During an International Meeting, in autumn of 2015, it started a crazy idea, to bring together the largest group of hysteroscopists, for the first World Congress of Hysteroscopy. Discussing with Sergio Haimovich and Luis Alonso, I found a great light in their eyes: the clean light of the freedom of research and of the work without external pollution. I immediately shared their choice of being able to work free from any possible external influences. Moreover, from there, the great idea of Luis and Sergio to involve many foreign colleagues with the same our desire and wishes. We discussed on many “unthinkable until then” common projects, all-converging on up to the International Conference.

Thus, day by day, time after time, the wave of enthusiasm swept everything and everyone, free from constraints and scientific joints. All colleagues ready to run the great unconventional venture of world meeting on hysteroscopy, to upset the routine. Michael Stark said: What is the hardest thing in the world? The diamonds? NO, THE TRADITIONS. We have passed the tradition to maintain hysteroscopy as a niche in endoscopy congress, ready to upset this tradition and changing, with the expertise, the unwritten rule that hysteroscopy is the younger sister in the gynecological endoscopy. The hysteroscopy is a worldwide standard practice daily performed in each ambulatory, Hospital and Clinic, by worldwide hystero-community. Thus, it began the adventure of the Global Congress on Hysteroscopy, which involves many of us and dreams of opening a new era, promoted by a “Mad Hystero-Group”. Then, because the ideas are never lacking and walk in the minds of free men to think and act without influence, it occurred to us to invite the three invited speakers to write a chapter with the title of their presentation to Congress. Thanks to the support of the Springer Publisher, it came the idea of writing an Atlas Book, with the tile: Hysteroscopy. This book summarizes all the modern knowledge of hysteroscopy, as is all the current and upcoming issues involving medicine in the coming years. All the authors of the chapters are actively involved in the complex and delicate work daily to perform diagnostic and operative hysteroscopy. Many of them are of the lead editors of hysteroscopic gynecology; they write the guidelines in their countries and collaborate with scientific societies in preparing scientific recommendations for hysteroscopy. To each of them it was assigned a chapter, depending on the expertise of the author. The main recommendation was provided to the author: clear description of the topic, update of cited literature and complete illustration of the chapter. The work was long and arduous, with many changes and improvements, but the final product has been outstanding.

Personally, I browsed many texts of hysteroscopy, but I have never seen such a complete and detailed Atlas Book, with authors from many countries of the world. I can only express my sincere congratulations to all those who participated in this editorial adventure. And, using the words of a great: “….and this is just a first step to climb the mountain….”. Let us try to change together routinely daily work and give a new direction to our scientific and surgical future of hysteroscopy.

It is not known how many people have dreams that are expressed with open eyes by each of us in life. The man is a genius when he is dreaming and, when he dreams, the man is a giant that devours the stars. Make some nice dreams. Indeed, let them together. Together they are worth more.

AD MAJORA!

Andrea Tinelli
The fallopian tubes measure between 7 and 14 cm in length. They are composed of three layers: mucous, muscular and serous layer. The mucosal layer is located directly under the muscular layer that is formed by bundles of smooth muscle fibers with a circular arrangement in its interior and longitudinal fibers in the exterior. The proximal tubal opening is called ostium tubaricum and plays an important role in the prevention of retrograde menstruation, in the transport of spermatozoa and in the transport of the embryo to the uterine cavity.

Polyps at the level of the tubal ostium present as small, well-defined lesions. According to Reasbeck, benign polypoid lesions in the intramural tubal portion are found in up to 10% of hysterosalpingograms performed on infertile patients. Many of these polypoid lesions are visible through hysteroscopy if the hysteroscope is placed close enough to the ostium. Interestingly, in a series of 52 polyps of this location resected by Gordts, all of them were made of endometrial tissue, despite the tubal location. Rarely they produce total obstruction of the lumen, and although the role they play in infertile patients is unclear, more and more authors believe that there is a clear relationship between tubal polyps and infertility.
INTERVIEW WITH...

