

N HYSTEROSCOPY NEWSLETTER

Hysteroscopic surgery experienced in the last decade an important improvement either due to the miniaturization of the instruments or due the introduction of new energy sources. The industry has produced an incredible effort trying to satisfy the needs of top surgeons in hysteroscopy.

The first big improvement was undoubtedly the introduction of bipolar electrosurgery. Is almost redundant to emphasize the advantages of bipolar energy and consequently the use of saline solution as distension medium. Every resident at the beginning of his/her training will list the improvements, mainly the possibility to avoid the fluid overload. The use of saline solution gives a clearer vision despite the fact that bipolar surgery produces more air bubbles. The technique of bipolar surgery is also slightly different, since more pressure has to be applied to the tissue when cutting. This difference between resecting technique may become a problem when people, who are used to resect with bipolar instruments, "return" to cut with monopolar, applying the same pressure as when cutting with bipolar electrode. The risk of perforation may become serious.

Miniaturization of the tools went in two directions: in simple reduction of the diameter of pre existing instruments (resectoscopes) or in the development of so called "office hysteroscopy". From 26/28 Fr of the first resectoscope passing by 24/22 Fr tools we can find on the market 16 Fr mini-resectoscope (5.3 mm) by Gubhini (Tontarra GmbH) and the 15 Fr (5 mm) Karl Storz resectoscope (Karl Storz Endoscopy). The advantages of the miniaturization of such tools is undoubtedly the possibility to avoid dilatation of the cervix in the vast majority undergoing resectoscopic surgery. The only limitation is represented by a smaller dimension of the resecting loop, which may cause an increased time of the surgery.

Office hysteroscopic surgery utilize 5 French channels to introduce several tools either mechanic or electric needles and tweezers. The biggest advantage of office surgery is the possibility to avoid general anaesthesia and to perform almost all procedures in an outpatient setting. The great advantage of 5 Fr operative tools may become in several cases a limit, when intrauterine pathology is too large and needs to switch to classic resectoscope.

Recently mechanic energy has been adopted by operative hysteroscopes, either on office base (Truclear) in with bigger tools needing anaesthesia (Intrauterine Bigatti Shaver IBS). The advantages of shavers/morcelators is the possibility to avoid the use of electric energy. The blunt tip reduces the possibility to perforate the uterine wall.

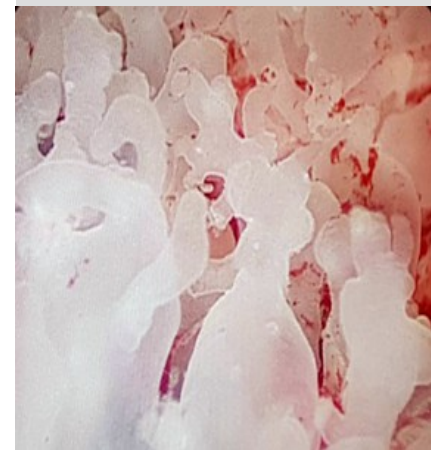
Where are we going? Every uterine pathology needs an accurate pre-surgery diagnostic setup. To avoid possible complications it is important to evaluate vascular invasion of trophoblastic retained tissue or to measure the healthy tissue between myoma and external serosa. It is very useful too keep an ultrasound machine in the operative theatre in order to assure maximal safety of the procedure.



The future I imagine is an integration between operative tools and ultrasound in order to have a surgery which will be precise and safe. I imagine an automatic or computer guided surgery which integrates the pre-surgery diagnostic setup and the cutting element in order to guide the operator like an airplane landing in the fog.

Marco Gergolet

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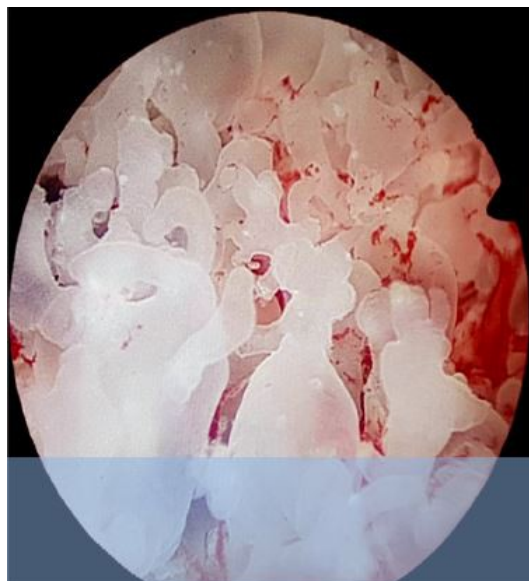
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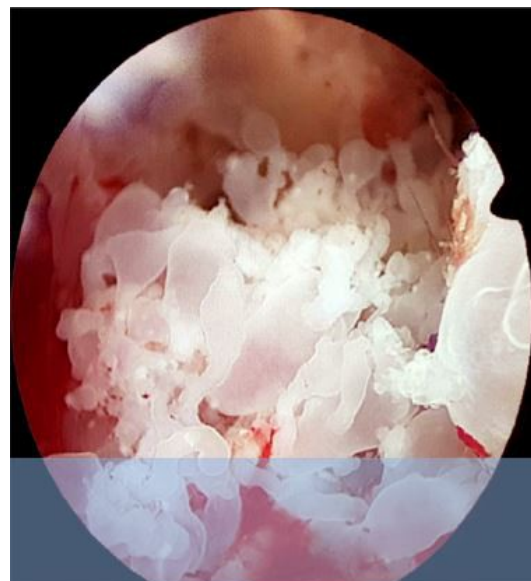
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HYSTEROSCOPY
PICTURES

Detailed view of hydropic degeneration of placental villi



Hysteroscopy view of partial molar pregnancy

Molar pregnancy or hydatidiform mole is an abnormal pregnancy characterized by hydropic degeneration of placental villi. This is a rare entity, occurring in 1 out of every 1,000 pregnancies. There are two types of molar pregnancies, complete and partial. The ratio of complete to partial molar pregnancy varies among studies and most reports show that complete type is more frequent than partial. In complete molar pregnancies, fetal tissue is not present and most complete hydatidiform moles have a 46 XX karyotype. Partial molar pregnancies may have a identifiable embryo and two coexisting populations of chorionic villi, edematous and normal. The karyotype of partial molar pregnancy is usually triploid (69XXY) as result of the fertilization of a normal egg by two sperm.

Very few reports have utilized hysteroscopy in diagnosing molar pregnancy and there is a lack of good quality pictures. In his article "Role of hysteroscopy in diagnosis and management of trophoblastic disease", Suzuki A. proposed to classify the hysteroscopic findings associated with molar disease in four categories; 1) the existence of vesicles, 2) bulging or 3) recess of the uterine wall with bleeding or dilated blood vessels and 4) hematoma of the uterine wall.

If you are interested in sharing your cases or have a hysteroscopy image that you consider unique and want to share, send it to hysteronews@gmail.com

INTERVIEW WITH...

Prof. Enlan Xia established the Beijing International Hysteroscopy Center to study the fundamental theory and techniques of Hysteroscopy, to treat patients and to provide training in gynecological endoscopy in China. A life devoted to gynecological endoscopy, specially to hysteroscopy

How were the first steps of the Hysteroscopy in China?

Professor Lin Yuanying is a classmate of Lin Qiaozhi at Peking Union Medical College and worked in England for many years. In 1965 Professor Lin was working in the Shanghai first Hospital and introduced hysteroscopy to China. As a visiting doctor, I was training at Shanghai first hospital and took part in the manufacture and application of hysteroscopy with Professor Lin. In 1990, I inherited Professor Lin's unfulfilled wish, after reading a paper of AUB treated by transcervical resection of endometrium (TCRE) 16 cases reported in BMJ 1987 by Adam Magos, trying to perform the first case of TCRE in China. From the beginning, we started to perform TCRE instead of hysterectomy. But at the same time we encountered and removed other intrauterine pathology, such as leiomyoma, polyp, septum, IUAs and foreign bodies. It is interesting that after operation these patients they improved their reproductive outcomes significantly. Since then TCRM, TCRP, TCRA, TCRS, TCRF and diagnostic hysteroscopy became routine and widely available in China.

Date	No.
1990~1999	470
2000~2009	3979
2010~2017	10064
Total	14513

Table 1. The date and Hysteroscopic Procedures

Is there an increase in the number of hysteroscopic procedures performed in your country?

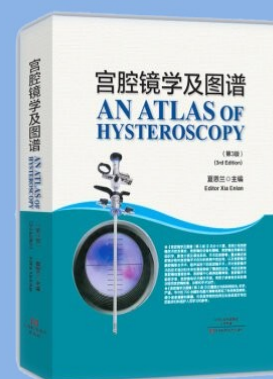
In China, the number of hysteroscopic procedures have increased dramatically from 1990 to 2017. We can use the number of published papers in Chinese Journals to reflect the increase in the number of hysteroscopic operations. (Table 1)

Now the use of hysteroscopy in big cities has become a very common procedure. In small and medium-sized cities according to the requirements of Government, hospitals must have equipment and perform hysteroscopy, even smaller community hospitals and hospital of Traditional Chinese medicine are no exception.



Enlan Xia

Professor and Director
Hysteroscopy Center
Ob. & Gyn. Department
Fuxing Hospital, Capital
Medical University
Beijing
CHINA



Hysteroscopy science and hysteroscopy Atlas (3rd edition) is divided into sixteen chapters. the system introduces the development of hysteroscopy history. hysteroscopy equipment and instruments. hysteroscopy anatomy and histology. uterine distention medium and perfusion systems. surgical anesthesia; focuses on diagnostic hysteroscopy and hysteroscopic surgery in gynecological diseases. as well as hysteroscopy and laparoscopic surgery. hysteroscopy under ultrasound monitoring; and technical training hysteroscopy and future trends made a brilliant exposition.

What are your reflections about the importance of keeping in touch with others hysteroscopists all over the world?

