. Med. 2024,13, 3302. <https://doi.org/10.3390/jcm13113302>

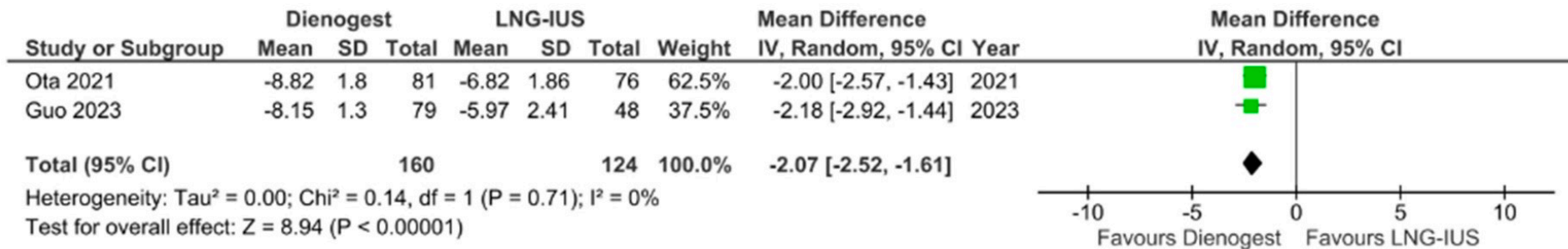
Effects of Pills in Dysmenorrhea



Forest plot—changes in dysmenorrhea: COC vs. others in the short term

Galati, G.; The Role of Different Medical Therapies in the Management of Adenomyosis: A Systematic Review and Meta-Analysis. J. Clin. Med. 2024,13, 3302. <https://doi.org/10.3390/jcm13113302>

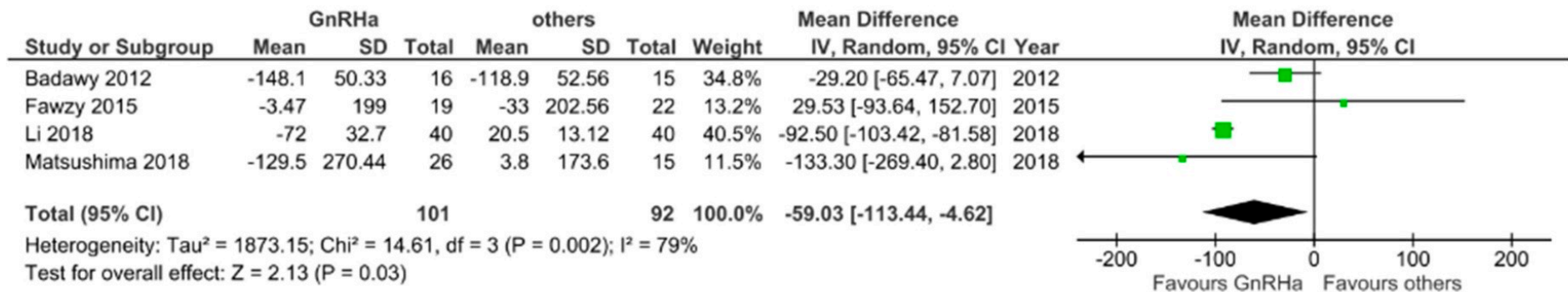
Effects of DNG vs LNG-IUS in Dysmenorrhea



Forest plot—changes in dysmenorrhea: DNG vs. LNG-IUS in the long term

Galati, G.; The Role of Different Medical Therapies in the Management of Adenomyosis: A Systematic Review and Meta-Analysis. J. Clin. Med. 2024,13, 3302. <https://doi.org/10.3390/jcm13113302>

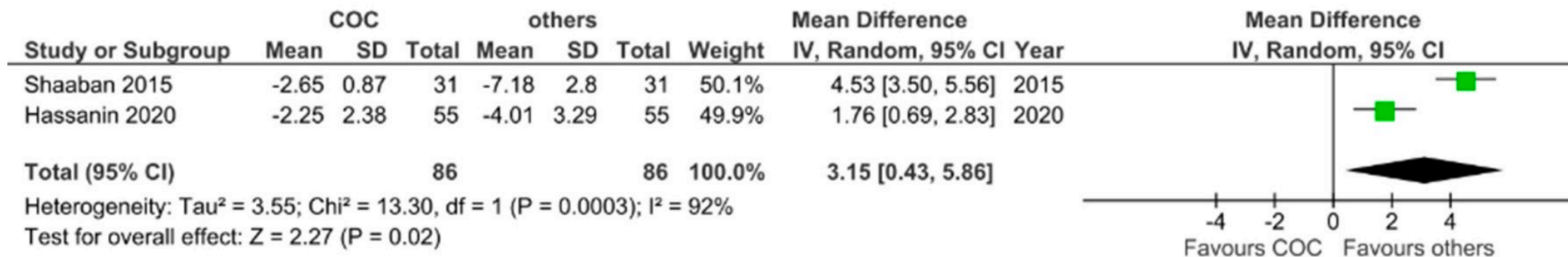
Effects of GnRHa in Uterine Volume



Forest plot—changes in uterine volume: GnRHa vs. others

Galati, G.; The Role of Different Medical Therapies in the Management of Adenomyosis: A Systematic Review and Meta-Analysis. J. Clin. Med. 2024,13, 3302. <https://doi.org/10.3390/jcm13113302>

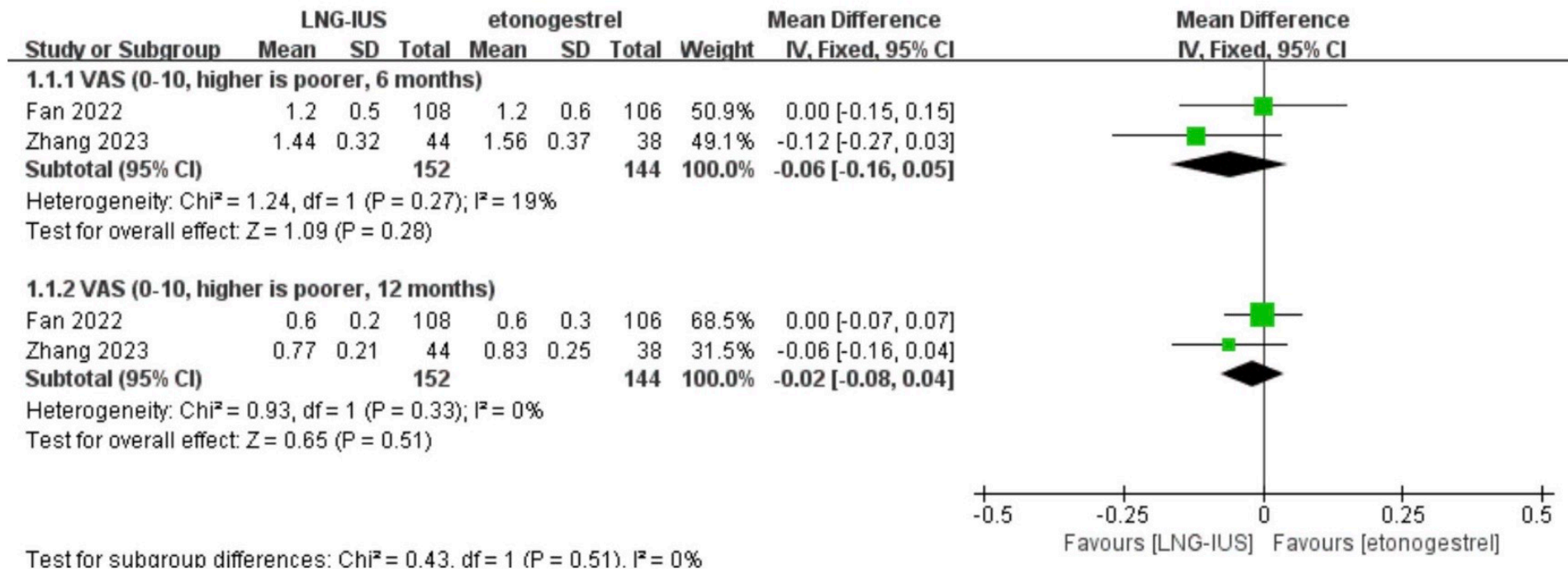
Effects of Pills in Bleeding Patterns



Forest plot—changes in bleeding patterns: COC vs. others

Galati, G.; The Role of Different Medical Therapies in the Management of Adenomyosis: A Systematic Review and Meta-Analysis. J. Clin. Med. 2024,13, 3302. <https://doi.org/10.3390/jcm13113302>

Effects of Etonogestrel in symptoms of Adenomyosis



Moins efficace sur le volume utérin; Plus d'effets secondaires

Zhang et al. The role of different LNG-IUS therapies in the management of adenomyosis: a systematic review and meta-analysis
Reproductive Biology and Endocrinology (2025) 23:23

Effects of different medical therapies in symptoms of adenomyosis

➤ Dysmenorrhea: Dienogest > LNG-IUS > COC

GnRHa short reduction

➤ Bleeding Patterns: LNG-IUS, Dienogest > COC

GnRHa short reduction

➤ Uterine volume: GnRHa > LNG-IUS, Dienogest, COC

➤ Infertility: ultra long GnRHa, LNG-IUS > Dienogest, COC

Effects of combination of different medical therapies in Adenomyosis

- The final analysis included 28 studies. Compared with etonogestrel, LNG-IUS was more effective in reducing uterine volume and associated with a lower risk of weight gain, but showed no significant difference in reducing dysmenorrhea and endometrial thickness. Comparing LNG-IUS with mifepristone, there was no significant difference in terms of quality of life. The combination of LNG-IUS with Gonadotropin-releasing hormone agonists (GnRH-a) was more effective than LNG-IUS alone, providing benefits in reducing dysmenorrhea, menstrual bleeding, uterine volume, endometrial thickness, and adverse events. The combination of LNG-IUS with surgical excision was more effective than surgical excision alone, providing benefits in reducing dysmenorrhea, menstrual bleeding at 12 months, reducing uterine volume at 6, 12 and 24 months. The combination of LNG-IUS with focused ultrasound ablation (FUA) was more effective than FUA alone, providing benefits in reducing dysmenorrhea, menstrual bleeding.
- This study found no clear evidence to recommend single-drug therapy for improving pain and quality of life in Adenomyosis management within 12 months. Combining LNG-IUS with GnRH-a is effective in alleviating pain, controlling heavy bleeding, reducing lesion volume, reducing the probability of expulsion and irregular bleeding.