Dr. Franklin Loffer has earned respect and admiration from the hysteroscopic community. With illusion and constant work he has promoted hysteroscopy worldwide

You started with Dr. Rodolfo Quiñones in Mexico. How were those initial steps?

I taught myself laparoscopy in 1971 by reading the 3 monographs that were available. At that time the main laparoscopic surgical procedure was sterilizations. When I learned that Dr. Quiñones was doing office hysteroscopic sterilizations under local anesthesia I thought it would replace the laparoscopic approach and spent a week in Mexico City observing his technique.

While I never used the electrical sterilization technique I began to use the hysteroscope in 1973 under local as an office diagnostic procedure. My concerns about the electrical hysteroscopic technique he and others were using was later justified (Darabi KF, et al. Obstet Gynecol.1977; 49:48-54). In the early 1980s I successfully sterilize 265 women as one of the investigators studying the silicone plug.

Since the first use of a resection loop in gynecology in 1978 there have been a lot of changes. What do you think about these changes?

Prior to this time the small size of hysteroscopic scissors and biopsy/grasping forceps greatly limited the surgeon's surgical options. The introduction of the resectoscope allowed many new intrauterine procedures to be done. It was at that time the hysteroscopy went from being primarily a diagnostic tool to an operative one.

What's your opinion about the new devices which simplified the procedures?

It is my opinion the resectoscope is still the primary hysteroscopic surgical tool. The value of these newer devices has been to primarily make the learning curve for new hysteroscopist easier. But they do not replace the resectoscope and are much more expensive. The miniaturization of the telescopes has been of great help however.
What would be the role of the international societies in the learning and training of hysteroscopy?

Hysteroscopic learning and training varies between different countries depending on where post medical school gynecological training takes place. Although not universally true all who are trained in gynecology should be proficient in its use. Until then international societies will have to fill the voids. But societies always will be the place where knowledge can be exchanged between surgeons.

” It is my opinion the resectoscope is still the primary hysteroscopic surgical tool”

Is there still a place for endometrial ablation in modern gynecology?

Absolutely yes! Long term results in appropriately selected patients are very good. Remember Goldrath introduced the procedure to allow women to avoid a hysterectomy for menorrhagia. As the second person to do endometrial ablation I did the same and I have achieved good longstanding results.

Unfortunately many others have treated inappropriate patients which have resulted in poor outcomes. Since endometrial ablation cannot guarantee amenorrhea patients with the complaint of irregular bleeding may not be helped.

Patients with postmenopausal bleeding by definition are not menstruating and may have other significant pathology. And dysmenorrhea, unless caused by the passage of blood clots, may have other causes not helped by endometrial ablation.

” But societies always will be the place where knowledge can be exchanged between surgeons. ”

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

By in large the gynecological world today is minimally invasive surgery. Young physicians are well advised to attempt only those procedures for which they have had adequate training. If they are not trained they should either seek a mentor to help them or refer the patient.

All gynecologists will deal with the very common problem of abnormal bleeding. A D & C is not an appropriate diagnostic approach. At a minimum all should be able inspect the uterine cavity by hysteroscopy.

Diagnostic hysteroscopy is not a difficult procedure to learn.
Brief Review

Intrauterine Adhesions Classifications

The first reference to the presence of intrauterine adhesions was made by Heinrich Fritsch in 1894 in a patient who developed secondary amenorrhea after a postpartum curettage (Fritsch H. Ein fall von volligem schwund der gebormutterhohle nach auskratzung Zentralbl Gynaekol 1894; 18: 1337-42).

Although it was not until 1948 that Professor Joseph Asherman of the Hadassah Hospital of Tel-Aviv published the first article on the pathology that bears his name and which he defined as traumatic amenorrhea (Asherman JG. Traumatic amenorrhea. Obstetrics and Gynecology of the British Empire, 1948; 55 (1): 23-30). Since then, interest in this syndrome has been increasing mainly due to the development of hysteroscopy and its relation to secondary infertility.