I am much honored to work in this era. My country has the ability to send us go abroad to exchange knowledge and technology. Keep in touch with famous hysteroscopists all over the world is very important. Professor Bruhat MA, Wattiez A, Canis M in France, Wamsteker K and de' Block from The Netherland, Rafael Valle, Franklin Loffer, Linda Bradley, Tommaso Falcone, Harry Rich in USA, TC Li, Peter O'Donovan in England, Felix Wong, Peter Maher in Australia, Bao-Liang Lin in Japan. Stefano Bettocchi, Malzoni M, Minelli L, from Italy, Shawki Osama from Egypt, Yap Li Kee from Singapore, Mangeshkar from India, Popov from Russia. They are well-known international recognized scholars who had attend the Annual Beijing-International Gynecological Endoscopy and Mini-invasive Surgery Symposium in 25 years to exchange their idea and experiences, promoted the development of gynecological endoscopy in China, especially the development of hysteroscopy technology.

第25届北京·国际宫腹腔镜及微创手术学术研讨会 The 25th Beijing · International Gynecological Endoscopy & Mini-invasive Surgery Symposium

2017年5月18-21日



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How important are courses and “hands on” training in hysteroscopy?

Learning hysteroscopy is completely different from laparoscopy. 1) Hysteroscopy surgery is completely different from the traditional laparotomy, vaginal operation or laparoscopic surgery. 2) As long as there is the basis of the laparotomy, understand the use of laparoscopic equipment and instruments, watching videos of simple laparoscopic surgery, the operator can perform the same surgery independently. But this do not apply to hysteroscopy, because of the operator can't understand the parameters of the video such as light wattage, depth of field (DOF), fluid pressure and velocity, electrical current intensity and the electric cutting model. 3) Complications are different. Complications of laparoscopy are similar to laparotomy and complications of hysteroscopy are similar to transurethral resection of prostate, such as TURP Syndrome, venous air embolism. Therefore, learning hysteroscopy must go through professional training. “hands on” is the best way to learn. Since 1992, my Center had held 66 classes of Hysteroscopic “hand-on” Training Workshops to practice hysteroscopic skill on a model. In 2000 the Centre was honored named International Hysteroscopic Training Center of Asia by International Training School Netherlands, more than 3000 Doctors were training in total. In China most Hysteroscopist were cultivated from my center.



Has the hysteroscopy reached it's limits?

Hysteroscopy will never reached the limits ! I don't think that hysteroscopy only should be used for diagnosis and treat intrauterine lesions, but also to manage cervical diseases, such as transcervical resection of cervix (TCRC) to treat cervical intraepithelial neoplasia (CIN) which is better than cold knife conization (CKC) and also decrease cervical incompetence. Hysteroscopic surgery is the first treatment modality of post cesarean scar diverticular (PCSD). Hysteroscopic resection of adenomyosis or uterine wall cyst has good effect and is worth further study.

Do you have any advice for the young gynaecologists who are starting in the world of minimally invasive surgery?

Young doctors belong to a fortunate generation, catch up with hysteroscopy, it is a milestone of progress. Hysteroscopy changed the concept of diagnosis and treatment for gynecological diseases. Hysteroscopy seem to be very easy, but young doctors don't think it is simple. Incomplete surgery or unsafe operation do not produce good outcomes. Uncareful handling can lead to fatal complications. Hysteroscopist have to study and handle laparoscopy skillfully because sometimes we need laparoscopy when encountered complication just like uterine perforation or difficult diagnosis just like Robert's uterus.



We Thank Dr. Enlan Xia for this great interview

TALKING ABOUT

Asherman's Syndrome: Adhesions And Abortions

Dr. Jude Ehiabhi Okohue

Gynescopie Specialist Hospital and Madonna University Rivers State, Nigeria

Intrauterine adhesions or synechiae, refer to situations where scar tissue develops within the uterine cavity. It was first described and published by Heinrich Fritsch in 1894. In 1948, Joseph Asherman, identified intrauterine adhesions in 29 women presenting with amenorrhea and associated stenosis of the internal cervical os. It became known as Asherman syndrome when there are associated symptoms such as menstrual irregularities and infertility. The terms Asherman syndrome and intrauterine adhesions are often used interchangeably. Sometimes the symptoms of Asherman syndrome are present in a woman in whom the cause of the intrauterine adhesion was not pregnancy related, in such scenarios, the term Asherman syndrome can still be used [1].

It is generally agreed that abortion is the termination of a pregnancy before the period of viability. The issue is what constitutes viability? The Centre for Disease Control (CDC) and the World Health Organization (WHO) define abortion as pregnancy termination prior to 20 weeks gestation or a fetus born weighing less than 500g [2]. In Nigeria and most third-world countries, abortion is defined as the spontaneous or induced termination of pregnancy before the age of fetal viability which is taken as 28 weeks gestation [3].

Epidemiology of Abortion

Reliable data on the incidence of abortion and its complications are difficult to ascertain especially in areas with restrictive abortion laws. Estimates show that worldwide, 26 – 53 million induced abortions are carried out each year [4.] The Centre for Disease Control reports that the rate of termination of pregnancy in the United States of America in 2008 was 16 per 1000 women aged 15 to 44 years, with a 4 percent decrease in the rate from 1999 [5]. Worldwide estimates for that same year put the induced abortion rate at 28 per 1000 women aged 15 to 44 years [6]. Western Europe recorded the lowest rate while Eastern Europe had the highest figure of 43 per 1000 in women aged 15-44 years in 2008 [6] In Nigeria, an estimated 1.25 million induced abortions occurred in 2012 alone equivalent to a rate of 33 abortions per 1000 women aged between 15 and 49 years [7].



Unsafe abortion is a significant problem in countries with restrictive abortion laws. In most developing countries such as Nigeria, abortion services might either be restricted or unaffordable. This therefore limits the access of women to abortion services. Methods of procuring an. abortion include both the medical and surgical methods. While the medical methods involve the use of medications, the surgical methods consist of either a dilatation and curettage or the use of vacuum aspiration. Medical and surgical abortions are both considered safe and effective methods of termination of pregnancy, albeit, the choice is based upon availability, gestational age of the pregnancy and patient preference [8]. Medical abortion however takes a much longer time to expel the fetus compared with the surgical method.

The two commonly used medications, used alone or in combination for medical abortions are Mifepristone, an anti-progestogen and misoprostol, a prostaglandin. They are approved for use in combination for abortions up to 70 days of gestation. Methotrexate followed by vaginal misoprostol is another alternative, as it successfully terminates pregnancy in 88 to 96 percent of cases [9]. The main disadvantage is the prolonged interval it takes before complete abortion is accomplished.

In a study in Benin City, Nigeria, over 70% of the abortions were done by dilatation and curettage, with over 70 percent of the patients reporting having at least one previous termination of pregnancy [10]. This has implications for causing intrauterine adhesions. With a 5 to 20% risk of postabortal endometritis in women not placed on antibiotics following suction evacuation, antibiotic prophylaxis is recommended as it reduces the infection rate by half [11,12]. The use of prophylactic antibiotics following a medical induced abortion however, is controversial.

Second trimester termination of pregnancy is associated with more morbidities and mortalities. Because of the many complications associated with second trimester dilatation and evacuation, including the possibility of retained fetal bones, its role should probably be limited in modern gynaecological practice. About 10 percent of women who have a medically induced second trimester abortion further require procedures to remove a retained placenta [13].

Epidemiology of Intrauterine Adhesions

The true prevalence of intrauterine adhesions is unknown as the condition is rare in the general population while many patients are largely asymptomatic. Hooker et al in a recent meta-analysis found a prevalence of 19.1% after hysteroscopically evaluating 912 women with spontaneous miscarriage or medical/surgical expulsion (86% of them had uterine curettage) [14].

The most common predisposing factors to intrauterine adhesions therefore seems to be curettage of a pregnant or recently pregnant uterus such as a miscarriage, termination of pregnancy, causing damage to the basal layer of the endometrium [15]. Intrauterine adhesions can however occur following a Caesarean section, myomectomy (both open and hysteroscopic/laparoscopic myomectomies), use of the B-lynch compression sutures, use of intrauterine devices, infections such as schistosomiasis and tuberculosis of the genital tract and surgeries for Mullerian abnormalities [16]. The time interval between the death of the fetus and dilatation and curettage may increase the chances of adhesion formation as a result of the fibroblastic activity of the retained tissues; therefore the longer the period between fetal demise and dilatation and curettage, the greater the risk of Asherman syndrome [17]. In the same vein, the number of procedures increase the risk of Asherman syndrome, with an estimated 16 percent risk after one dilatation and curettage and 32 percent after three or more attempts [18].

Following damage to the basal layer of the endometrium, granulation tissue on the opposing surfaces of the uterine cavity can coalesce, giving rise to adhesions which can partially or totally obliterate the uterine cavity. Electric microscopic evaluation of endometrial glandular cells of women affected by severe Asherman syndrome revealed significant subcellular modifications such as ribosome loss, mitochondrial swelling, vascular closure and hypoxic cellular modifications [2].

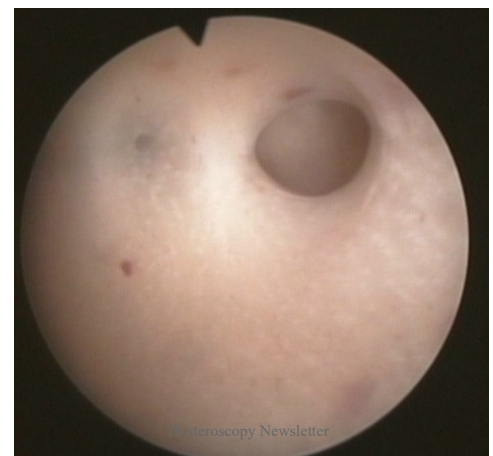
Diagnosis

The diagnosis of intrauterine adhesion and hence Asherman syndrome can sometimes be missed. Symptoms include: menstrual irregularities such as hypomenorrhea and amenorrhea; cyclical lower abdominal/pelvic pain recurrent pregnancy loss and infertility. Investigations include:

Hysteroscopy: The gold standard for establishing a diagnosis. During hysteroscopy, the intrauterine adhesions can be visualized and the severity of the condition assessed. It is also possible to estimate the proportion of healthy endometrial tissue, which may help in prognosticating the condition.

Hysterosalpingography (HSG): Will often show filling defects within the endometrial cavity.

Saline infusion sonography (SIS): Hysterosalpingography and SIS are both equally sensitive for diagnosing intrauterine adhesions with a sensitivity of 75 percent [19].