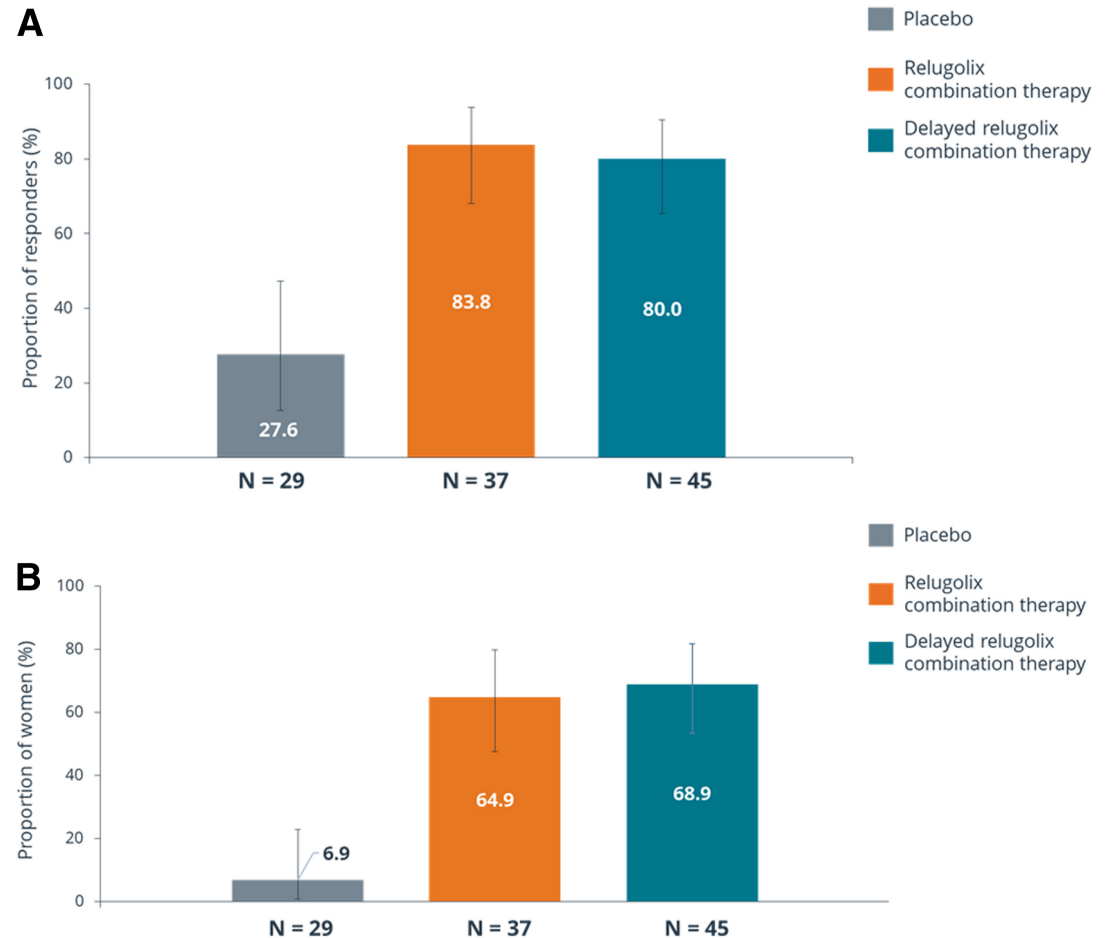
Efficacy and safety of relugolix combination therapy in women with uterine fibroids and adenomyosis: subgroup analysis of LIBERTY 1 and LIBERTY 2

Objective: To assess the effects of relugolix combination therapy in women with uterine fibroids (UFs) and concomitant ultrasound-diagnosed adenomyosis.

Intervention: Once-daily relugolix combination therapy (40 mg relugolix, 1 mg estradiol, and 0.5 mg of norethindrone acetate) or placebo for 24 weeks, or delayed relugolix combination therapy (40 mg of relugolix monotherapy for 12 weeks, followed by relugolix combination therapy for 12 weeks).

Réduction du volume utérin
Possible effet sur les échecs d'implantation?

Catherino, Fertil Steril. 2025



Que faire quand rien ne marche plus:
persistance des symptômes ou échecs
répétés d'implantation



Recours à la chirurgie conservatrice

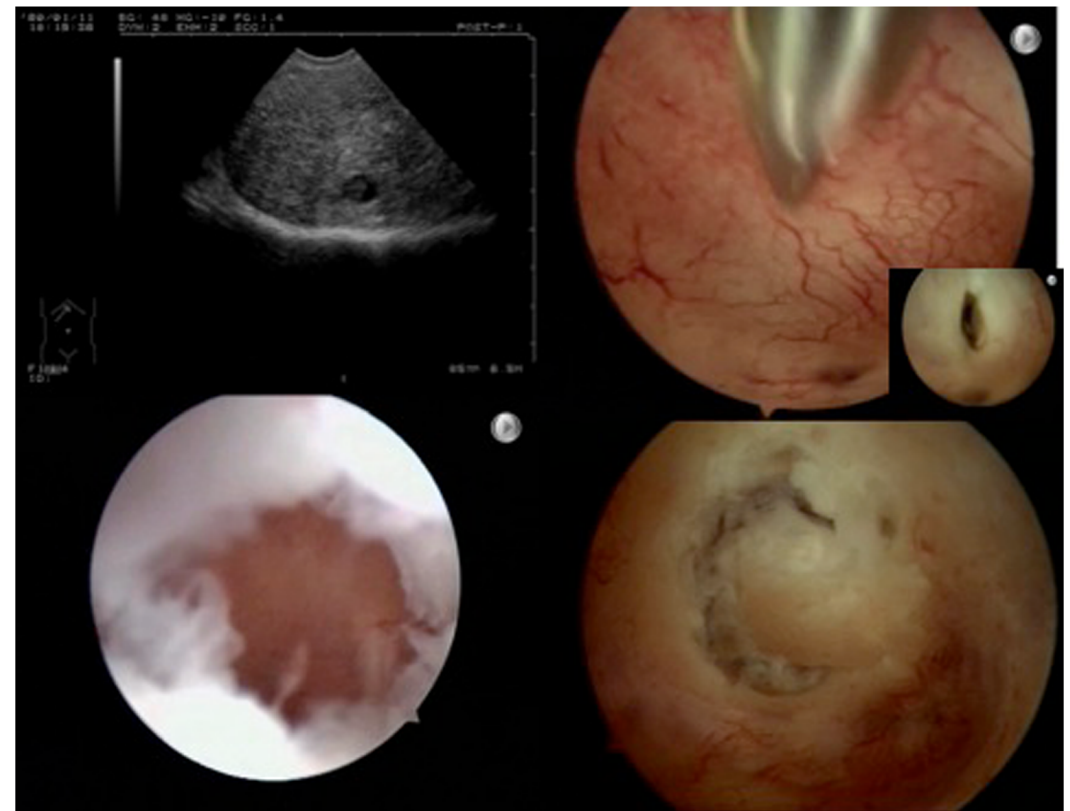
Treatments for Adenomyosis in Infertility

- Multiple methods of **fertility-sparing surgery** for adenomyosis have been performed with subsequent results.
- These techniques include:
 - Hysteroscopy, laparotomy, laparoscopy
 - Classical adenomyomectomy
 - H-incision
 - Triple-flap method
 - Laparoscopic cytoreductive surgery

Hysteroscopic diagnosis and excision of myometrial cystic adenomyosis

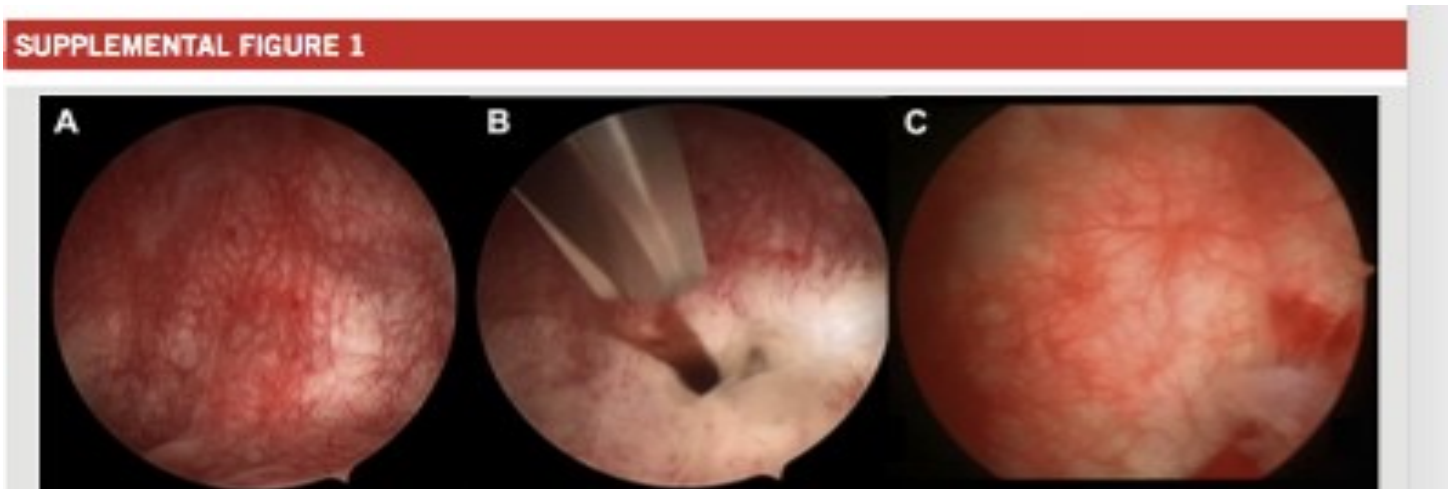
S. Gordts · R. Campo · I. Brosens

Fig. 2 Case no. 1. **a** Cystic adenomyotic lesion at transvaginal ultrasound. **b** Abnormal vascularization and detail of the opened cyst after outflow of the brownish fluid. **c** Inside view of the cystic structure. **d** Dissection of cyst using 5-Fr scissors



