

N HYSTEROLOGY NEWSLETTER

"To stop seeing... it is not needed to be blind or to close your eyes..." said Jorge Luis Borges (a famous poet from Argentina) with his gaze absent, lost in a blurred sky, while holding hands with Maria Kodama. Oh God... how right he was! Because life pass without realizing it, between books and operating rooms at a frightening speed, and today that we only have uncertainty, only today, we realized that we were blind, because what all we did and dreamed about suddenly stopped.... And we lost almost everything, even hugs. And we started to see everything from the beginning, slowly, without understanding, as if the same movie ended and started the next day.

In the meantime, hundreds of colleagues around the world lost their lives fighting this pandemic. I am writing these words, not as a doctor, but as a storyteller, thinking about them, and their families. I am writing from my fears. How little sense things make when there is nothing beyond, when we realize that we are drifting a grain of sand in the desert, and we must continue but no one knows how.

In the midst of this confusion, I want to share with you the memories of the first day that I held a resectoscope in my hands, it was back in the year 2000, at my Naval Hospital in Buenos Aires, Argentina, during the second year of my OB/GYN Residency. I belong to the generation that learned how to perform hysteroscopy with the resectoscope, the Argentine idiosyncrasy, as in almost every aspect of it, has those things, but details at last, that miraculously it felt to remove that bleeding polyp from which no one knew what it was like, nor the ultrasound, and I had it painted like a Dalí masterpiece, with that glass that spitted blood (I still have the video), in front of my eyes, moving like a reed... And zas! The loop passed and there were no flowers. How beautiful it felt and felt even every day... who doesn't believe it, how pity, doesn't know what passion is.

The face of my boss, skeptical... "This changed everything," he said, was his way of interpreting the history of gynecologic surgery changing forever. And we were protagonists of that change. Today 20 years later, I often remember it. And so, we created one of the first Sections of Gynecologic Endoscopy of Argentina, and we collaborated through the Medical Societies so that hysteroscopy, and laparoscopy, grew throughout our country, an objective still underway. And then the doctorate on operative hysteroscopy. And so, we arrived to last year where we held with the Argentine Society of Laparoscopic Surgery a congress with more than 800 attendees from all over the region.

But everything seems irrelevant today between the reports, the curves and graphics of COVID, and unfortunately, we must be aware that now is not time to perform hysteroscopies, either in office or in the operating room, we have to limit to only urgencies but the real ones, the ones that are absolutely needed. However, I want to tell you, I want to assure you, that this terrible time shall pass. And there we'll meet again. To celebrate life.

Borges also recalled, on another occasion, when being about half a mile from a Pyramid, in the middle of the desert, he took a handful of sand, and dropped it quietly on the floor... "I'm modifying the Sahara Desert" he said. Well, when it all will be over... I invite you to continue to modify our own Sahara Desert, which is the reason why we came into this world for...

**Alejandro González
Argentina**

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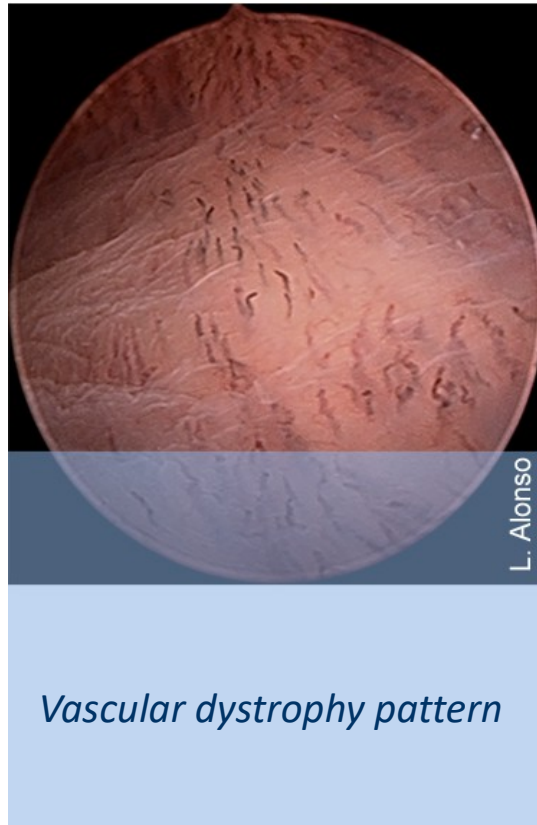
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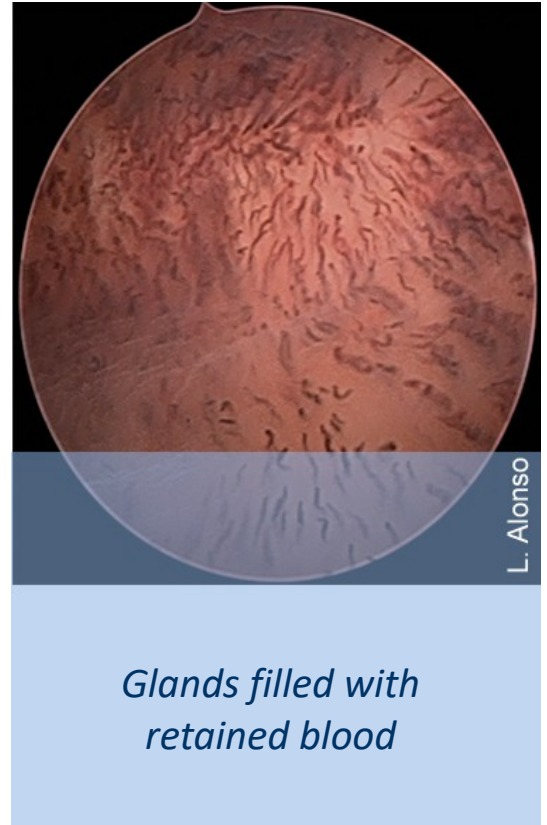
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HYSTEROSCOPY PICTURES



Vascular dystrophy pattern



*Glands filled with
retained blood*

In his book "Topics and Hysteroscopy Atlas", Dr. Labastida defined in 1990 the hysteroscopic appearance of endometrial vascular dystrophy: "Initially it manifests itself as faint grayish-green spots that seem to smudge the endometrial surface, giving a brown color to the entire uterine cavity. On a closer look, it is evident that such spots represent blood vessels with different degrees of dilation and path abnormalities. Rarely, there could also be hypervascularization, with preserved vessels integrity and vascular congestion. In extreme cases, vascular dystrophy extends to the entire endometrial surface, revealing varicose vessels adopting multiple shapes. On contact, they resemble varicose vessels with old intravascular thrombosis."

In Volume 5 Issue 3 of the Hysteroscopy Newsletter, Professor Fernando Bullón presented the results of the study of several cases in which, after conducting a histological study of the biopsy samples, he determined that the so-called endometrial vascular dystrophy is not made by vascular alterations, but they are tortuous secretory glands (normal) filled with retained blood

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...

A great doctor committed to promote hysteroscopy from the AAGL Hysteroscopy SIG

You're the new chair of the AAGL Hysteroscopy Special Interest Group. What can be done to promote hysteroscopy ?

Hysteroscopy is a useful diagnostic and therapeutic tool in gynecology and the way I see it, the main issue is under-utilization. Physicians who use hysteroscopy routinely are aware of its potential, but these remain a minority. The AAGL's SIG in Hysteroscopy has the potential of expanding awareness in a number of ways. The group needs to develop a video and image sharing platform as a lot of what hysteroscopists do is image and pattern recognition, as well as improving technique. We as a group need to create an environment in which hysteroscopic procedures are recognised by institutions, insurances and more importantly, patients. We also want to promote a wider adoption of office-based hysteroscopy, to the benefit of our patients and health-care systems. I am counting on my vice-chair and board members to increase participation within the SIG, and in spite of these very challenging times, manage to promote hysteroscopy.

Hysteroscopy is a useful diagnostic and therapeutic tool in gynecology and the way I see it, the main issue is under-utilization

Can saline infusion sonography replace diagnostic hysteroscopy

This is an ongoing long-standing debate which has raged on for over 25 years! I believe the two should be complimentary to each other. In 1999, we carried out a comparative study and it became clear to us as hysteroscopists that we need to move away from a purely diagnostic hysteroscopy set-up and have a see-and-treat office based miniaturised hysteroscopy system. It is also obvious that carrying out one negative diagnostic hysteroscopy after another is not a sensible use of a resource, therefore ultrasound is there to recruit patients for hysteroscopy, identify a suitable location for treatment and reassure patients with normal ultrasound findings. However, the vast majority of patients will have a 2D vaginal ultrasound and not a saline infusion sonogram, and therefore patients with negative ultrasound will still require hysteroscopy if they are still symptomatic. Diagnostic hysteroscopy should also include a targeted biopsy, i.e obtaining a sample of under vision. The alternative of saline infusion sonography followed by blind endometrial sampling leaves the clinician with the same dilemmas when a patient without a firm diagnosis continues to experience symptoms.



