HYSTEROSCOPY NEWSLETTER

At present, our hysteroscopy instruments are fine and dexterous. Bipolar energy is safer and more efficient than monopolar. It used to be a challenge to extract tissue samples with the old original resectoscope. However, with the new hysteroscopic morcellators, shaving hysteroscopes, continuous cutting and suctioning pumps, gynecologists can now reach deeper inside the uterine cavity increasing the efficiency of the procedure. Moreover, new technology has also made hysteroscopes stronger and more durable. The mechanical incision, which is also known as 'cold cut', has become increasingly popular, which makes 'office hysteroscopy' a reality. Patients no longer need to be admitted to the hospital, as treatments can be provided in the office without the need for anesthesia. This is safer, convenient and cheaper for patients.

However, should we be pleased with what we currently have? The answer is no. There are certain limitations that we are still facing. First of all, it is still a one-port, single instrument operation. Cutting loop, straight loop, roller, scissors, claw forceps, rotary cutter and suction irrigation are all forced to enter through a single port. Second, distention medium is needed to have clear visualization, flush the uterine cavity, as well as to maintain the intra uterine pressure to expose, separate and remove the incised target. This may cause complications such as fluid overload syndrome, which can be life threatening. Last but not least, the instruments also need to improve. We need smaller and stronger hysteroscopes to be used on patients with stenotic cervical internal os without the need to dilate.

What are our expectations for the next generation of hysteroscopy? Surely, we should expect to have better, smaller and stronger instruments. It will earn an extra score if the operation could involve an extra hand to do cutting, separating and using energy so that the surgery could be more precise and cause less damage to the surrounding tissue. Would we be able to use mobile micro-robotics for biopsies, removing the focus of the disease, repair damaged tissue or even entering the fallopian tube to examine the probable cause of infertility? Furthermore, it would be excellent if the hysteroscope is equipped with ultrasonic probe at the front, which allows it to not only deal with the complications within the uterine cavity but also those that are intramural.

Hysteroscopy has broadened our understanding of the pathology of the uterine cavity and endometrium, intramural diseases and the physiology of the uterus. It accelerated our understanding of many areas such as the growth and regeneration of endometrium and the biology of endometrial stem cells. More specifically, treating myomas with hysteroscopy allows us to understand the histology and biological characteristics of the myometrium such as the distribution of blood vessels and the anatomy of the muscular layers, which helps surgeons minimize tissue damage during operations. We also have a better understanding of the biology of precancerous endometrial lesions and endometrial cancer. This may bring revolutionary changes in the treatment for local and early stage endometrial cancer in the future. Similar changes may also take place in treating intramural lesions such as adenomyosis.

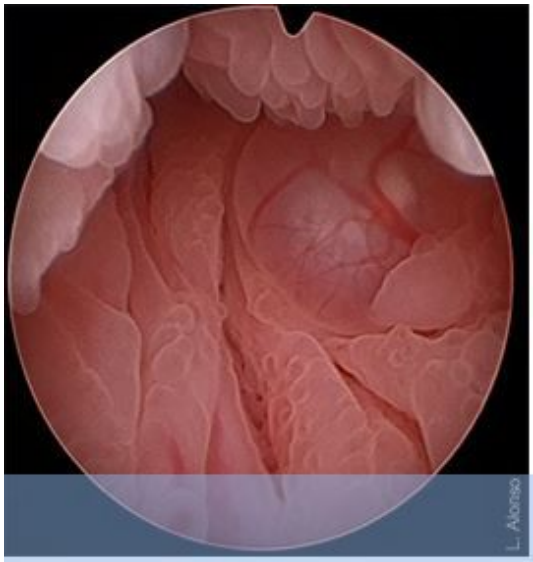
To conclude, surgical hysteroscopy has already caused a revolution in the diagnosis and treatment of uterine intracavitary pathology. Advances in technology have made the surgeries of the uterine cavity easier, safer and possible in the office settings.

Advanced artificial intelligence, optical technology and ultrasonic technology will lead to more intelligent and efficient hysteroscopy, change the diagnostics and treatments of endometrial and uterine diseases, and bring about new perspectives to the related diseases.

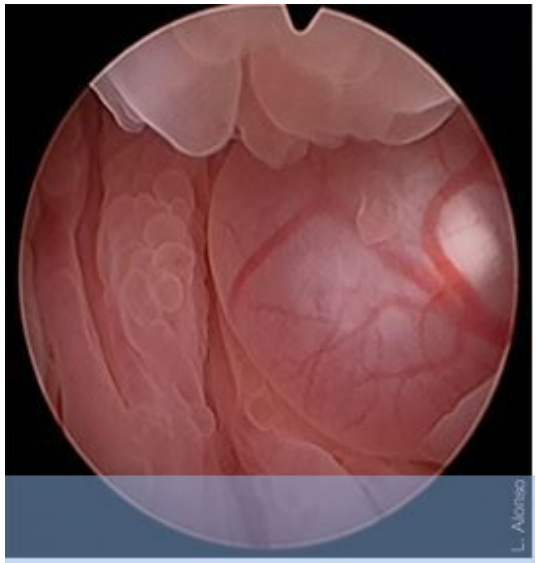
Xiang Xue

INSIDE THIS ISSUE

HYSTEROSCOPY PICTURES



Nabothian cysts are usually diagnosed incidentally



Detailed view of mucous retention cyst

Mucous retention cysts located in the uterine cervix were first described by Dr. Naboth in 1707 (Naboth M. De Sterilitate Mulierum, Leipzig: A. Zeidler, I 707). They are currently known as Nabothian cysts and represent an accumulation of mucous material. These cysts are produced in the transformation zone as a result of a squamous metaplasia that covers and obstructs the glandular openings of the epithelium, the glandular tissue continues to produce mucous material that is retained. They can be located at the level of the ectocervix or in the cervical canal.

Nabothian cysts are usually asymptomatic and are usually diagnosed incidentally. No predisposing factors have been identified, although there seems to be to be correlation to multiparity. Hysteroscopically they are visualized as translucent cystic lesions with clear mucous content. Treatment of these structures is not required.

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...

Sunita Taldulwadkar is the Queen of the Hysteroscopy. She is a great woman, an incredible professional, and a respectable doctor who has lead hysteroscopy in India.

Sunita Tandulwadkar

Vice - President FOGSI (2017)
Joint Treasurer, Indian Society of Assisted Reproduction (ISAR)
Head of Department of Obstetrics & Gynaecology, Ruby Hall Clinic, Pune India

The number of hysteroscopy procedures are growing world-wide. What can we do to promote hysteroscopy?