C. Yazbeck - Adenomyose

Hysteroscopy in adenomyosis

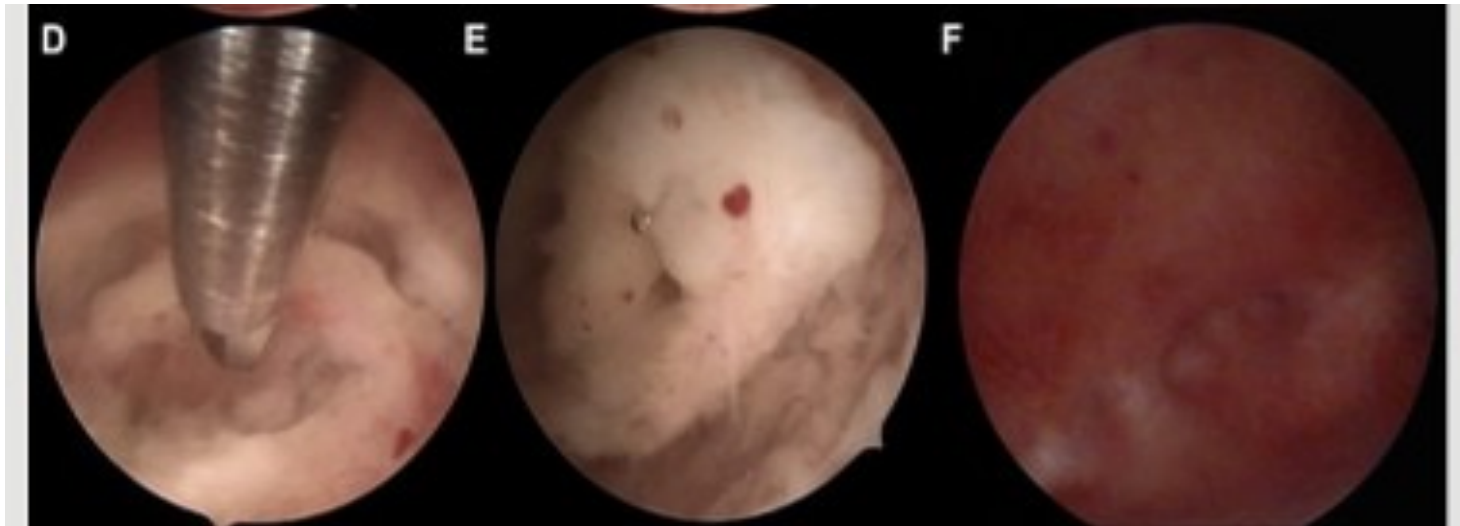


Adenomyosis (*sub-endometrial cystic structures*):

- (A). by lowering intra-uterine pressure abnormal vascularization and cystic bulging hiding adenomyotic cyst can clearly be identified;
- (B). opening cyst with scissors with outflow of chocolate content;
- (C). insight view of adenomyotic cyst;

[Gordts et al 2018]

Hysteroscopy in adenomyosis



Adenomyosis (*sub-endometrial cystic structures*):

(D) progressive dissection of cyst with scissors;

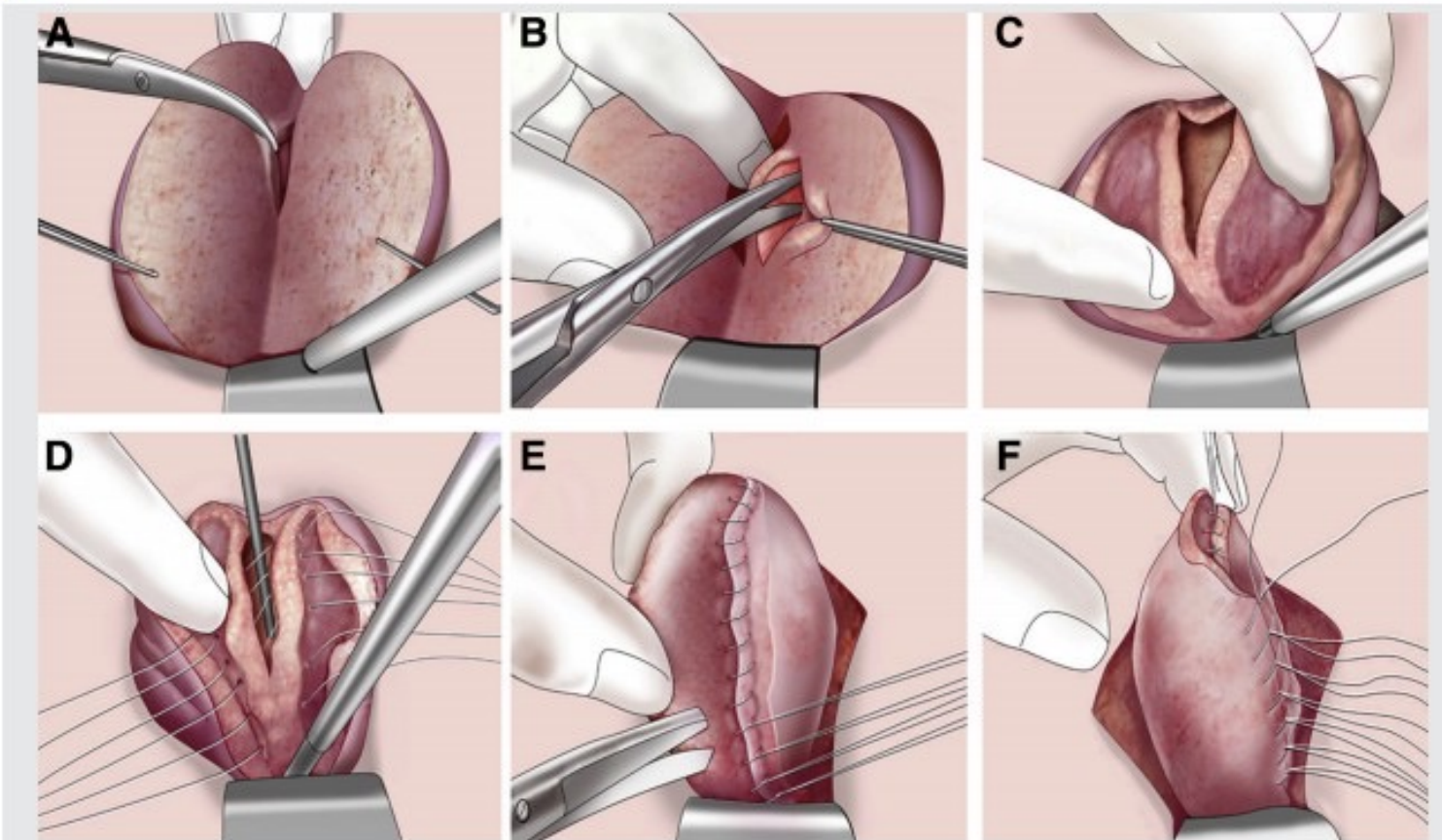
(E) view of dissected cyst, arrow showing the opening of initial access with scissors; and

(F) postoperative control after 12 weeks (defect is still visible).

[Gordts et al 2018]

Surgical treatment for adenomyosis

FIGURE 1

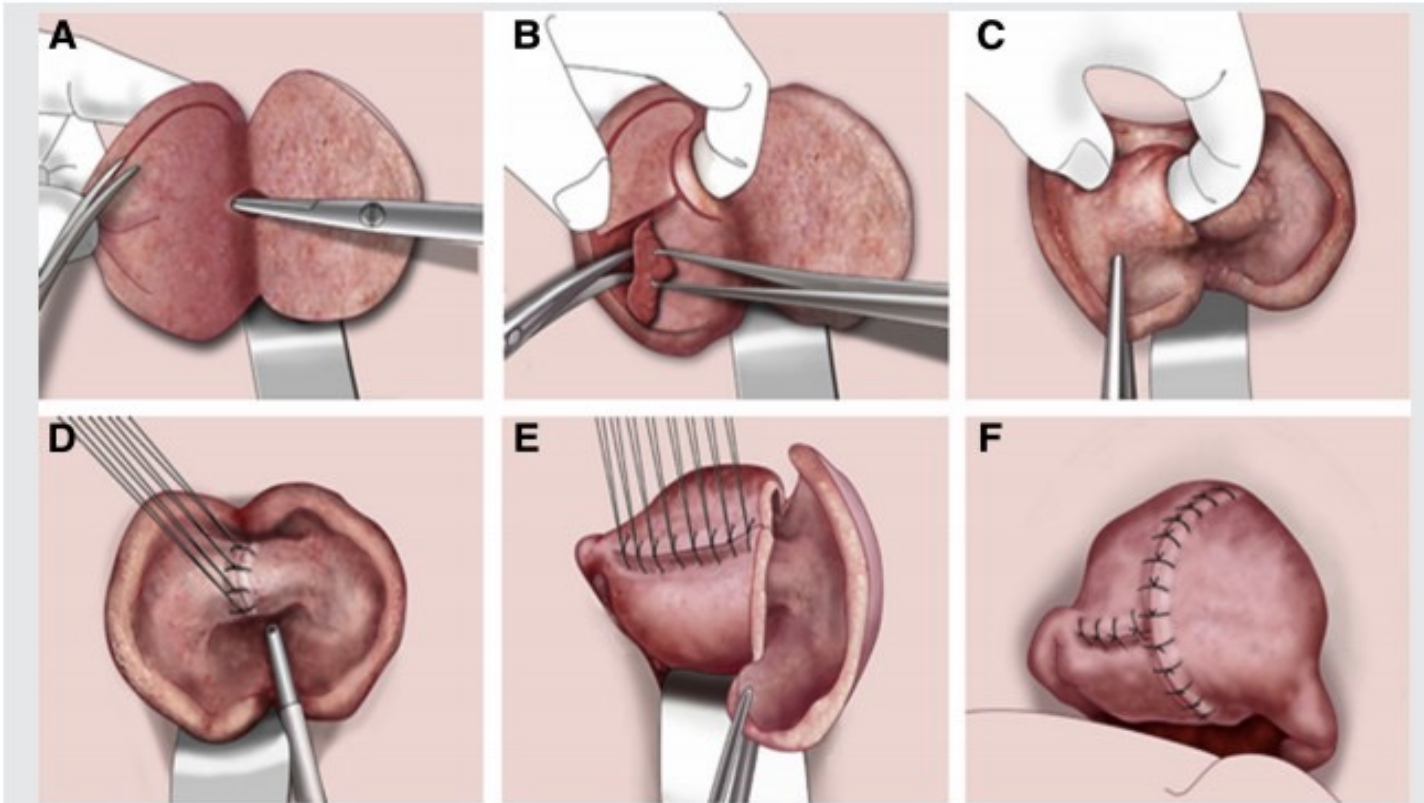


Example of Triple-flap method applied to the posterior uterine wall adenomyosis (Adapted from Osada H. Shikyusenkinsho. [Uterine adenomyosis.] In: Osada H. Jissen fujinka fukkukyoka-shujutsu. [Laparoscopy for gynecology: a comprehensive manual and procedure DVD]. Tokyo: Medical View, 2009 [8].).