**Martin
Farrugia**

Minimal Access
Surgeon at East
Kent Hospitals
University NHS
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Is still the bipolar electrode a powerful tool?

Electrosurgery is the most versatile form of energy for use in endoscopy worldwide, and in hysteroscopy, bipolar energy has allowed for the use of saline as a distension medium which is inherently safer than non-ionic solutions as well as the miniaturisation into 5 French or 1.7mm diameter probes. These probes resulting in the expansion of office based operative hysteroscopic surgery at the turn of the century. With the development of a wider range of bipolar instruments by different equipment manufacturers, this has embedded these instruments well within the hysteroscopists' armamentarium. However, they are still relative expensive and by nature of their operation, of single use or very few number of uses. The requirement of dedicated electrosurgical generators and the incompatibility between different systems is a limiting factor around the world. However, knowing that bipolar instruments are as effective as their monopolar counterparts, with potentially less fluid related complications makes them very useful and clinically valid instruments in the right hands and setting. The range of equipment, from 5 French probes, to the 5mm mini-resectoscope to the full resectoscope makes it a must for the hysteroscopist not only to be aware of electrosurgery but also to be able to use it safely and effectively in its different forms.

Now that we have the levonorgestrel intrauterine system (LIS), have the indications for an endometrial ablation change?

The LIS has been a marvellous development that has benefited millions of patients, initially for their contraceptive needs and later to treat abnormal uterine bleeding. The main advantage is the ease of placement and removal as well as its reversibility in effect on fertility and menstrual bleeding. It also has a positive effect in dysmenorrhoea and pelvic pain in some women. However, around 30-40% of patients in whom an LIS is fitted cannot tolerate it, experience significant side-effects or the device fails to treat the bleeding. This is where endometrial ablation comes in as it obviates the need of any hormonal medication. I believe is still has a place in the modern management of abnormal uterine bleeding but the limitations of EA need to be understood. The guarantee of amenorrhoea cannot be made, dysmenorrhoea may worsen even though the heaviness improves and the knowledge that whatever method or device is used, around 20% of patients will undergo a hysterectomy in the 8 years after an EA. As EA does not offer permanent contraception, an alternative method will need to be employed, such as laparoscopic sterilization at the time of the ablation. A search for an EA that is acceptable in an office setting has not come up with a technique that is comparable to placement of a LIS. After an initial surge in use of EA globally with a decline in the use of hysteroscopic resection and ablation, there has been a recalibration of the use of these devices with better patient selection and counselling to avoid unrealistic expectations and disappointment.

In your opinion which is the best device to perform an endometrial ablation?

I do not believe there is a best device! I would use the device I am familiar with, trained in and happy using. Difficulties arise when the occasional user employs a device that is meant to be 'idiot-proof' and the system fails in their hands. It is also advantageous to be familiar with more than one device, should the chosen one fail or not be available. Whichever device I use, I will always carry out a hysteroscopy before and after the ablation. You'd be surprised what you'll find before the ablation and how poor the description 'global ablation device' is with second generation devices!

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

My advice to anyone starting in minimally invasive surgery is simply to gain as many skills as possible, learn and master as many techniques possible as travel and visit as many MIS colleagues as is possible. This will enable them to be confident in what they offer and be more resilient to the challenges posed to them by non-clinical management who will attempt to manipulate their clinical judgement and practice. It is only with skills, team-work and a lot of self-confidence in being able to offer what is best for our patients that these challenges can be overcome.

Original Article

Hysteroscopy Newsletter Vol 6 Issue 3

Requirements for a successful in office hysteroscopy practice

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Technological advances in surgical devices over the last 2 decades has made hysteroscopy come of age in the 21st century, allowing to perform many procedures in the office. There is still great variation among hysteroscopists regarding embracing office hysteroscopy, and even more so in the case of performing the "see & treat" approach.

There are many centers where hysteroscopy, even diagnostic is commonly performed with general anesthesia in the OR. In reality, while it is a challenge to perform hysteroscopy in the office, there is still the even greater challenge to convince gynecologists around the world, who are still performing this procedure of operating room, that women deserve the option of a less option Invasive approach. While the skill set needed for hysteroscopy in the office remains of advanced gynecological competence, the global progress in this procedure is patchy.

Currently entities such as the Royal College of Obstetrics and Gynecology (RCOG) or the International Society of Gynecologic Endoscopy (ISGE) have developed a ranking of hysteroscopic procedures, in terms of surgical complexity, guiding the accreditation and training in hysteroscopic surgery. [Figure 1, 2](#)

Recommendations for performing in office hysteroscopy (1,2,3)

1. The incorporation of "in office hysteroscopy" into clinical practice has shown economic benefits (Grade II evidence, Grade A recommendation).
2. Gynecologists should be able to perform in office hysteroscopy for the diagnosis and treatment to women with abnormal uterine bleeding, infertility and intrauterine abnormalities.
3. In office hysteroscopy should be performed in a room of adequate size and fully equipped, there must always be an assistant/chaperone in the room for patient safety and privacy (evidence level II, intensity recommended B).
4. The hysteroscopist must have the skills and experience to perform hysteroscopy. (Level VI, Recommended Intensity A).
5. Written informed consent must be obtained before initiating the procedure.

Moving hysteroscopic procedures outside the operating room and bringing them into the office setting, facilitates the logistics around hysteroscopy : they are more cost-effective, they



L. Alonso

will improve doctor's productivity and allow for easier surgical scheduling, improve patient satisfaction and recovery times are shorter. In the United States in 2017, the reimbursement for hysteroscopic polypectomy was reduced by \$30 when performed in the operating room, while the payment increased by \$972 when performed in the consultation environment. Performing the hysteroscopy in the operating room will incur additional costs for anesthesia fees and hospital fees. There is a significant boost to expand the options for procedures in the office.

Patients appreciate the convenience of the "see and treat" approach to a gynecological problem and often prefer to avoid the inconvenience of going to the operating room and the additional risks of undergoing anesthesia. They are associated with greater patient satisfaction and faster recovery compared to hysteroscopy in the hospital (4,5)

In the first randomized controlled trial conducted in 2006, comparing in office versus operating room hysteroscopic polypectomies, 95% of women in the outpatient cohort and 82% of women in the cohort of hospitalized cases stated that they would prefer to undergo the procedure in the in-office environment should they require another hysteroscopic polypectomy. (6)

Requirements to perform hysteroscopy in the office.

1- Office set-up

Patient safety and comfort should be prioritized when performing hysteroscopic procedures in the office. The facility should provide support and privacy to optimize the patient-physician communication. In addition to reduce anxiety, optimal communication should always exist. It often reveals cases where the procedure could be problematic (patients with medical comorbidities, severe anxiety) so precautions could be taken.

The office must be of an appropriate size, it must be equipped and have well trained staff. The basic requirements include a hysteroscope, the camera and monitor, and a fluid management system.

Facilities in which cleaning, disinfecting and sterilizing equipment is available, appropriate cleaning of the reusable hysteroscopes is necessary before disinfection or sterilization. Protocols for disinfection and sterilization of equipment may vary depending on the type of equipment used and must comply with the equipment manufacturer's guidelines and comply with the regulations of the supervising institution.



RCOG classification of operative hysteroscopy levels

Level 1	<ul style="list-style-type: none"> > Diagnostic hysteroscopy with target biopsy > Removal of simple polyps > Removal of intrauterine contraceptive device
Level 2	<ul style="list-style-type: none"> > Proximal fallopian tube cannulation > Minor Asherman's syndrome > Removal of pedunculated fibroid (type 0) or large polyp
Level 3	<ul style="list-style-type: none"> > Division/resection of uterine septum > Major Asherman's syndrome > Endometrial resection or ablation > Resection of submucous fibroid (type 1 or type 2) > Repeat endometrial ablation or resection

2. Surgical devices.

Reliable equipment is an essential prerequisite for safe surgery.

