



Diagnosis and Management of Infertility due to uterine factors

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INTRODUCTION

- Infertility is the inability to become pregnant after one year of intercourse without contraception involving a male and female partner.
- There are many causes of infertility, the most common causes of female infertility include problems with ovulation, damage to fallopian tubes or uterus, or problems with the cervix.
- Abnormalities of the uterus can contribute to the inability to get pregnant.

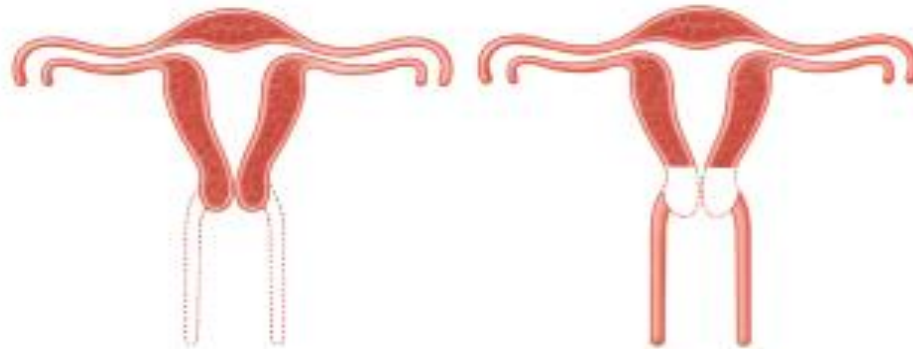
UTERINE ABNORMALITIES

1- Before birth: malformations are called “mullerian anomalies” as

- **Agenesis:** failure for the uterus or tubes to form
- **Didelphys:** complete duplication of the uterus, cervix, and vagina.
- **Bicornuate:** two uteruses sharing a single cervix and vagina
- **Septate:** single uterus with a fibrous band going down the center of the uterus
- **Arcuate:** normal uterus with an incidental dent in it

Mullerian Agenesis

Hypoplasia/agenesis

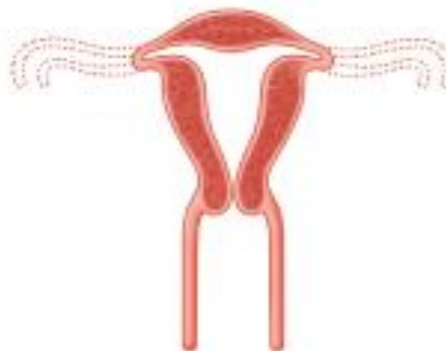


A. Vaginal

B. Cervical



C. Fundal



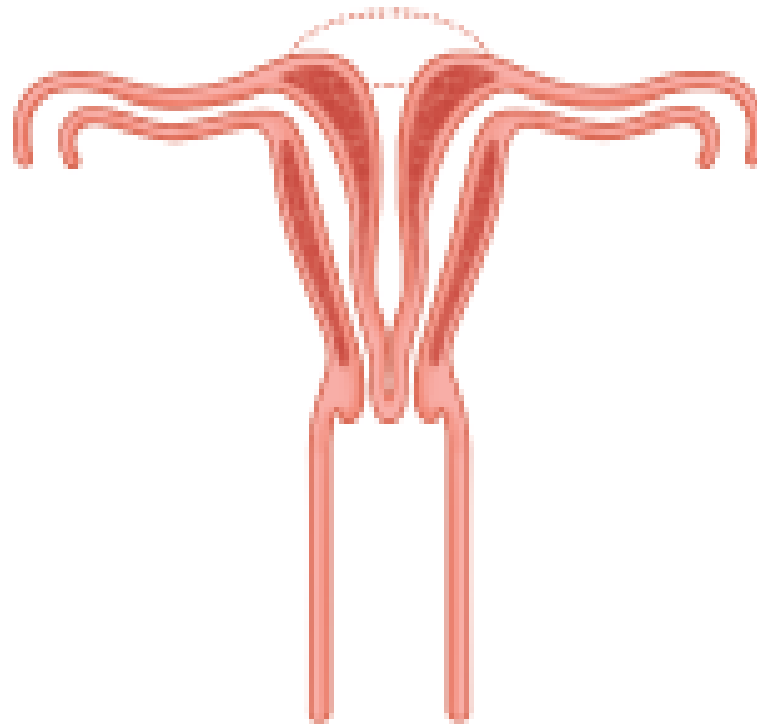
D. Tubal



E. Combined

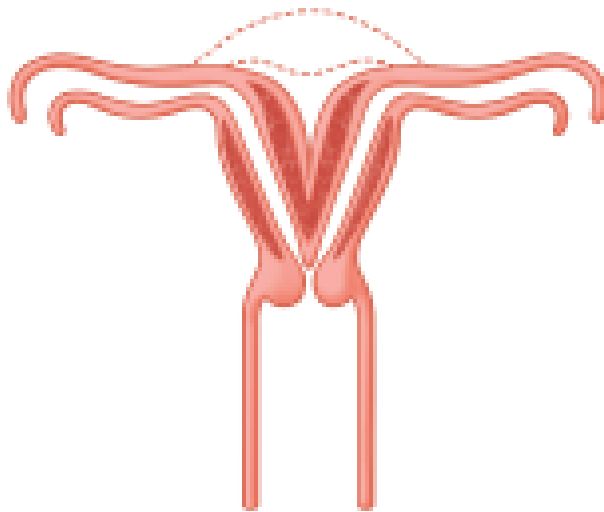
**Complete duplication of the uterus,
cervix, and vagina.**

Didelphys

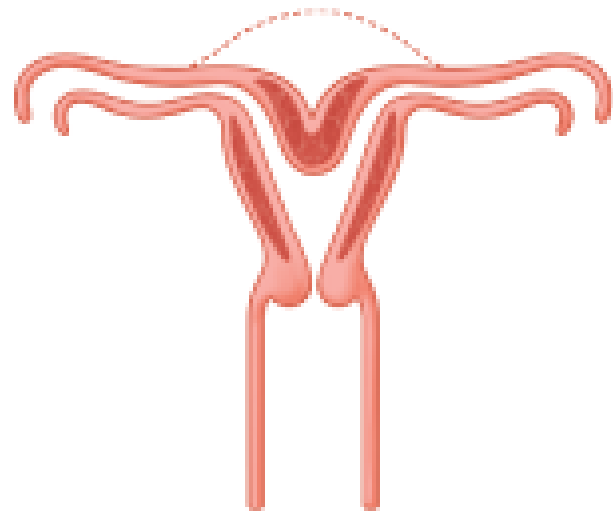


Two uterine sharing a single cervix and vagina

Bicornuate



A. Complete

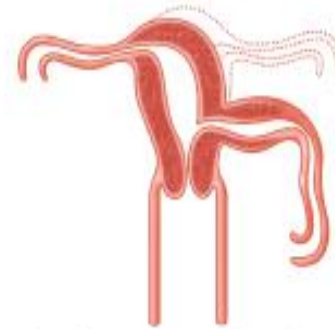


B. Partial

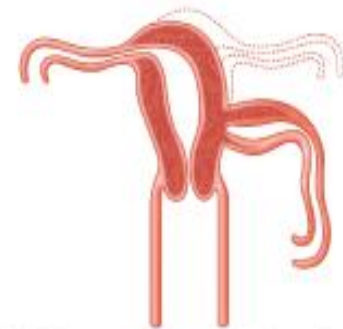
Two uterine sharing a single cervix and vagina



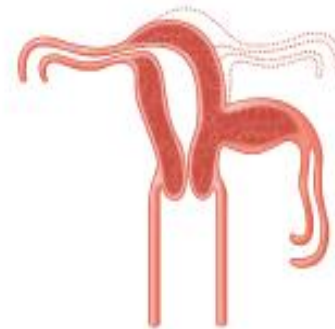
Unicornuate



A. Communicating



B. Noncommunicating



C. No cavity

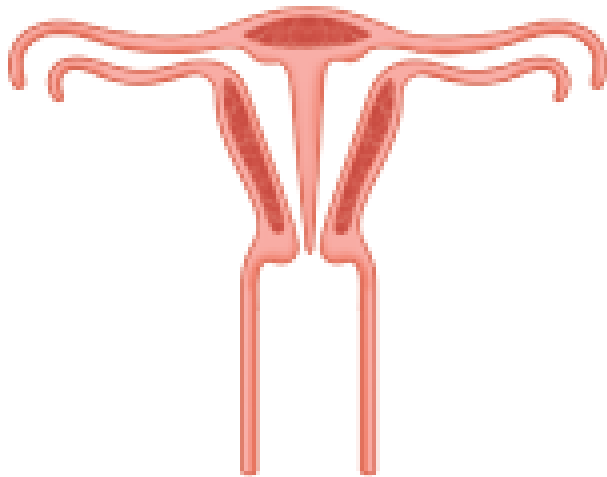


D. No horn

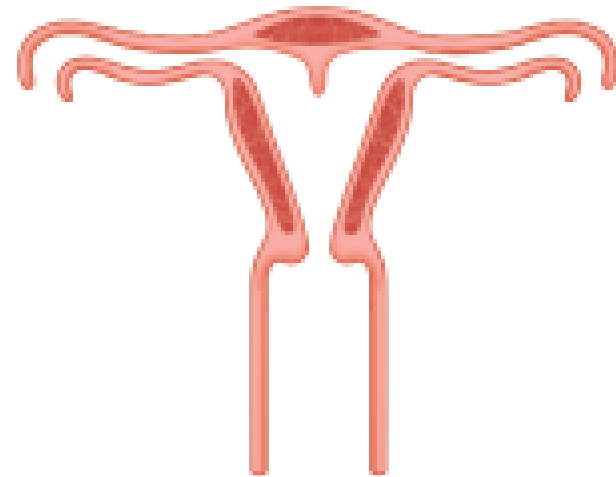
Normal uterus with an incidental dent in it

Single uterus with a fibrous band going down the center of the uterus

Septate



A. Complete



B. Partial

Abnormalities

2- Scarring or adhesions : from previous surgery or infection of the endometrium.

The American Fertility Society Classification Of Intrauterine Adhesions.1988.

• Extent of Cavity Involved	< 1/3	1/3 - 2/3	>2/3
	1	2	4
• Type of Adhesions	Filmy	Filmy & Dense	Dense
	1	2	4
• Menstrual Pattern	Normal	Hypomenorrhea	Amenorrhea
	0	2	4
• Stage I (Mild)	1 - 4		
• Stage II (Moderate)	5 - 8		
• Stage III (Severe)	9 - 12		

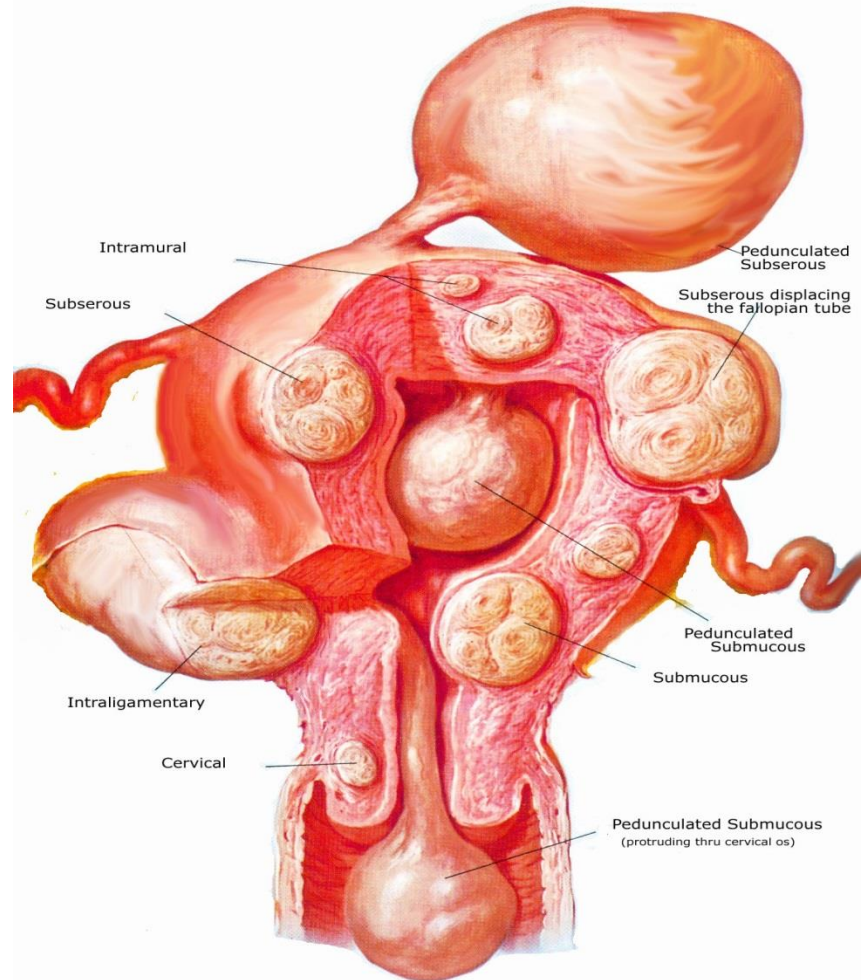
DENSE OR FLIMSY
PARTIAL OR COMPLETE
SUPERFICIAL OR DEEP



Abnormalities

3-Uterine fibroids

can distort the endometrial cavity making it difficult for implantation and can be treatable.



Determination the abnormalities


There are several ways we can evaluate your uterus and endometrial cavity for scarring or a mullerian anomaly.