Osada. Uterine adenomyosis and adenomyoma. Fertil Steril 2018.

Surgical treatment for adenomyosis

FIGURE 2



Example of Triple-flap method applied to the anterior and posterior uterine wall adenomyosis (Adapted from Osada H. Shikyusenkinsho. [Uterine adenomyosis.] In: Osada H. Jissen fujinka fukkukyoka-shujutsu. [Laparoscopy for gynecology: a comprehensive manual and procedure DVD]. Tokyo: Medical View, 2009 [8].).

Osada. Uterine adenomyosis and adenomyoma. Fertil Steril 2018.

Surgical treatment for adenomyosis

- Surgical management of adenomyomas and adenomyosis can present an **operative challenge**, especially compared with myomectomy.
- Adenomyomas are less distinct given absence of well- defined borders and given protrusion into the myometrium.
- During dissection, the plane is identified mainly by **recognizing healthy myometrium** rather than simple enucleation as in myomectomies.
- This can lead to **increased risk of intraoperative bleeding and weakening of the myometrium**, which can increase risk of uterine rupture or abnormal placentation in future.

Conservative surgical management of adenomyosis on fertility outcomes



Journal of
Clinical Medicine

2024



Review

The Impact of Conservative Surgical Treatment of Adenomyosis on Fertility and Perinatal Outcomes

Gaby Moawad ^{1,2,*} , Youssef Youssef ³ , Arrigo Fruscalzo ⁴ , Hani Faysal ⁵, Manuel Merida ⁶, Paul Pirtea ⁷ ,
Benedetta Guani ⁴ , Jean Marc Ayoubi ⁷ and Anis Feki ⁴ 

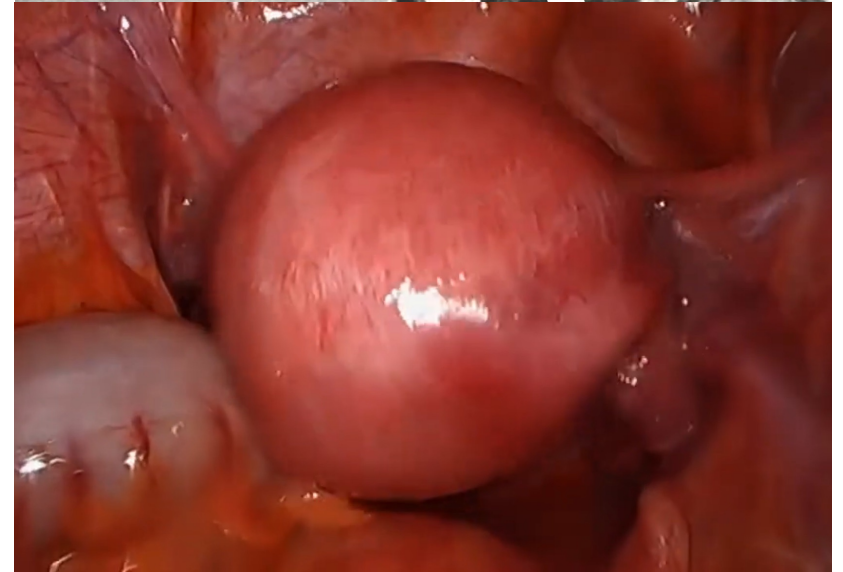
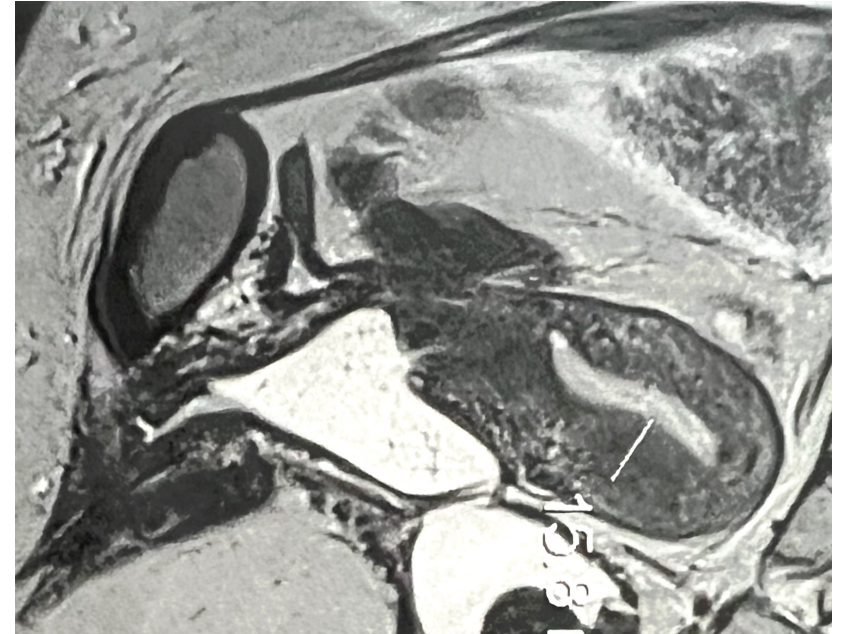
Abstracts were screened, and relevant articles were selected for review. This review reveals that surgery appears to improve fertility outcomes with or without medical therapy; however, the risk of uterine rupture remains high and the best technique to reduce this risk is still not known. More studies are needed to formulate the best surgical approach for preserving fertility in treating adenomyosis and to establish standardized guidelines.

Fertility Outcomes after Uterus Conservative Surgeries for Focal Adenomyosis								
Name of Author	Type of Study	N	Method of Diagnosis	Classification	Surgical Approach	N Desiring Fertility	N(%) Getting Preg-nant/Method	Successful Deliver-ies
Fedele et al., 1993 [19].	Retrospective	28	US and MRI	Focal	Excision/Laparotomy	18	13 patients (72%) 18 pregnancies 17 natural, 1 IVF	9 (50%)
Fujishita et al., 2004 [20].	Retrospective	9	US ± MRI	Focal	Laparotomy: Cytoreductive 4 Excision/ 5 modified H	3 4	0 2 (50%), Natural	1 CS & 1 ongoing
Wang et al., 2009 [21].	Prospective	51	US	Focal	Excision/ Laparotomy or Laparoscopy	27	20 (74%) All Natural	17 (63%)
Kishi et al., 2014 [23].	Retrospective	104	MRI	Ant wall Post wall JZ changes Endometrio-sis	Excision by laparoscopy	102	Total preg. 36 (35.2%) Clinical preg. 32 (31.4%) 16 natural/16 IVF	N/A
Guy et al., 2016 [22].	Retrospective	12	US	Focal (Local Adenomy-oma)	Laparoscopy Excision	12	5 (41.6%)	N/A
Tamura et al., 2017 [25].	Retrospective Question-naire	336	US and MRI	Focal	N/A	23	9 (39%)	N/A
Fertility Outcomes after uterus conservative surgeries for Diffuse adenomyosis								
Saremi et al., 2014 [31].	Prospective	103	TVUS and HSG	Diffuse	Laparotomy Wedge technique and overlapping flaps	70	21 patients (30%) 14 ART 7 Natural	16 (22.8%)

Pregnancy Outcomes after Uterus Conservative Surgeries for Adenomyosis						
Name of Author	Type of Study	N	Classification	Surgical Technique	N of Clinical Pregnancies (Deliveries)	Pregnancy Outcomes
Otsubo et al., 2016 [49]	Retrospective	23	- Diffuse	- Laparotomy, asymmetrical technique	23 (13)	- 8 Miscarriages
Ono et al., 2023 [50]	Retrospective	43	- Focal and Diffuse	- Laparoscopy	17 (17)	- 5 Preterm deliveries
Wang et al., 2009 [44]	Retrospective	165	- Focal	- Laparotomy or laparoscopic, and medical	55 (49)	- 6 Miscarriages - 7 Preterm deliveries
Kishi, et al., 2014 [23]	Retrospective	102	- Diffuse	- Laparoscopy	32 (15)	- 2 Placenta accreta
Tamura et al., 2017 [25]	Retrospective	84	- Focal and Diffuse	- Laparotomy and laparoscopy	33 (-)	- 10 Miscarriages
Saremi et al., 2014 [31]	Prospective	103	- Diffuse	- Laparotomy with wedge technique with overlapping flaps	21 (16)	- 4 Miscarriages - 2 Uterine ruptures - 1 Stillbirth
Yoon et al., 2023 [33]	Retrospective	50	- Diffuse	- Laparotomy with Argon beam, and medical	18 (10)	- 8 Miscarriages
Osada et al., 2011 [35]	Prospective	104	- Diffuse	- Laparotomy with triple-flap method	16 (14)	- 2 Miscarriages
Nishida et al., 2009 [51]	Retrospective	44	- Diffuse	- Laparotomy with asymmetric resection	2 (1)	- 1 Interstitial pregnancy
Hadisaputra et al., 2006 [39]	Randomized control trial	20	- Focal and Diffuse	- Laparoscopic with or without myolysis, and medical	5 (2)	- 1 PROM - 1 Uterine rupture - 1 Stillbirth
Rajuddin et al., 2006 [38]	Retrospective	32	-	- Combined surgical and medical	3 (2)	- 1 Miscarriage
Al-Jama et al., 2011 [40]	Retrospective	18	- Focal	- Classical technique, and medical	8 (6)	- 2 Miscarriages
Chang et al., 2013 [41]	Retrospective	56	- Focal	- Laparotomy and medical	27 (15)	- 4 Miscarriages - 1 Ectopic pregnancy - 2 Preterm deliveries
Zhou et al., 2022 [43]	Retrospective	137	- Diffuse	- Laparotomy and medical	62 (45)	- 14 Miscarriages - 6 Preterm deliveries