The advent of modern small-diameter hysteroscopes (smaller than 5.5 mm), along with the 5–7 Fr miniature mechanical auxiliary instruments (scissors, tweezers, bipolar electrodes, e.g. Versapoint™ [Gynecare, Ethicon Inc., Menlo Park, CA, EE. UU.]; tissue retrieval systems: TRUCLEAR™ [Smith & Nephew Inc., Andover, MA, UH. UU.], MyoSure® [Hologic, Marlborough, MA, EE. UU.] Have led to the paradigm shift in surgical interventions that lead to procedures that were performed in environment of general anesthesia to an in-office environment with only local anesthesia if needed. (7)

Working with minimum distending intrauterine pressures, enough for adequate visualization will reduce patient discomfort and serious complications such as fluid overload. It is recommended to use isotonic solutions (normal saline) as distention media. It is essential that all offices hysteroscopic surgery have a system to monitor balance sheets fluids during the procedure and a protocol for managing excessive fluid deficit.

3. Advice and selection of patients

Proper patient selection for in office hysteroscopic procedures is based on an in depth knowledge of the pathology to be treated, the size

of the pathology, the depth of penetration of the pathology, the patient's disposition to undergo an in-office procedure, skills and experience of the hysteroscopist, patient comorbidities and availability of appropriate equipment and patient support. Consideration should be given to the possibility of hysteroscopy in an alternative setting, such as the operating room or outpatient surgery center, for patients who have anxiety or who have previously failed or not tolerated the procedure in the office.

4. Pain management

Given that the main reason for aborting in office hysteroscopic procedures is due to pain, knowledge of strategies to relieve pain in the office is critical since the use of measures that minimize anxiety and stress contribute to lessen the pain during the procedure. sala de operaciones o el centro de cirugía ambulatoria, para los pacientes que tienen ansiedad o que previamente han fallado o no toleraron el procedimiento en el consultorio.

Office hysteroscopy analgesia regimens described in the literature are very varied and include a single agent or a combination of multiple agents: analgesics, nonsteroidal anti-inflammatory agents, acetaminophen, benzodiazepines, opiates, topical anesthetics, and intracervical blockage or paracervical, or both. Based on the evidence currently available, there is no clinically significant difference in the safety or effectiveness of these pain management regimens compared to each other or placebo. Paracervical block have been shown to

Classification of operative difficulty
Minor hysteroscopic surgery level I
<i>Diagnostic hysteroscopy including vaginoscopy</i>
<i>Eye-directed biopsy</i>
Intermediate hysteroscopic surgery level IIa
<i>Cannulation of the tubal ostia</i>
<i>Sterilization</i>
<i>Non-embedded intrauterine contraceptive device non pregnant</i>
<i>Uterine metroplasty on partial septum</i>
Endometrial ablation
Polypectomy
Myomectomy grade 0-I
Advanced hysteroscopic surgery level IIb
Myomectomy grade II
Large polyps
Resection of complete uterine septum + vaginal septum
IUCD removal in pregnancy
Extensive adhesiolysis

decrease pain at the time of placing the tenaculum and introducing the hysteroscope through the external and internal os. Other evidence has shown that hysteroscopy in the office can be tolerated without the use of analgesia, although the conditions of pre-existing pain such as dysmenorrhea or chronic pelvic pain can justify its use. No pain management regimen has been shown to be clinically better than placebo. (4)

In a Cochrane Review published in 2017 it was remarkable that, time and time again, the phrases "low-quality evidence" and "very low evidence" was used when assessing the quality of the studies. The latest Cochrane review analyzed the use of local anesthesia, NSAIDs and opiates, and the conclusion was that "there was no consistent evidence of good quality of a difference clinically significant in safety or effectiveness between different types of pain management protocols when compared to each other or to placebo or no pain management in women undergoing hysteroscopy in the office"(8) Another topic to discuss would be whether Misoprostol should be given, what dose and in which moment, to facilitate the softening of the cervical canal.

Conclusions

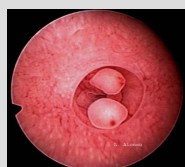
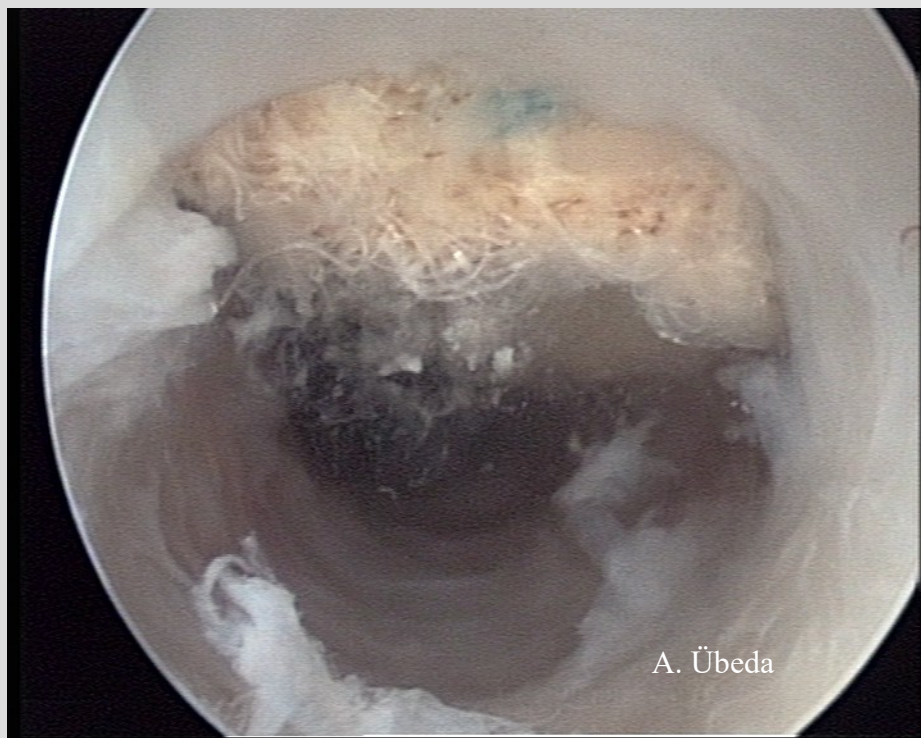
The success of 'see & treat' in office hysteroscopy depend on several factors that are equally

important: the office setting, surgical devices, patient selection, the experience and skills of the hysteroscopist who is able to treat more complex pathologies in the shortest possible time and the use of strategies to reduce pain. These should not only be pharmacological as it is of paramount importance to also reduce anxiety, to decrease the perception of pain and a good patient-physician relationship, in this case hysteroscopist-PATIENT relationship. To achieve an universal practice of hysteroscopy in all offices would require quality controls through questionnaires on the quality of service provided.

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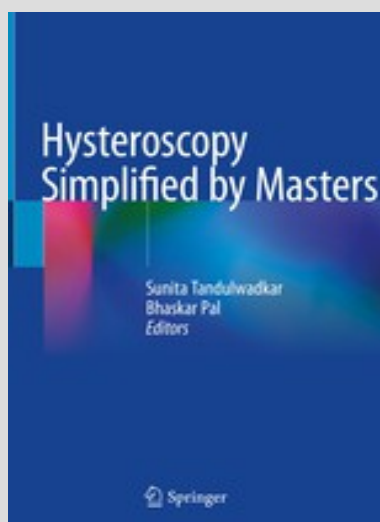
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What's Your Diagnosis?



Answer to the previous issue

Tubal Polyp



Hysteroscopy Simplified by Masters

Tandulwadkar, Sunita, Pal, Bhaskar

Springer 2020

Comment

Hysteroscopy Newsletter Vol 6 Issue 3

Tubal or cervical ostium? The importance of making the difference in hysteroscopy

Amal Drizi, M.D

Independent consultant in obstetrics and gynecology in Algiers, Algeria.

Board member of the International Society for Gynecologic Endoscopy (ISGE).

In response to the above test initiated by Dr. Luis Alonso in the last issue of Hysteroscopy Newsletter, most of us would say polyps, which is correct. However, how many would think “cervical polyps” versus “tubal polyps”?

And just as importantly: why would we think it is a tubal ostium and not a cervix, or vice versa?

A test was conducted:

The power of observation in hysteroscopy was tested in a number of my colleagues, using the following indirect question: “what, in your opinion, would be the best way to manage these polyps?”