- 1- **Hydrosonogram** : ExEm Foam Kit
- 2- **Hysterosalpingogram (HSG)**: Dye + X-Ray
- 3- **Hysteroscopy** : diagnosis and therapy
- 4- **Laparoscopy** : diagnosis and surgery

1-Hydrosonogram

ExEm Foam Kit:

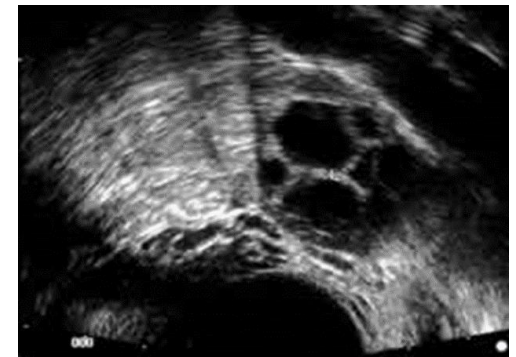
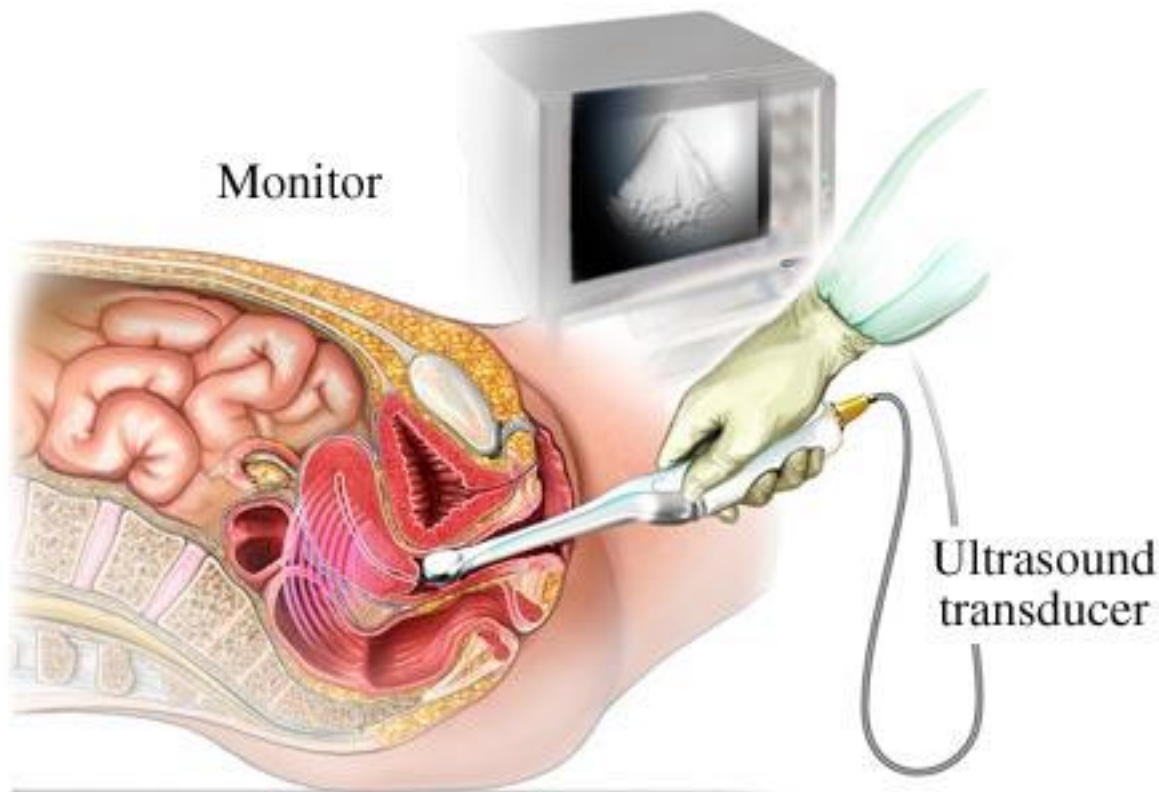
UTERINE & TUBAL PATENCY TEST



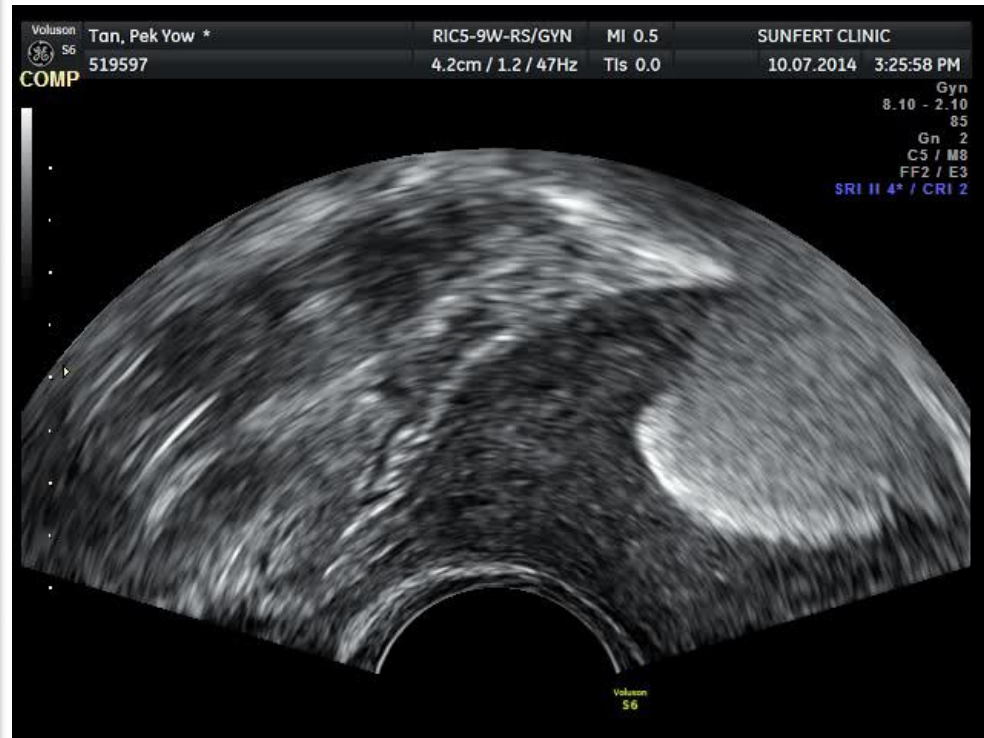
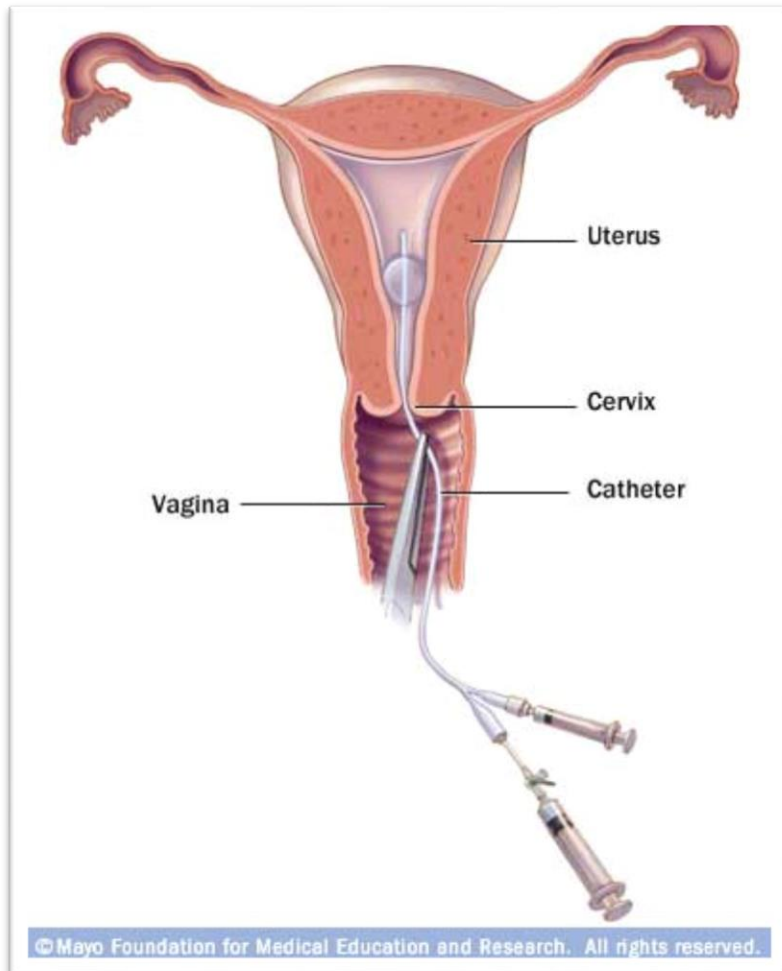
Fallopian tube abnormalities account for up to 40% of female infertility

Fertility Profiling

Transvaginal Ultrasound



SonoHSG (Sonohysterogram)



HyFoSy

Using a new technique, Hysterosalpingo Foam Sonography (HyFoSy), the ExEm Foam Kit offers superior visualization of fallopian tube contours.

SIMPLE

Clinic based solution

REDUCE TIME AND COST

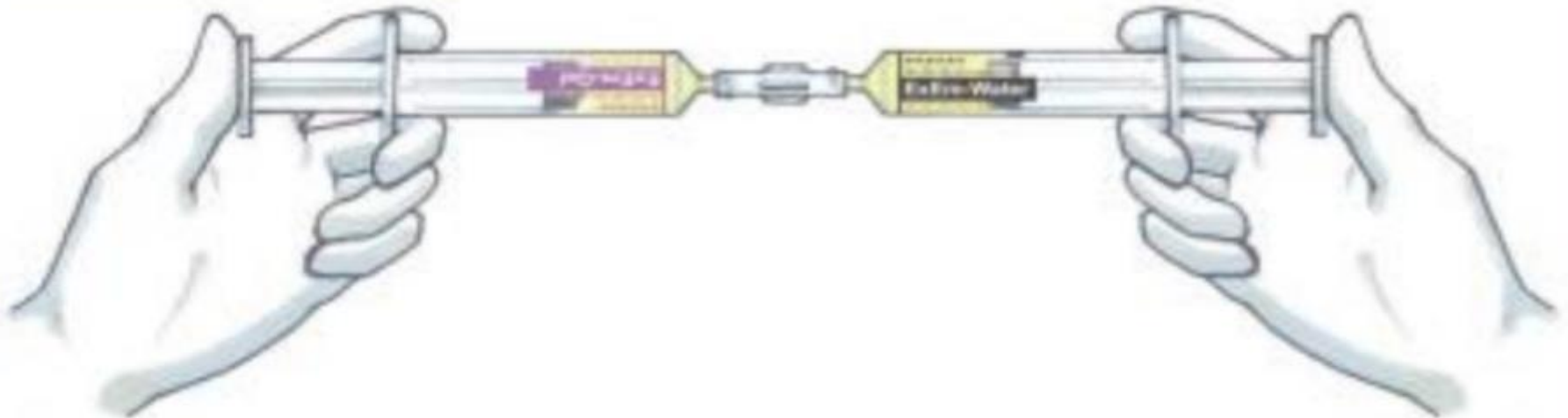
Eliminates the need for HSG in radiology

COMFORTABLE FOR PATIENTS

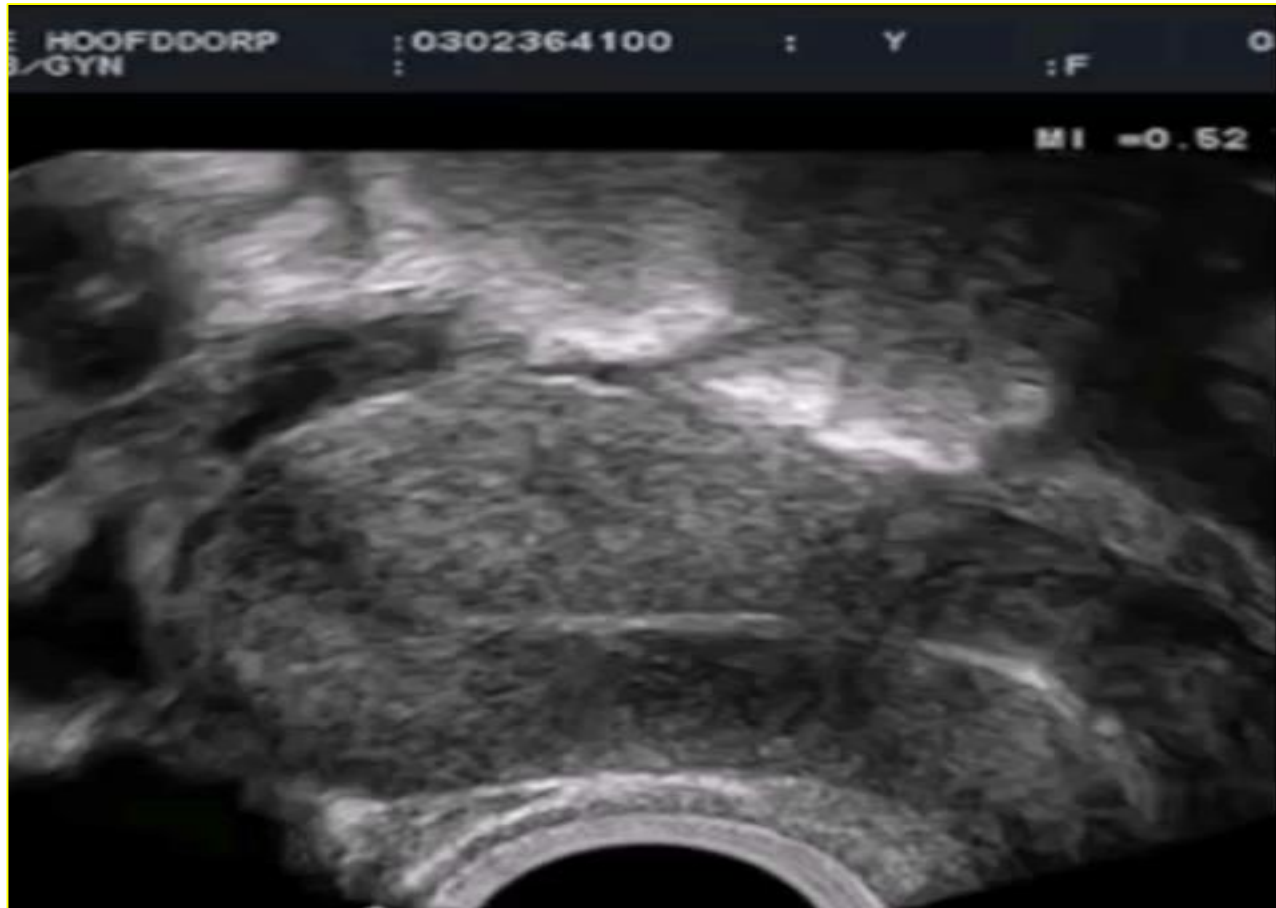
Safe and less painful than HSG

How does it work?