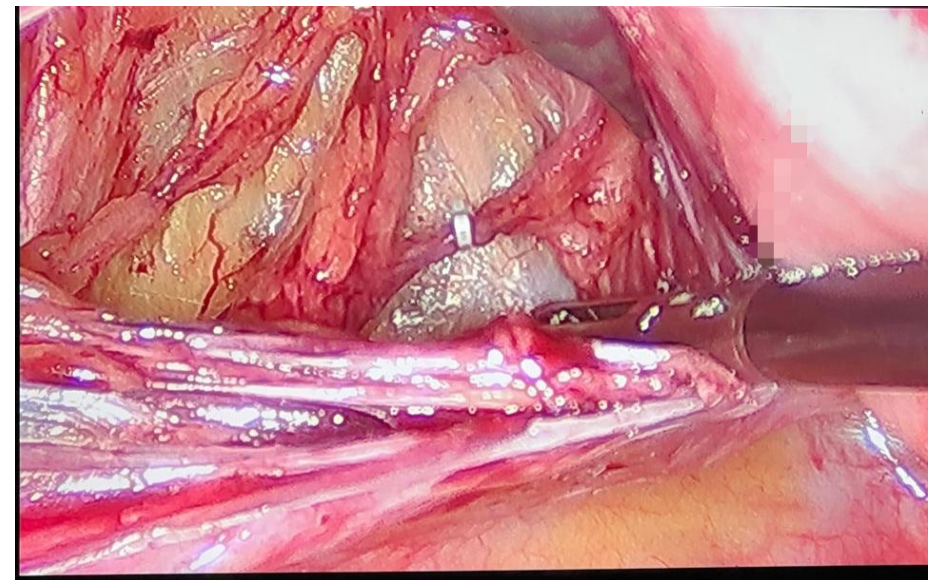
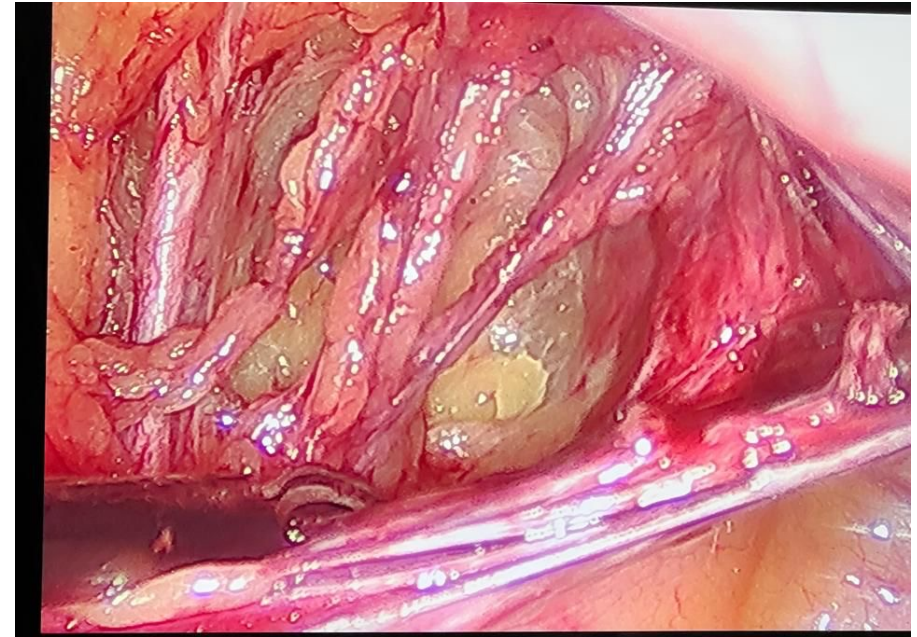
Cas clinique

- 26 ans, 3 EV
- Dysménorrhées, ménométrorragies
- Echec pilule en continu, dienogest, retrait du Mirena
- Problème de sensibilisation: GnRHa, antidépresseur
- Bilan gastro et IRM lombaire normaux
- Que faire



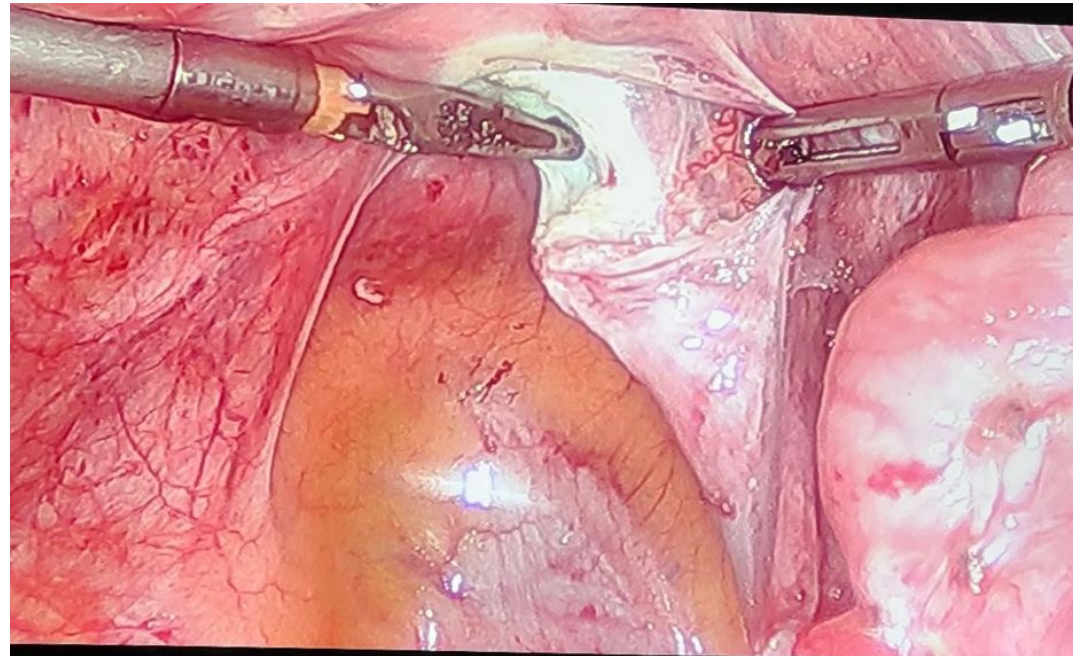
Cas clinique

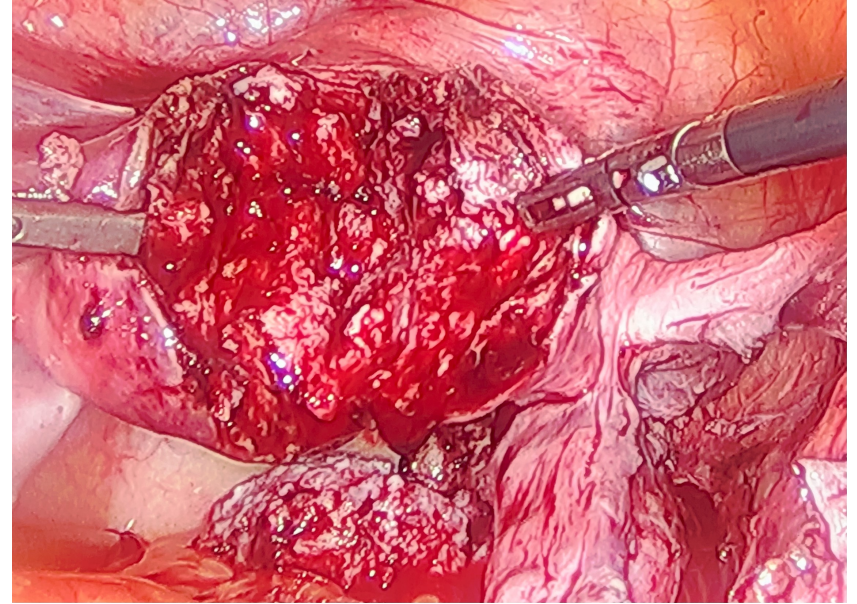
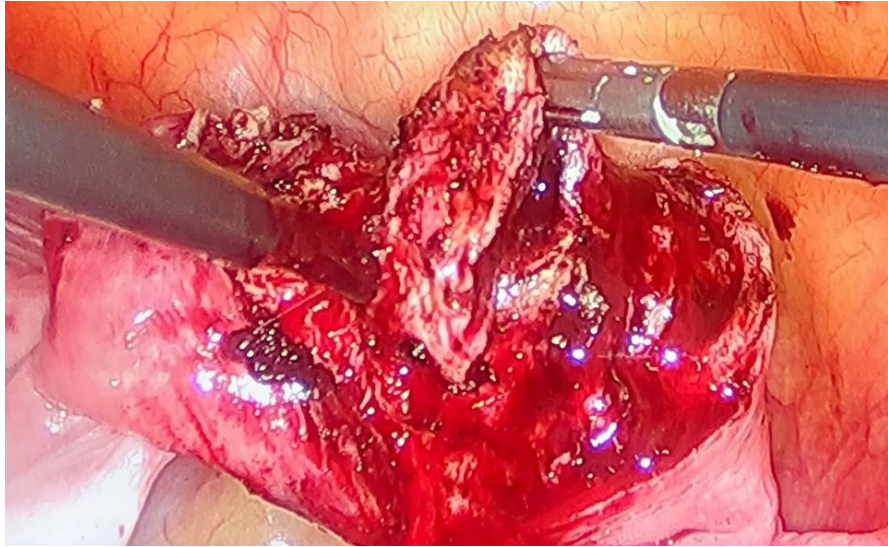
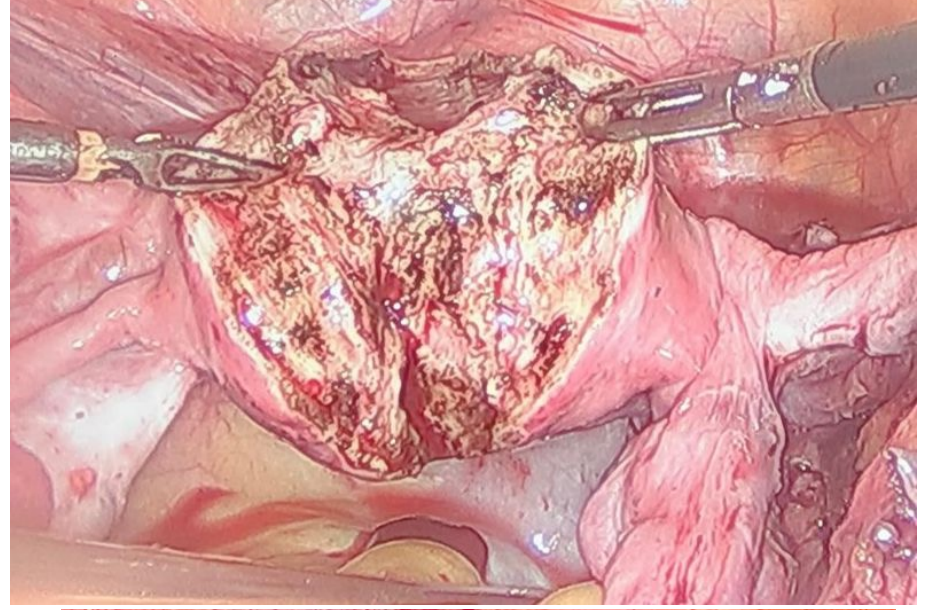
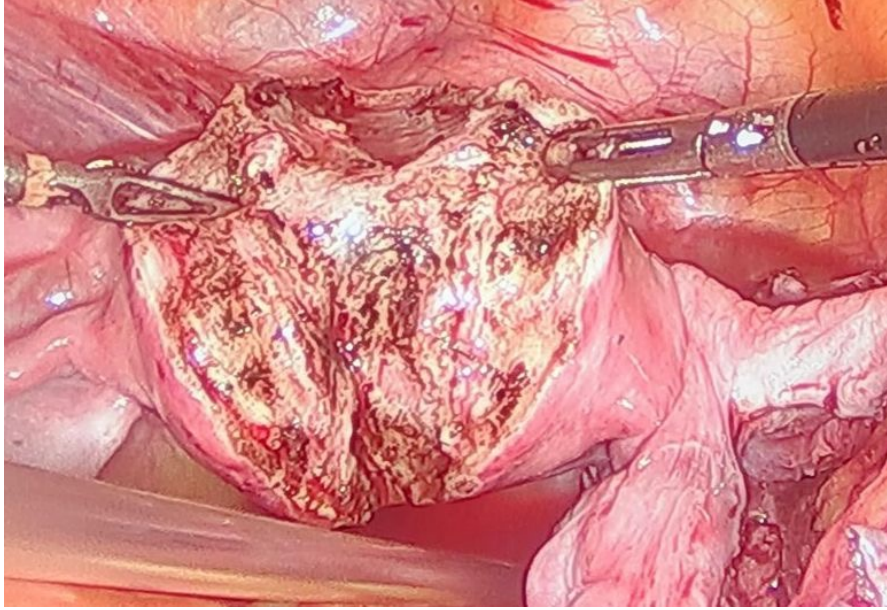
- Chirurgie conservatrice
- Gestes préventifs:
 - Clipage des artères utérines
 - Tourniquet
 - Injection vasopressine, adrénaline
- Repérage endomètre:
 - ICG
 - Bleu