The question was asked in the official Facebook group of the International Society for Gynecologic Endoscopy (ISGE group). There was feedback from young colleagues, who immediately

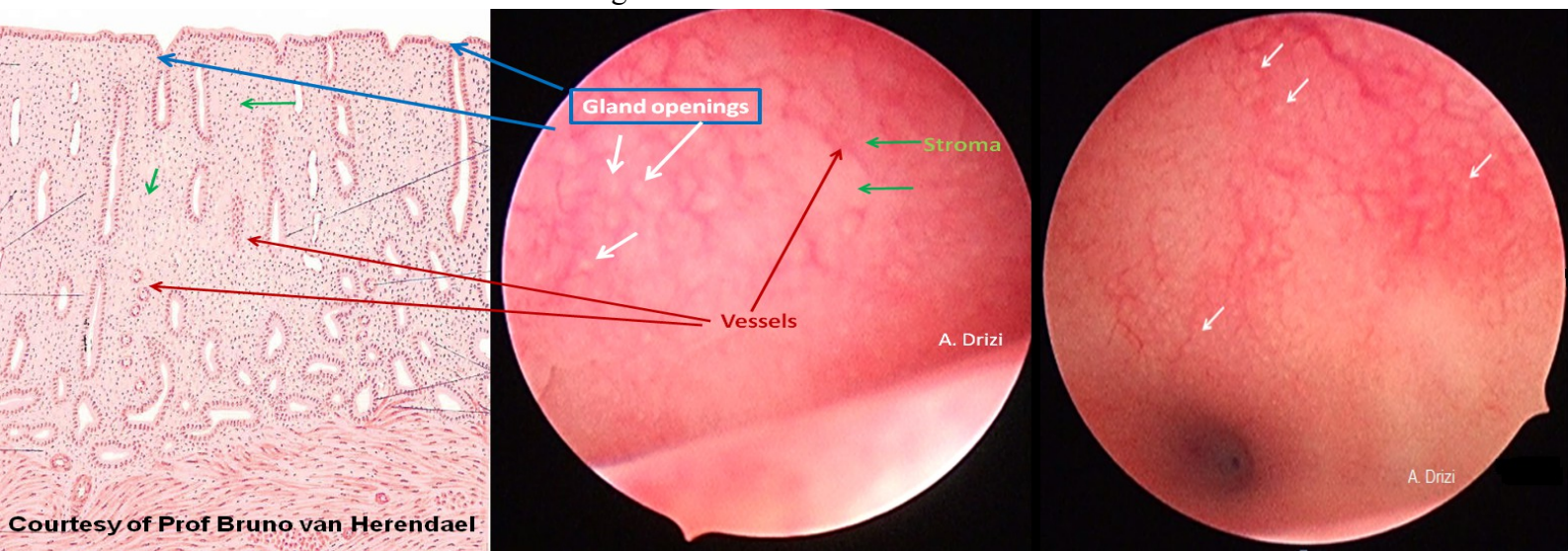
addressed mechanical resection as they rightfully recognized tubal localization..

The same question was also addressed in a closed group for gynecologists. Half the participants suggested bipolar resection. When questioned on the way to apply energy inside tubes, they recognized they thought of cervical polyps. Some of them regularly perform hysteroscopy though.

There was one interesting comment from a participant stating:

“with a still image, we cannot be sure about exact localization anyway. Without a context, or better yet, a video, nobody can really tell. But when we perform the procedure ourselves, it is most unlikely to mistake a cervix for a tubal ostium, because we know where we are in real time”.

Fig 1 & 2. Endometrial mucosa



Unfortunately, this is not necessarily the case as it has already happened in practice that some practitioners attempted to go through the tubal ostium, persuaded it was the cervix.

How can a tubal ostium be mistaken for a cervix in practice?

During hysteroscopy, the passage through the internal cervical ostium is more or less challenging depending on many factors. In case of difficulties, the practitioner might impatiently adopt nervous back and forth movements, and brutally enter inside the cavity without realizing it.

The frequent latero-deviation of the cervical canal, in addition to the usual smallness of the uterine cavity explain how the scope can easily reach a tubal ostium during reckless insertion. If vision is additionally blurred by post traumatic bleeding, the tubal ostium can thus be mistaken for a cervical os, thus leading to new attempts of progressing with the scope therein. If the practitioner does not have landmarks allowing visual recognition of the cavity, the risk of confusion becomes great.

How to prevent confusion between cervical and tubal ostium?

- 1- Slow and calm movements, particularly in case of difficulties. Hysteroscopy is not about being the fastest; it is about being efficient ... And gently "going with the flow".

- 2- In case of an inadvertently brutal movement or hesitation, it is necessary to slightly pull the scope back, clear the view and reexamine where we are.

- 3- In all cases, it is very important to be aware of the visual features that allow distinction between endometrial and cervical mucosa. These are different tissues that hysteroscopists should be able to identify by simple observation, even on random pictures.

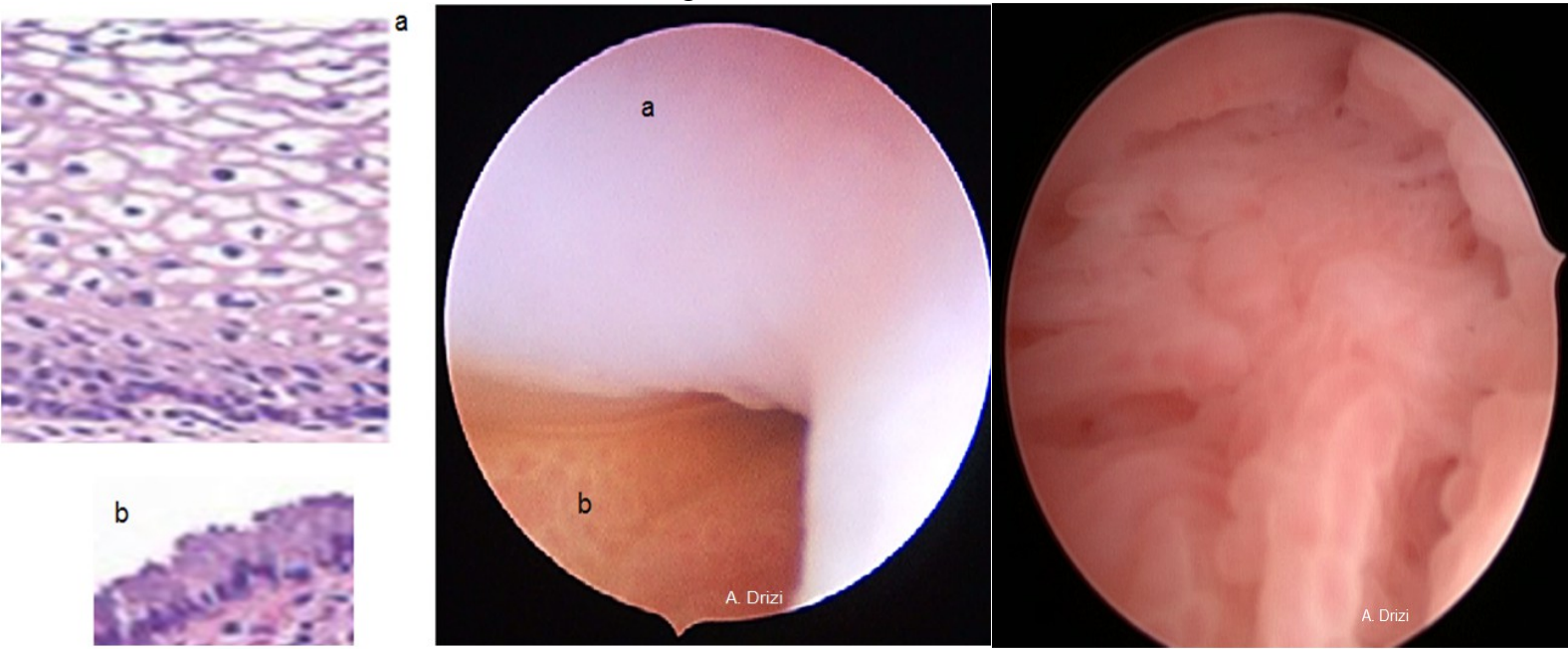
The visual distinction between cervical and endometrial mucosa: back to basics in histology.

Histologically, the endometrium is composed of a monolayer surface epithelium, which forms tubular glands invaginated inside the underlying stroma. Hysteroscopically, the epithelium is transparent in contrast to the glands. The latter being perpendicular to the surface, they do not appear transparent, but rather white. Therefore, the mucosa appears pinkish (the underlying stroma), with blood vessels and "white dots" (the gland openings) (Fig 1-2).

The presence of these white dots is one of the indicators of endometrial mucosa.

Conversely, the cervical mucosa is histologically different and hence displays different hysteroscopic features.