The ExEm foam, created by mixing gel with purified water, flows naturally into uterine, then the fallopian tubes when instilled with a catheter, allowing for high quality ultrasound images.



Video ExEm Foam Kit



A comparison of hysterosalpingo-foam sonography (HyFoSy) and hysterosalpingo-contrast sonography with saline medium (HyCoSy) in the assessment of tubal patency.

Lim SL¹, Jung JJ², Yu SL², Rajesh H².

Author information

Abstract

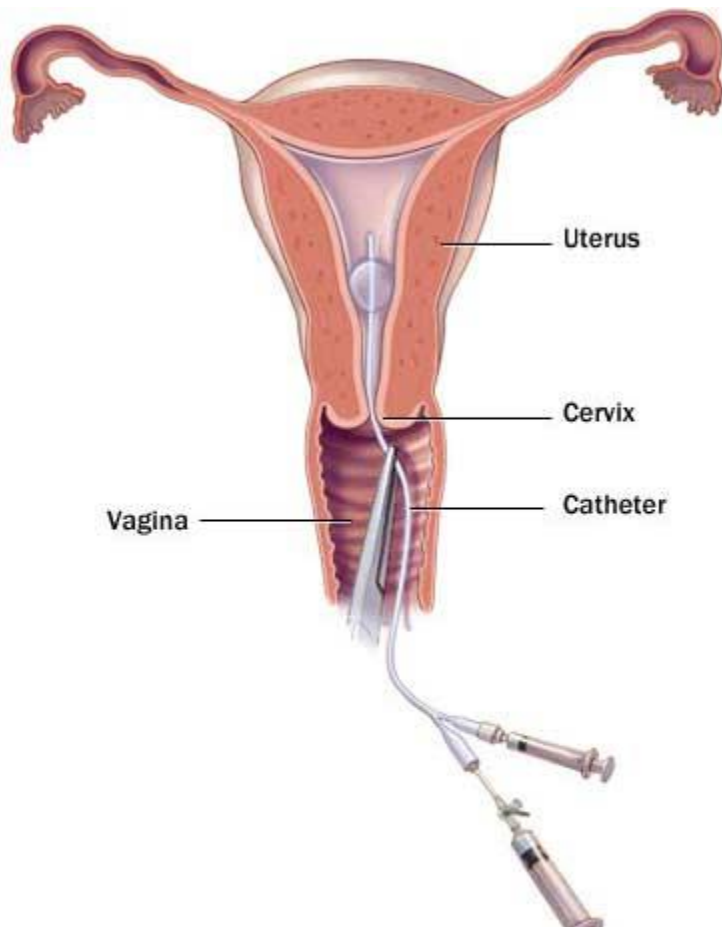
OBJECTIVE: A randomized controlled selective cross-over trial was performed to compare the diagnostic yield and efficacy of ExEm foam (HyFoSy) with saline medium (HyCoSy) as a contrast agent for hysterosalping-contrast sonography in subfertile patients.

STUDY DESIGN: 40 patients were randomized into HyCoSy with saline medium and HyFoSy with ExEm foam. Tubal patency were assessed according to pre-determined objective criteria that classified tubes based on degree of certainty in tubal patency. Selective cross-over testing with the other medium was performed in patients who had at least one possibly occluded or unexaminable tube on the initial test.

RESULTS: 80 tubes were evaluated. On initial testing, the proportion of tubes that were classified as patent was higher with HyFoSy compared to HyCoSy (70.0% vs 40.0%, $p=0.01$). A higher proportion of patients in the HyCoSy group required crossover testing [80.0% (16/20) vs 45.0% (9/20), $p=0.02$]. On cross-over testing, 41.7% (10/24) of possibly occluded or unexaminable tubes in the HyCoSy group were re-classified as patent when examined with Ex-Em foam, compared to 8.3% (1/12) of possibly occluded or unexaminable tubes in the HyFoSy group ($p=0.03$).

CONCLUSION: ExEm foam medium (HyFoSy) might improve the diagnostic yield and efficacy over saline medium (HyCoSy) for hysterosalpingosonography.

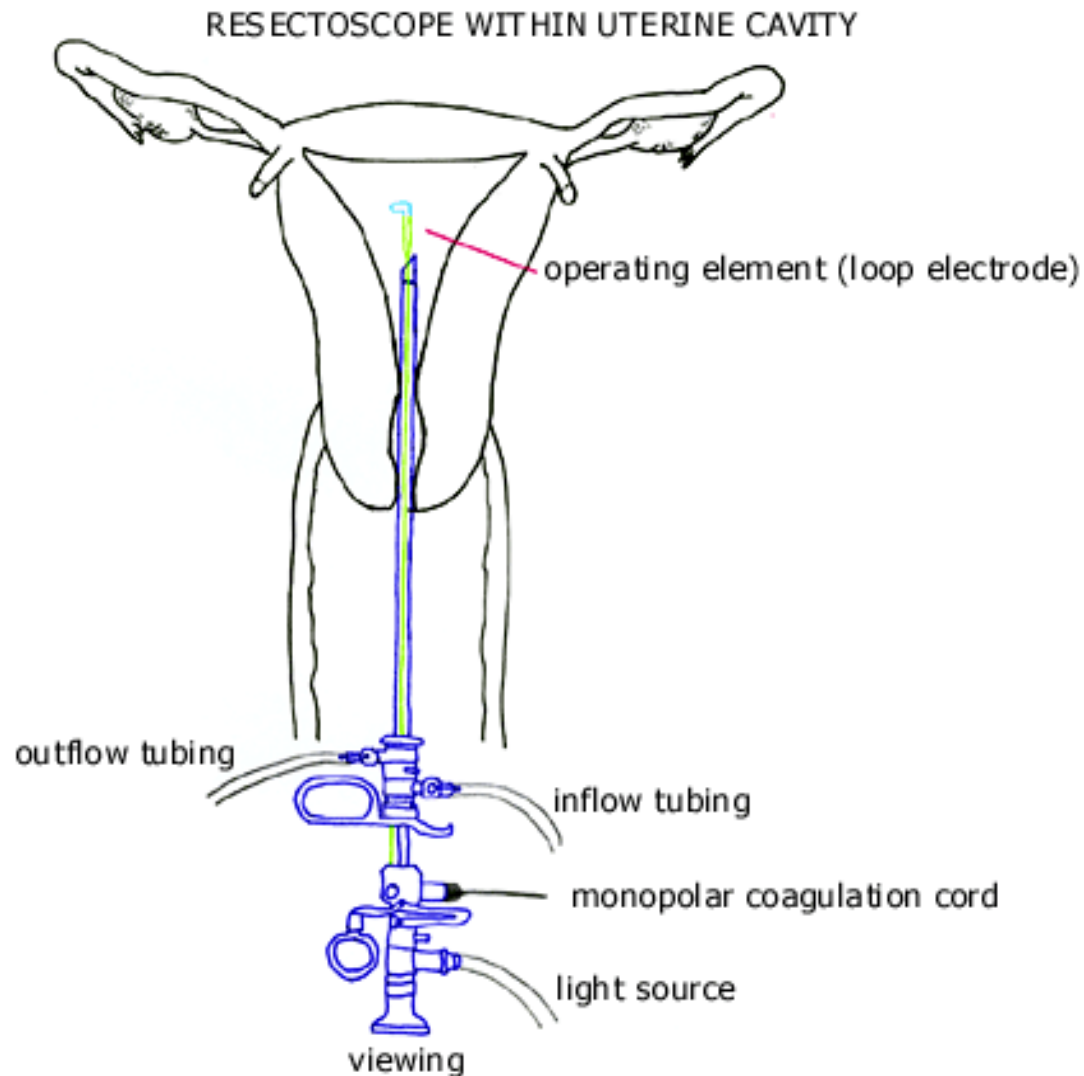
2- **Hysterosalpingogram (HSG):** Dye + X-Ray Hysterosalpingography (HSG)

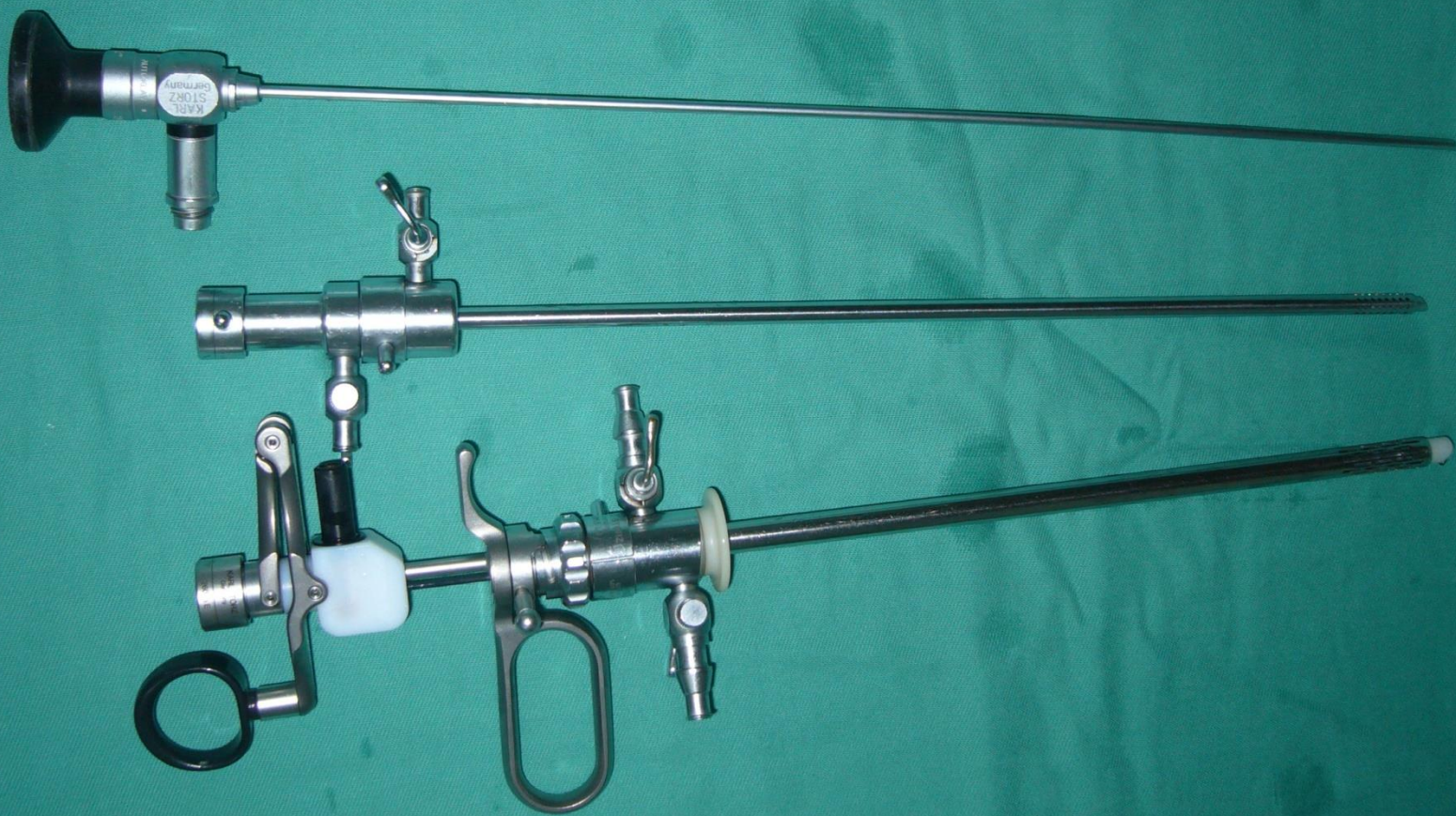


Hysterosalpingography (HSG)



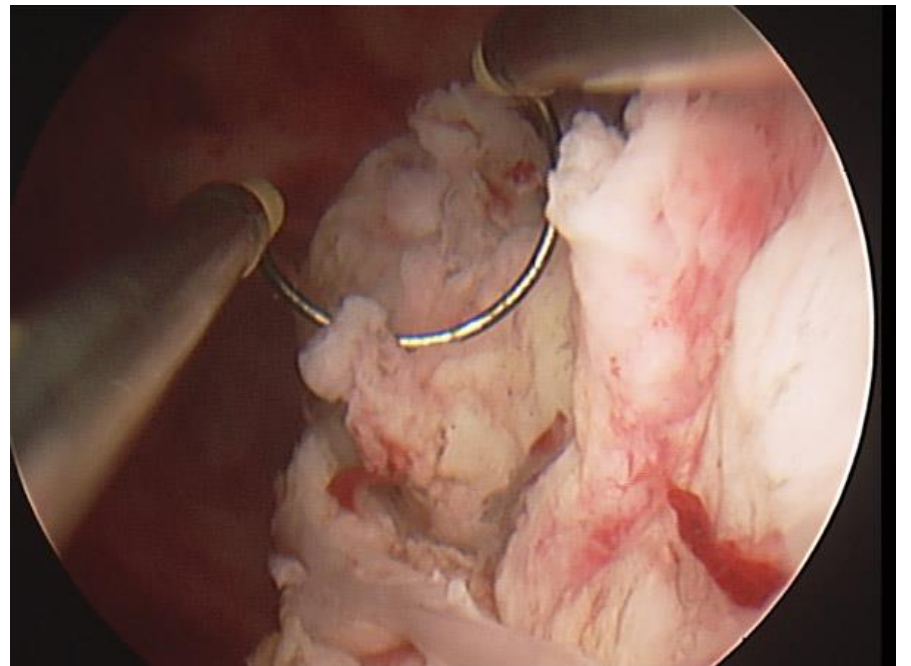
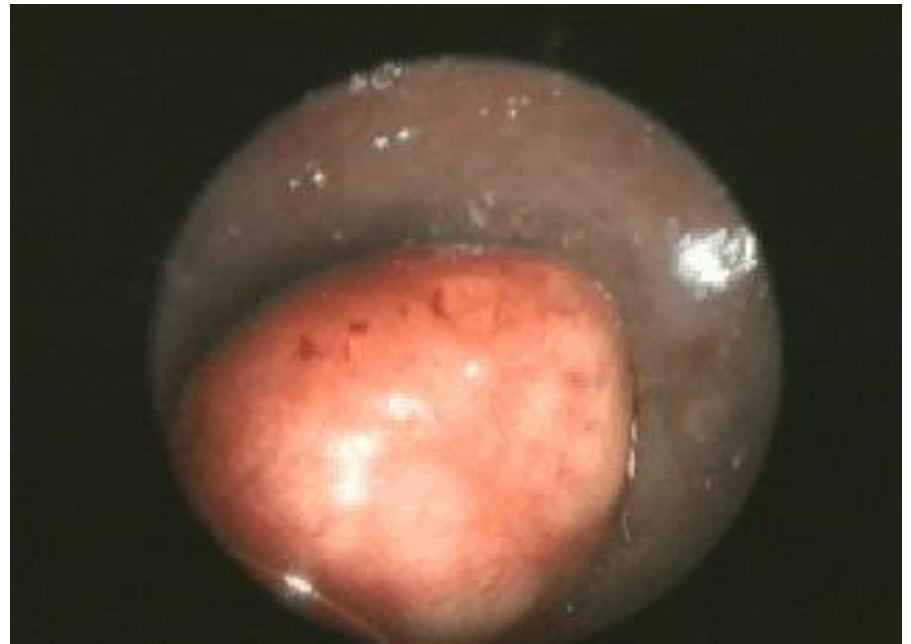
3-Hysteroscopy:diagnosis & therapy