Hysteroscopy Newsletter

Transvaginal ultrasound scan (TVS): This is not a reliable method of diagnosing Asherman syndrome although very versatile Sonologists might be able to delineate intrauterine adhesions with the use of this investigative tool. Three-dimensional ultrasonography may also be helpful in establishing a diagnosis of Asherman syndrome.

Magnetic Resonance Imaging (MRI): This is a less commonly used diagnostic modality

Treatment

The treatment of Asherman syndrome was dealt with in a recently published Hysteroscopy Newsletter article and so a summary should suffice here. Historically, intrauterine adhesions were managed by blind adhesiolysis which did not allow for proper visualization of the adhesions. Unfortunately, there are no randomized controlled trials of any treatment modality compared with expectant management; or a treatment modality, compared with another treatment modality. Treatment therefore is based to a large extent on the personal experience of the gynaecologist, case series and reported cases and is also structured to meet the individual needs of the patient.

Patients with intrauterine adhesion but without signs and symptoms and not trying for conception might be left alone. Spontaneous resumption of menstruation in as many as 78 percent of patients within seven years had previously been reported [20]. Intrauterine adhesions remain one of the most common indications for hysteroscopy [21].

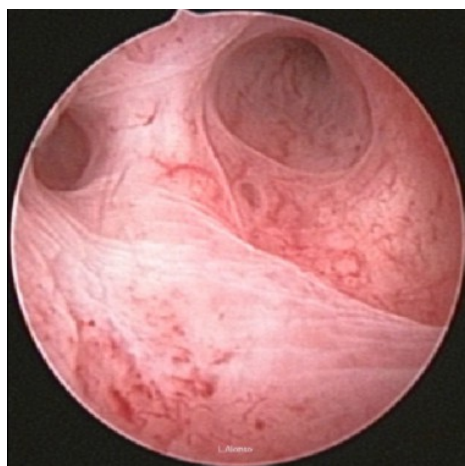
The aim of treatment is to restore the normal anatomy of the uterine cavity while taking steps to prevent a recurrence of the adhesions. In cases with severe, dense adhesions, there is a risk of creating a false passage and such cases are best done under ultrasonographic guidance. Some authors had advocated a concurrent laparoscopy or fluoroscopy guidance when faced with such difficult cases. Patients with cervical stenosis might benefit from the use of intravaginal misoprostol insertion the evening before hysteroscopy, ensuring the cervical canal is easier to dilate.

Mild adhesions might be separated during hysteroscopy, due to the effect of the distension medium; the tip of the hysteroscope can also be used to bluntly separate the adhesions. While some gynaecologists would prefer to use hysteroscopic scissors for adhesiolysis as it is associated with less injury to the endometrium, others advocate the use of an energy source, either monopolar or bipolar; although there is a higher risk of damage to the residual endometrium with this energy sources [1,22].

Other treatment modalities that have been reported include the use of NdYAG (neodymium-doped yttrium aluminium garnet) and KTP (potassium-titanyl-phosphate) LASER, which have been largely abandoned on account of cost and damage to the endometrium. Abdominal laparotomy and hysterotomy with direct adhesiolysis were traditional treatments for severe intrauterine adhesions but are rarely done these days, reserved only for severe cases in which other techniques cannot be performed.

Prevention of Adhesion Reformation

It is important to institute measures that would reduce or totally eliminate the chances of adhesion recurrence as this can have deleterious effects on reproductive outcome.



The Intrauterine device (IUD)

This is a physical barrier that separates the walls of the endometrium following adhesiolysis. The IUD of choice was the Lippes loop, whose manufacture was stopped by the pharmaceutical company citing economic reasons. The Copper T IUD has inflammatory properties on the endometrium on account of the copper. It also has the disadvantage of a small surface area.

In my practice, some severe cases where it becomes impossible for the uterus to retain a Foley catheter, we still make do with the Copper T IUD after detaching the copper from the arms and stem of the device (the benefit of this however has not been tested).

Intrauterine Foley Catheter

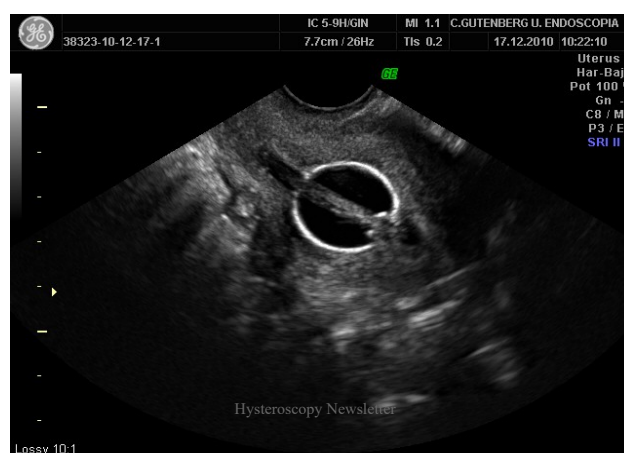
This also acts as a physical barrier and in a non-randomized study comparing its use for 10 days following adhesiolysis compared with IUD insertion for three months, there were fewer infections in the Foley group and a lower recurrence rate of intrauterine adhesions following HSG assessment [23]. Amenorrhea following treatment was 19% in the Foley catheter group and 38% in the IUD group. There are limited data supporting a benefit for using a Foley catheter or an IUD after lysis [24].

Intrauterine Balloon Stent

This acts in a similar fashion as the Foley catheter but has the added advantage of being triangular in shape in conformity with the shape of the endometrial cavity. In a recent study of 107 women with Asherman syndrome, the use of the stent compared with either an IUD or hyaluronic acid gel, resulted in a significant reduction of adhesions recurrence rate [25].

Intrauterine Gel

A recent systematic review and meta-analysis concluded that the intrauterine gels were effective in preventing post hysteroscopy uterine adhesion formation [26].



Endometrial Regeneration

The aim is to stimulate residual growth of the endometrium after hysteroscopic adhesiolysis. Different estrogen preparations, dosages and duration of treatment have been proposed, with or without a progestogen. No comparative studies have been performed investigating dosage administration or combination of hormones [1,7]. Medications that increase blood flow have been investigated in the postoperative management of intrauterine synechiae. Such medications include aspirin, nitroglycerine and sildenafil citrate. They are believed to increase blood flow to the endometrium. The number of women treated using these therapies are however small.

Recent Development

This involves work on stem cells.

Follow-up of Patients and Outcome of Treatment

Follow-up of patients is important in order to detect a recurrence and manage appropriately. Assessment can be via the following: Office hysteroscopy; Saline infusion sonography; Hysterosalpingography. Recurrence rate of 33% for mild to moderate and 66% for severe adhesions have been reported [24]

References

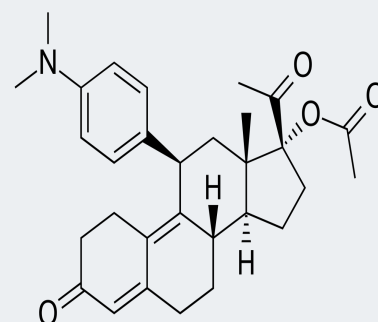
- 1- Yu D, Wong YM, Cheong Y, Xia E, Li TC. Asherman syndrome – one century later. *Fertil Steril*. 2008; 89:759-79
- 2- Cunningham FG, Leveno KJ, Bloom SL, Hauth JC, Rouse DJ, Spong CY (eds). Overview of obstetrics. In: *Williams Obstetrics* (23 ed.) 2010 McGraw-Hill Medical
- 3- Aimakhu UE. Abortions. *Tropical Journal of Obstetrics and Gynaecology* 1995; 12(1)
- 4- World Health Organisation (WHO). Technical and policy guidance for health systems 2002; WQ 440 ISBN 92 4 159034 3
- 5- Pazol K, Zane SB, Parker WY, Hall LR, Berg C, Cook DA. Centers for Disease Control and Prevention (CDC). Abortion surveillance—United States, 2008. *MMWR Surveill Summ*. 2011; 60(15):1.
- 6- Sedgh G, Singh S, Shah IH, Ahman E, Henshaw SK, Bankole A. Induced abortion: incidence and trends worldwide from 1995 to 2008. *Lancet*. 2012; 379(9816): 625 – 32
- 7- Bankole A, Adewale IF, Hussain R, Awolude O, Singh S, Akinyemi JO. The incidence of abortion in Nigeria. *Int Perspect Sex Reprod Health*. 2015; 41(4): 170-81
- 8- ACOG. ACOG practice bulletin. Clinical management guidelines of obstetrician-gynecologists number 67. Medical management of abortion. *Obstet Gynecol* 2005; 106:871
- 9- Creinin MD, Vittinghoff E, Keder L, Darney PD, Tiller G. Methotrexate and misoprostol for early abortion: a multicenter trial. I. Safety and efficacy. *Contraception*. 1996; 53(6): 321 – 7
- 10- Enabudoso EJ, Gharoro EP, Adu ABA, Ekpe UP, Okohue JE. Five-year review of complicated induced abortions in university of Benin teaching hospital, Benin City. *Benin Journal of Postgraduate Medicine*. 2007; 9(1): 13 – 21
- 11- ACOG Committee on Practice Bulletins. ACOG Practice Bulletin No. 74. Antibiotic prophylaxis for gynecologic procedures. *Obstet Gynecol* 2006; 108:225
- 12- Van Eyk N, van Schalkwyk J, Infectious Diseases Committee. Antibiotic prophylaxis in gynecologic procedures. *J Obstet Gynaecol Can* 2012; 34:382
- 13- Kelly T, Suddes J, Howel D, Hewison J, Robson S. Comparing medical versus surgical termination of pregnancy at 13-20 weeks of gestation: a randomised controlled trial. *BJOG* 2010; 117:1512
- 14- Hooker AB, Lemmers M, Thurkow AL, Heymans MW, Opmeer BC, Brolmann HA et al. Systematic review and meta-analysis of intrauterine adhesions after miscarriage: prevalence, risk factors and long term reproductive outcome. *Hum Reprod Update* 2014; 20(2):262
- 15- Harick H, Akin O, Sala E, Ascher SM, Levine D. *Diagnostic imaging gynecology* 1st ed. Amrys Inc; Salt Lake City, Utah: 2007; 68-77
- 16- Rasheed SM, Amin MM, Abo Elhah AH, Abo Elhassan AM, El Zahry MA, Wahab HA. Reproductive performance after conservative surgical treatment of postpartum haemorrhage. *Int J Gynaecol Obstet*. 2014; 124(3):248-52
- 17- Fedele L, Bianchi S, Frontino G. Septums and synechiae: approaches to surgical correction. *Clin Obstet Gynecol*. 2006; 49(4): 767 – 88
- 18- Friedler S, Margalioth EJ, Kafka I, yaffe H. Incidence of post-abortion intra-uterine adhesions evaluated by hysteroscopy – a prospective study. *Hum Reprod* 1993; 8: 442 – 4
- 19- Soares SR, Barbosa dos Reis MM, Camargos AF. Diagnostic accuracy of sonohysterography, transvaginal sonography and hysterosalpingography in patients with uterine cavity diseases. *Fertil Steril*. 2000; 73(2):406
- 20- Schenker JG, Margalioth EJ. Intra-uterine adhesions: an updated appraisal. *Fertility and Sterility*. 1982; 37:593-610
- 21- Okohue JE, Onuh SO, Akaba GO, Shaiji I, Wada I, Ikimalo JE. A 3 years review of hysteroscopy in a private hospital in Nigeria. *World Journal of Laparoscopic surgery*. 2009; 2(2):26
- 22- Kodaman PI, Aried AA. Intrauterine adhesions and fertility outcome: how to optimize success? Current opinion in *Obstet Gynecol*. 2007; 19(3):207-14
- 23- Orhue AA, Aziken ME, Igbofah JO. A comparison of two adjunctive treatments for intrauterine adhesions following lysis. *Int J Gynaecol Obstet*. 2003; 82:49-56
- 24- AAGL practice report: practice guideline for management of intrauterine synechiae. *J Minimally Invasive Gynecology*. 2010; 17(1):1-7
- 25- Lin X, Wei M, Li TC, Huang Q, Huang D, Zhou F, Zhang S. A comparison of intrauterine balloon, intrauterine contraceptive device and hyaluronic acid gel in the prevention of adhesion reformation following hysteroscopic surgery for Asherman syndrome: a cohort study. *Eur J Obstet Gynecol Reprod Biol*. 2013; 170:512-16
- 26- Hearly MW, Schexnayder B, Connell MT, Terry N, Decherney AH, Csokmay JM et al. Intrauterine adhesion prevention after hysteroscopy: a systematic review and meta-analysis. *AM J Obstet Gynecol*. 2016; 215(3):267