Hysteroscopy : "viewing the uterine cavity from inside" is the basic and most essential requirement of any woman facing problems related to the uterine cavity or fertility. To make hysteroscopy popular we should use a bi-directionally approach:

Educating gynaecologists to understand the role of hysteroscopy in analysing uterine pathology and how hysteroscopy can be used to tackle the pathology in minimally invasive ways. For understanding the importance of hysteroscopy, it should be taught from an early stage during residency. Office hysteroscopy should become an integral part of a gynaecological examination like trans vaginal sonography. Soon, as the junior gynaecologists start offering hysteroscopy to their patients, the senior gynaecologists will be pushed to adopt it in their day to day practice.

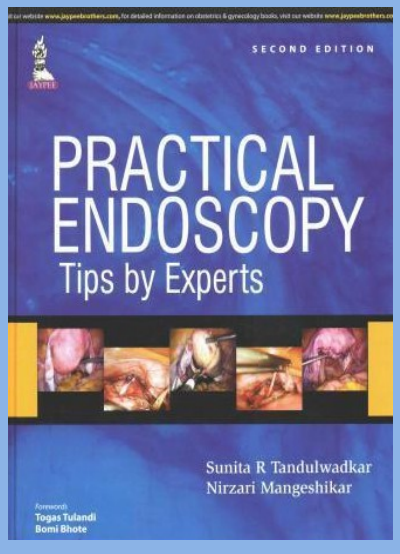
Educating and creating awareness in women to make them understand the pivotal role of hysteroscopy in diagnosing uterine pathology just as the need for a x-ray in case of a fracture. Furthermore, it should be emphasized that a surgeon can correct the pathology in the same sitting and that operative hysteroscopy can be a viable alternative to hysterectomy

> "It is essential to verify the uterine cavity health before embryo transfer."

What is the role of hysteroscopy in the evaluation of endometrial cavity and successful implantation in an IVF treatment?

It is essential to verify the uterine cavity health before embryo transfer.

Hysteroscopy prior to embryo transfer helps us rule out the presence of any adhesion bands, polyps or septum that can cause implantation failure and if present need to be treated before proceeding. In today's era, with advent of sonography with 3D/4D, examination of uterine cavity has become easier. But it has not replaced office hysteroscopy.



Jaypee Brothers Medical Publishers
January 2015 - 330 pages

In a study by Hinckley and Milki (2004) and others prior, the prevalence of unsuspected intrauterine abnormalities, diagnosed by hysteroscopy prior to IVF, has been reported to be between (20%-45%), whereas in a recent study by Fatemi (2010) it is 11%. Therefore, hysteroscopy plays a pivotal role in evaluation of uterine cavity.

How can we treat women with suboptimal endometrium?

Adequate endometrial growth is an integral step in endometrial receptivity and implantation. Whether idiopathic or resulting from an underlying pathology, a thin endometrium of < 7mm is linked with lower probability of pregnancy. Several treatment modalities have been studied which include extended estrogen, gonadotropin therapy, low dose HCG, tamoxifen, pentoxifylline, tocopherol, l- arginine, low dose aspirin, vaginal sildenafil, acupuncture and neuromuscular electric stimulation, intrauterine GCSF and PRP stem cell therapy to mention a few. Examination of uterine cavity with hysteroscopy plays an important role in cases of thin/refractory endometrium.

Among the above mentioned modalities, autologous platelet-rich plasma (PRP) infusion has shown to be a viable option to increase endometrial thickness and vascularity. Our own pilot study 'Autologous Intrauterine Platelet – Rich Plasma instillation for suboptimal Endometrium in Frozen Embryo Transfer cycles' published in journal of human reproductive sciences, November 2017 has shown promising results in terms of improving endometrial thickness and vascularity. We recommend autologous intrauterine PRP instillation as it is a safe, easily available and inexpensive treatment modality for women and when performed under strict aseptic has virtually no side effects.

Do we completely understand the role played by the endometrial vascularity in the embryo implantation?

As we know, implantation is the weakest link for the success of any ART procedure. Clinicians have presented several parameters and assessment techniques to assess the implantation potential of endometrium; intact endometrio-myometrial junction and its thickness of 7 mm have been the most established ones. However, there are many reports by different groups that shed light on the fact that implantation rates can be correlated not only to the thickness and morphology of endometrium but more so to the vascularity of the endometrium. Segmental uterine artery perfusion demonstrates significant correlation with hormonal and histological markers of uterine receptivity, having the highest sensitivity for sub endometrial blood flow. Therefore, endometrial vascularity is an important parameter to assess the implantation potential of the endometrium.

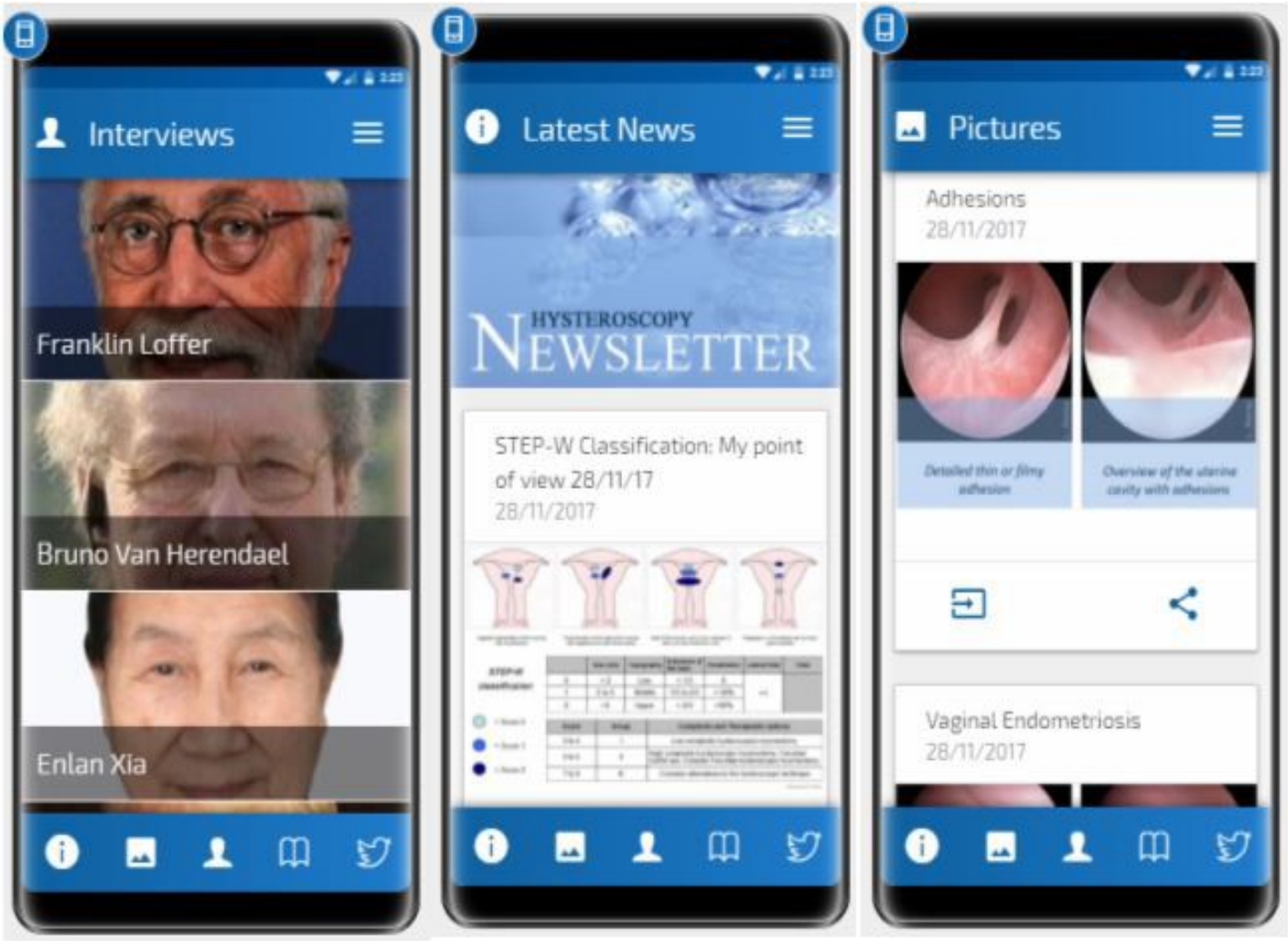
”Examination of uterine cavity with hysteroscopy plays an important role in cases of thin/refractory endometrium”