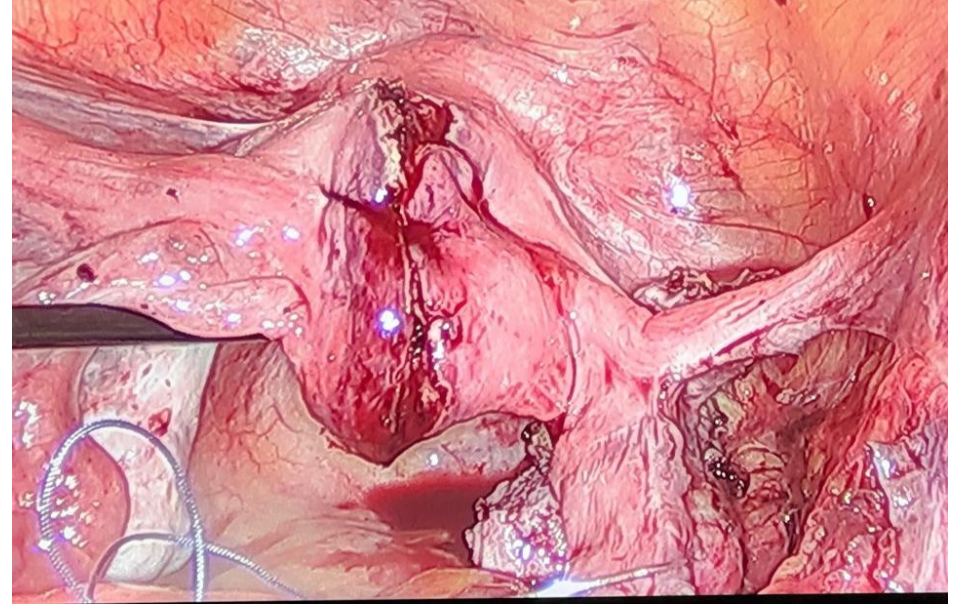
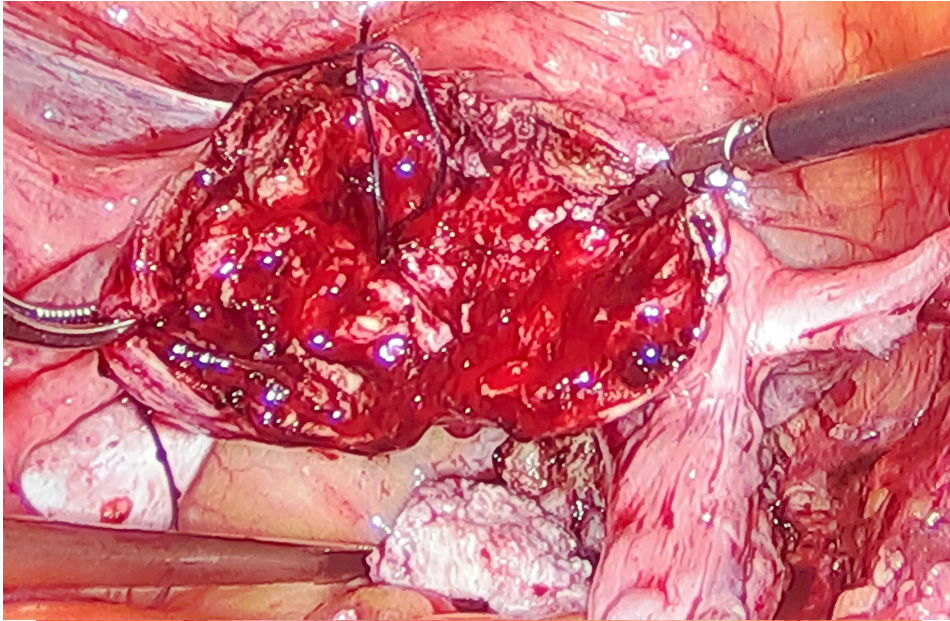


Cas clinique

- Exploration: recherche d'autres lésions
- Ligament utérosacré droit douteux
- Résection, ouverture du vagin accidentelle

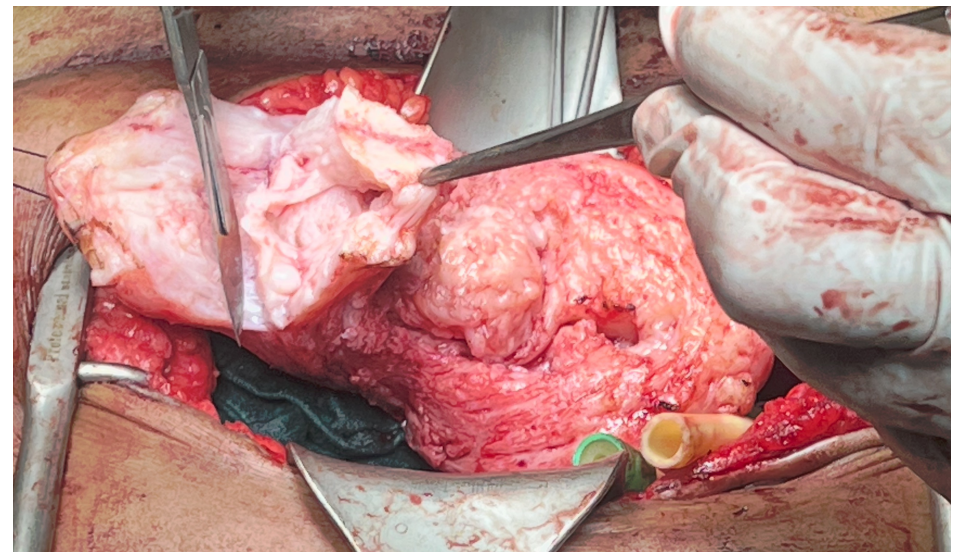
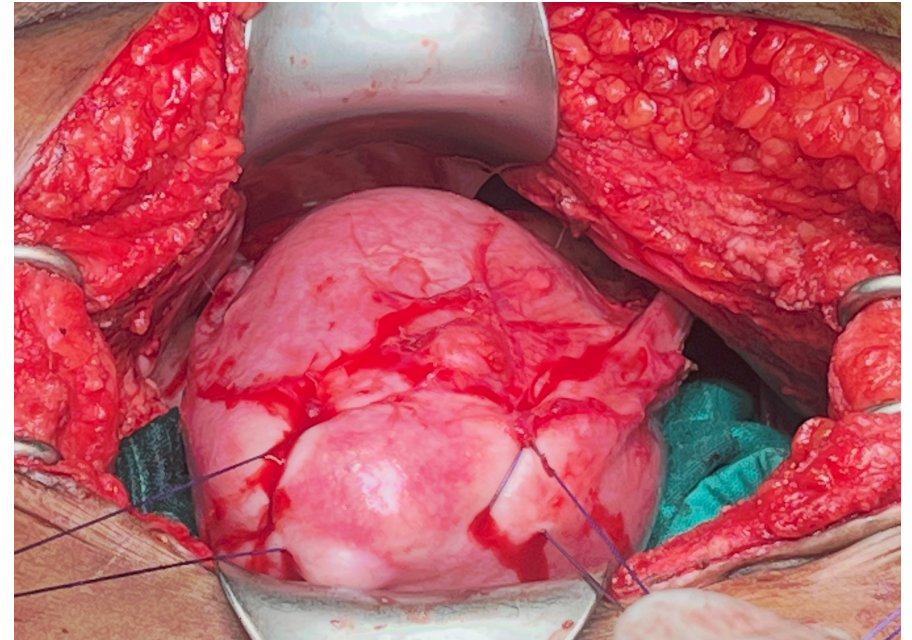
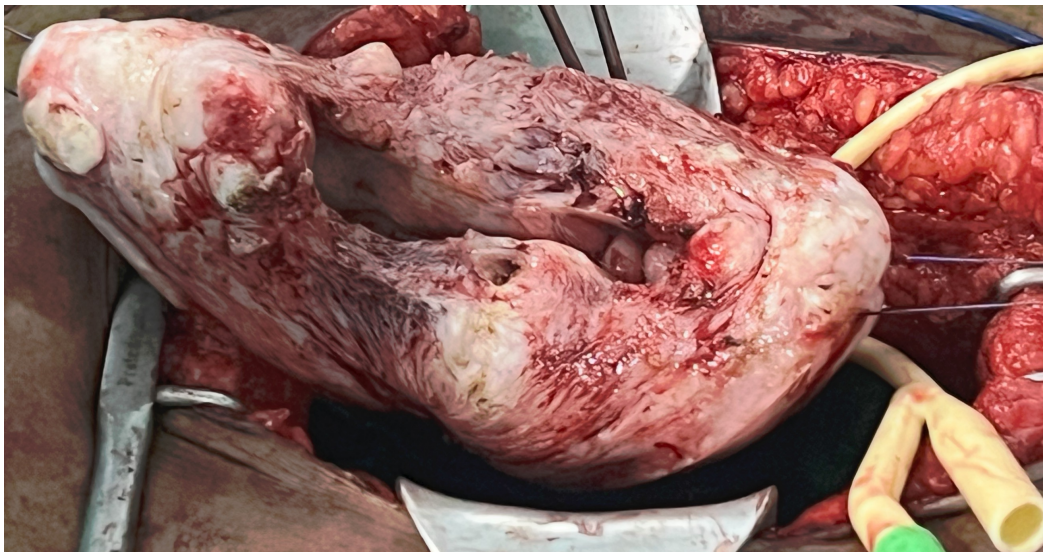