Hysteroscopy Conundrums

What's your opinion about Ulipristal Acetate?

Do you usually use Ulipristal Acetate before hysteroscopic myomectomy for submucous myomas? Do you find it useful?

- 1- Yes, to make the hysteroscopic myomectomy procedure easier
- 2- Yes, for the control of excessive bleeding due to uterine fibroids
- 3- No, I do not use it in cases of submucous fibroids



Alicia Ubeda 2

[Recomendar](#)

9meses



Nazira Monsalve 2

[Recomendar](#)

9meses



Giuseppe Bigatti Ciao Louis my experience is limited to 4 cases 3 successfully done and 1 not. The aim was to reduce myoma consistency for the shaver the side effect was bleeding

[Recomendar](#)

9meses



Xiang Xue Not usually ,just for big submucous myoma to reduce volume of the Myoma before surgery . For type 0, I not used that .

[Recomendar](#)

9meses



Gubbini Giampietro Yes 1

[Recomendar](#)

9meses



María José Iñarra Velasco 1-Yes

[Recomendar](#)

8meses



Enrique Perez de la Blanca 3

[Recomendar](#)

8meses



Mercedes Sobreviela Only to decrease blood loss in cases of heavy menstrual bleeding not responding to conventional treatment, but I dislike the decreased consistency of the fibroid and loosing the plane of the myoma capsule. I prefer dissecting the myoma without the use of Ulipristal

[Recomendar](#)

... 8meses



Dr. Murat Koc 3

[Recomendar](#)

... 8meses



Marita Espejo Catena 3

[Recomendar](#)

... 8meses



Luis Alonso Pacheco I'm agree with Mercedes. In my experience I have found the Myoma very "soft" and the pseudocapsule is a bit more difficult to find. I don't know if it is my perception or any of you have the same feeling. It is true that the recovery of the anemia is a great advantage

... 8meses



Rahul Manchanda Aggree with luis

[Recomendar](#)

... 7meses



Sergio Haimovich From my experience (more than 100 cases in submucous myomas), I will choose 1 and 2. There are some cases that pseudocapsule is hard to find, not in all of them, but sometimes in order to facilitate surgery and increase the success rate of optimal results, it is important to improve the rate between container and content by reducing the myoma's volume.

[Recomendar](#)

... 7meses



adel sedrati 3

[Recomendar](#)

... 1mes



ouafae slimani 3

[Recomendar](#)

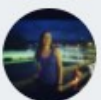
... 8meses



Laura Nieto Pascual 1 and 2

[Recomendar](#)

... 8meses

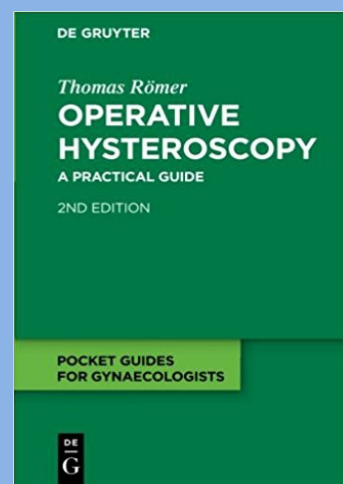


Claudia Regina Ribeiro 3 I would like to use this

[Recomendar](#)

... 7meses

HBOOKS! Hysteroscopy!



Operative Hysteroscopy

Thomas Römer

2011 De Gruyter

Operative hysteroscopy represents an important extension of operative gynaecology. The benefits of this endoscopic technique, however, are balanced by its high demands on the operator. It requires excellent knowledge of safety issues and possible complications.

This book acts as guide and resource for the practical acquisition of this technique. This new edition is distinguished by the large number of improved color illustrations and incorporation of the newest scientific findings.

WHAT'S YOUR DIAGNOSIS?

Sometimes, when performing hysteroscopy, it is important to pay attention to every corner of the uterus, as Vasari stated «cerca trova», «he who seeks finds»



*Answer to the previous issue:
Cystic hygroma*

Original Article

Hysteroscopic Myomectomy with Monopolar Resectoscope. Description of a technique with the creation of a Flap.

Carlos Arturo Buitrago Duque

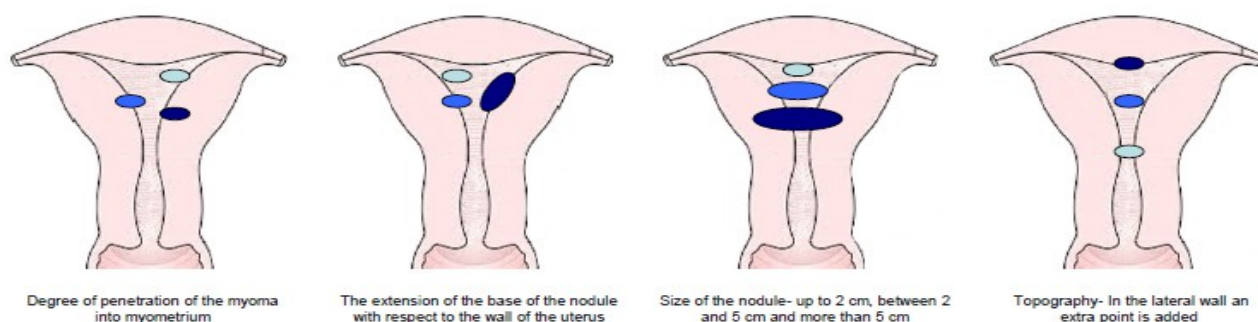
Médico especialista en Ginecología y Obstetricia, UPB. Colposcopista FUCS,
Laparoscopiasta CES. Clinica Soma Medellin Colombia

Despite the development of new hysteroscopic instruments that facilitate myomectomy, in several countries monopolar resectoscopy remains the most used technique. The Flap Technique is presented as an option that reduces the risks of complications. With this technique, the amount of glycine used is reduced, and therefore reduces the risk of water intoxication, reduces the risk of uterine perforation, surgical time and additionally preserves the pseudocapsule.

Introduction

Hysteroscopic myomectomy is a minimally invasive and the standard of care procedure in patients with submucous myomas. There are several techniques described in the literature and vary according to available technology and surgeons preference (1-4). Unfortunately, hysteroscopic myomectomy is not often performed specially in developing countries with financial restrains with limited access to newer technology. Therefore, monopolar resectoscopy continues to be the most used technique despite the development of new technologies.

It has been reported that resectoscopic myomectomy improves abnormal uterine bleeding in 90% of cases and improves fertility (53-70%) (5-11). Hysteroscopic procedures are associated with a low incidence of adverse events, 0.28% in the Netherlands (12) and 0.24% in Germany (13). However, myomectomy and metroplasty are the procedures with the highest rate of complications, with rates as high as 10% (14).