Do you have any advice for the young physician that is starting out in the world of gynaecologic minimally invasive surgery?

Minimally invasive surgery is an ever evolving branch of medical science. It has given us an opportunity to be more creative. Minimally invasive surgery has a steep learning curve, starting from detailed theoretical knowledge about instruments and equipment, observations and assisting real time procedures, learning by watching one's own videos and self-improving surgical techniques. The young generation should make every effort to revolutionize medical science by unfolding the art of minimally invasive surgery and should continuously evolve their skills by watching videos of masters and attending various workshops and conferences. “The more you do it, the more you learn it.”

HYSTERO Projects

Hysteroscopy Newsletter New App



We're proud to announce that we've created a new APP **available for free download** on iOS and android . All the information about hysteroscopy available at your fingertips. Stay tuned!!

Coordinators: L. Nieto, J. Carugno, L. Alonso

Original Article

Hysteroscopic Morcellation of Submucous Myomas: A Systematic Review

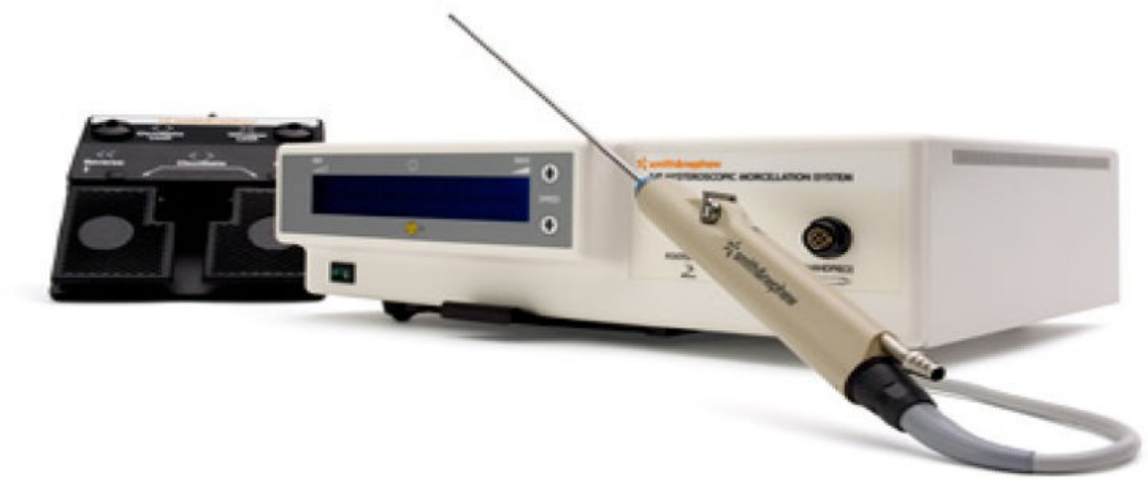
Antonio Simone Laganà
Department of Obstetrics and Gynecology "Filippo Del Ponte" Hospital. Varese, Italy

The progressive improvement of hysteroscopic instruments and the standardization of techniques allowed feasible and daily management of submucous myomas (SMs). Hysteroscopic myomectomy is usually performed with a progressive slicing of the intracavitary portion of the SM, a subsequent "cold loop" pushing of the intramural part (to preserve the pseudocapsule), and, finally, a slicing resection of it.

As was widely reported, a careful and conscious management of uterine myomas improves not only symptoms, but also fertility outcomes. To date, the availability of Hysteroscopic Tissue Removal systems (HTRs) opened a new scenario for hysteroscopic myomectomy: indeed, the learning curve for resectoscopic management of SM is challenging for both the residents and specialists and may lead also to severe complications

Different HTRs are commercially available: Truclear 8.0 (Medtronic, Minneapolis, Minnesota), Truclear 5C (Medtronic, Minneapolis, Minnesota), and MyoSure (Hologic,Marlborough,Massachusetts). As recently summarized by Noventa et al., Truclear 8.0 has a diameter of 8 mm and is introduced into the uterine cavity with a 9 mm rigid sheath; Truclear 5C hysteroscopy system incorporates a 2.9 mm rotatory-style blade through a 5 mm, 0º hysteroscope; MyoSure is introduced into the uterus through a 6 or a 7mm, 0º, continuous flow hysteroscope. All these devices work with physiologic saline solution as distension and irrigation media, instead of the electrolyte-free solutions used for monopolar high-frequency resectoscopy.

We performed the database search on Scopus, PubMed/ MEDLINE, and Science Direct. We searched with "Hysteroscopic Tissue Removal system", "Intrauterine morcellator", and "Hysteroscopic morcellator". We considered eligible original articles (randomized, observational, retrospective studies) about SM management through the use of HTRs, excluding case reports and video articles, published between 2000 and 2016 in English and French languages.



We selected information about study design, type of SMs, type of HTRs, operative time, fluid balance, and operative outcomes. Studies providing ambiguous or insufficient data or not quantifiable outcomes were excluded from the current analysis.

After screening, we selected 8 items and included them in qualitative synthesis: 3 were prospective studies and 5 were retrospective. The total retrieved cases of SM treated with HTRs were 283: 208 cases were performed using MyoSure devices, whereas 75 were performed using Truclear 8.0. Interestingly, only two articles reported data about procedures performed in outpatient/office setting, whereas all the other collected cases were performed in operating theatre. Among the included studies, less than half included data about type 2 SM.