The correct definition of the pathology should be that of intrauterine adhesions, reserving the concept of Asherman Syndrome for those cases in which these adhesions are accompanied by amenorrhea as a result of a total obliteration of the uterine cavity. Indeed, this differentiation between intrauterine adhesions and Asherman syndrome is not very popular and most gynecologists use the term Asherman syndrome to denote any type of adhesions of the uterine cavity regardless of the existence or absence of accompanying amenorrhea.

The involvement of the cavity can vary from minimal adhesions to a total obliteration. These adhesions can present great variety in both their density and size. Some are so fragile that they break with the tip of the hysteroscope while others require surgical incision.

Adhesions can originate in the endometrium, the myometrium or in the connective tissue. Endometrial adhesions are usually filmy and have similar characteristics to normal endometrium.

Adhesions originating in the myometrium are the most common, are usually formed by muscular covered by endometrial tissue. The adhesions of connective tissue are fibrous and have no endometrial lining.

Some researchers have postulated that the process of adhesion formation can be progressive and that adhesions limit muscle activity, reducing the infusion of sexual steroids to the endometrium, leading to endometrial atrophy. (Al-Inany H. Intrauterine adhesions, An update, Acta obstetricia et gynecologica Scandinavica, 2001; 80 (11): 986-93.)
From the first classification proposed by Toaff and Ballas in 1978 based on the findings in the HSG (Toaff R, Ballas S: Traumatic hypomenorrhea-amenorrhea (Asherman's syndrome), Fertil Steril 1978, 30: 379-387). We highlight the first classification based on the hysteroscopic findings proposed by March in 1978. Subsequently, prof. Valle presented his classification in 1988 that divided the adhesions in mild, moderate and severe. The classification of the American Fertility Society was also presented in 1988. In 1989, the European Society of Hysteroscopy (ESH) presented its classification which was later adopted by the ESGE. Donnez and Nisolle presented a new classification based on the location and appearance of the adhesions.

The AFS presented its classification in which three parameters, the extent of the affected cavity, the consistency of the adhesions and the menstrual pattern were evaluated. This classification requires to perform a hysterosalpingogram in addition to hysteroscopy to correctly score the extension. Finally, the severity of the pathology is based on the score obtained, dividing the severity into mild, moderate and severe.

The classification of the European Society of Hysteroscopy considered the occlusion of the tubal ostium and its possible repercussion on the patient's fertility. This classification is more accurate when describing the location and consistency of the adhesions, but gives less attention to the menstrual pattern.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description of adhesions</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Thin or firm adhesions; easily ruptured by hystroscope alone; cornual areas normal</td>
</tr>
<tr>
<td>II</td>
<td>Singular firm adhesions connecting separate parts of the uterine cavity; cannot be ruptured by hystroscope sheath alone; visualization of both tubal ostia possible.</td>
</tr>
<tr>
<td>IIa</td>
<td>Occluding adhesions only in the region of the internal cervical orifice; upper uterine cavity normal</td>
</tr>
<tr>
<td>III</td>
<td>Multiple firm adhesions connecting separate parts of the uterine cavity; unilateral ablation of ostial areas of the tubes.</td>
</tr>
<tr>
<td>IIIa</td>
<td>Extensive scarring of the uterine cavity wall with amenorrhea or pronounced hypomenorrhea</td>
</tr>
<tr>
<td>IIIb</td>
<td>Combination of III and IIIa.</td>
</tr>
<tr>
<td>IV</td>
<td>Extensive firm adhesions with agglutination of uterine walls at least both tubal ostial areas occluded.</td>
</tr>
</tbody>
</table>
In the year 2000 the prof. Nasr proposed a new classification based on the hysteroscopic findings, the menstrual pattern and the patient’s reproductive history. These two parameters are important to determine the patient’s prognosis. It appears to be a promising classification but has so far been performed on a small number of patients and needs to be tested in larger groups to assess its efficacy when predicting the impact of adhesiolysis.