Fig 3 & 4. Exocervix



On the one hand, the ectocervical mucosa is composed of a non-keratinizing, squamous multi-stratified epithelium on top of a stroma. The mucosa thus appears paler, as the stroma is less visible under the thicker epithelium. Moreover, there are no glands and hence no “white dots” (Fig3-a).

On the other hand, the endocervical mucosa consists of a single layer of mucus-producing columnar cells, lining the endocervical canal whose mucosa shows longitudinal ridges and crypts.

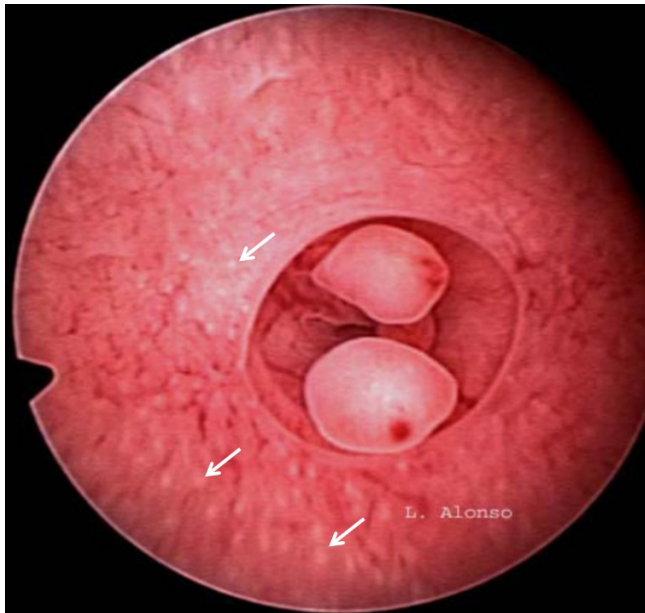


Fig 5. “White dots”

Hysteroscopically, the mucosa appears more pinkish than the exocervix, with crypts and folds, and very importantly: no gland openings either (Fig 3-b; Fig 4)

Last issue’s test of the Hysteroscopy Newsletter: tubal polyps.

In the picture shared by Dr. Luis Alonso, gland openings are clearly identified in the form of white dots (white arrows) within pinkish mucosa (Fig5). Consequently, we can positively think, from this random shot, that the photographed mucosa around the ostium is neither an ecto nor an endocervical tissue. It is an endometrium.

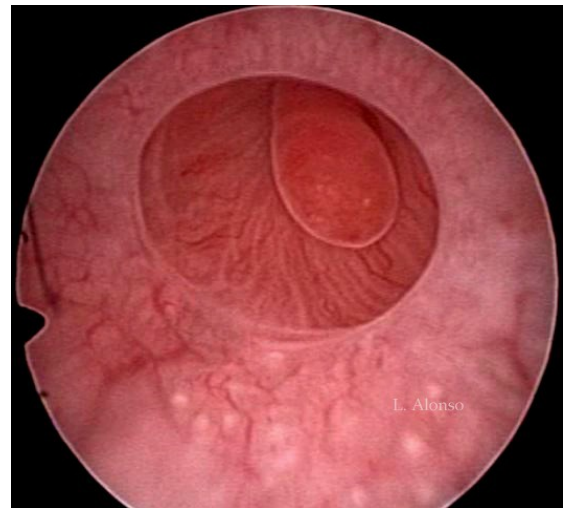
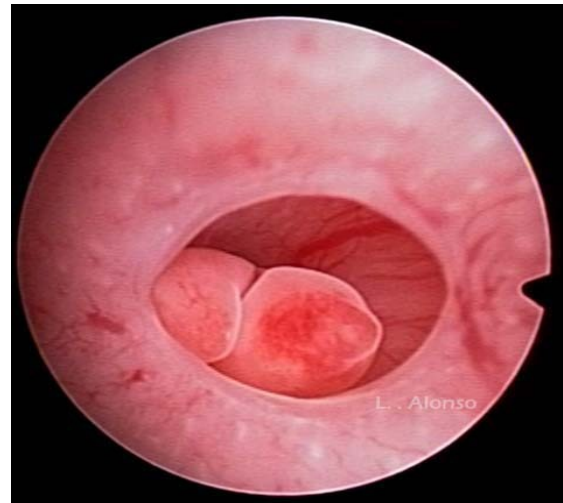


Fig 6 & 7. Tubal Polyps

In figures 6-7, tubal polyps are examined from different angles. In all cases, the gland openings are present, thus indicating an ostium inside an endometrial cavity. Moreover, a closer examination allows clear visualization of the circular muscle that defines the **tubo-uterine sphincter**. When contracted, this causes the ostial spasm described in hysterosalpingography.

Therefore, the answer to the test is: tubal polyps.

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TUBING (included)

NOT REQUIRED:

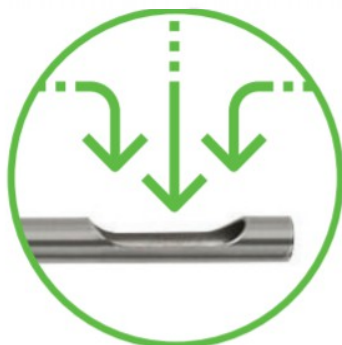
- Controller
- Fluid management capital equipment
- External vacuum source

When used with the MyoSure hysteroscope, the MyoSure MANUAL device lets you resect tissue under direct visualization in an office setting.



Clear tissue trap

allows visual confirmation of tissue removed during the procedure. Holds up to 4 grams of tissue and detaches to send to pathology.



Integrated vacuum

eliminates the need for external suction or fluid management capital equipment.



Manual operation

provides multi-function control in your hand of the blade, vacuum, and specimen.

Update

Hysteroscopy Newsletter Vol 6 Issue 3

Uterine Malformations: A Hysteroscopist’s Approach

Mounir M Khalil

Uterine malformations are not uncommon pathologies, with a prevalence of 5% in general female population and rises up to 16 % in women with fertility-related issues.

Anomalies arise from the unique embryological development of the female genital tract, in which two hollow tubes (Mullerian ducts) fuse medially (from caudal side upward) followed by the resorption of the central part (from caudal end with some theories stating both caudal and cranial directions) creating one uterine cavity

Uterine malformations result from partial or complete failure of one or more of the three mechanisms involved; genesis, fusion, and resorption. For example , agenesis results in either absence of the uterus or a unicornuate uterus; a failure to fusion gives rise to uterine didelphys or a bicornuate uterus; and a septated uterus is due to a failure of resorption.

Many classification systems have been adopted to conclude and categorize uterine anomalies, these include the famous ESHRE/ESGE classification (Figure 1) and the ASRM classification.

The mechanisms by which uterine malformations affect fertility include:

- I- restricted cavity volume leading to failure of pregnancy to progress
- II- abnormal uterine anatomy has abnormal blood supply conflicting with embryonic requirements and
- III- alteration of muscle structure resulting in abnormal uterine contractility.

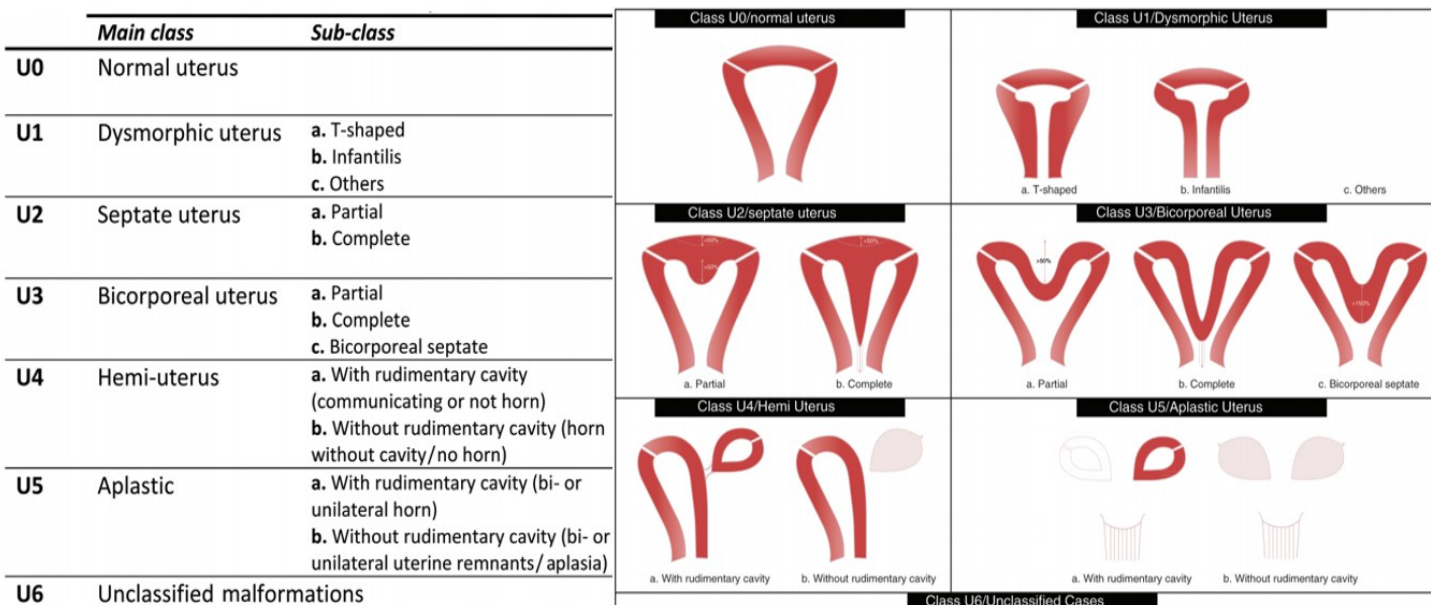


Figure 1: ESHRE/ESGE classification of female genital system malformations.