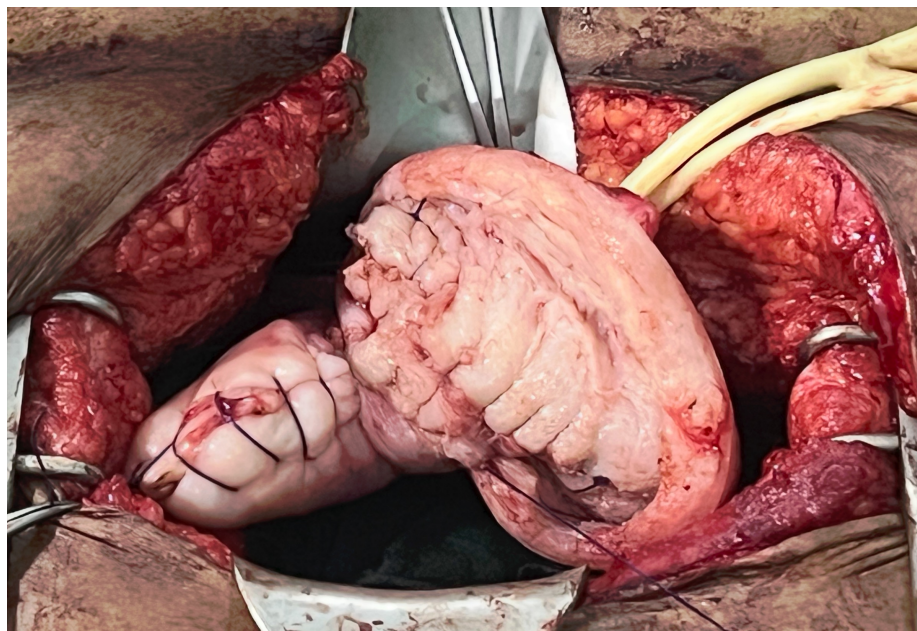
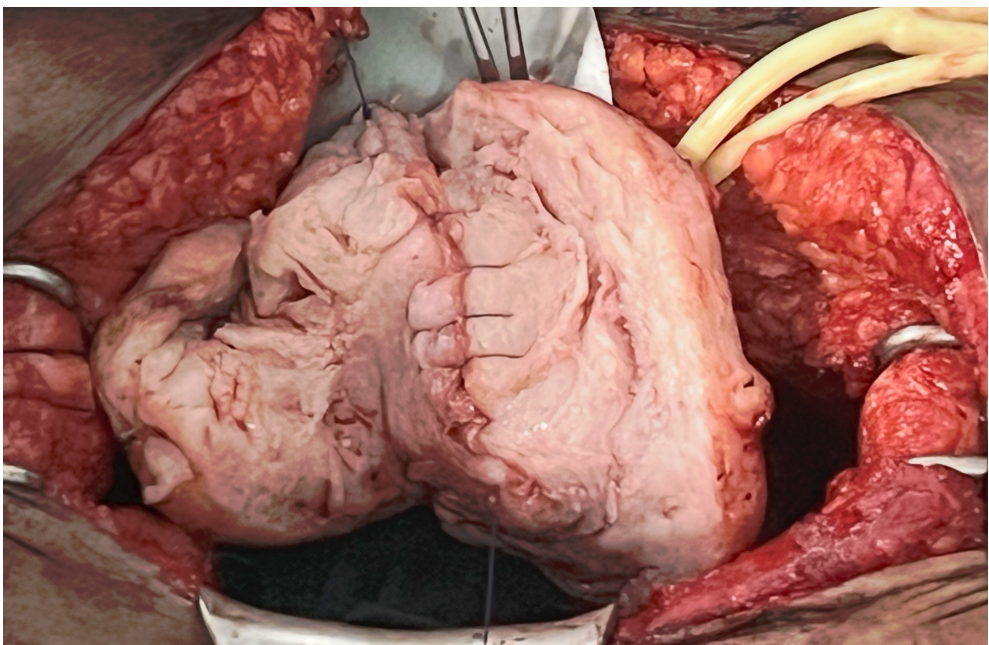
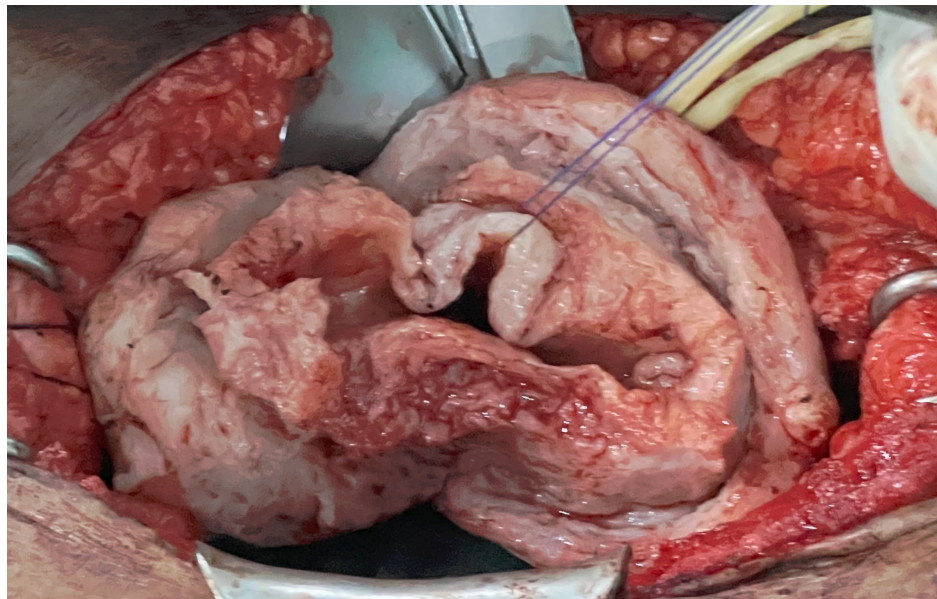
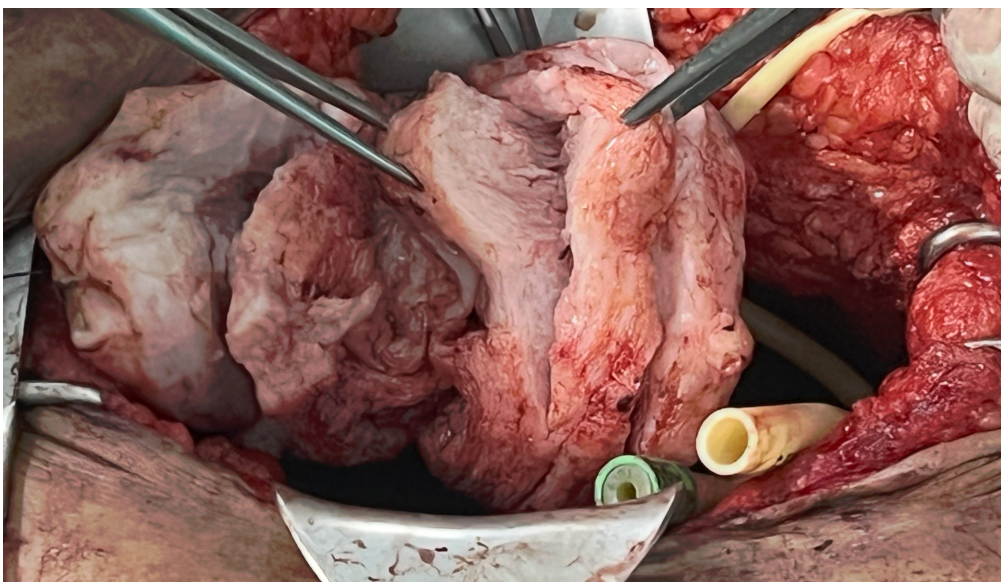