Degree of penetration of the myoma into myometrium

The extension of the base of the nodule with respect to the wall of the uterus

Size of the nodule- up to 2 cm, between 2 and 5 cm and more than 5 cm

Topography- In the lateral wall an extra point is added

STEP-W classification

- = Score 0
- = Score 1
- = Score 2

	Size (cm)	Topography	Extension of the base	Penetration	Lateral Wall	Total
0	< 2	Low	< 1/3	0	+1	
1	2 to 5	Middle	1/3 to 2/3	< 50%		
2	>5	Upper	> 2/3	>50%		

Score	Group	Complexity and Therapeutic options
0 to 4	I	Low complexity hysteroscopic myomectomy
5 to 6	II	High complexity hysteroscopic myomectomy. Consider GnRH use. Consider Two-step hysteroscopic myomectomy.
7 to 9	III	Consider alternatives to the hysteroscopic technique

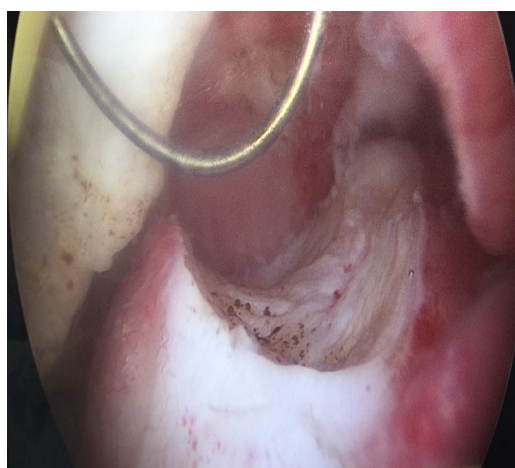
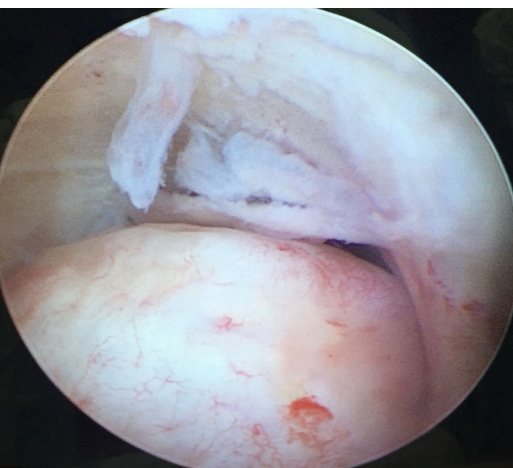
Several techniques of myomectomy have been described, including traditional management in the operating room with single or bipolar resectoscopy, or use of a morcellator and office techniques with no extraction or myolysis (15,16). The technique of hysteroscopic myomectomy begins with adequate patient selection considering size, number and location of myomas, factors that determine the difficulty of the procedure (17,18). To facilitate decision-making in these cases, in 2005 Lasmar presented a classification using objective parameters to assess the feasibility of extraction of fibroids by hysteroscopy (19).

Lesions that are completely in the endometrial cavity type 0 and type 1 can be vaporized and / or resected; However, for those larger lesions or penetrating the myometrium at a certain degree of depth type 1 and 2, careful planning and greater expertise is needed. That is why to perform a technique to reduce surgical time, decrease the amount of glycine needed and to avoid to introduce the resectoscope up to the fundus of the myoma could decrease the risk of complications and make resection of larger and deep fibroids feasible.



Description of the Technique

The procedure is initiated in the operating room with grabbing the anterior lip of the cervix with 2 single tooth tenaculum, placed at 11 and 1 hours (image 1), taking a good amount of tissue, which decreases cervical lacerations. A diagnostic hysteroscopy is performed, followed by dilation of the cervix and 10-mm resectoscope passage with glycine infusion; Resection is initiated in the central part of the myoma, the most protruded, thinning the body of the myoma and leaving the most prominent ends in the shape of a U, (Image 2, fig. 1) With the cuts prepare the borders in the form of long flaps Allow easy grasping of the myoma; In the case of very deep fibroids an external resection of the endometrium around the fibroid may be done to thin the endometrium by better preparing the flap and facilitating its removal (Figure 2).



The hysteroscope is removed and a small ring forceps is introduced (Note: never use forceps with teeth), one of the myoma flaps is grabbed, making use of spatial memory; Then with a slow rotation and sustained and gradual traction, the myoma is enucleated and extracted completely. (Image 3). When inspecting the extracted tissue, it is easy to recognize the intramyometrial surface of the myoma, which ensures complete extraction, since this surface is smooth and shiny, "sign of the bright border" (Image 4). Once the myoma is removed, the hysteroscope is introduced again, the endometrial cavity is inspected, the base of insertion is identified, and bleeding vessels are coagulated, trying to preserve the integrity of the pseudocapsule. (Image 5)

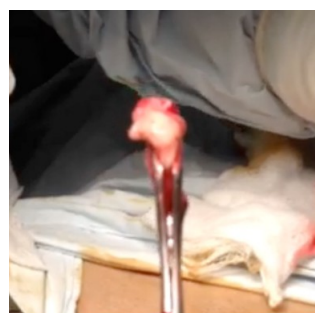
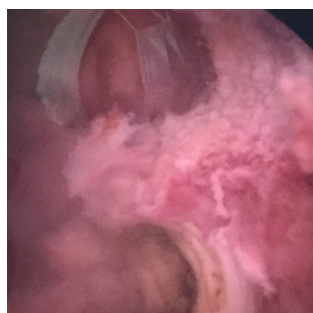
Discussion:

The approach of myomas especially the larger ones and the type 2 of the Figo classification, through hysteroscopic route represents a challenge for the gynecologist. The success of the treatment is in adequate patient selection. The use of GnRh analogs prior to surgery reduces the size of the myoma and its vascularization, decreasing bleeding and the risk of absorption of the distension media, but increases the risk of perforation due to thinning of the uterus and there is loss of differentiation of the texture and myoma - myometrium consistency and in addition there seems to be loss of response to misoprostol for the preparation of the cervix when it is used (18,20).



Hysteroscopic myomectomy is effective for the treatment of HUA and infertility (5-10). This surgical procedure produces less pain, rapid recovery, and immediate improvement in quality of life (21). In most cases it is possible to do it in a single procedure, and the possibility of recurrence is lower (22). In surgical counseling, this therapeutic option should always be offered, since is less invasive, has shorter hospital stay, lower costs, lower adhesion formation and good clinical response (23).

Despite the limitations of hysteroscopic resection of large type 2 fibroids, due to the high risk of complications (2,22), the combination of resectoscopy and myoma enucleation allow the resection of large tumors with decreased surgical time, lower amount of glycine and, therefore, lower risk of water intoxication and uterine perforation (23).



Conclusion

This technique combines the use of resectoscopy with myoma enucleation as a possible alternative for the resection of submucous myomas, especially useful in large fibroids. As it is a procedure with a blind step, it may not be of general acceptance, but with delicate maneuvers and adequate training complications are minimal. Despite several years of use of this technique in our service, without major adverse events, to achieve general acceptance, prospective studies are required that compare the suggested parameters and determine the safety, reproducibility and effectiveness of the proposed technique.

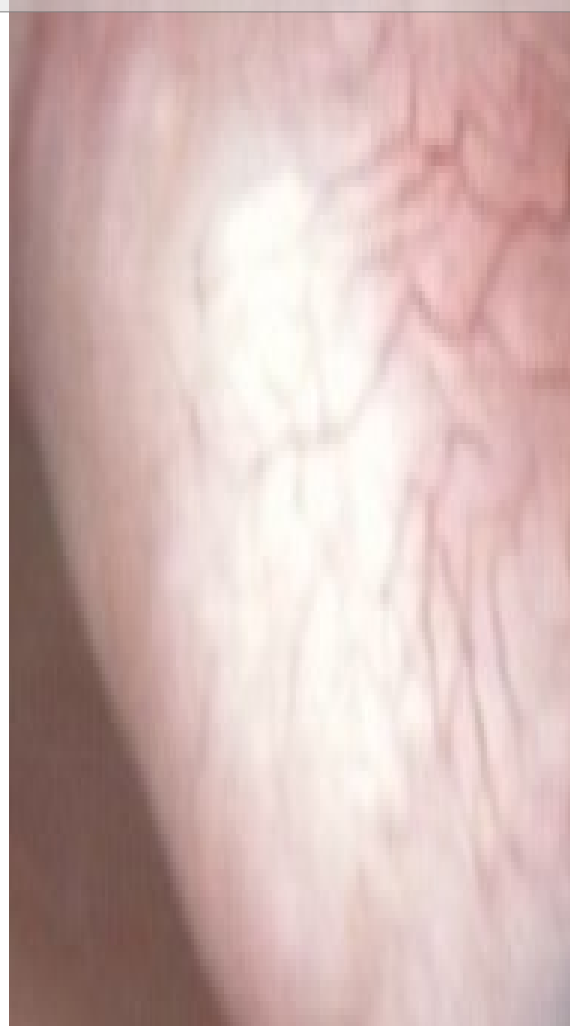
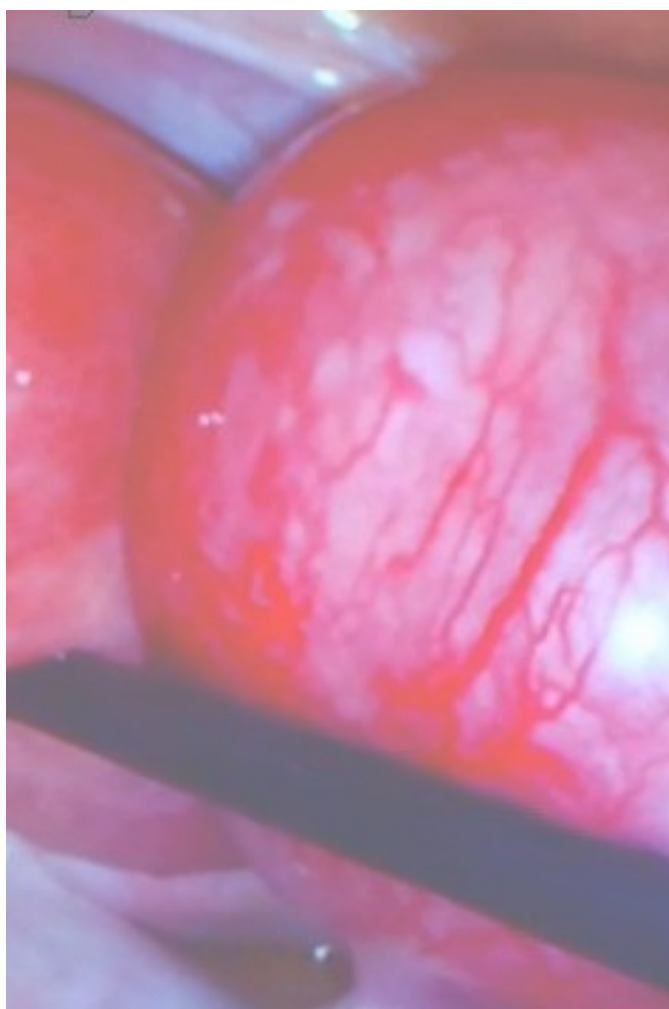
References:

- Usandizaga JA, De la Fuente PY. Tratado de Obstetricia y Ginecología. Vol. 2. Interamericana.; 1998. 373 p.
- Indman PD. Hysteroscopic treatment of submucous myomas. Clin Obstet Gynecol. 2006;49(4):811-820.
- Valle RF, Bagdish MS. Hysteroscopic myomectomy. In: Bagdish MS, Valle RF, Guedj H, editors. Hysteroscopy: Visual Perspectives of Uterine Anatomy, Physiology and Pathology Diagnostic and Operative Hysteroscopy. 3rd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2007. p. 385-404.
- Litta P, Vasile C, Merlin F, Pozzan C, Sacco G, Gravila P, et al. A new technique of hysteroscopic myomectomy with enucleation in toto. J Am Assoc Gynecol Laparosc. 2003 May;10(2):263-70.
- Garcia C-R, Tureck RW. Submucosal leiomyomas and infertility. Fertil Steril. 1984;42(1):16-19.
- Smith DC, Uhler JK. Myomectomy as a reproductive procedure. Am J Obstet Gynecol. 1990;162(6):1476-1482.
- Hallez JP. Single-stage total hysteroscopic myomectomies: indications, techniques, and results. Fertil Steril. 1995;63(4):703-708.
- Walker CL, Stewart EA. Uterine fibroids: the elephant in the room. Science. 2005;308(5728):1589-1592.
- Vercellini P, Zaina B, Yaylayan L, Pisacreta A, De Giorgi O, Crosignani PG. Hysteroscopic myomectomy: long-term effects on menstrual pattern and fertility. Obstet Gynecol. 1999 Sep;94(3):341-7.
- Fernandez H, Sefrioui O, Virelizier C, Gervaise A, Gomel V, Frydman R. Hysteroscopic resection of submucosal myomas in patients with infertility. Hum Reprod. 2001;16(7):1489-1492.
- Munro MG. Uterine leiomyomas, current concepts: pathogenesis, impact on reproductive health, and medical, procedural, and surgical management. Obstet Gynecol Clin North Am. 2011 Dec;38(4):703-31.
- Jansen FW, Vredevoogd CB, Van Ulzen K, Hermans JO, Trimbos JB, Trimbos-Kemper TC. Complications of hysteroscopy: a prospective, multicenter study. Obstet Gynecol. 2000;96(2):266-270.
- Aydeniz B, Gruber IV, Schauf B, Kurek R, Meyer A, Wallwiener D. A multicenter survey of complications associated with 21 676 operative hysteroscopies. Eur J Obstet Gynecol Reprod Biol. 2002;104(2):160-164.
- Propst AM, Liberman RF, Harlow BL, Ginsburg ES. Complications of hysteroscopic surgery: predicting patients at risk. Obstet Gynecol. 2000;96(4):517-520.
- Haimovich S, López-Yarto M, Urresta Ávila J, Saavedra Tascón A, Hernández JL, Carreras Collado R. Office Hysteroscopic Laser Enucleation of Submucous Myomas without Mass Extraction: A Case Series Study. BioMed Res Int. 2015;2015:905204.
- Haimovich S, Mancebo G, Alameda F, Agramunt S, Solé-Sedeno JM, Hernández JL, et al. Feasibility of a new two-step procedure for office hysteroscopic resection of submucous myomas: results of a pilot study. Eur J Obstet Gynecol Reprod Biol. 2013 Jun;168(2):191-4.
- Haney AF. Clinical decision making regarding leiomyomata: what we need in the next millennium. Environ Health Perspect. 2000;835-839.
- Campo S, Campo V, Gambadauro P. Short-term and long-term results of resectoscopic myomectomy with and without pretreatment with GnRH analogs in premenopausal women. Acta Obstet Gynecol Scand. 2005;84(8):756-760.
- Lasmar RB, Barrozo PRM, Dias R, Oliveira MAP. Submucous myomas: a new presurgical classification to evaluate the viability of hysteroscopic surgical treatment—preliminary report. J Minim Invasive Gynecol. 2005 Aug;12(4):308-11.
- Römer T, Schmidt T, Foth D. Pre- and postoperative hormonal treatment in patients with hysteroscopic surgery. Contrib Gynecol Obstet. 2000;20:1-12.
- Murakami T, Hayasaka S, Terada Y, Yuki H, Tamura M, Yokomizo R, et al. Predicting Outcome of One-Step Total Hysteroscopic Resection of Sessile Submucous Myoma. J Minim Invasive Gynecol. 2008 Jan;15(1):74-7.
- Camanni M, Bonino L, Delpiano EM, Ferrero B, Migliaretti G, Delfetto F. Hysteroscopic Management of Large Symptomatic Submucous Uterine Myomas. J Minim Invasive Gynecol. 2010 Jan;17(1):59-65.
- Di Spiezo Sardo A, Mazzoni I, Bramante S, Bettocchi S, Bifulco G, Guida M, et al. Hysteroscopic myomectomy: a comprehensive review of surgical techniques. Hum Reprod Update. 2008 Apr;14(2):101-19.

DID YOU KNOW...?

The risk of a malignant lesion appears to be high (12%) in menopausal patients aged over 59 presenting an endometrial polyp detected when there is pre-existing AUB

<https://doi.org/10.1016/j.ejogrb.2017.07.013>



Pregnancy in a rudimentary horn is uncommon and the outcome tends to be poor, with the majority of cases resulting in rupture between 10 and 15 gestational weeks

Brief Review

Chronic Endometritis (I)

Dra. Elena Puente. Clinica Fertia. Spain

The various techniques of assisted reproduction have experienced great advance over the last few years, they have improved the means of culture, the criteria of embryonic selection, the culture extended to blastocyst... even so in patients with good prognosis and in the best conditions pregnancy rates have reached 66%, we do not know many of the factors involved in implantation, and it is possible that the uterus plays a much more relevant role than what has been considered until now.

Endometrial tissue is a unique tissue that undergoes monthly cyclical changes in menstruation, proliferation, secretion, and decidualization under the influence of ovarian steroids. The endometrium contains a large variety of immunocompetent cells, Nk, macrophages, T cells and neutrophils whose composition and density fluctuates periodically. These cyclo-dependent changes in the subpopulation of leukocytes and their mediators probably play a crucial role in implantation. In contrast, antibody-bearing lymphocytes such as B lymphocytes and plasma cells are rarely found in endometrial tissue.

Definition

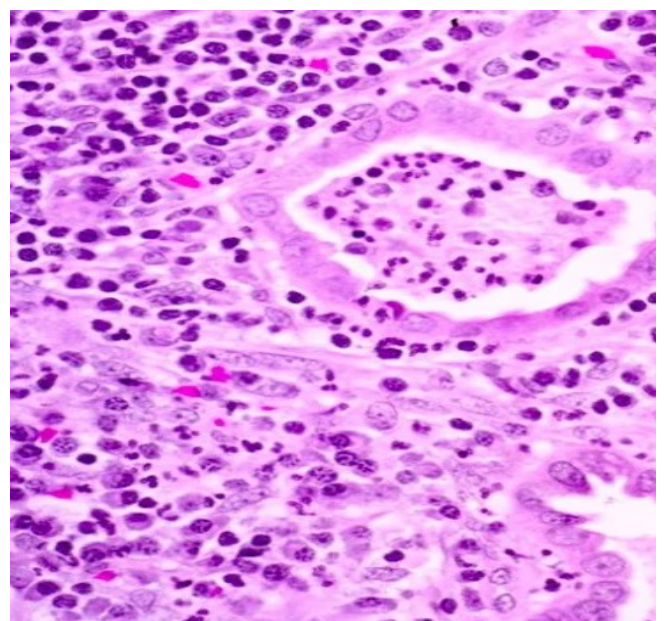
Chronic endometritis (CE) is defined as localized inflammation of the endometrial mucosa characterized by the presence of edema, increased stromal cell density, dissociated maturation between epithelial cells and stroma fibroblasts, and the presence of plasma cells, which are rarely found in normal endometrial tissue. These changes in the endometrial microenvironment could affect endometrial receptivity.

Prevalence

Chronic endometritis often presents asymptomatic or with non-specific clinical features such as pelvic pain, dysfunctional uterine bleeding, dyspareunia, vaginal discharge, cystitis, recurrent vaginitis, mild abdominal discomfort. Since these are very non-specific symptoms and an endometrial biopsy is required for diagnosis, it is difficult to estimate its prevalence.

This varies in the general population between 10-11%, according to several studies (Kitaya, Poliseni, Farooki) based on biopsies of patients undergoing hysterectomy due to benign conditions; It has been described in 3-10% of women undergoing endometrial biopsy due to dysfunctional uterine bleeding and in 72% of women with suspected pelvic inflammatory disease who consulted to an STD clinic.

As for infertile women, their prevalence varies greatly depending on the biopsy method used and the infertile population studied. A prospective study by E Cicinelli reported on a total of 2190 hysteroscopies, observed findings suggestive of chronic endometritis in 438, (20%). Of the total number of women diagnosed with endometritis, 37% were from infertile patients.



Kasius found only a 2.8% prevalence over a total of 678 women in the TEA trial (Treatment Efficacy of Unsuspected Abnormalities), the objective of this study was to analyze if the diagnosis and treatment of abnormalities not previously suspected by the clinical symptoms or ultrasound and diagnosed by hysteroscopy and endometrial biopsy, affected the results of women undergoing IVF.

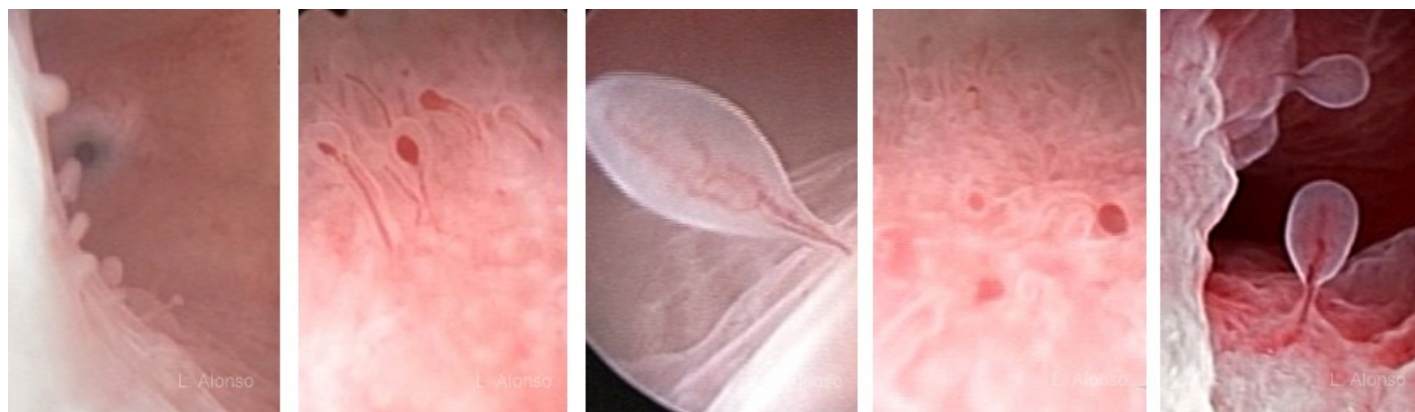
Etiology

CE can be due to the presence of foreign bodies or abnormal growths inside the uterine cavity (IUD, submucosal myomas, polyps, placental remnants, incomplete abortion), radiotherapy or infection, the latter being the most frequent cause.