Despite the introduction of HTRs in the clinical practice several years ago, published data about their use for the management of SMs are so far extremely limited.

Summarizing the results of our systematic review, we highlighted a good feasibility of HTRs use for type 0 and type 1 SMs and, similarly to what happens for “classic” resectoscopic myomectomy, a more difficult procedure for type 2 SMs. In addition, retrieved data suggest that HTR is safe and does not increase the complication rate and postoperative adhesions with respect to resectoscopy. Finally, several studies reported a significant reduction of operative time using HTRs, which may allow a consequent reduction of fluid deficit and avoid its overload.

Despite these results, we should consider the high costs of HRTs, that they can be used only once the SM is completely translated into the uterine cavity (requiring sometimes also the use of “classic” resectoscope) and last, but not least, that they are not available in all the settings. In addition, the available studies differ significantly regarding methodology and inclusion and exclusion criteria, and these elements clearly affect the comparison of intra- and postoperative outcomes among them.

Considering both the retrieved data and possible limitations, we took the opportunity to solicit future randomized controlled trials with large cohorts and long-term follow-up, as well as meta-analyses, in order to clarify the role of HRTs on intraoperative and clinical outcomes of hysteroscopic myomectomy.

Reference:

Vitale SG, Sapia F, Rapisarda AMC, Valenti G, Santangelo F, Rossetti D, Chiofalo B, Sarpietro G, La Rosa VL, Triolo O, Noventa M, Gizzo S, Laganà AS. Hysteroscopic Morcellation of Submucous Myomas: A Systematic Review. Biomed Res Int. 2017;2017:6848250.

Full text available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5602656/

Brief Review

EMBRYOFETOSCOPY

Aarathi Cholkeri-Singh, MD, FACOG

Introduction

Spontaneous abortions occur in approximately 10-15% of all pregnancies and can be caused by various factors, such as anatomical, endocrine, infectious, metabolic, immunologic, hematologic and chromosomal abnormalities [1]. Recurrent miscarriages justify efforts to investigate for the underlying cause. As chromosomal abnormalities can account for approximately 50% of all miscarriages, key steps to obtain correct fetal chromosomes is warranted as this can potentially help with future pregnancy planning[2].

Transcervical embryofetoscopy is the technique of introducing a hysteroscope into the uterine cavity to identify and enter the gestational sac enabling visualization of the fetus through the amnion. Bjorn Westin, in 1954, was an early innovator performing hysteroscopic visualization of fetuses for diagnosis of fetal anomalies prior to termination in the second trimester using a 10-mm panendoscope [3]. More recently, however, transcervical fetoscopy has been incorporated for missed first trimester abortions to visualize the fetus for anatomic malformations that may explain a developmental reason for the pregnancy loss. The use of suction curettage creates mechanical damage to the tissue as it is removed and thus, anatomic evaluation is compromised. In addition, direct sampling of the products of conception during embryofetoscopy can occur after anatomic surveillance with the hysteroscope to provide accurate chromosomal analysis of the fetus.

Surgical Technique

Suction curettage is performed by placing a suction curette inside the uterus evacuating the intrauterine contents via an aspiration pump. The suction curette is detached from the suction tubing attached to a suction canister to obtain the tissue from the curette under sterile technique before the tissue is collected within the suction canister. This allows for careful separation of the decidual tissue from the chorionic villi and is performed as the only procedure if no visible embryo was identified on transvaginal ultrasound.

Fig. 1: Seven-week embryo with cleft lip

Fig. 2: Eight-week embryo with abcense of nasal bone

When a miscarriage is diagnosed via ultrasound and a fetus with a previous documented heart rate is noted, the decision for embryofetoscopy is made in our practice. Operative hysteroscopy is performed with a 7mm outer diameter, continuous flow, angled hysteroscope with 2 operative channels and a fluid pump for normal saline. The intrauterine pressures are maintained between 60-80 mmHg to enable visualization of the gestational sac and fetus while clearing blood and debris. Initially, during the hysteroscopy, the gestational sac is entered using 5 French semi-rigid hysteroscopic scissors. Chorionic villi are visualized and photodocumentation of the yolk sac and fetus is performed, if present at the time of surgery. The 5 French graspers are used to remove the fetus to be sent for chromosomal testing. Next, the scissors are again used to cut a segment of the gestational sac and chorionic villi and graspers replaced to remove this portion sterilely for chromosomal testing. The hysteroscope is then withdrawn and suction curettage performed. The hysteroscope is then replaced to look for any retained products of conception that can be removed before termination of the procedure.

Chromosome Analysis

For best results, viable tissue is cultured to perform chromosomal analysis. If tissue cannot be cultured, genomic microarray analysis can be conducted. Chromosomal analysis via conventional karyotype requires dividing cells for culturing. Typically, a recently demised embryo or chorionic villi tend to culture well. However, if normal female karyotype was detected, chromosomal microarray analysis can be performed. This technique does not require dividing cells and thus is more favorable with demise. Data is limited, however, on the use of microarray in first trimester losses and thus is not recommended to use per the societies of American College of Obstetricians and Gynecologists or Society for Maternal-Fetal Medicine.

Discussion

Fetal karyotyping is important for those women experiencing recurrent miscarriage to allow for appropriate genetic counseling prior to pursuing a future pregnancy. Traditionally, missed abortions treated with surgery are done with suction curettage. The curettage specimen, however, is combined with maternal tissue leading to possible false positive results of normal female karyotype. Suction curettage has evolved by incorporating careful sterile separation of the chorionic villi from maternal decidua to reduce maternal cell contamination.

To further assess causes of pregnancy loss, hysteroscopy was integrated to visualize the uterine cavity, gestational sac and embryo or fetus, also known as embryofetoscopy [1,3-11]. Although chromosomal abnormalities are most likely the cause of pregnancy loss, Phillip et al showed that hysteroscopic morphologic analysis of the embryo or fetus prior to suction curettage had important value. Of the 233 successful visualizations of the embryo and fetus in this study, only 33 had normal features and 18% had a morphologic defect despite a normal karyotype, concluding value for both morphologic analysis and karyotyping [8] .

A smaller study, by Ferro et al, had a sample size of 68 women who only underwent operative hysteroscopy with direct biopsies of the chorion and amnion followed immediately by suction curettage. These authors carefully separated the chorionic villi from the curettage material to be sent for analysis separately from the direct biopsies. Total maternal contamination occurred 1 in 4.5 of the curettage materials resulting in possible misdiagnosis in 22.2% of patients if the direct biopsies were not performed. The authors concluded that direct biopsies were reliable and suitable for analyzing full karyotype [9].