Hysteroscopy



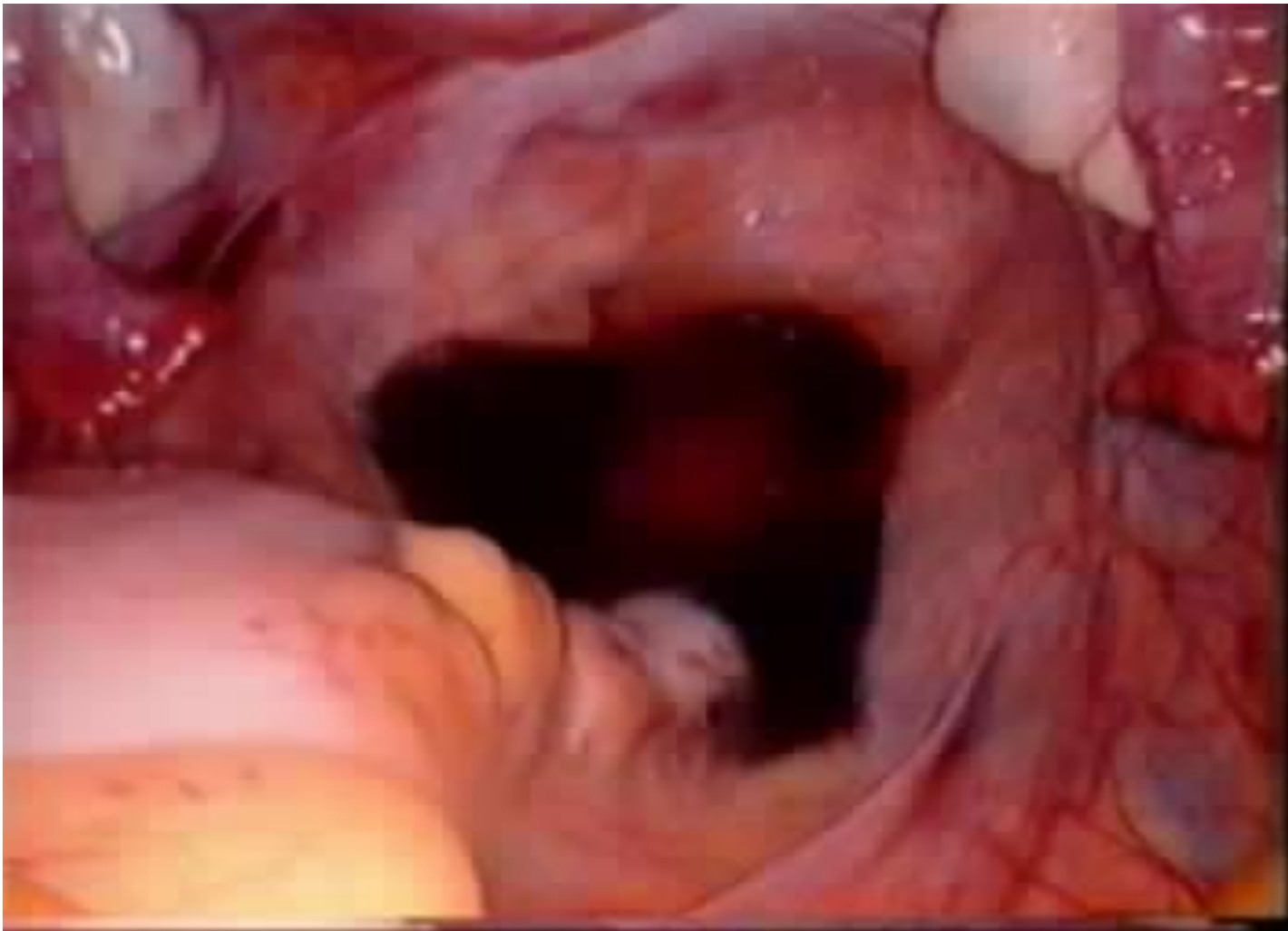
4-Laparoscopy: diagnosis & surgery



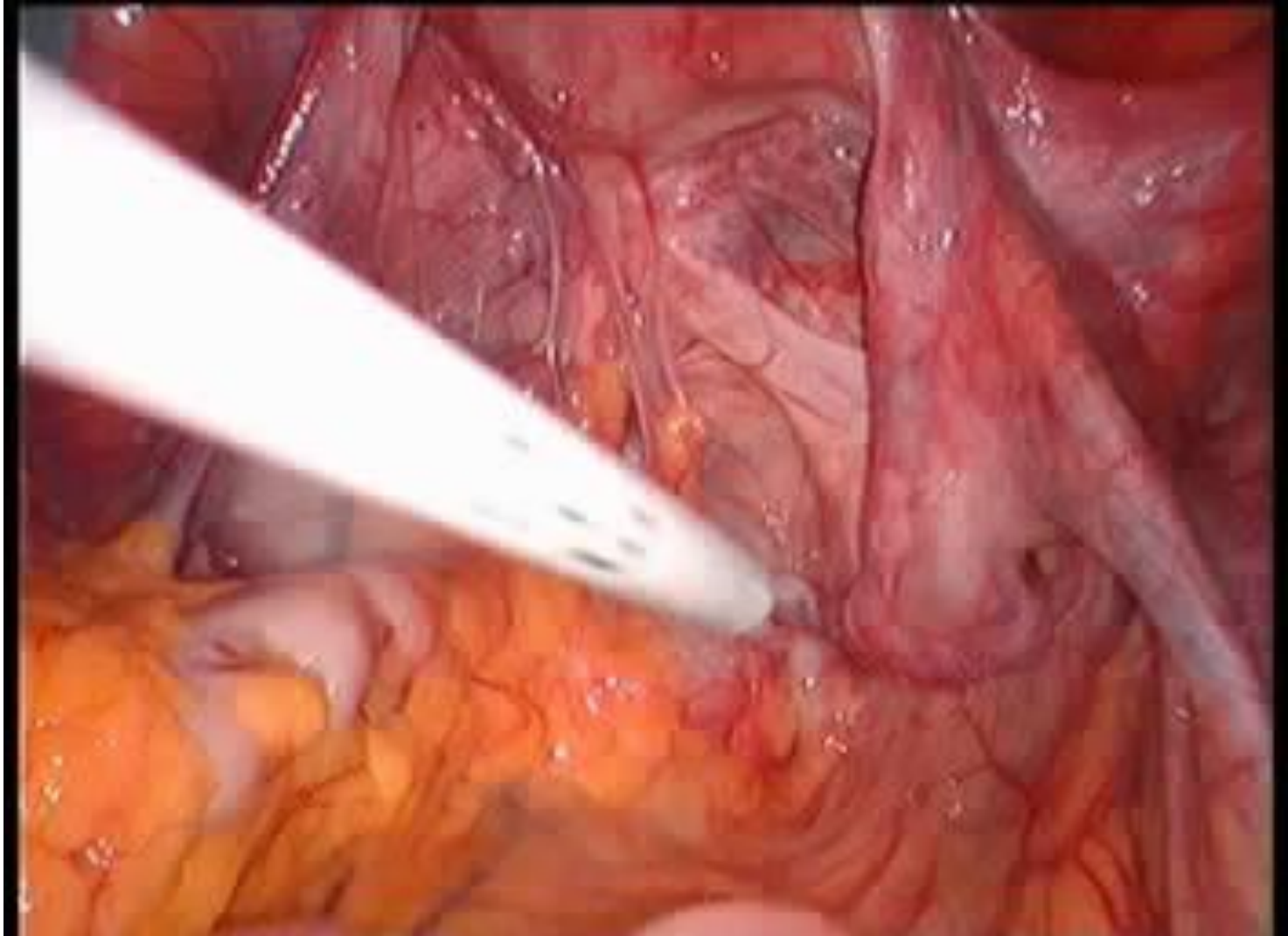
Laparoscopic Surgery



Diagnostic Laparoscopy



Chronic Pelvic inflammatory disease



Types of endometriosis

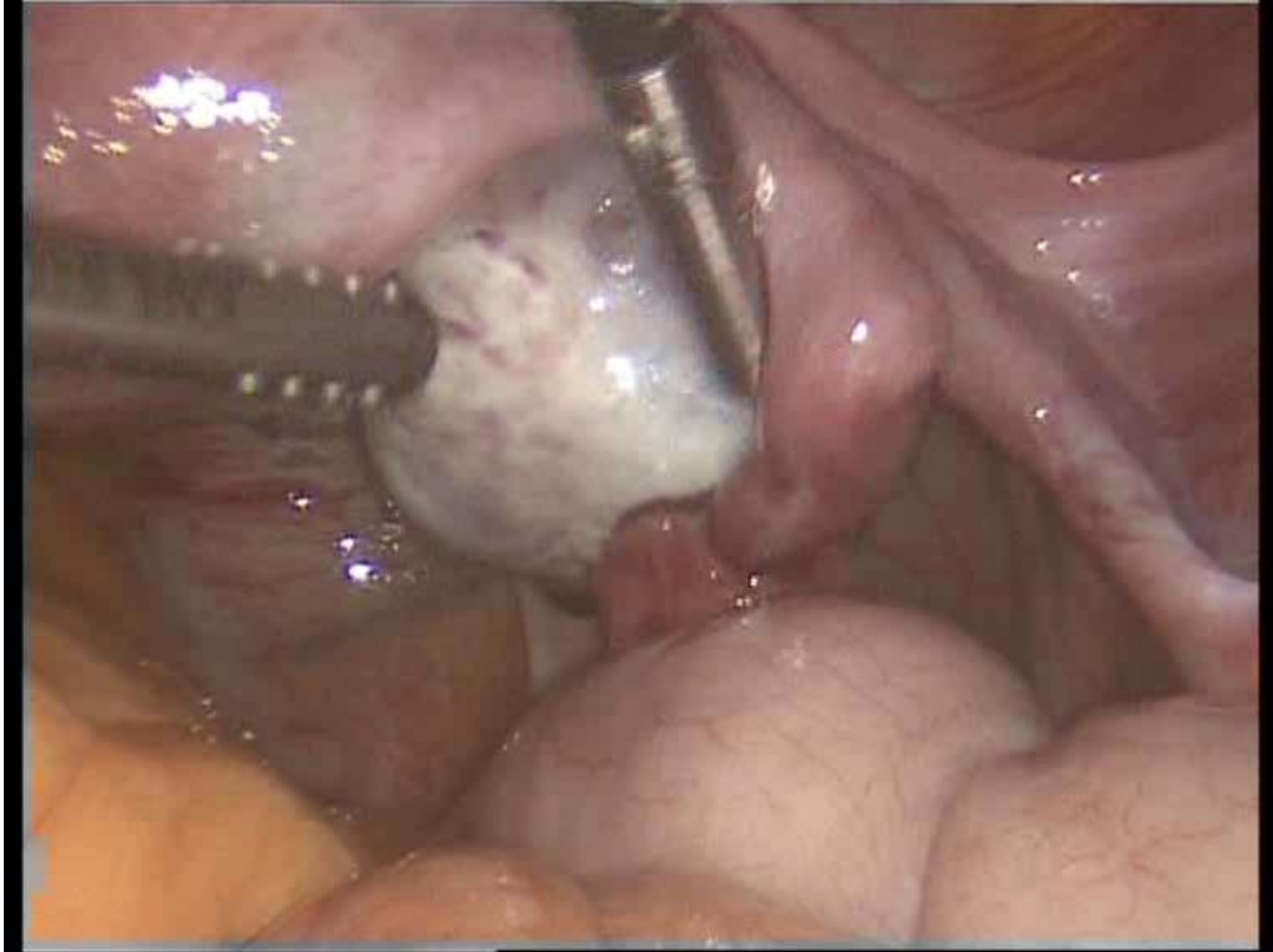
- Superficial endometriosis



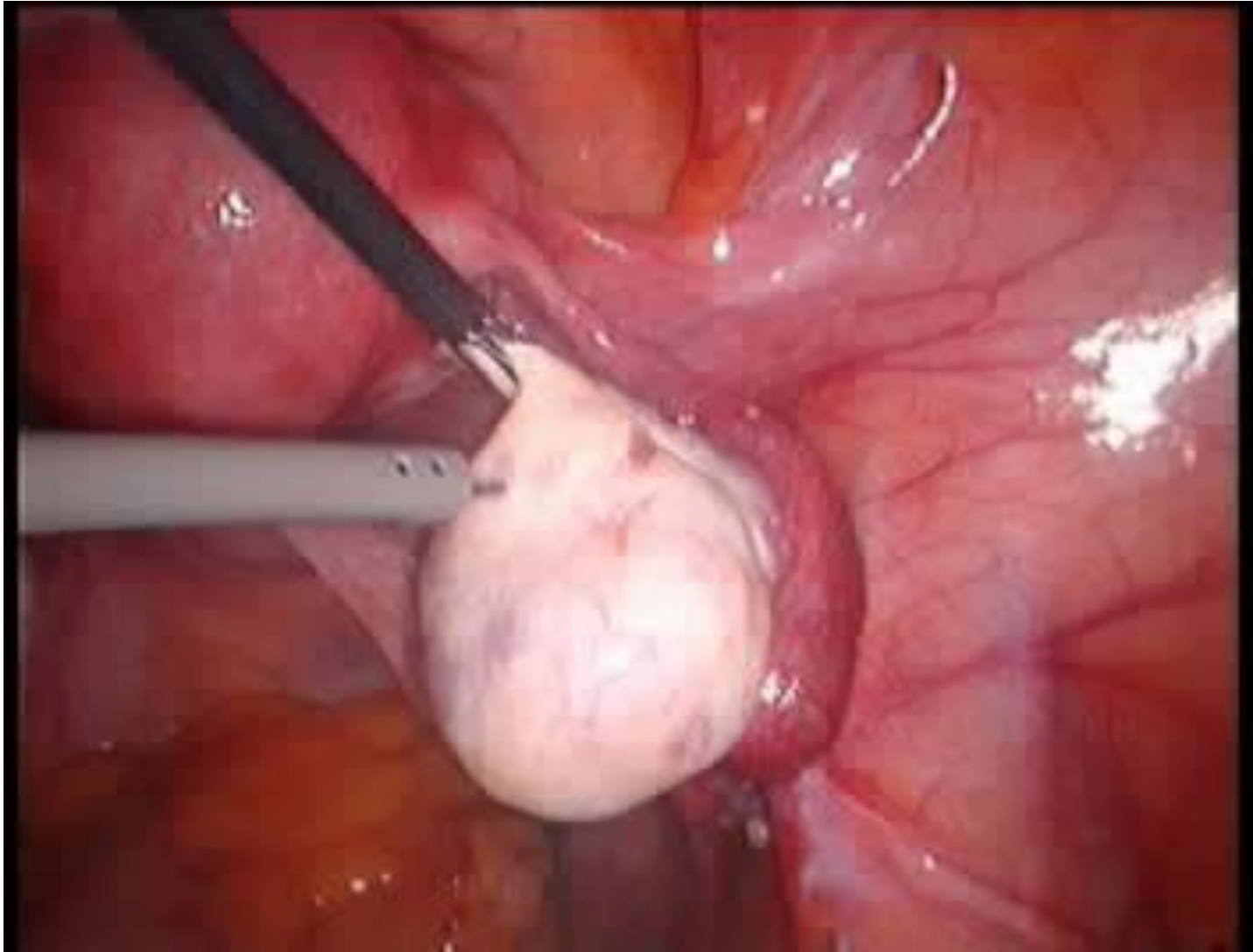
- Deep infiltrating endometriosis
- Endometriomas



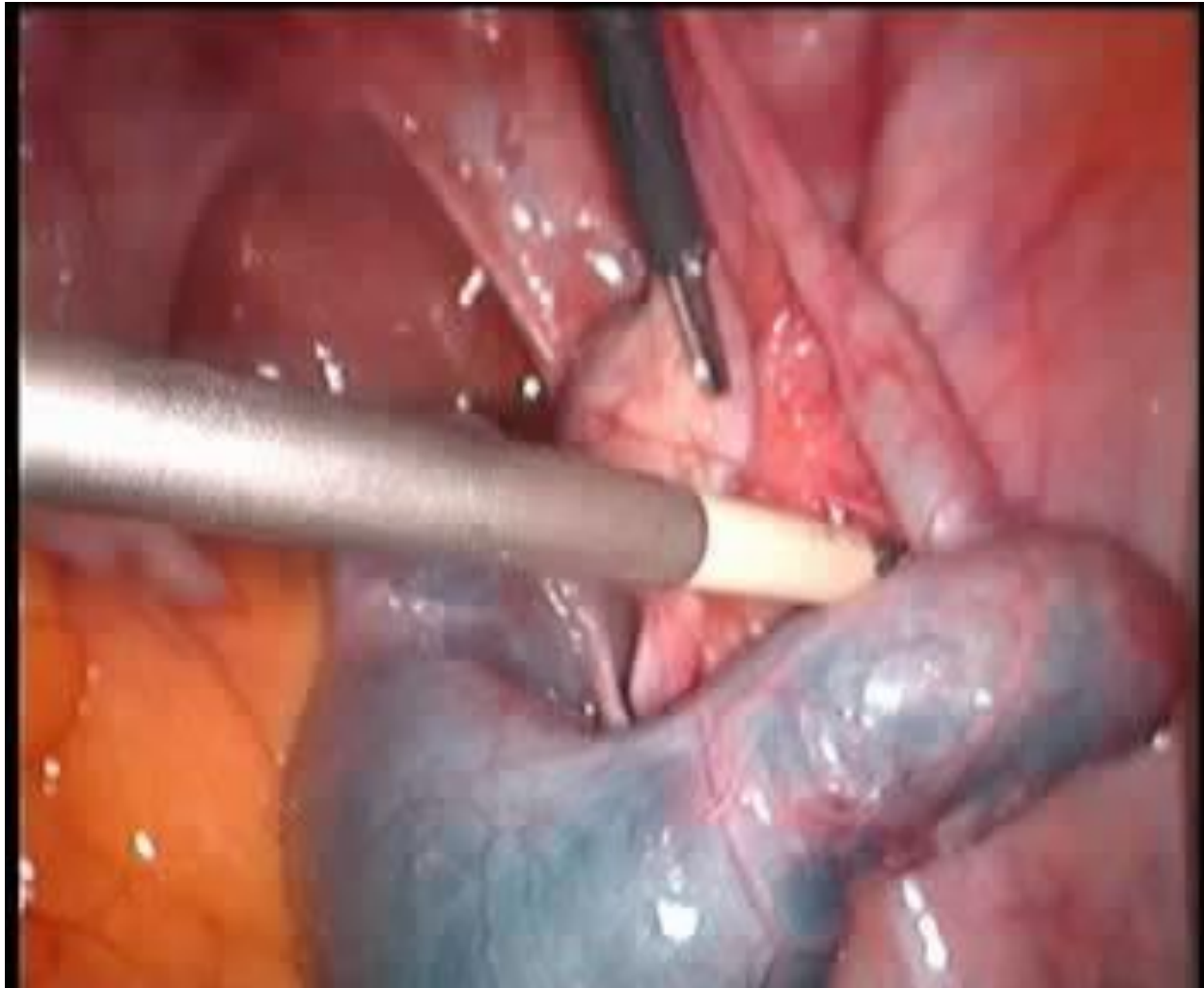