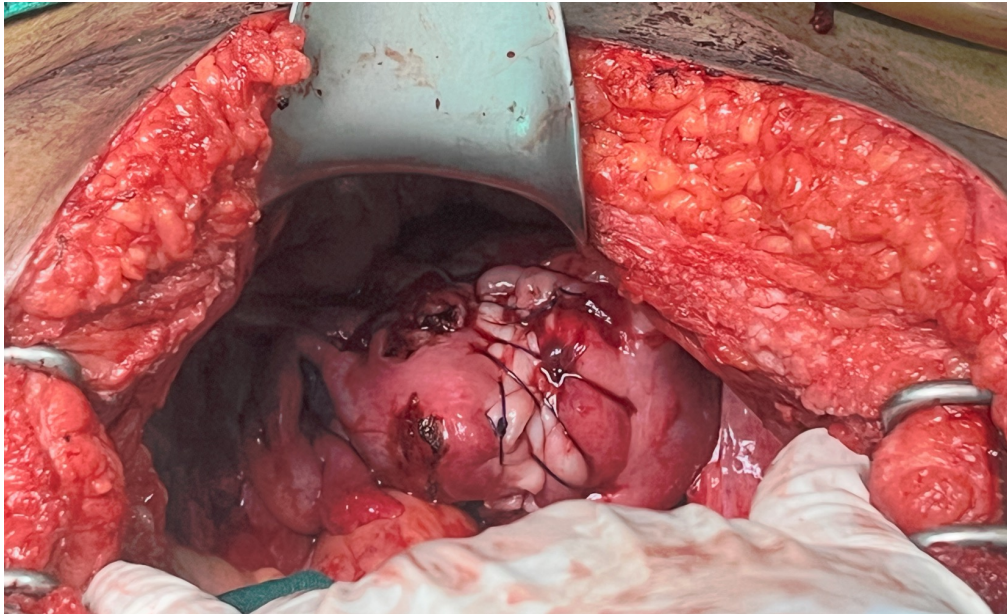
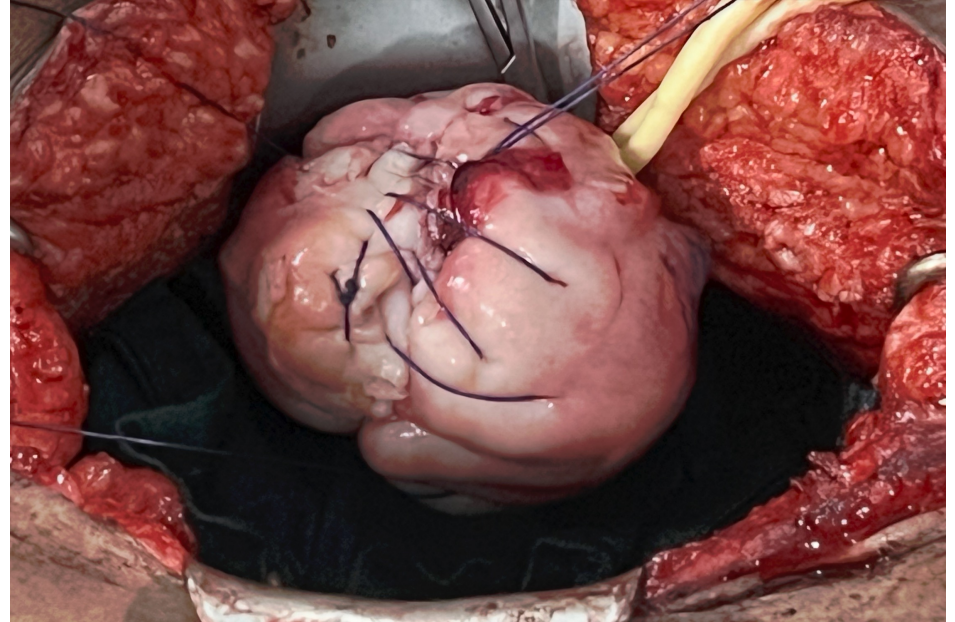
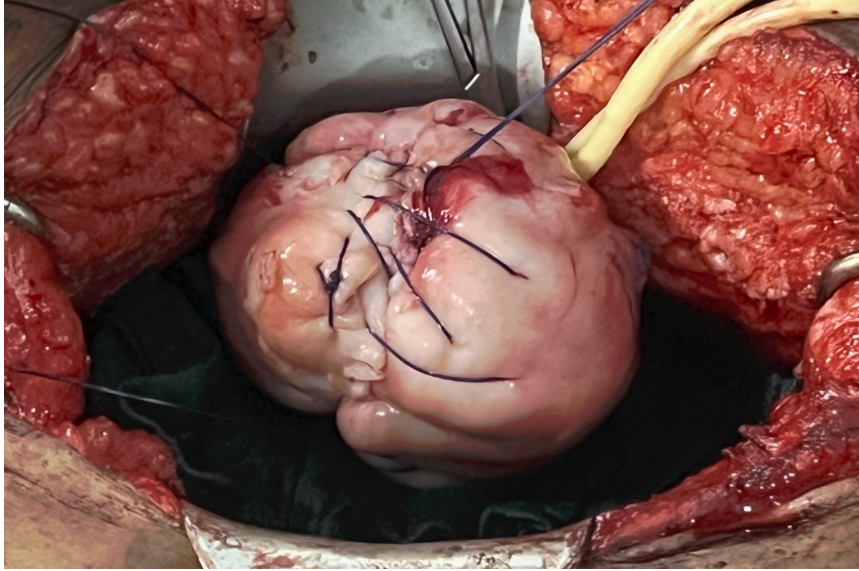


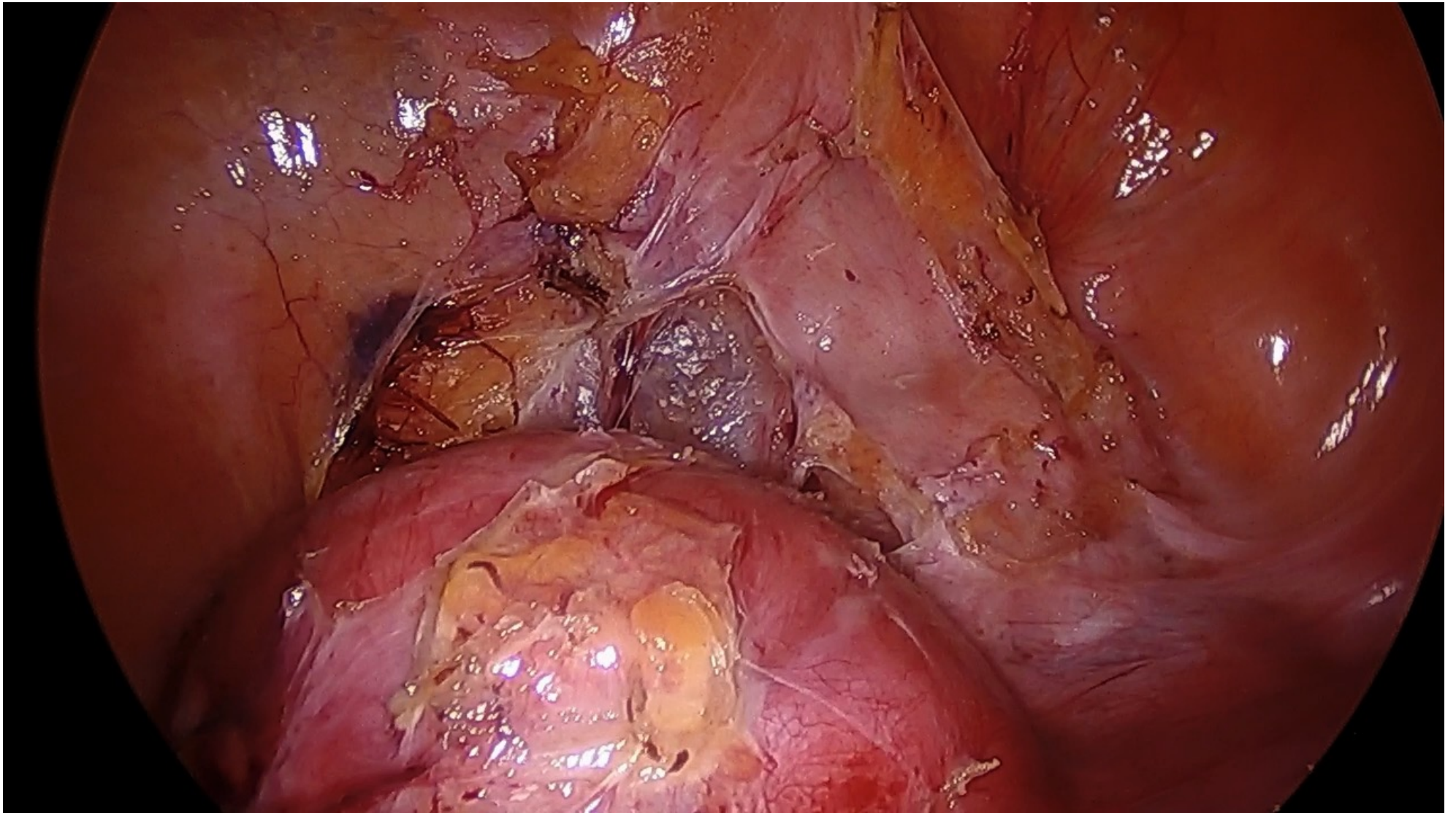
Cas clinique

- 39 ans, célibataire, nulligeste
- Opérée pour myomectomie il y a 4 ans
- Ménométrorragies et dysménorrhée invalidantes
- Echec pilule continue et dienogest, non améliorée par analogues
- US et IRM: Adénomyose diffuse et noyaux myomateux
- Souhaite une solution radicale









Conclusion

- Il existe plusieurs options médicales thérapeutiques mais aucune n'est infaillible.
- La chirurgie conservatrice représente un vrai challenge afin d'éviter une hystérectomie chez des patientes jeunes après échec des moyens médicaux et surtout dans le cadre d'infertilité.