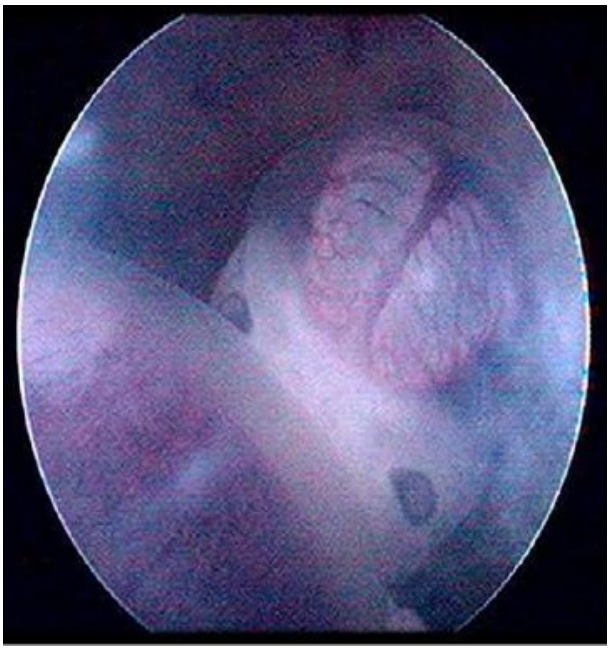


Fig. 3: Ascites in a nine week embryo with Hydrops fetalis

Robberecht et al had a similar, but smaller, sample size to Ferro et alt's study. Fifty-one women underwent operative hysteroscopy for not only direct biopsies of the chorionic villi and/or embryo but also for morphologic analysis of the embryo. Chromosomes were detected through microarray analysis. Thorough morphologic investigation was not possible in 8 cases, but the authors noted that approximately 50% of the embryos appeared normal. It was concluded from this study that the strength of embryoscopy is the ability to directly biopsy products of conception with fetal origin to reduce maternal contamination. [11]

Another study published in 2010, Awonuga et al, also compared suction curettage with hysteroscopic biopsy. Their results did not show an increase in the sensitivity of conventional cytogenetics for detecting aneuploidy. The sample size for this study was much smaller, however. Of the thirty-five women evaluated, 25 underwent suction curettage and 10 underwent hysteroscopic biopsy followed by suction curettage. Larger studies are needed to show a significance.

Thus, my institution is currently conducting a 10-year retrospective study with over 250 women included in either a suction curettage arm or hysteroscopic biopsy arm to evaluate for any difference in reducing maternal contamination, eliminating the need and cost for reflex microarray genetic testing.

Fig. 4: Limb malformation in a ten-week embryo with syndactyly

Conclusión

Fetal loss can be devastating to a woman or couple trying to conceive a healthy pregnancy. Many patients search for a reason and ask physicians for answers and knowledge of the cause of their recurrent miscarriages. Based on published literature, early pregnancy loss should be evaluated with embryofetoscopy with direct biopsy of the chorionic villi and/or fetus prior to suction curettage to lower maternal cell contamination with fetal karyotyping. The additional benefit of fetal anatomical surveillance can also be informative when trying to understand the cause of pregnancy loss.

Embryofetoscopy will be able to provide an opportunity for genetic counseling if abnormal fetal karyotype is found to reduce the risk of a future miscarriage due to chromosomal abnormalities.

WATCH THIS VIDEO NOW

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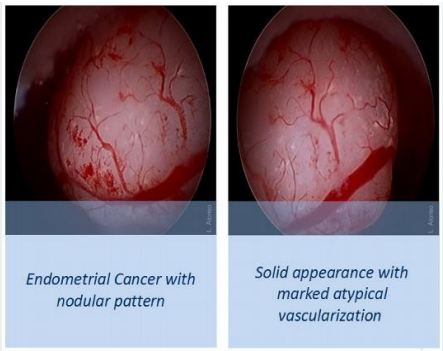
Hysteroscopy Conundrums

Hysteroscopic patterns of endometrial adenocarcinoma

Endometrial carcinoma should be suspected in patients with postmenopausal vaginal bleeding, postmenopausal pyometra, and perimenopausal patients with increased intermenstrual bleeding.

What's your opinion about this picture?



Endometrial Cancer with nodular pattern

Solid appearance with marked atypical vascularization

Parul Kotdawala 3 things: Disorganized vasculature, friable yellowish tissue, punctate calcification

Dejar de recomendar | Tú ··· 3meses

Amy Garcia This is important information not to be confused with a myoma.

Dejar de recomendar | 1 y tú ··· 3meses

Alicia Ubeda However, according to our experience, 90% of PMB is due to endogenous estreogens, along with brest tenderness and hypogastric pain. We routinely perform hysteroscopy in all cases of abnormal bleeding as 2-5% of EC occur before 40 years and increasingly in youngest women.
The tumour-like adenocarcinoma is an infrequent presentation, but unfortunately more aggressive **Mostrar menos**

Dejar de recomendar | Tú ··· 3meses

Parul Kotdawala Hyperplasia with hypervascularity is also seen in patients on Tamoxiphene, looking quite similar to endometrial cancer. But the tissue architecture is preserved.

Dejar de recomendar | Tú ··· 3meses

Xiang Xue I think there are Nodular, polypoid, papillomatous patern for hysteroscopic image of endometrium cancer.Usually it is express a whitish,gray,friable,irregular tissue. But, I think the more important scopic image is there are atypical vascularization,it is irregular ramifications,inconsistency vascular axis,strange vesselswalks on the tissues **Mostrar menos**

Dejar de recomendar | Tú ··· 3meses

Look for us: hysteroscopy group in Linked In

Nazira Monsalve We performed hysteroscopic evaluation in all cases of abnormal postmenopausal uterine bleeding, regardless of the presence of risk factors.
In postmenopausal patients with endometrial polyps, we had 4.6% of endometrial cancer; Similarly in asymptomatic patients with cytological reports of glandular atypia we have found endometrial adenocarcinomas. Therefore, I recommend to any suspicion of endometrial pathology independently of age to perform hysteroscopy **Mostrar menos**

Dejar de recomendar | Tú ▪▪▪ 3meses

Parul Kotdawala Dear Nazira and Xiang; How accurately could you confirm endometrial Ca by hysteroscopy?! How many times there was discordance between Hysteroscopy and histo-pathology?

Dejar de recomendar | Tú ▪▪▪ 3meses

Xiang Xue Dear Parul,Hys will provide the best opportunity to confirm the diagnosis of a true prema- lignant endometrial lesion and exclude an associated endometrial carcinoma.Hysteroscopy with directed biopsy presents advantages over uterine dilatation and curettage (D&C) in the diagnosis of intracavity diseases, particularly focal ones.From some articles,hysteroscopic view presents excellent specificity for endometrial cancer (99.5%) and good specificity for hyperplasia (89.1%). It shows good sensitivity for endometrial cancer (80.0%); however, it has low sensitivity for endometrial hyperplasia (56.3%). Despite the good validity of hysteroscopic view, biopsy is essential for endometrial hyperplasia and cancer diagnosis.It is sure that even in face of good validity of hysteroscopic view in endometrial hyperplasia and cancer, histologic study is mandatory in the presence of any lesion.as hysteroscopic view cannot completely replace histologic study in patients with endometrium lesion.