Laparoscopic surgery for Endometriosis



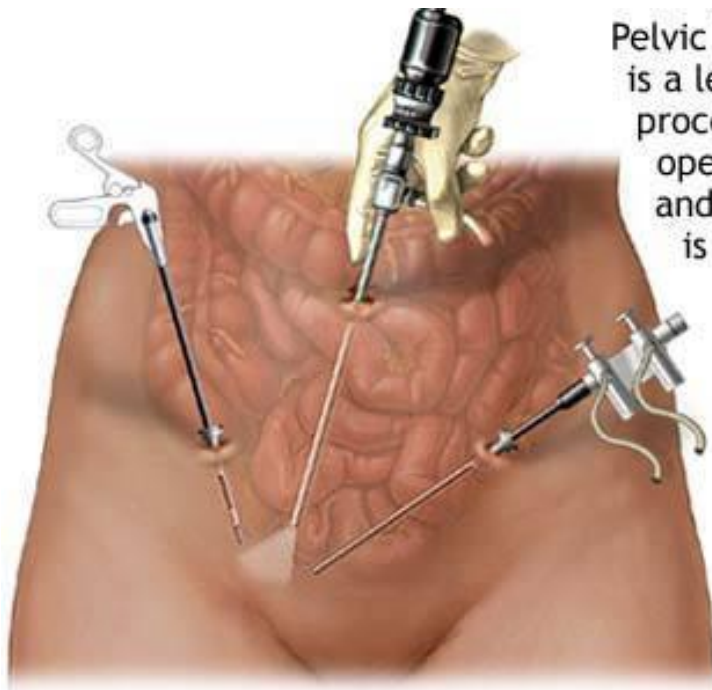
Laparoscopic ovarian drilling



Damaged Fallopian Tube

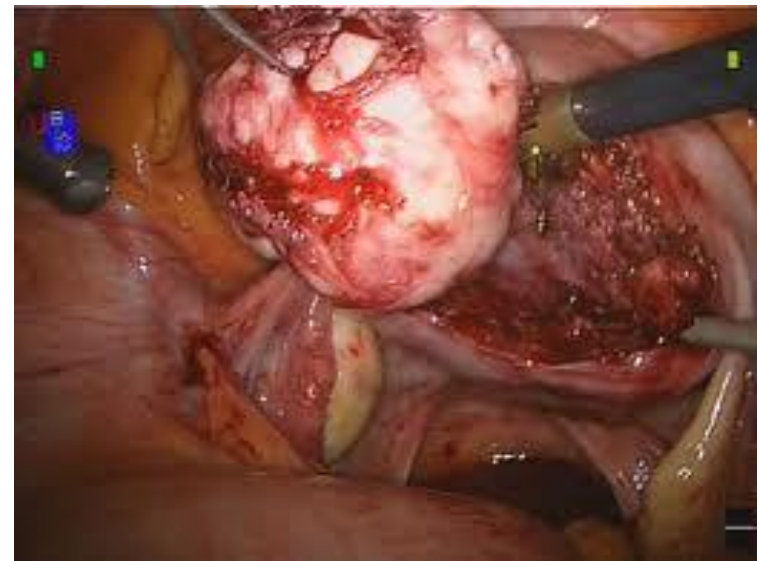
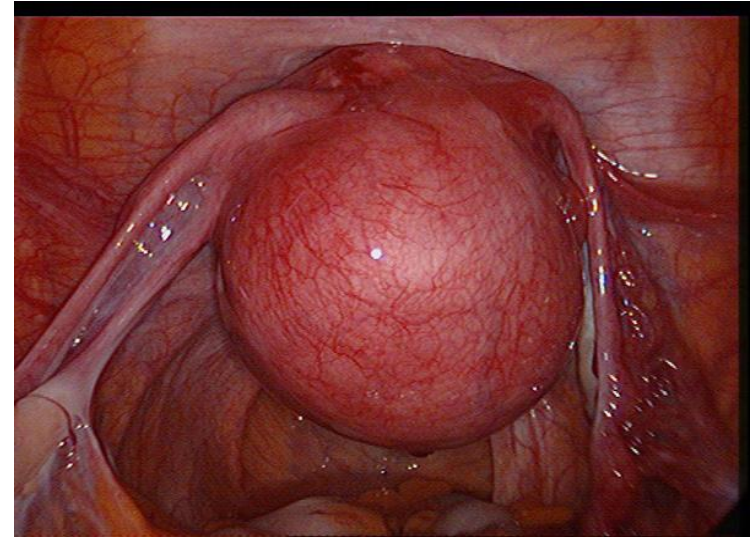


Laparoscopic Myomectomy



Pelvic laparoscopy
is a less-invasive
procedure than
open surgery
and recovery
is quicker

ADAM.

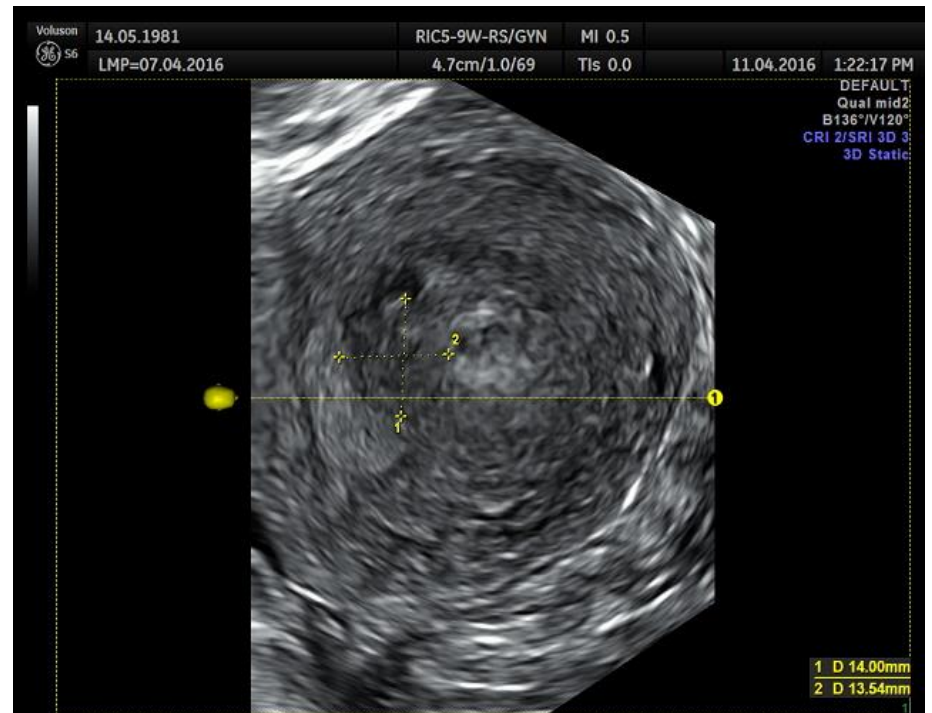
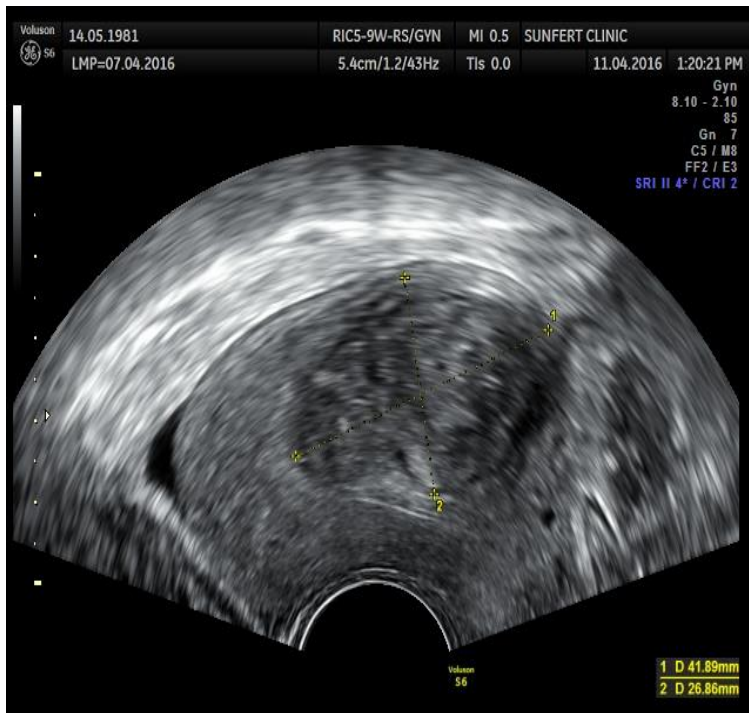