IV- Non-communicating functioning endometrial cavities may cause accumulation of menstrual blood, cyclic pain, retrograde menses and endometriosis.

There are controversial data about the real impact of uterine anomalies on fertility, the pattern of pregnancy loss that different anomalies produce and the outcomes of anomalies treatment.

Hysteroscopy today has a major role in the management of different uterine anomalies. As it is a minimally invasive intervention that carries great potential benefits with relatively low risks.

There are two rules to remember when hysteroscopy is involved in uterine anomalies repair:

1 - Diagnosis starts from Outside, Repair starts from Inside.

Because identifying the outer contour of the uterus is essential to understand the anomaly

present, such imaging should be used at the first step. Three-dimensional vaginal ultrasonography is the simplest and cheapest tool for this.

2 - The potential hysteroscopic repair of uterine cavity is limited to the outer shape of the uterus.

The hysteroscope works only “inside” the uterus, it cannot change the shape/size of the uterine outer contour, and the main aim of hysteroscopic repair is to create the largest “functioning” cavity for pregnancy.

In this context, the integration of the diagnosing process, classification and management into a flowchart will eventually guide to the shortest route of diagnosis, interventions available, outcomes and prognosis.

The aim of this work is to shift the attention from the “classifications and nomenclature” issue towards the “diagnosis for management” approach. (Figure 2)

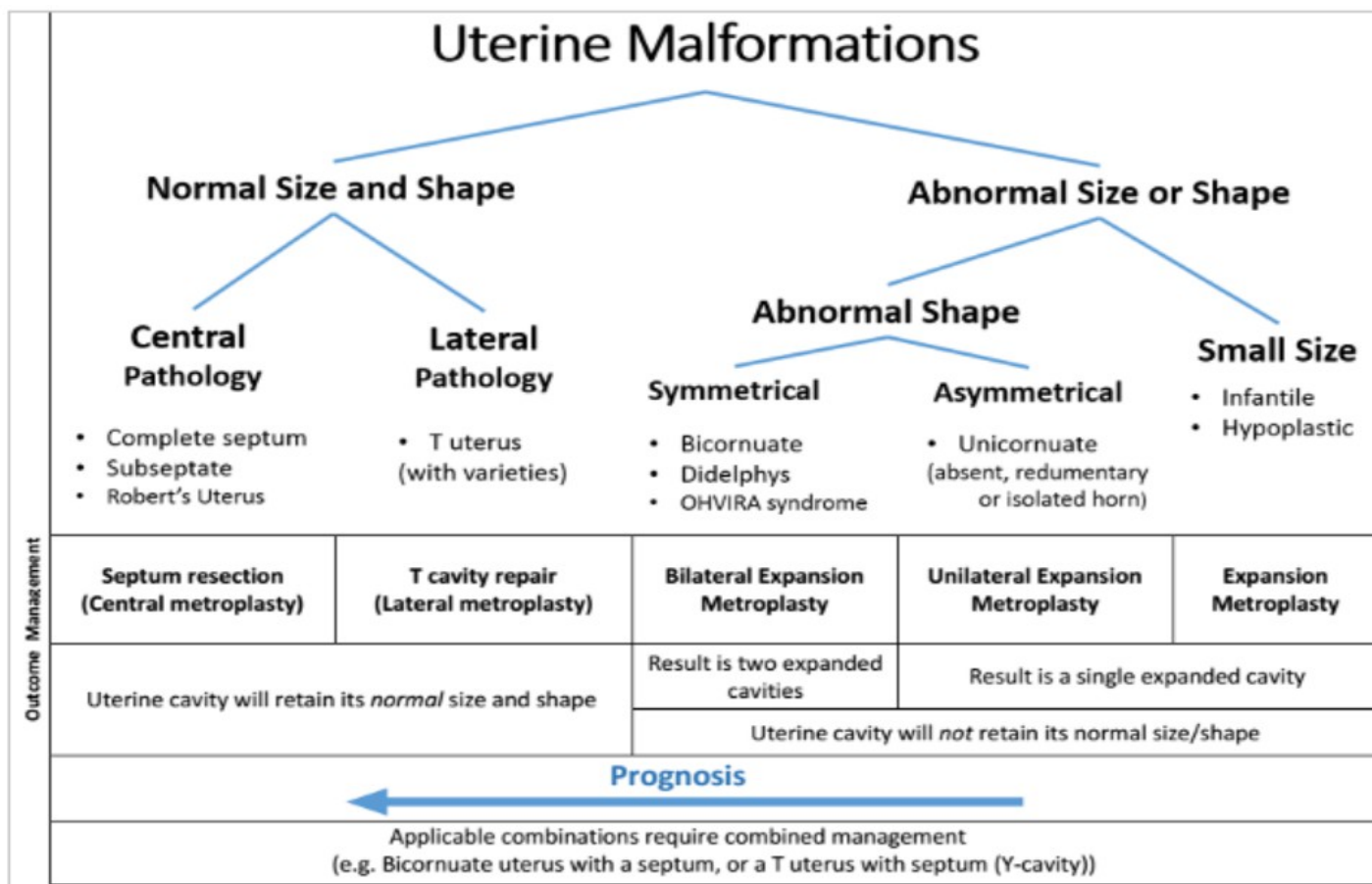


Figure 2: Integrated diagnosis, management, prognosis and outcome chart for hysteroscopic interventions in Uterine anomalies.

Operative management (Metroplasty)

Different hysteroscopic metroplasty approaches have been developed for different anomalies. Metroplasty can be carried out by;

Scissors: a safe option but due to absence of coagulation, the field gets unclear due to bleeding vessels. The mechanical scissors are also the least cost-effective on the long term. Ideally scissors should be used only for small lesions.

Laser: a high-end technology, very safe and cost-effective tool if available

Bipolar electrode: through regular hysteroscope is popular but less practical in large lesions.

Resectoscopes: these are the most common and most practical instruments used for metroplasty. They require higher training and experience as their potential risks are higher if misused. Bipolar resectoscopes are safer than monopolar, due to the restricted pathway of the electrical current and nature of distention media used (saline with bipolar resectoscopes and electrolyte-free media with monopolar resectoscopes). New generation of mini-resectoscopes are now available with smaller calibers (e.g. the Gubbini 16 fr mini-resectoscope) that can be used without cervical dilation.

Central metroplasty

A uterine septum splits the uterine cavity into two halves, restricting the growth of a fetus causing recurrent second trimester abortion or malposition (mostly breech) at term. They may also limit with the blood supply uterine walls, interfering with embryo transplantation.

Uterine septa are the most common uterine anomaly diagnosed. Fortunately, once a septum is repaired, the uterine cavity retains its normal shape and size.

Uterine septum can be complete (extending to cervix) or subseptate (incomplete, not extending to cervix).

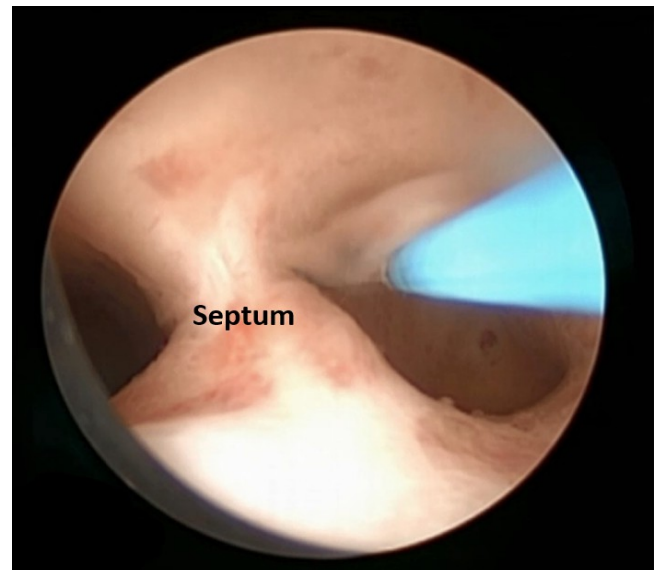


Figure 3: A septum before removal.