Parul Kotdawala Dear Xiang Xue, Thanks for your comments. I am aware of the publications and the claimed accuracy of endometrial Ca diagnosis with hysteroscopy. But many a times, I have suspected ca, which is confirmed by the laboratory later on. But I am not very confident of putting my hat on Ca right away all the times. Hence I believe that a double blind trail, where the surgeon records Cancer '+' or cancer '-' on Hysteroscopy, and only then he is informed of histological report will clarify the accuracy of visual diagnosis. Hence I was asking what is your own experience in this regard.
Mostrar menos

Recomendar ▪▪▪ 2meses

Gonzalo Virreira prout Hysteroscopy steel the gold standard in the diagnosis of endometrial cancer

Recomendar ▪▪▪ 1mes

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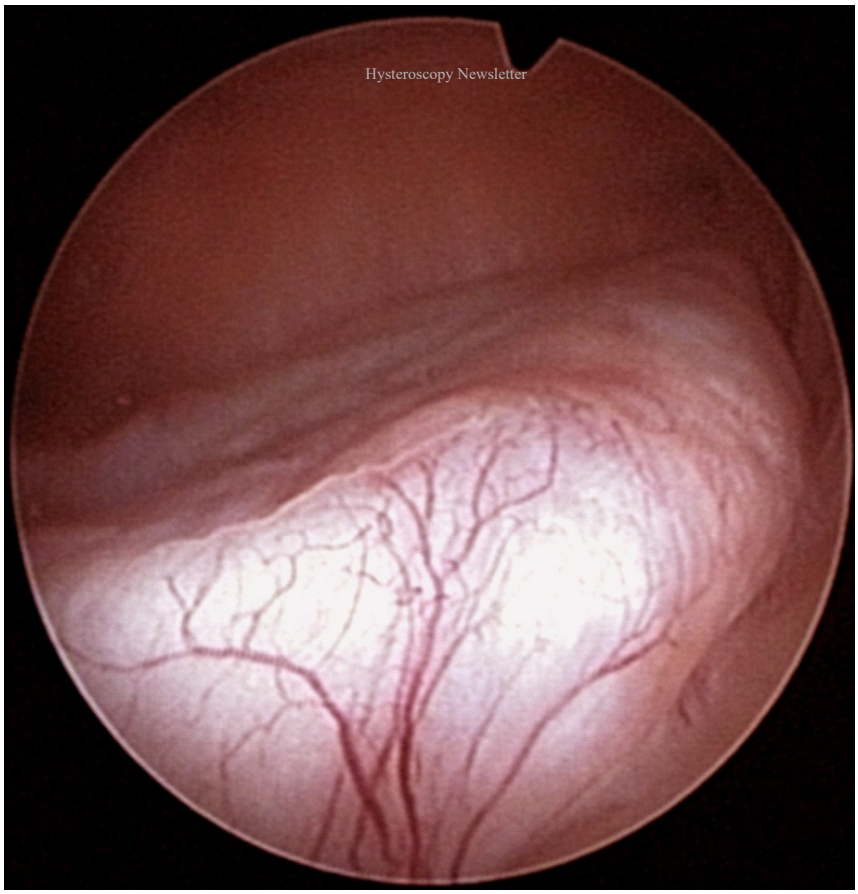
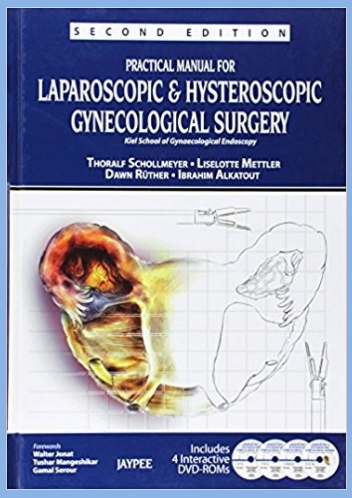


WHAT'S YOUR DIAGNOSIS?

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:
Endometrial Cancer

H BOOKS Hysteroscopy !



Practical Manual for Laparoscopic & Hysteroscopic Gynecological Surgery

Thoralf Schollmeyer
Liselotte Mettler
R. Dawn
Ibrahim Alkatout

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Hysteroscopy is not a first-line treatment approach for adenomyosis and it represents a viable option only in selected cases of focal or diffuse "superficial" forms