CAS STUDY

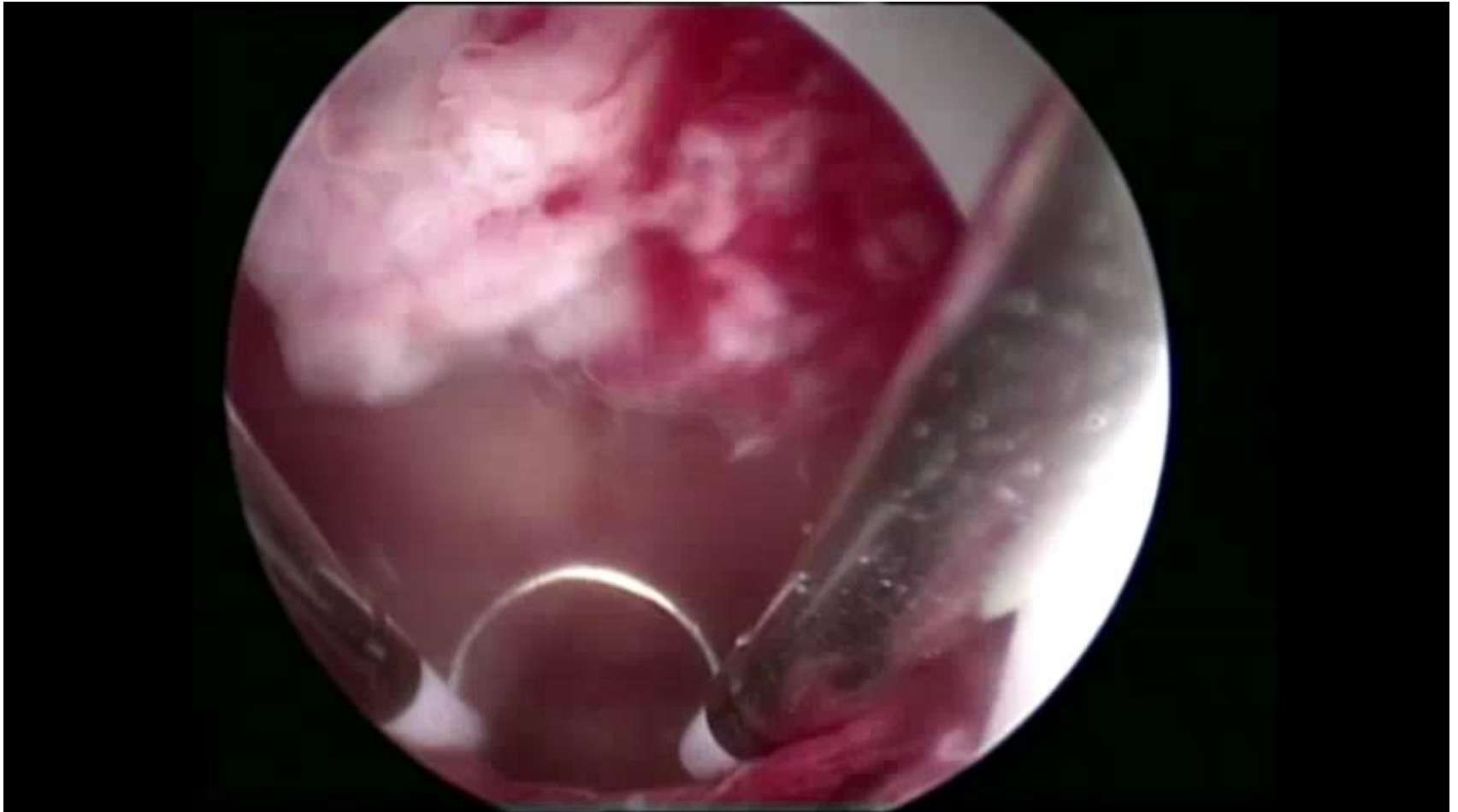
- HORMONAL CRISIS (TROUBLE HORMONALE)
- ENDOCAVITY POLYP (POLYPE ENDOCAVITAIRE)
- SUBMUCUS FIBROIDS (FIBROME SOUS MUQUEUSE)
- FOREIGN BODY (CORPS ETRANGERE)
- INTRACAVITY MYOMA (MYOME INTRACAVITAIRE)
- UTERINE ADHESION (SYNERCHIE UTERINE)
- FIBROID BAND ENDOCAVIT (CLOISON INTRTACAVITAIRE)
- UTERINE FIBROMA INTERSTITIEL AND INTRACAVITY

CAS STUDY

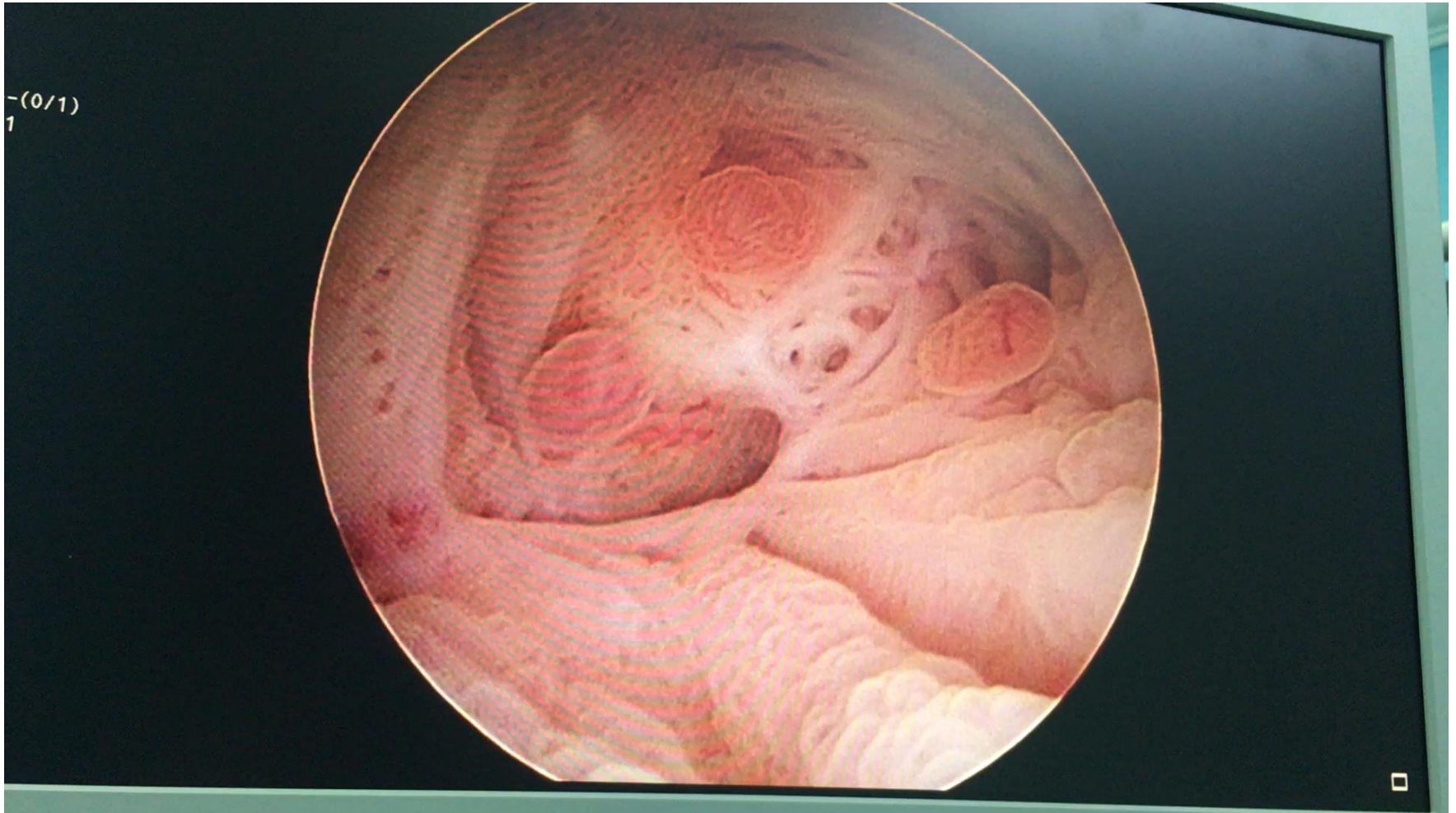
- 35 year old, primary subfertility for 5 years