Based on the results of the prospective study of E Cicinelli, which included a total of 2190 women who underwent in office hysteroscopy in the follicular phase and subsequent endometrial biopsy in the follicular phase of the following cycle for histological evaluation and culture. The most frequent infectious agents were bacteria (*Streptococcus* 27%, *E. coli* 11%, *Enterococcus faecalis* 14%) and *U. Urealyticum* 11%. The presence of *Chlamydia trachomatis* was 2.7% and *N. gonorrhoeae* was practically undetectable.

This also coincides with the findings of the PEACH study which showed that 60% of women with PID have non-gonococcal or chlamydia infection.

In some areas, *Mycobacterium tuberculosis* is very prevalent, presenting as the main cause of infertility in 40-75% of cases, as it causes implantation failure due to the alteration of the immune response at the endometrial level, hormonal alterations, and release of antiphospholipid antibodies (Jindal Et al 2012)



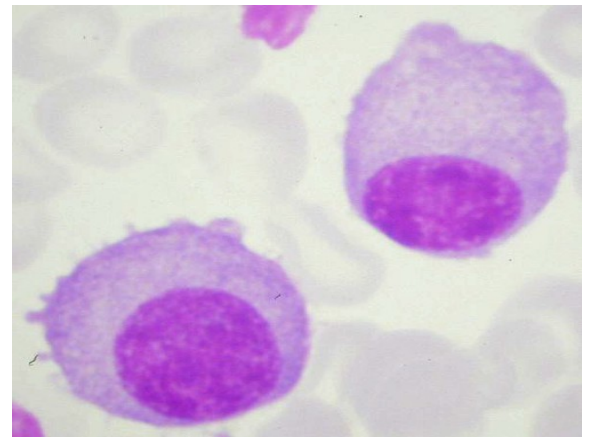
Today we know that the uterus is not a sterile cavity, and that the presence of microorganisms does not translate into infection. During the second half of the 20th century, numerous articles have been published that demonstrate the presence of bacteria at the endometrial level in either transcervical or posthysterectomy biopsy: (Butler 1958; Ollinger 1964, Mishell et al 1966, Ansbacher Boyson and Morris 1967, Spore et al 1970, Grossman et al 1978; Pezzlo et al., 1979, Sparks et al. Knuppel et al 1981; Heinonen et al 1985, Nelson and Nichols 1986, Eschenbach et al 1986, Teisala 1987; Hemsell et al 1989; Cowling et al., 1992; Moller et al 1995).

More recently, and thanks to the metagenomics that study the hypervariable regions of the ribosomal 16S rRNA RNA genes, thus defining order, genus and species of bacteria, in the Mitchell study of 58 post-hysterectomy biopsies, revealed the presence of a total of 12 different bacteria. Using these techniques 95% of the uteri had bacteria.

As Romero and Espinoza reported, it is difficult to think that the endometrium that is exposed to germs of the genital tract and is invaded by semen is free of germs. Therefore, it is not the mere presence of germs but the interrelation between the infectious agent and the endometrial microenvironment which determines the presence of pathology.

In fact, we know that B lymphocytes constitute less than 1% of the leukocyte population of the non-pathologic endometrium and that we only find them in the basal endometrium, however in patients with CE we found a large population of B cells not only in the basal endometrium at level of the stroma but also in the glandular epithelium and in the lumen of the endometrial glands. A lipopolysaccharide derived from E Coli is able to induce the expression of E-selectin in vitro, this is an adhesin that promotes the passage of B cells to the endothelium of endometrial microvascularization in addition to promoting the expression of chemoattractant CXCL13 that activates the adhesion molecules of B cells and CXCL1 expression at the level of the glandular endometrial epithelium, B-cell migration-related chemokine, thus Gram-negative bacteria present at the endometrial level induce an abnormal immune response with the arrival of circulating B lymphocytes into the endometrial stromal and endometrial glands, these cells could be differentiated in situ in plasma cells (B cells are the precursors of the plasma cells), in fact the plasma cells of the stroma express multiple immunoglobulins (IgM, IgA1, IgA2, IgG1, IgG2) This excess of antibodies could negatively affect the implantation.

The study "Altered transcriptional regulation of cytokines, growth factors and apoptotic proteins in the endometrium of infertile women with chronic endometritis" compares the expression of a total of 25 genes at endometrial level by RT-PCR coding for inflammatory response, proliferation, and apoptosis in the endometrium during the implantation window in 16 women with hysteroscopic and histological diagnosis of chronic endometritis and 10 healthy women. It was found that the endometrial expression of some genes is significantly altered. Upregulated IGFBP1, BCL2, and bAX and down regulated IL11, CCL4, IGF1 and CASP8. This altered gene expression could affect embryonic implantation (and also explain the presence of endometrial hyperplastic lesions).



IGF1 is a protein that mediates the effect of estrogens on proliferative endometrium, IGF2 mediates the effect of progesterone on secretory endometrium facilitating the implantation. In EC, IGFBP1 (insulin growth factor binding protein) is secreted by stromal cells during the decidualization process, causing a negative effect on the implantation process and counteracting the effect of IGF2. Thus, an increase in IGFBP1 expression, and the reduction of IGF1 expression in the EC, leads to unfavorable conditions for implantation and embryonic development.

IL11 is a cytokine with anti-inflammatory properties produced by epithelial and stromal cells. During decidualization, an inadequate production of this cytokine (downregulation) leads to deregulation of trophoblast invasion, which has been associated with infertility.

CCL4 (chemokine ligand 4) is a chemokine that recruits NK cells and macrophages and stimulates the production by these cells of pro-inflammatory cytokines. The lower CCL4 activity in endometritis could result in failure of implantation or abnormal placentation.

BCL2, its expression increases in proliferative phase and decreases in secretory phase, almost absent in late secretory and menstrual phase. The overexpression of BCL2, is associated with reduced expression of Caspase 8 that is involved in the process of programmed cell death. The increased expression of BCL2 in chronic endometritis makes the cells more resistant to apoptosis.

BAX, present throughout the secretory phase, is also overexpressed and this makes the cells more resistant to apoptosis, this could affect the remodeling of the endometrial tissue during the implantation of the blastocyst and the development of the placenta.

In summary, CE can alter the production of cytokines, impair endometrial function and induce an abnormal pattern of the leukocyte population at the endometrial level leading to an altered secretion of paracrine factors involved in endometrial receptivity.

Diagnosis

Symptomatology (pelvic pain, vaginal discharge, dyspareunia, abnormal bleeding) is very non-specific and about a quarter of patients with CE are asymptomatic. Markers of inflammation in peripheral blood (CRP, leukocytosis, Leptin, IL 6) do not predict its presence.

Pathology

The gold standard for the diagnosis of CE is the presence of plasma cells in endometrial tissue. However, their identification by the pathologist is sometimes hampered by the presence of mononuclear cell infiltration, mitosis, and proliferation of stromal cells, by the plasmacytoid appearance of stromal cells (fibroblasts and mononuclear cells) or by the decidual transformation of endometrium in late secretory phase. Plasma cells are characterized by the presence of clock-like chromatin within an eccentric nucleus with a perinuclear halo.

Syndecan 1 is a proteoglycan of the type transmembrane heparan sulfate present on the surface of plasma cells and keratinocytes but not expressed in mononuclear cells, lymphocytes or endometrial stromal cells. Also known as CD 138, it facilitates the detection of plasma cells and the diagnosis of CE, not subject to intra and interobserver variability.

It is recommended to combine the immunohistochemistry and the conventional pathological study to make a more accurate diagnosis as well as to use standardize techniques. According to the dilution of Syndecan 1, the diagnosis of CE can vary, so for a 1: 1000 dilution Kasius detected an incidence of CE in asymptomatic infertile women prior to IVF of only 2.8% that contrasts with the finding of Jonshton- MacAnanny: (Chronic endometritis is frequent in women with recurrent implantation failure in vitro fertilization, Fertil Steril 2010; 93: 437-441) or with studies from Kitaya (Prevalence of chronic endometritis in recurrent miscarriages Fert Ster 2011), with 1: 100 dilutions. It is also important to know at what moment of the cycle the biopsy is performed and the thickness of the biopsy, because in the secretory phase in 15% of the samples the plasma cells are only present in basal stroma. And to standardize the number of plasma cells necessary to establish the diagnosis of CE, although most maintain that there are two or more plasma cells, others establish the diagnosis with the presence of 5 or more in at least one of the three sections of the biopsy.

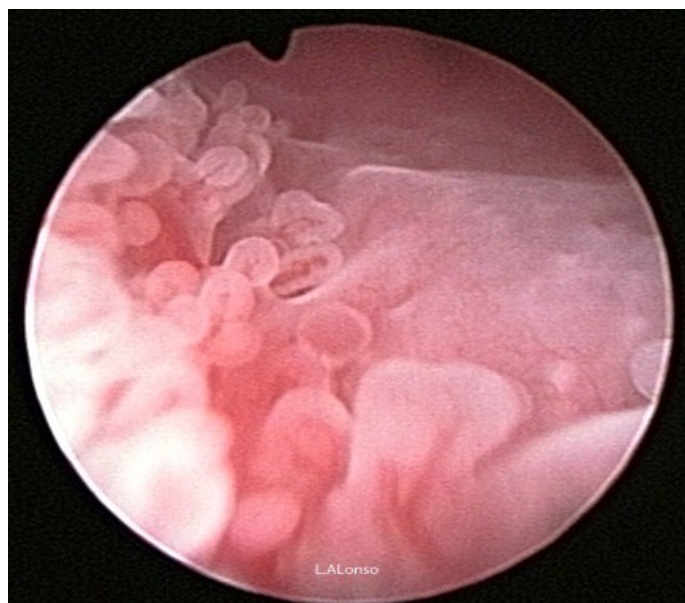
It is crucial therefore to redefine the minimum volume of biopsy and the number of plasma cells needed for diagnosis.