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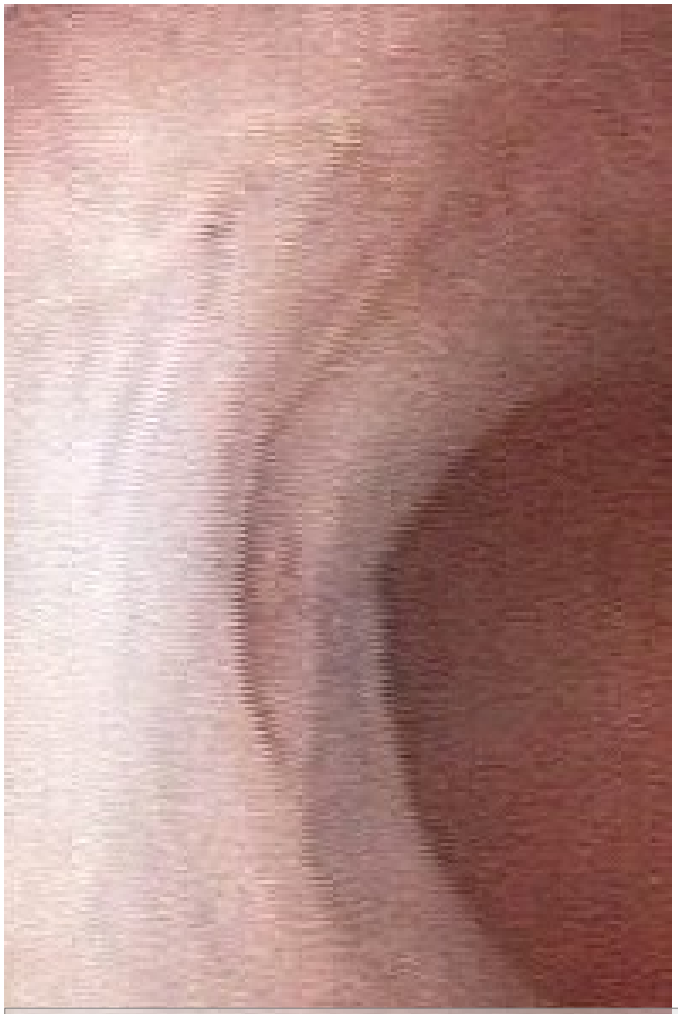
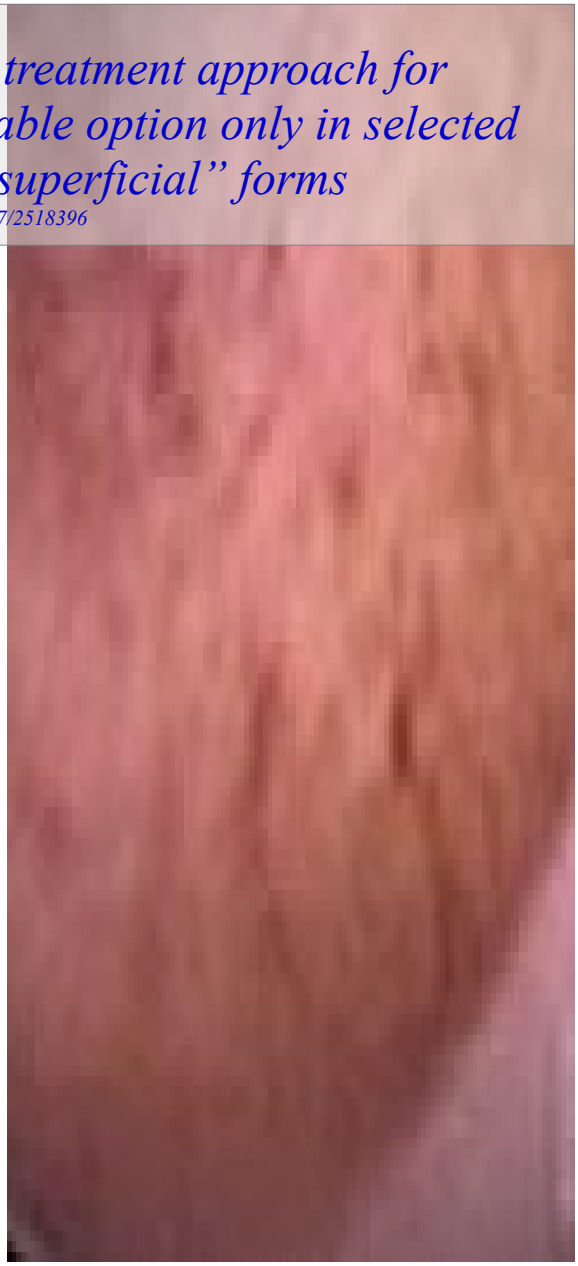




In patients with abnormal uterine bleeding, hysteroscopy provides the possibility of immediate diagnosis and prompt and effective treatment

HYSTEROSCOPY

INTRAUTERINE FLUID COLLECTION

BASIC

Luis Alonso Pacheco. Málaga. Spain

INTRODUCTION

The presence of fluid inside the uterine cavity is an abnormality that is occasionally found as an incidental finding when conducting a pelvic ultrasound. Some authors suggest a 3mm cut-off to start considering the amount of fluid "clinically relevant". There is scant literature about this condition. This review will offer a global view of this uncommon condition.

CLASSIFICATION:

The fluid accumulated inside the uterine cavity can represent one of four different types:

- **Hydrometra:** Accumulation of serous fluid (most common type)
- **Pyometra:** Accumulation of purulent fluid, usually present in postmenopause
- **Hematometra:** Accumulation of blood
- **Mucometra**: Mucous secretion from endocervical glands.

In the presence of intrauterine fluid collection, it is necessary to distinguish between premenopausal and postmenopausal patients.

PREMENPAUSAL PATIENTS

In premenopausal patients, the presence of hematometra is usually related to an obstruction that prevents the flow of menstrual blood, as in cases of imperforate hymen, transverse vaginal septum or retained products of conception.

The presence of mucometra can be related to inflammatory pathology inside the uterine cavity or in cases of isthmoceles. The mucous fluid produces retrograde flow, especially in cases of retroverted uteri.

Among the causes related to the presence of hydrometra or serous fluid in the uterine cavity in premenopausal patients, hydrosalpinx is the most common etiology, secondary to reflux of the inflammatory fluid from the hydrosalpinx into the endometrial cavity. Other cases not related to tubal pathology, are obstruction of the cervical canal, either by previous surgery or by cervical pathology. Hydrometra has also been associated with endometriosis and polycystic ovaries. (1)

The presence of intrauterine fluid during ovarian stimulation has been described in the literature with an incidence of 4.7%, being commonly related to the presence of hydrosalpinx. The detection of intracavitary fluid and the amount of fluid accumulated have been linked to lower pregnancy rates in IVF cycles. The fluid usually appears after the administration of HCG, although in some cases occur before. The presence of intracavitay fluid has a negative impact on implantation since it seems that the fluid contains embryotoxic substances similar to those present in hydrosalpinx.

POSTMENPAUSAL PATIENTS

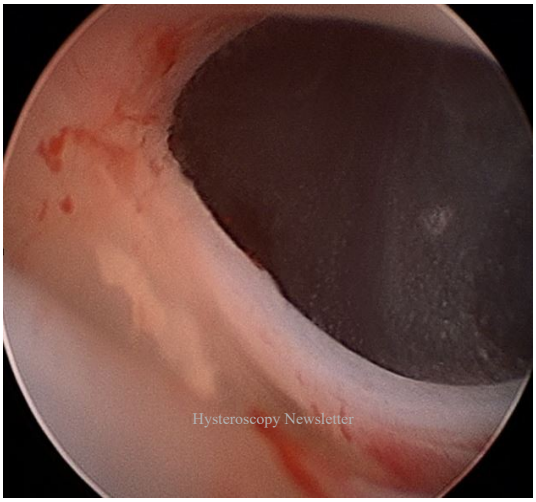
A prospective study including 1074 asymptomatic postmenopausal patients, described the presence of intrauterine fluid in approximately 12% of women (2)

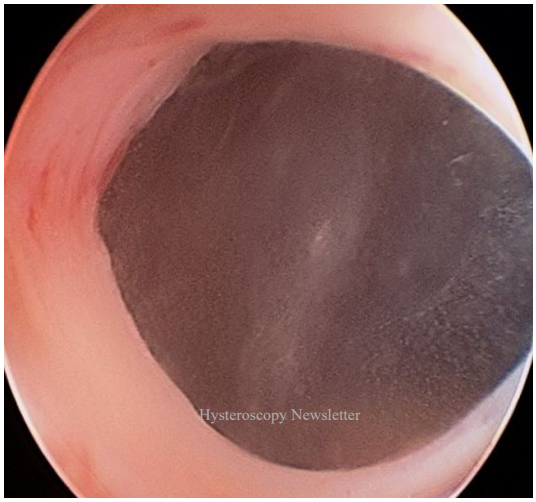
Among the different causes of hydrometra in postmenopausal patients, cervical stenosis deserves special attention.