Myomectomy via hysteroscopy and laproscopic surgery



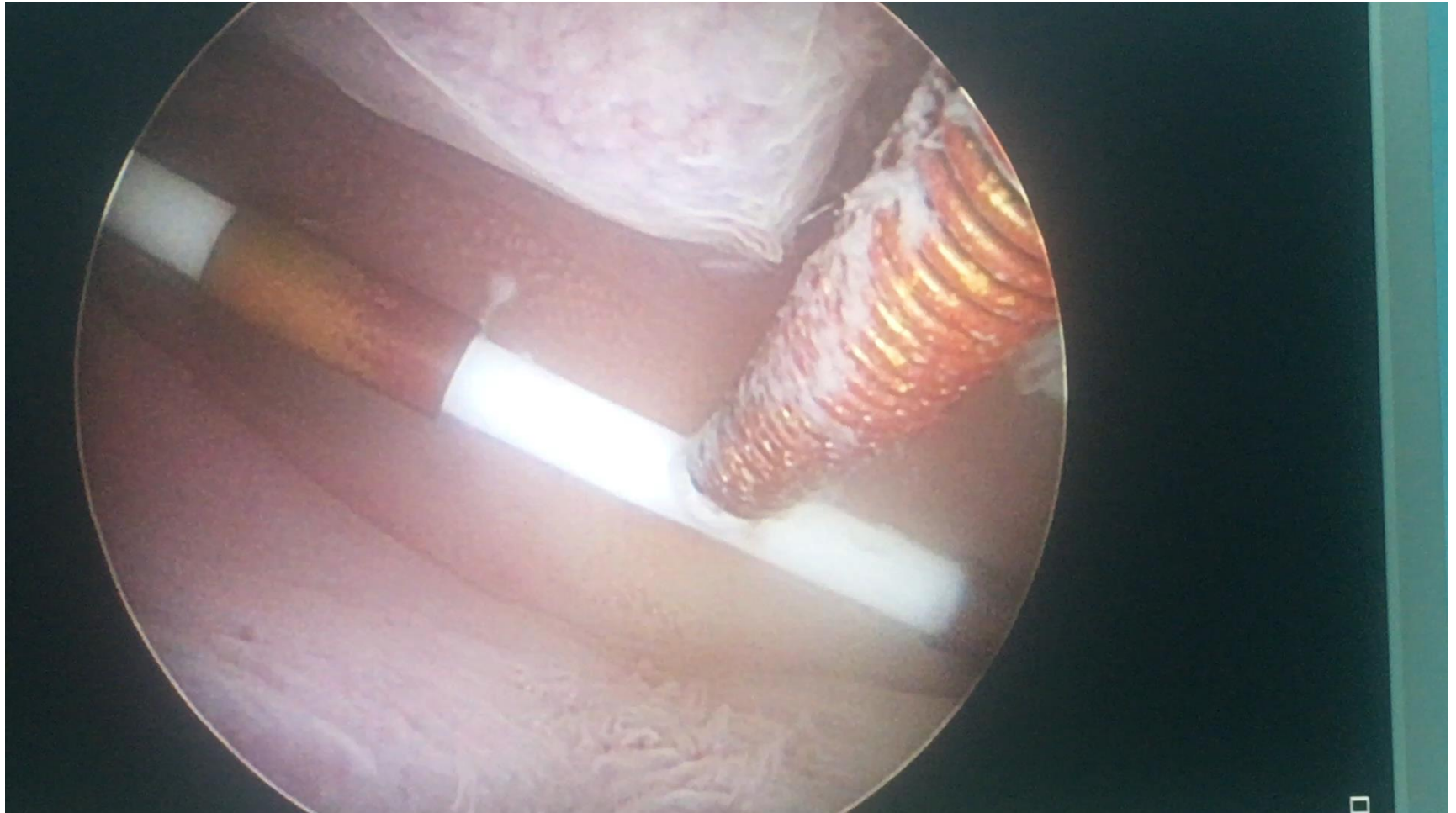
Case Study : Uterine adhesion



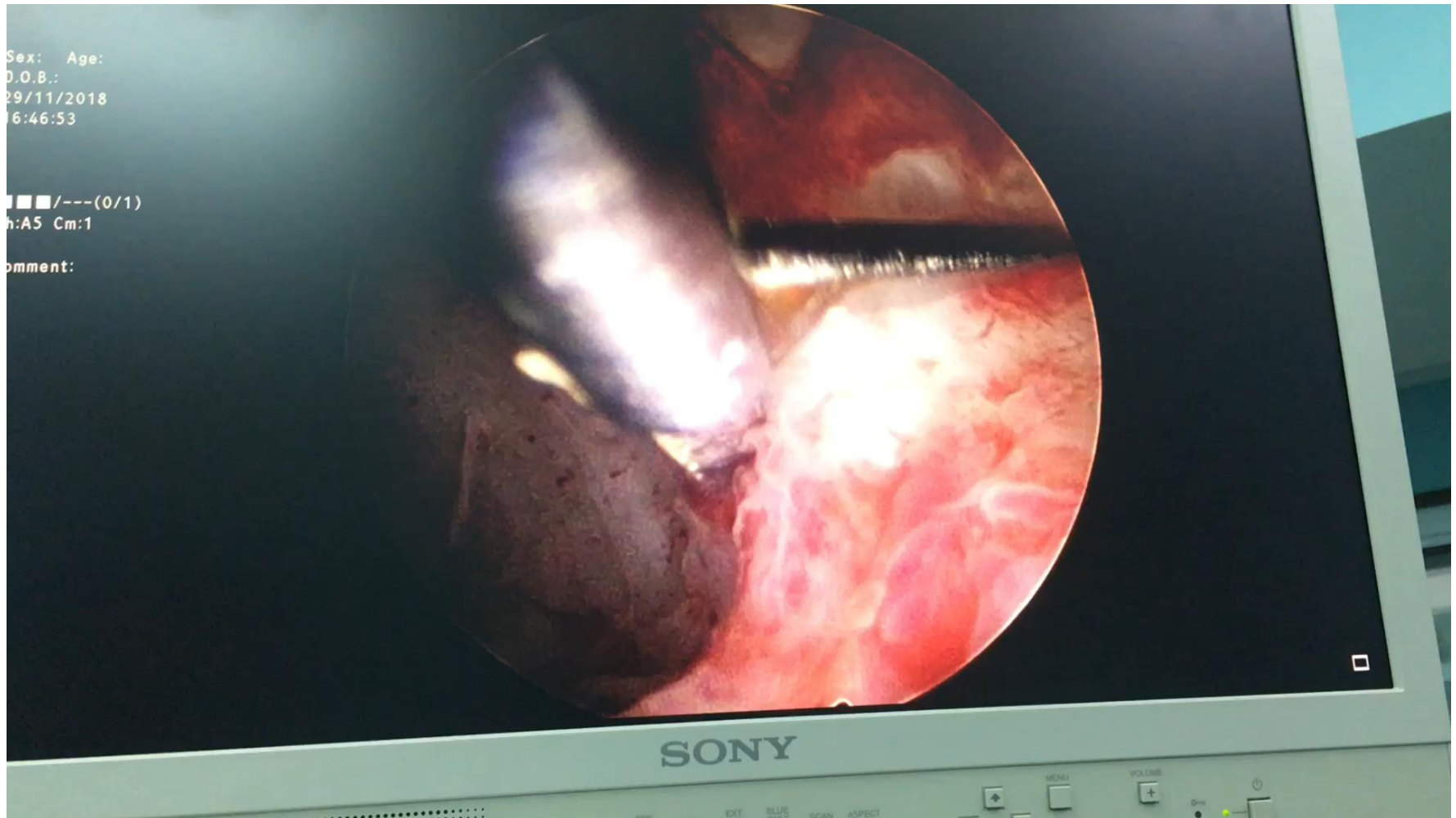
Case Study : Fibroid intracavity



Case Study : IUD



Case Study : Uterine adhesion



Case Study : Uterine septate (cloison)

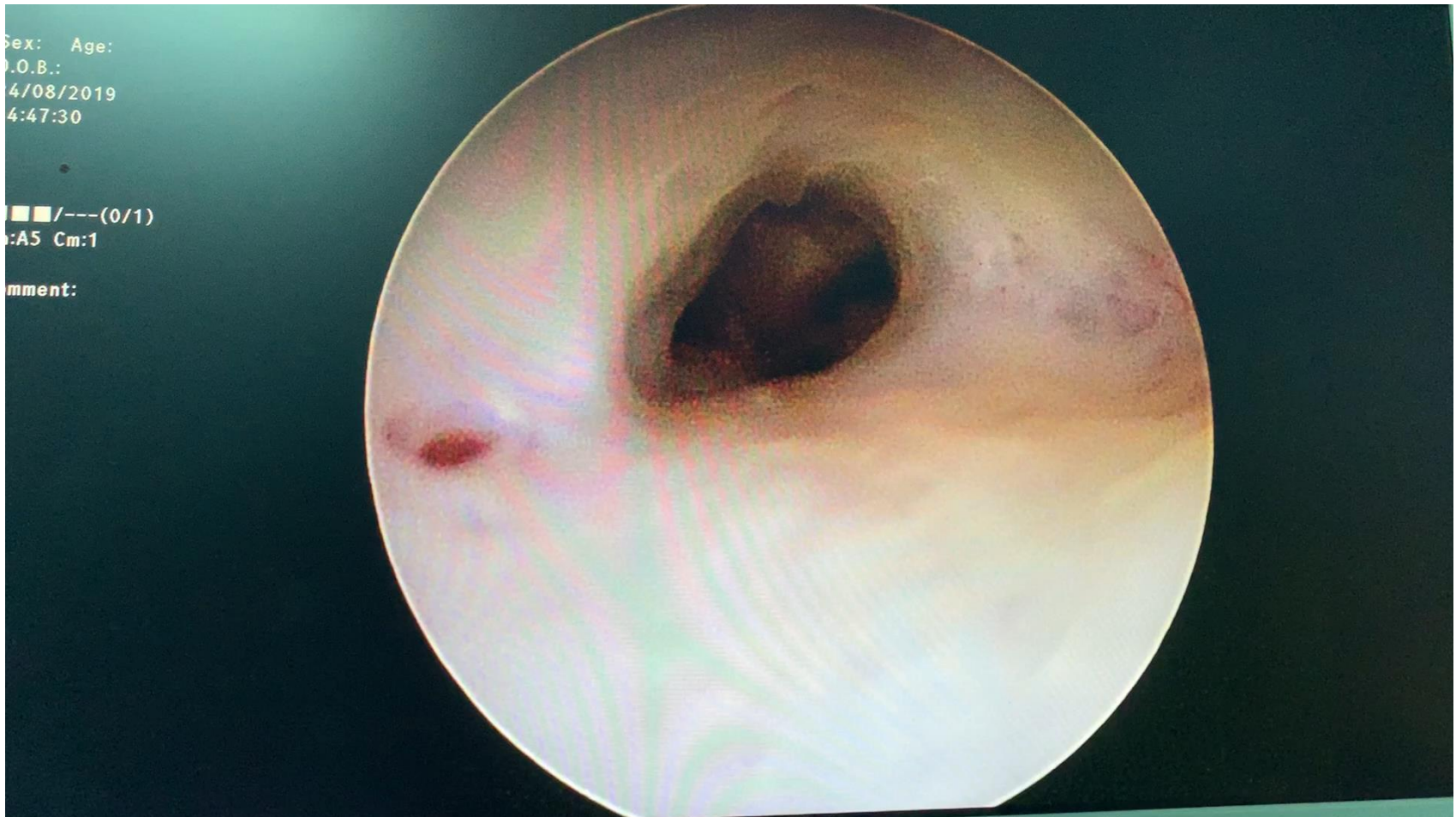


Synerchie uterine totale (Uterine adhesion)

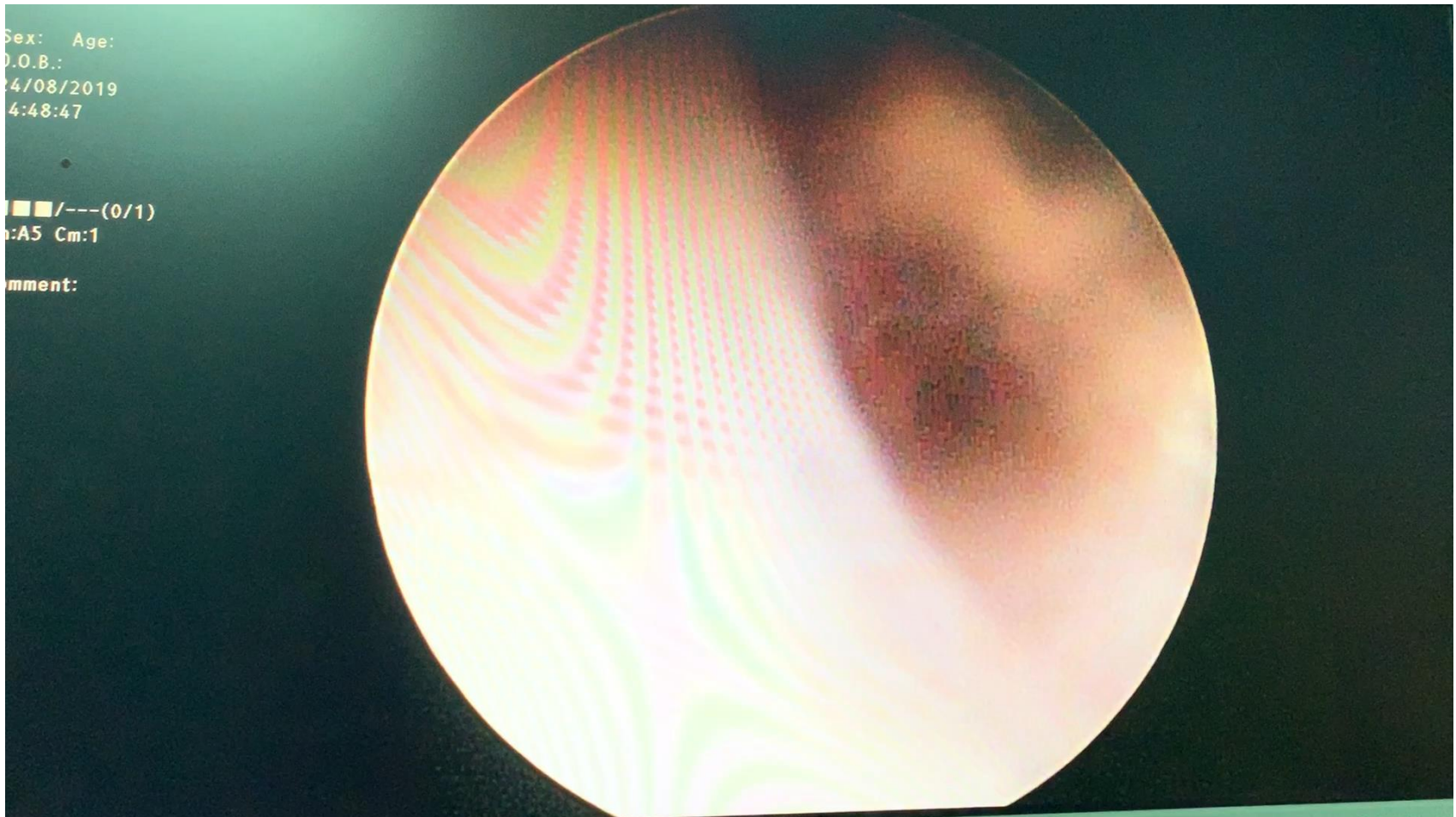
H&P (History and Physical examination)

- Mrs 36yrs, 4 children, 4 abortion,
- Amenorrhea 5yrs
- Hormonal medication treatment is not successful
- Check up and treat 5 well-known hospitals
- In VN, Thailand (Bumrongrad Hospital)
- Can not insert inside uterine by hysteroscope
- Hysterosalpingography not successful in Calmette
- Last Attempts : Hysteroscopy for diagnosis and surgery.

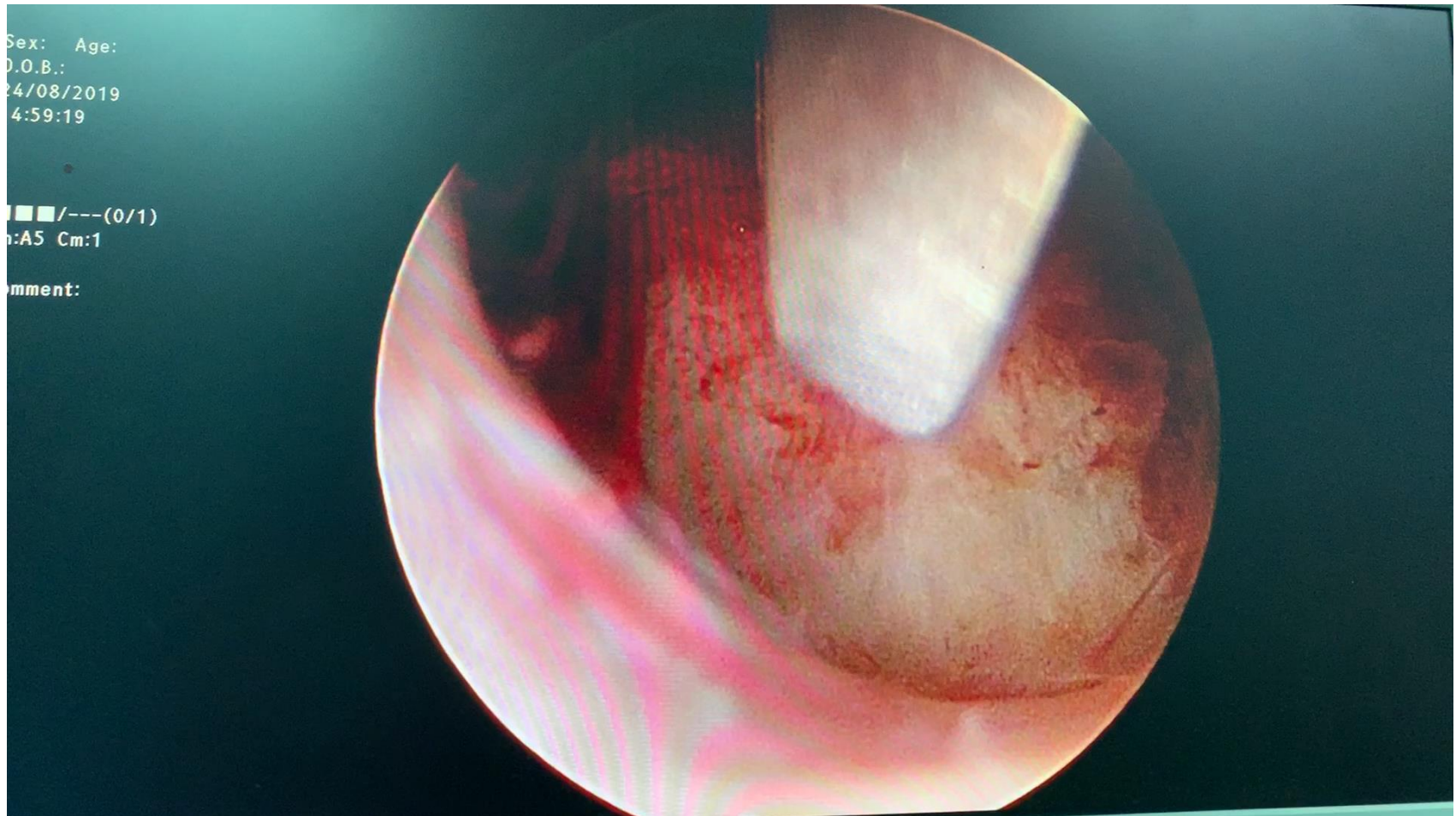
Case Study : Uterine adhesion/Synerchie totale