Rare forms of the anomaly includes asymmetric uterine septum (with unequal two uterine cavities) and Robert's uterus (asymmetrical septum with obliterated hemi-uterus due to obstruction by the septum.)

Hysteroscopic septum resection is separating the anterior and posterior uterine walls through the septum, up to the level of the fundus. (Figure 3) The tubal ostia are the main landmarks during the operation, they guide the direction of the resection in the septum avoiding going into the

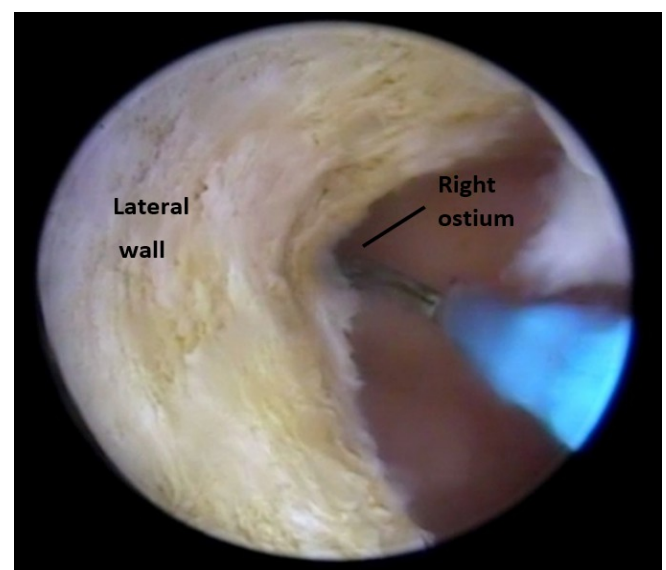


Figure 4: Lateral Metroplasty in a T shaped Uterus.

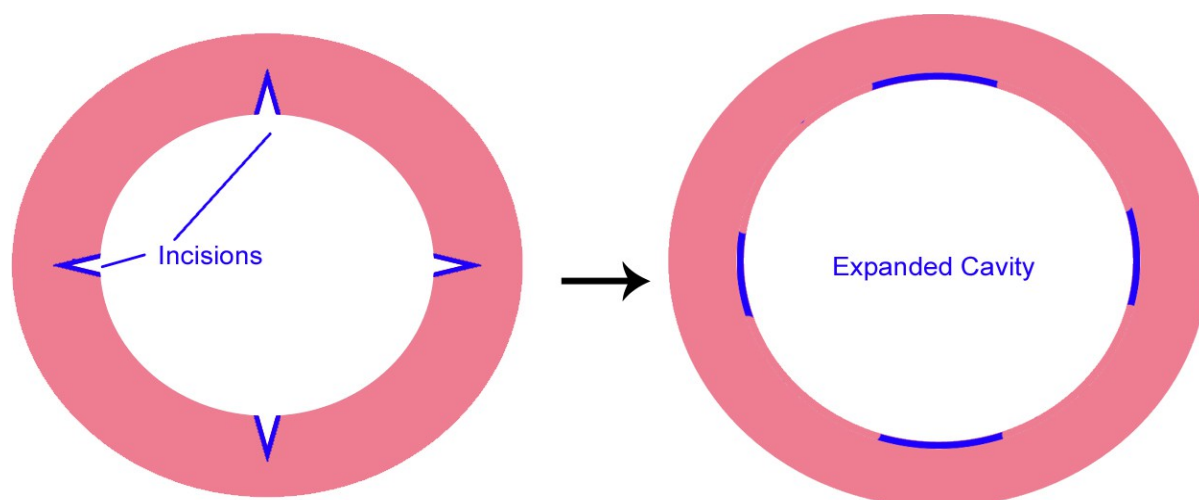


Figure 5: Illustration of expansion metroplasty.

Cross section in uterine body. Left; expansion incisions made (blue). Right; Expanded cavity showing how the incisions internal surface unfolded to become part of endometrial lining.

anterior or posterior wall. They also determine the level at which resection should stop to avoid perforation or weakening of the fundal wall.

Lateral metroplasty

Thickening of the lateral walls of the uterus results in a T-shaped cavity, an anomaly typically observed in Diethylstilbestrol-exposed women. This not only restricts the uterine cavity volume, but it is also thought the extra myometrium bulk increases the uterine contractility and interferes with implantation.

T-shaped uterus variances include I-shaped uterus and Y-shaped uterus (result from existence of a small septum in a T-shaped cavity).

Lateral metroplasty is performed by cutting into the lateral wall on each side, until both ostia can be seen in the panoramic view (when the hysteroscope tip is at the level of internal os) restoring the triangular shape of the cavity. (Figure 4)

Expansion metroplasty

Anomalies like bicornuate, unicornate and infantile uterii cannot be corrected from inside the cavity, leaving little to be done by hysteroscopy.

Expansion metroplasty includes making longitudinal incisions of about 3 mm depth into the lateral walls of the uterus. (incisions in anterior/posterior, or in all four directions walls in different studies). (Figure 5) Uterine cavity volume is proved to be increased after the procedure, but the direct impact on fertility outcomes is still to be proved through adequate research

Postoperative management

After hysteroscopic interventions, measures to prevent or reduce the adhesions that may occur in the raw areas created during metroplasty.

These measures include hormonal (estrogen) supplements, mechanical barriers (uterine balloon, IUDs, hyaluronan gel) and organic substances (PRP, amnion membrane).

An effective procedure is a “second look” by hysteroscope after two or three cycles, not only to look for newly formed adhesions, but also to remove them and assess the endometrial growth over the raw areas.

COVID 19 Pandemic

Hysteroscopy Newsletter Vol 6 Issue 3

Impact on hysteroscopic procedures. A consensus statement from the GCH Scientific Committee

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The COVID 19 pandemic has caused a global health emergency. Enforcing social distancing and preservation of hospital resources requires suspension of non-essential medical visits.

Procedures in which delay could potentially worsen the patient's outcome, must be performed. Adequate triage of patients with potential cancer conditions is critical to ensure patient safety during pandemic infections.

Theoretical risk of "viral" dissemination in the operating theater is higher during AGP than in hysteroscopy where the theoretical risk is extremely low, or negligible. Always favor the use of mechanical energy over thermal generating devices.

Also, when needed, use conscious sedation or regional anesthesia to avoid the risk of viral dissemination at the time of intubation/extubation.

Health care providers must comply with a step by step reimplementation of standard operating procedures, expediting the evaluation and management of all the deferred cases as soon as the benign pathology consultations can be safely restarted.

Patients with confirmed negative status for COVID-19 confirmed by PCR, requiring hysteroscopic procedures, should be treated using universal precautions.

Recommendations for hysteroscopic procedures during the COVID-19 pandemic

General recommendations

- 1- Hysteroscopic procedures should be limited to those patients in whom delaying the procedure could result in adverse clinical outcomes (16).
- 2- Adequate screening for potential COVID-19 infection, independent of symptoms, and not limited to those patients with clinical symptoms. When possible, a phone interview to triage patients based on their symptoms and infection exposure status should take place before the patient arrives to the hysteroscopic center. Any woman with suspected or confirmed COVID-19 infection should be asked not to come to the hysteroscopic center. Patients with suspected or confirmed COVID-19 infection who require immediate evaluation should be directed to COVID-19 designated emergency areas. Once the patient arrives, a thorough history taking regarding potential viral exposure and physical examination must be performed. Consider preoperative universal COVID-19 testing. Only patients with negative COVID-19 test (if performed) and a negative history of symptoms (including body temperature below 37.3 o C) or exposure to COVID-19 should be allowed to enter the unit.

3- A maximum of ONE adult companion, under the age of 60 years per patient should be allowed access to the unit when absolutely necessary. It is understood that visitor policy may vary at the discretion of each institution guidelines. Children and individuals over the age of 60 years should not be granted access to the unit. Companions will be subjected to the same screening criteria as the patients.