Hysteroscopic Diagnosis

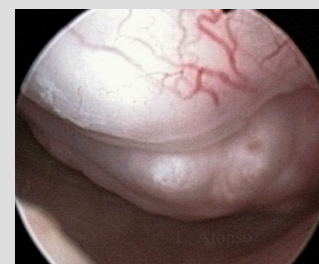
The group of Ettore Cicinelli has established the following hysteroscopic findings as diagnoses of CE: presence of local or diffuse hyperemia, stroma edema and micro-polyps, especially the latter.

Highlighted two studies: Detection of chronic endometritis at fluid hysteroscopy and Endometrial micropolyps at fluid hysteroscopy suggest the existence of CE, in both following their hysteroscopic diagnostic criteria they obtain a diagnostic correlation of 93.4% with the histological findings.

This diagnostic correlation close to 90% has also been corroborated by other authors such as Guo who found 86.5% diagnostic match between hysteroscopy and histology.



HYSTERO P rojects



Feasibility and safety submucous myomas enucleation by office hysteroscopy without mass extraction (MWME)

Uterine myomas or fibroids are the most common benign tumors of the female genital tract and are estimated to occur in about 30% of women by the age of 35 and in about 70–80% over 50 years [1]. Although most women are asymptomatic, at least 1/4 has clinical symptoms, resulting in 3–5% of gynecologic consultations [2]. Depending on the location, it is possible to distinguish among subserous, intramural and submucous myomas. In particular, submucous myomas (SMs) accounts for approximately 15% of all uterine myomas, and can cause menorrhagia, pelvic pain and infertility [3]. As widely standardized, SMs are classified according to European Society for Gynecological Endoscopy (ESGE) [4], depending on the part of the benign tumor protruding into the uterine cavity: G0 when the SM is almost totally intracavitary, G1 when it is more than 50% intracavitary, and G2 when it is more than 50% intramural.

The updated management of subserous and intramural myomas is usually performed by laparoscopy, whereas the hysteroscopic approach is considered the gold standard for SMs [5]. Among the several techniques proposed so far, resectoscopic slicing is the most used [6], although there is the possibility to use neodymium-yttrium-aluminum-garnet laser [7] and intrauterine morcellators [8]. Several reports [9, 10] showed the feasibility of SMs also in office hysteroscopy setting.

Based on this scenario, recent data [7] suggested the possibility to leave the SM within the uterine cavity after hysteroscopic enucleation in office setting, without increasing the rate and severity of complications. Nevertheless, data are not robust enough to draw firm conclusion about the feasibility of this approach and, most important, to the best of our knowledge no study aimed to compare this approach to the gold standard management of SMs was published so far.

Patients and Methods

The study will be performed in accordance with the Declaration of Helsinki, Committee on Publication Ethics (COPE) guidelines (<http://publicationethics.org/>) and will be approved by the Institutional Review Board (IRB) of each hospital that will join the project. Each patient who will participate in this study will be well informed regarding the procedures that she will undergo and will sign a consent form (**Document 1**) allowing data collection for research purposes (each hospital that will join the project should provide an informed consent in line with the purpose of the current study in the native language of the enrolled patients).

An independent data safety and monitoring committee will evaluate the results of the study. All the design, analysis, interpretation of data, drafting and revisions will follow the Consolidated Standards of Reporting Trials (CONSORT) Statement [11], available through the Enhancing the QUALity and Transparency Of health Research (EQUATOR) network (<http://www.equatornetwork.org/>).

Coordinator:

Dr. S. Haimovich
Dr. L. Alonso

Design:

Dr. A. S. Laganá

Typ of the study

Multicenter, single-blind, randomized controlled trial.

Aim of the study:

To evaluate the feasibility and safety of submucous myomas enucleation by office hysteroscopy without mass extraction.

Outcomes

The following outcomes will be recorded and compared between the two groups: time required for hysteroscopic procedure, complications during and/or after hysteroscopy, patient's satisfaction (quantified using a 5-point Likert verbal scale, from 0 being not at all satisfied to 5 being very satisfied) and, only for patients in the second group, presence/absence of myoma at the follow-up.

All the centers need the approval by an independent IRB before starting enrollment; deadline to obtain this formal approval is the end of December 2017.

In each center, the patients will be consecutively selected from a population with suspected SM, resulting from 2D transvaginal ultrasound screening. After informed consent, the investigators will record (**Document 2**) patient's age, parity, clinical symptoms and signs (abnormal uterine bleeding, pelvic pain, infertility), size, localization, and type of SM (G0, G1, G2). We will exclude all the patients affected by more than one SM and/or any kind of concurrent intrauterine disease.

After the enrollment, patients will undergo endometrial preparation (Gonadotropin Releasing Hormone analogue, ulipristal acetate, danazol, progestin-only therapy, combined oral contraceptive), for at least 5 weeks before the procedure, in order to achieve endometrial atrophy/hypotrophy. The night before the procedure, patients will use intravaginal misoprostol 200 µg (400 µg in nulliparous women), in order to facilitate the passage of hysteroscope through the cervical canal. All patients will receive oral diazepam (10 mg) and ibuprofen (600mg) 30 minutes before the office procedure. Prophylactic antibiotics will be not administered.

Subsequently, all the enrolled patients will be randomized in non-stratified 1:1 ratio by a computer generated schedule in two groups: the first group will undergo resection and extraction of the SM, the second one will undergo only resection (leaving the SM within the uterine cavity), both through office hysteroscopy. In the second group, the investigator will take a biopsy of the lesion, in order to have histological diagnosis and exclude possible malignancy. Hysteroscopy will be performed using a 4 mm continuous flow office hysteroscope (Bettocchi Office Hysteroscope size 4, Karl Storz, Tuttlingen, Germany) with a 2.9 mm rod lens optical system. Distension of the uterine cavity will be performed with saline solution; intrauterine pressure will be controlled by a system of pumps. One hysteroscopist for each center will be allowed to perform the procedures, avoiding the risk of bias intrinsic to an operator-dependent approach. During all the study, patients will be blind to the treatment allocation (single-blind).

All the patients in the second group will undergo transvaginal ultrasound within 60 to 90 days after the hysteroscopic procedure, in order to assess the presence or absence of myoma inside the uterine cavity.

Outcomes

The following outcomes will be recorded and compared between the two groups (**Document 2**): time required for hysteroscopic procedure, complications during and/or after hysteroscopy, patient's satisfaction (quantified using a 5-point Likert verbal scale, from 0 being not at all satisfied to 5 being very satisfied) and, only for patients in the second group, presence/absence of myoma at the ultrasonographic follow-up.

Contact

If you are interested in participate in this trial, please contact with trialmyomas@gmail.com

References

- Sparic R, Mirkovic L, Malvasi A, Tinelli A. Epidemiology of Uterine Myomas: A Review. *Int J Fertil Steril*. 2016;9(4):424-35.
- Foth D, Röhl FW, Friedrich C, Tytkoski H, Rabe T, Römer T, Kitay A, Ahrendt HJ. Symptoms of uterine myomas: data of an epidemiological study in Germany. *Arch Gynecol Obstet*. 2017;295(2):415-426.
- Emanuel MH, Wamsteker K, Hart AA, Metz G, Lammes FB. Long-term results of hysteroscopic myomectomy for abnormal uterine bleeding. *Obstet Gynecol*. 1999;93(5 Pt 1):743-8.
- Wamsteker K, Emanuel MH, de Kruif JH. Transcervical hysteroscopic resection of submucous fibroids for abnormal uterine bleeding: results regarding the degree of intramural extension. *Obstet Gynecol*. 1993;82(5):736-40.
- Di Spiezio Sardo A, Mazzon I, Bramante S, Bettocchi S, Bifulco G, Guida M, Nappi C. Hysteroscopic myomectomy: a comprehensive review of surgical techniques. *Hum Reprod Update*. 2008;14(2):101-19.
- Mazzon I, Bettocchi S, Fascilla F, DE Palma D, Palma F, Zizolfi B, DI Spiezio Sardo A. Resectoscopic myomectomy. *Minerva Ginecol*. 2016;68(3):334-44.
- Haimovich S, López-Yarto M, Urresta Ávila J, Saavedra Tascón A, Hernández JL, Carreras Collado R. Office Hysteroscopic Laser Enucleation of Submucous Myomas without Mass Extraction: A Case Series Study. *Biomed Res Int*. 2015;2015:905204.
- Noventa M, Ancona E, Quaranta M, Vitagliano A, Cosmi E, D'Antona D, Gizzo S. Intrauterine Morcellator Devices: The Icon of Hysteroscopic Future or Merely a Marketing Image? A Systematic Review Regarding Safety, Efficacy, Advantages, and Contraindications. *Reprod Sci*. 2015;22(10):1289-96.
- DI Spiezio Sardo A, Ceci O, Zizolfi B, Nappi C, Bettocchi S. Office myomectomy. *Minerva Ginecol*. 2016 Jun;68(3):321-7.
- Cicinelli E, Mitsopoulos V, Fascilla FD, Sioutis D, Bettocchi S. The OPPIUM technique: office hysteroscopic technique for the preparation of partially intramural leiomyomas. *Minerva Ginecol*. 2016;68(3):328-33.
- Schulz KF, Altman DG, Moher D; CONSORT Group. CONSORT 2010 Statement: Updated guidelines for reporting parallel group randomised trials. *J Clin Epidemiol*. 2010;63(8):834-40.



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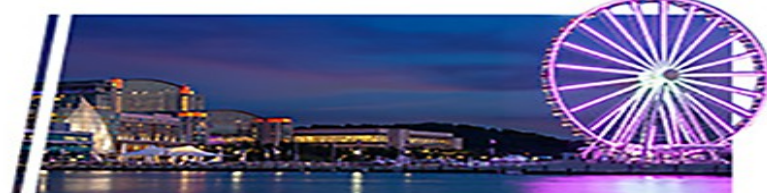
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Alejandro Gonzalez

Jefe de Sección Endoscopia Ginecológica
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