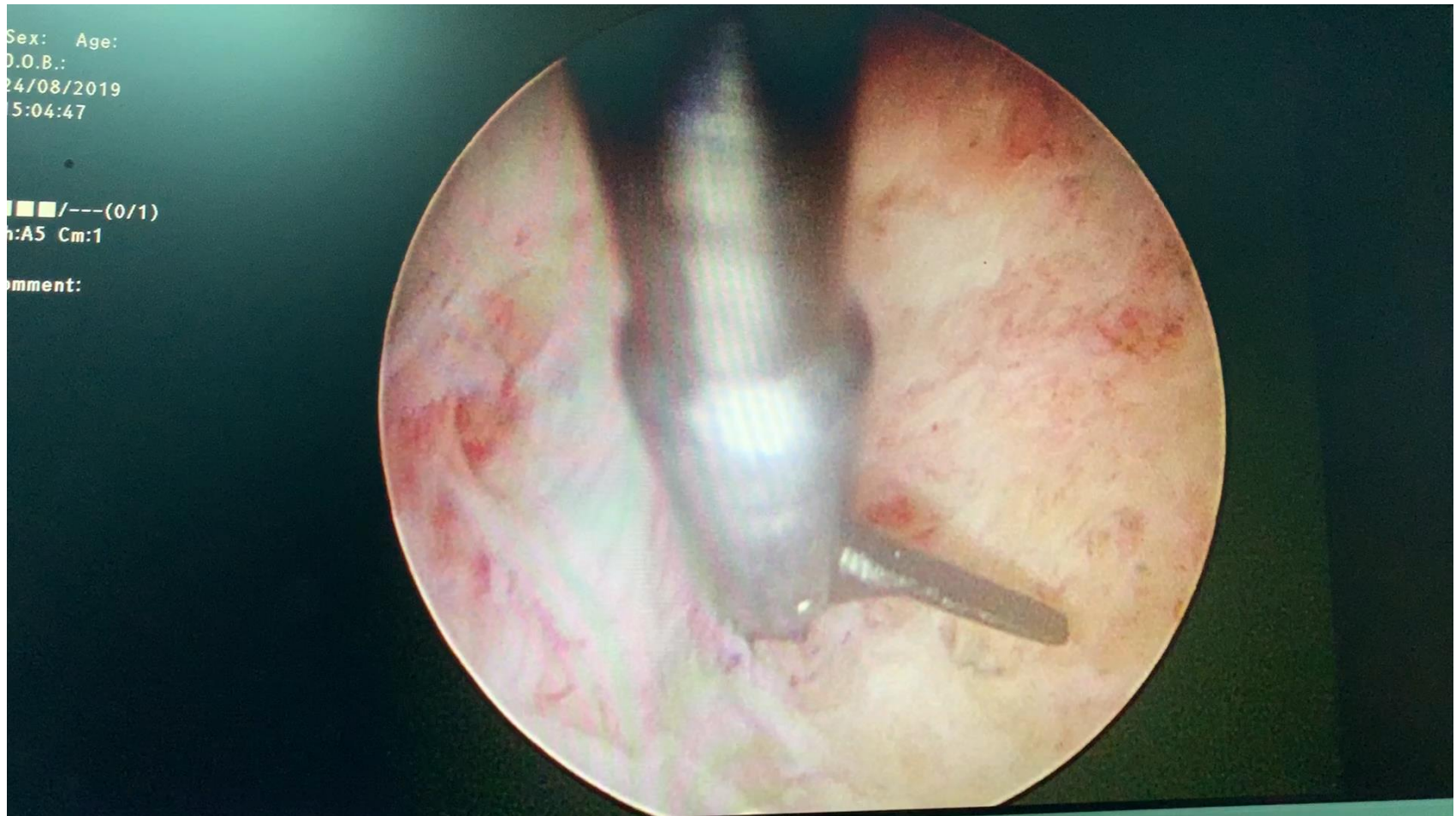
Case Study : Uterine adhesion/Synerchie totale



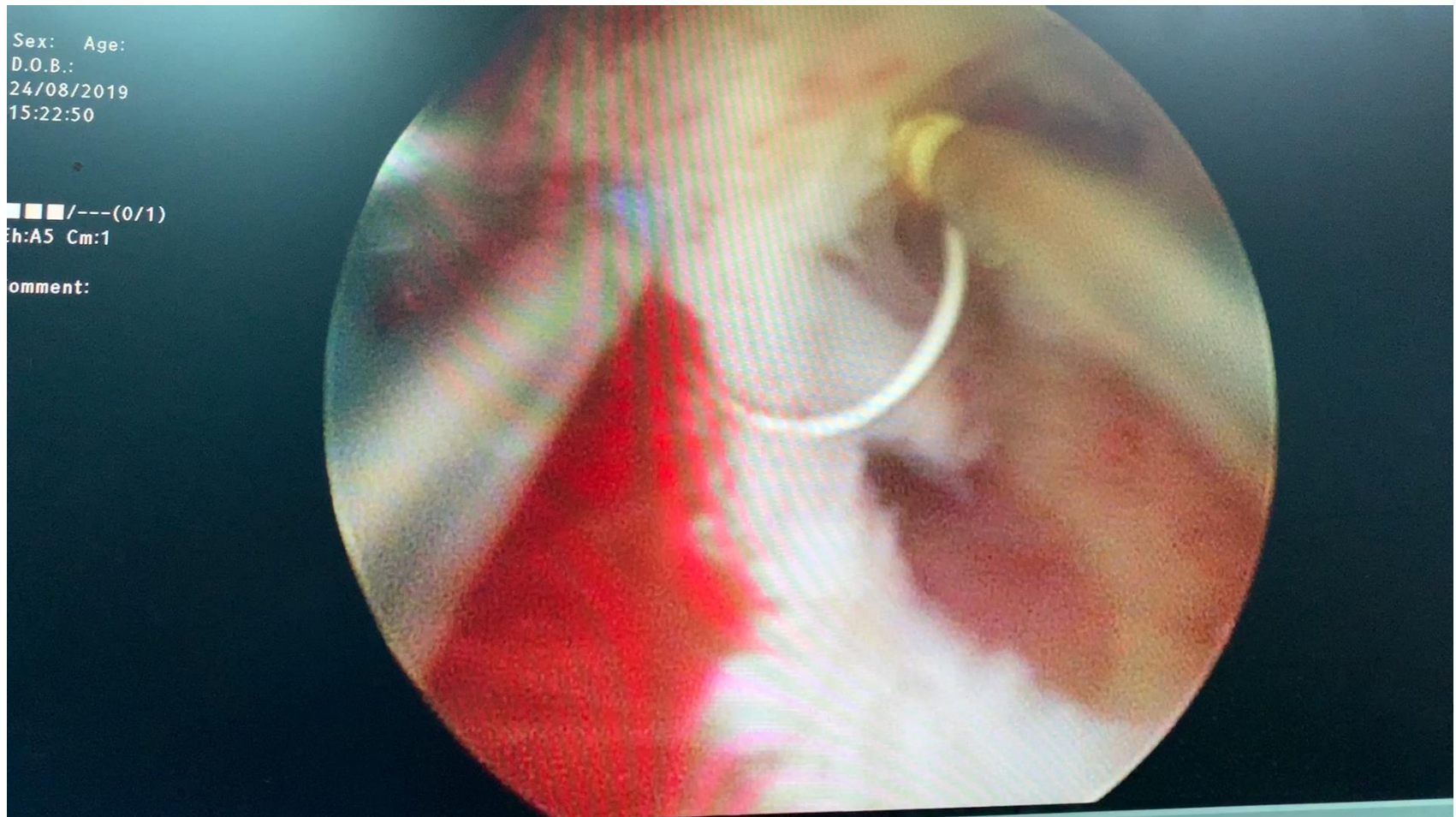
Surgery for Uterine adhesion/Synerchie totale



Surgery for Uterine adhesion/Synerchie totale



Surgery resection via electric angle



Ultrasound checking while hysteroscopy



Hysteroscopic surgery, Myomectomy

- Mrs. 25yrs old with repeated miscarriage for 5 times of pregnancies.
- Meno-metrorrhagia
- Ultrasound : Myoma fundus of the uterine cavity 15x20mm (sessil myoma intramural invade in the cavity)
- Hysterosalpingography : Myoma intramural
- 6 years married.
- Last attempts: Hysteroscopic surgery for myomectomy on 16 September 2019.

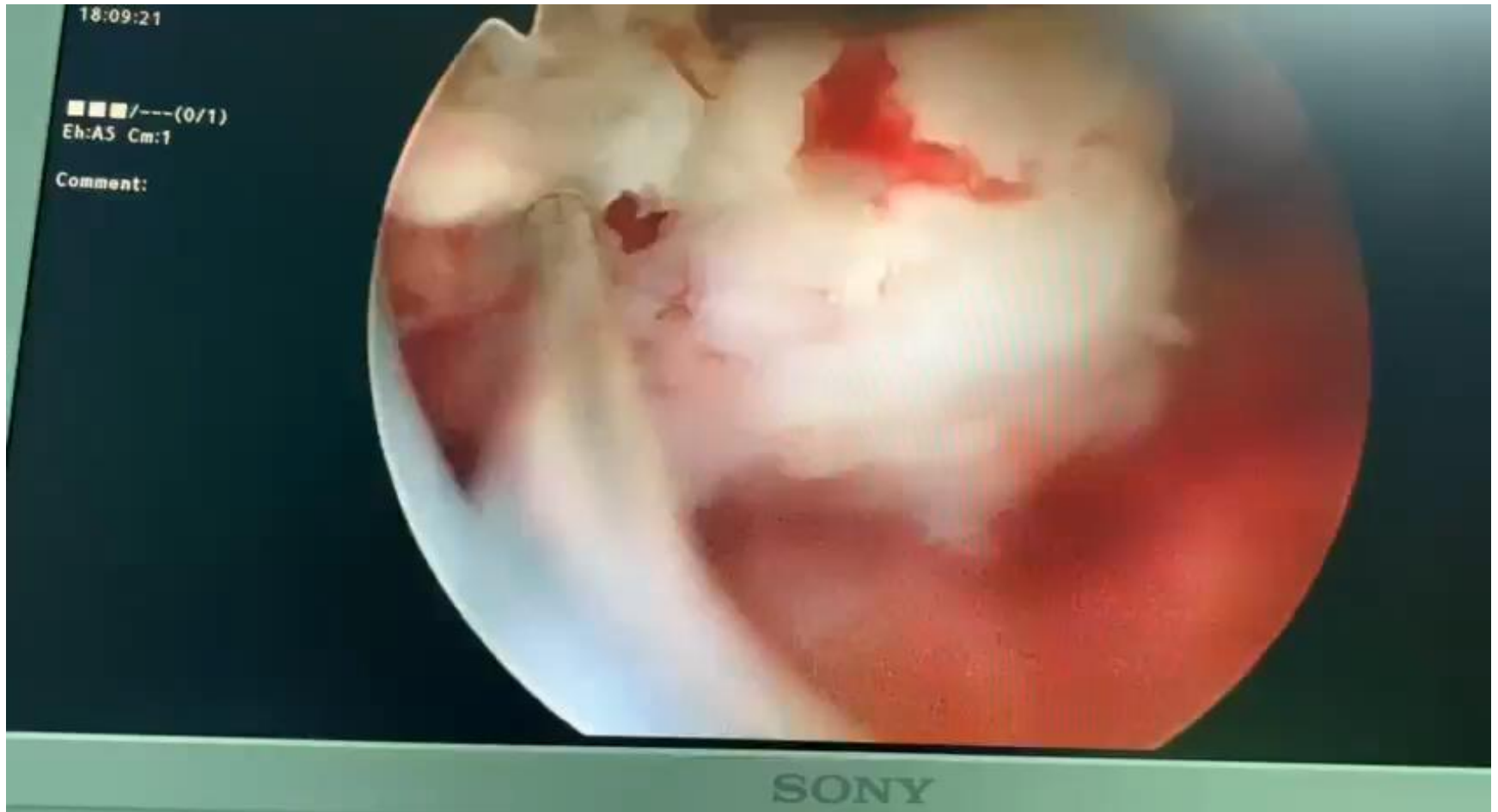
Hysteroscopic diagnosis & surgery



Hysteroscopic surgery



Hysteroscopic surgery



Polypectomy via scissor

5.5 mm Operative Hysteroscope

Office Hysteroscopic
Polypectomy

Amy Garcia, MD

MANAGEMENT

- Hormonal crisis (Trouble H.): Hormonal preparation (3-6 months)
- Endocavity polyp: Hysteroscopic surgery (polypectomy endoscopic)+ Bi-phasic preparation.
- Fibroma endocavity (FU sous muqueuse): Myomectomy hysteroscopic surgery.
- Foreign body (Corps étranger): Extraction by hysteroscopy.
- Myoma intracavity: Resection by hysteroscopic surgery.
- Uterine adhesion(Synerchie utérin): Resection+DIU+Bi-phasic preparation.
- Fibroid band intracavity of uterine (Cloison utérine): Resection endoscopic + Bi-phasic hormonal preparation.
- Fibroids intramurale or interstitielle : Hysteroscopy diagnosis and Laparoscopic surgery.

**THANKS FOR
YOUR ATTENTION**