4- If more than one patient is scheduled to be at the facility at the same time, ensure that the facility provides adequate space to ensure the appropriate social distancing recommendation between patients. Avoid the presence of multiple individuals in the waiting room at any given time. Ensure to space the seating in the waiting room at least 2 meters apart. Hand sanitizers and face masks should be available for patients and companions. We recommend the use of face masks by all individuals present in the hysteroscopic unit (patients, companions and staff members). The masks should always be worn and not only during the hysteroscopic procedure.

5-It is imperative that all healthcare members in close contact with the patient during the procedure wear personal protective equipment (PPE), which would include an apron and gown, a surgical mask, eye protection and gloves. Extreme caution should be implemented to avoid contamination. Healthcare providers should always wear PPE deemed appropriate by their regulatory institutions following their local and national guidelines during clinical patient interaction.

6- The use of electrosurgery in hysteroscopy is performed in a liquid environment. Bubbles that are generated with the use of thermal energy devices (monopolar, bipolar or laser) are cooled down rapidly and partly absorbed by the surrounding liquid (17). Cell fragments generated are contained within the uterine cavity (18). Any gases volatile at 37°C or lower and cell fragments are actively suctioned through the outflow channel, in a closed circuit, without aerosol generating effect, minimizing any risk of viral dissemination. In addition, it is recommended to avoid multiple insertion and removal of the hysteroscope from inside the uterine cavity.

7-The participation of learners and physicians in training should be organized by video transmission and not by physical presence in the office or operating room.

8- In the case of patients with confirmed positive COVID-19 infection and in need of urgent hysteroscopic surgery, the operation should be performed under strict protective conditions ideally in an operating room with negative pressure and independent ventilation.

Hysteroscopy performed in an Office Setting:

1-Pre-procedural recommendations

a. Patients should be advised to come to the office alone. If the examination requires a companion, a maximum of one companion to the appointment can be accepted. When coming to the unit alone, it is recommended that patients ensure secure transportation that can pick them up after the visit is over, to avoid driving immediately after the procedure.

b. Limit the number of the health care team members present in the procedure room.

c. Favor the use of instruments that do not produce surgical smoke such as scissors, graspers and tissue retrieval systems.

2- Intra-procedure recommendations

a. Choose the device that will allow an effective and fast procedure.

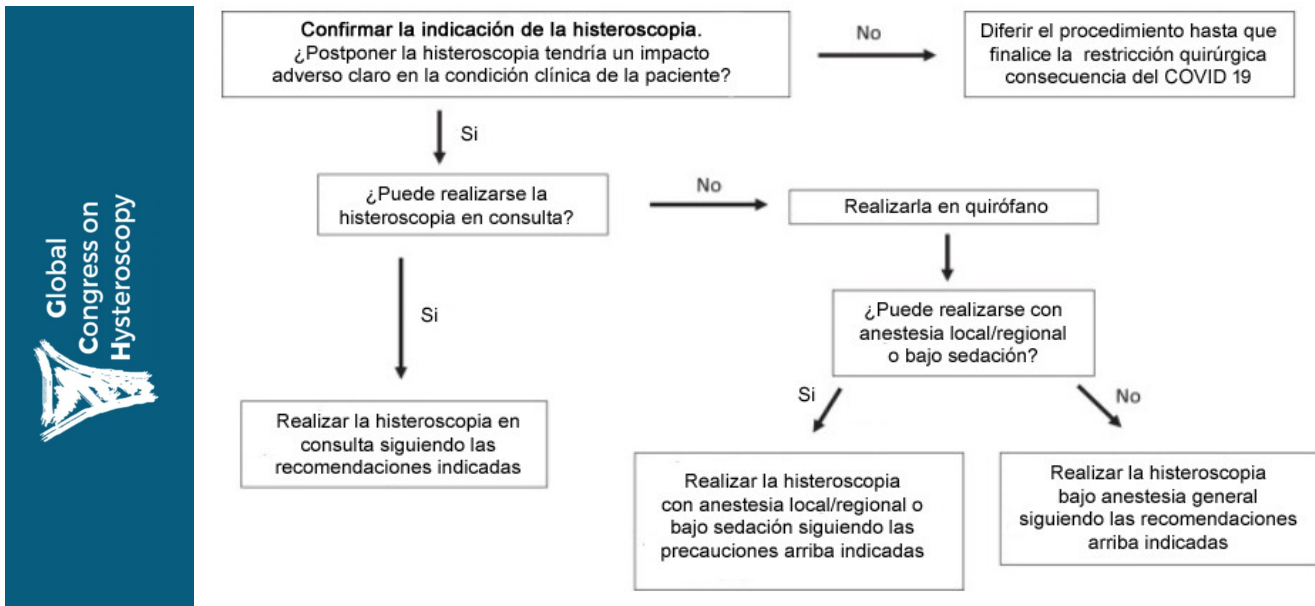
b. Use of the recommended PPE.

c. Movement of staff members in and out of the procedure room should be limited.

3- Post-procedure recommendations

a. When more than one case is scheduled to be performed in the same procedure room, allow enough time in between cases to grant a thorough operating room decontamination.

b. Allow patient to recover from the procedure in the same procedure room or in a specific standalone patient recovery room which is subject to the same disinfection rules between two patients.



c. Expedite patient discharge.

d. Follow up after the procedure should be by phone or tele-medicine.

e. Standard endoscope disinfection is effective and should not be modified.

Hysteroscopy performed in the Operating Room

1- Pre-procedural recommendations

a. Adequate patient screening for potential COVID 19 infection, independent of symptoms and not limited to those with clinical symptoms

b Limit the number of health care team members in the operating procedure room.

c. Surgeons and staff not needed for intubation should remain outside the operating room, but immediately available in case emergent assistance is required, until intubation is completed and should leave the operating room before extubation, to minimize unnecessary staff exposure

2- Intra-procedure recommendations

a. Limit the personnel in the operating room to a minimum.

b. Staff should not go in and out of the room during the procedure

c. When possible, use conscious sedation or regional anesthesia to avoid the risk of viral dissemination at the time of intubation/extubation

d. Choose the device that will allow an effective and fast procedure.

e. Favor non smoke generating devices such as hysteroscopic scissors, graspers and tissue retrieval systems.

f. Active suction should be connected to the outflow, especially if when using smoke generating instruments to facilitate the extraction of surgical smoke

3- Post-procedure recommendations

a. When more than one case is scheduled to be performed in the same room, allow enough time in between cases to grant a thorough operating room decontamination.

b. Expedite post-procedure recovery and patient's discharge

c. After completion of the procedure, remove scrubs and change into clean clothing if available.

d. Standard endoscope disinfection is effective and should not be modified.

Hysteroscopy Newsletter is an opened forum to all professionals who want to contribute with their knowledge and even share their doubts with a word-wide gynecological community

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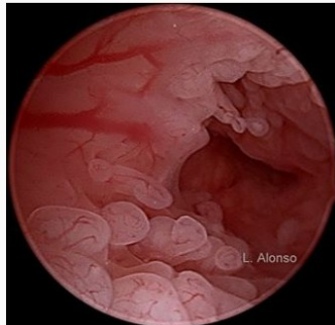
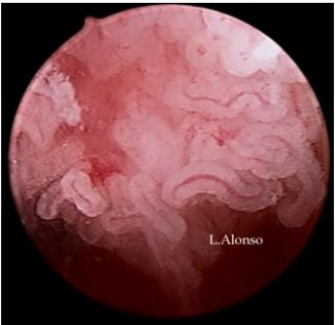
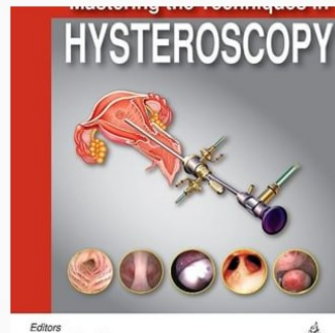
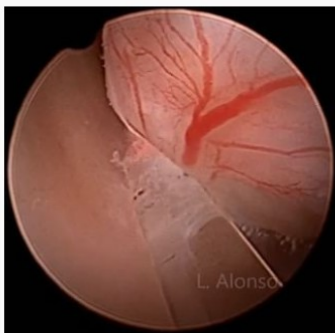
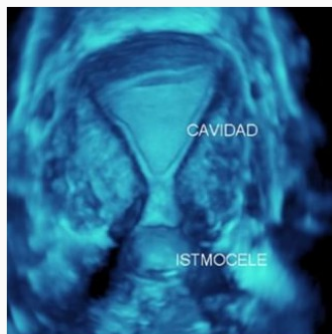
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