Cervical stenosis secondary to severe genital atrophy, associated with the presence of fluid transfer from the also atrophic endometrium, is the most common cause in postmenopausal women. Another important factor to consider is endometrial cancer. Although the various published studies differ greatly in terms of the relationship between the presence of intrauterine fluid collection and endometrial cancer, most of them estimate the rate of this relationship at about 25%. The correlation between fluid inside the uterine cavity and endometrial polyp is also well known, estimated at 20%. Finally, the use of tamoxifen has also been associated to the presence of fluid in the uterine cavity, due to the progestogenic effect of tamoxifen on the endometrial mucosa. (3)

In the evaluation of hydrometra, the assessment of the residual endometrium is more important than the assessment of the of the fluid collection. The evaluation of the thickness and symmetry of the endometrial stripe signals the presence of associated endometrial pathology. The presence of fluid allows a complete sonographic assessment of the cavity, by simulating a sonohysterogram. Some studies have postulated that if an atrophic endometrium <3mm is found after evaluating the entire cavity, no histopathologic changes have been described associated with the presence of fluid.(4) Other authors concluded that tissue diagnosis is mandatory in cases of fluid collection, regardless of the endometrial thickness.

The value of hysteroscopy in the evaluation of the hydrometra was revealed in a study of 32 cases of patients with intrauterine fluid collection. The findings of this study were 19 cases of endometrial atrophy (59.5%), 7 cases of endometrial polyp (21.75%) and 6 cases of endometrial carcinoma (18.75%). It is important to note that in this study there was a 100% correlation between hysteroscopy and pathological diagnosis. Cancelo M et al (5) concluded that it is recommended to perform a diagnostic hysteroscopy with tissue biopsy in all cases of intrauterine fluid collection in postmenopausal patients.





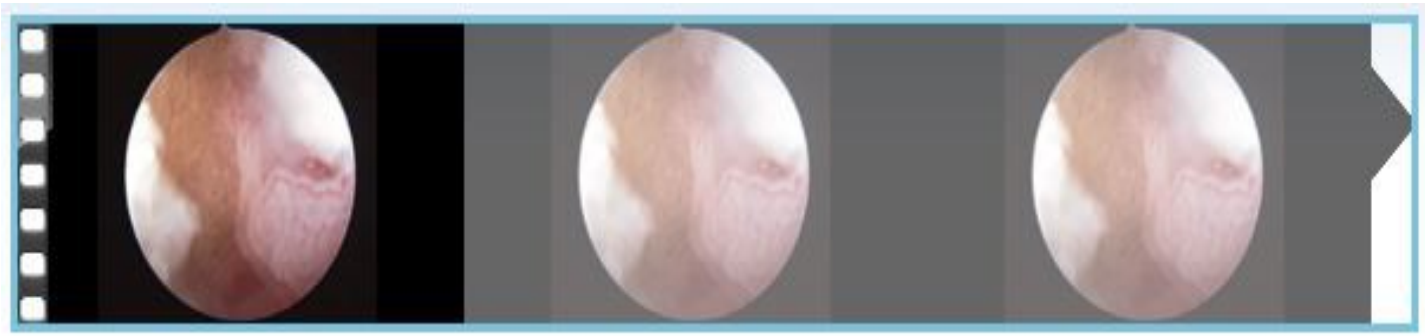
TREATMENT

Regarding treatment, young patients and in patients undergoing assisted fertility, the treatment of the factors that lead to the appearance of intracavitary fluid must be completed before initiating an assisted reproduction cycle. It is well accepted that treatment of hydrosalpinx prior to IVF improves pregnancy rates. Regarding the role of cervical dilatation prior to IVF treatment, its role has yet to be determined, although it seems that in addition to facilitating fluid drainage, it would also facilitate embryo transfer.

Treatment in postmenopausal women consists of cervical drainage. Although, recurrence is relatively common. It is important to perform a pathological study of the fluid because, as previously stated, up to 20% of cases are associated with endometrial cancer.

In conclusion, the finding of fluid collection inside the endometrial cavity in patients undergoing assisted reproduction techniques lowers implantation rates and requires treatment before initiating assisted fertility protocol. Hydrosalpinx is the most frequently associated cause and its resolution increases pregnancy rates. In postmenopausal patients, the most common causes are genital atrophy and cervical stenosis.

Some cases are associated with endometrial cancer. In the presence of hydrometra with endometrial thickness less than 3 mm, it seems advisable to proceed with expectant management with periodic follow up, but in cases of areas of endometrial thickening, performing a hysteroscopy with endometrial biopsy is recommended.



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HYSTEROSCOPY Editorial teaM

It was September 2015 in Berlin during the NESA DAYS when I heard three crazy guys talking about something that was just a dream at the time… organizing the first Global Congress on Hysteroscopy. I witnessed that exciting conversation hoping to see that dream come true. An international meeting in which hysteroscopists from all around the world, with different backgrounds, could get together and share their opinions and experiences.

It took 2 years and a lot of work (after all... Rome was not built in one day) but those three crazy guys succeeded and their dream of the first Global Congress on Hysteroscopy took place in Barcelona. An exclusive event characterized by an inclusive mentality. Everybody united by the desire to share and enrich their own knowledge, with the honourably supervision of the hysteroscopy "fathers".

After Barcelona 2017, the "bomb" of Hysteroscopy Newsletter exploded and now is an expanding phenomenon, an International Group with members from all around the world who spread their hysteroscopy experience on Facebook, Twitter, YouTube, Linkedin and so on… and all of it sounds good!

Perhaps, it is just the diversity and the desire to move forward, always holding great respect for the colleague who has a different opinion, the added value of this group. It is an honour for me, a young physician coming from Italy, a land that has given and is currently giving a lot to hysteroscopy. Now, I feel very lucky to have a virtual place where I can keep going to improve my knowledge taking advantage of the information coming from hysteroscopists from all around the world.

We are currently living an amazing moment for hysteroscopy. Finally hysteroscopy is no longer the Cinderella of gynecologic surgery but now is a wonderful princess ready to dance. As a young hysteroscopist, it makes me feel good. We are standing on the shoulders of hysteroscopy fathers knowing that there is much more to build ahead of us.

We, as young hysteroscopists, have the duty to keep the treasure that the "fathers" of hysteroscopy have taught us. We have to take advantage from all the work already done until now and invest it to ensure a brilliant future for this procedure, finding new applications still not explored.

All together, we have the duty to discover what the uterine cavity still hides inside, understanding what that cavity still wants to tell us. As Vasari taught to us "Seek and ye shall find".

Alessandro Favilli MD, PhD
Scientific Committee Member
Hysteroscopy Newsletter

ITALY