### Clinico-Hysteroscopic Scoring System for Intrauterine Adhesions

<table>
<thead>
<tr>
<th>Hysteroscopic Findings</th>
<th>Observation</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isthmic fibrosis</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Fimbly adhesions</td>
<td>Few</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Excessive (&gt; 50% of the cavity)</td>
<td>2</td>
</tr>
<tr>
<td>Dense adhesions</td>
<td>Single Band</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Multiple bands (&gt;50% of the cavity)</td>
<td>2</td>
</tr>
<tr>
<td>Tubal ostium</td>
<td>Both visualized</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Only one visualized</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Both not visualized</td>
<td>4</td>
</tr>
<tr>
<td>Tubular cavity (sound &lt;6)</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Menstrual pattern</td>
<td>Normal</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Hypomenorrhea</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Amenorrhea</td>
<td>8</td>
</tr>
<tr>
<td>Reproductive Performance</td>
<td>Good obstetric history</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Recurrent pregnancy loss</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Infertility</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>Group</th>
<th>Complexity and prognosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 4</td>
<td>Mild</td>
<td>Good prognosis</td>
</tr>
<tr>
<td>5 to 10</td>
<td>Moderate</td>
<td>Fair prognosis</td>
</tr>
<tr>
<td>11 to 22</td>
<td>Severe</td>
<td>Poor prognosis</td>
</tr>
</tbody>
</table>

As we can see, there are several classifications being the most commonly used the AFS and the ESGE. In the absence of a unified classification, it is difficult to compare the different series and their results. It is necessary to work in a unified classification to be used by all the hysteroscopists, reproducible and that also evaluates the results after surgery. In addition to the extent of adhesions and their consistency, the location, menstrual pattern, reproductive outcomes and residual endometrium should be considered.
DID YOU KNOW...?

Uterine Leiomyomas are very rarely seen in adolescents with only few cases reported till date.

The septate uterus is associated with the poorest reproductive outcomes and with the highest incidence of obstetrics complications.
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: Uterine septum

The great value of hysteroscopy is based on the ability to be performed as an in-office procedure. This procedure, although invasive, is safe and well tolerated by the patient. However, training and experience is needed to recognize the hysteroscopic patterns of the visualized pathology. (type of lesion, topography and morphological characteristics of each pathology).

This visual guide gathers the experience of over twenty years of diagnostic hysteroscopy that includes more than a thousand images covering physiological, dysfunctional, benign and malignant pathology, as well as other miscellaneous findings. The reader will find several images of each of the mentioned patterns, which will lead them to understand them and identify the intrauterine pathology in their daily clinical practice.
Hysteroscopy Conundrums

Comments on this HSG

Comments on this hsg? Hysteroscopy was apparently normal. How exact are hysteroscopy and HSG correlation?

José Jiménez  You can see an uterine filling defect, a small uterus, T shape uterus, short cervix, both fallopian tubes are tractioned upward and bilateral sactosalpinx

Luis Alonso Pacheco  I'm agree with José, you can see a small cavity with T shape. That's what new ESGE/ESHRE classification call clas U1 uterus. Can you share the hysteroscopy video with us?

Gururaj Deshpande  sorry, i don't have the video but cavity was quite spacious and ostia easily seen, uterus to cervix ratio was more than 2 may be U0 or U1 c may be undefined dysmorphic? I shall update you in future about fertility outcome as she is for donor insemination.

Alicia Ubeda  I would recommend hysteroscopy to assess internal morphology as it's a first-step tool in our Fertility Clinic. If T-shaped I'd suggest widening prior to donor ins

Jose Alanis-Fuentes  I agree with all the study of any malformation
MICHAEL KAMRAVA, MD  Agree with above: T shaped uterus. Unfortunately the hystero video is not posted. Hyeroscopy should show the elongated and narrow canals leading to the ostia and the shortened cervical canal

Recomendar

Gururaj Deshpande  Thanks for your valuable opinion. I had to go above IUO to visualise ostia. Is correction must before IUI?

Recomendar

Luis Alonso Pacheco  We need some Hysteroscopic patterns to exactly define this T-shaped uterus and to know when to operate. I usually correct this type of uterine malformation with a lateral metroplasty, widening the cavity.

Recomendar

Gubbini Giampietro  I agree with Luis.La metroplasty will only be possible after you have correctly assessed the three Sonography 3/D

Recomendar

Ricardo Lasmar  MRI to see the external uterus appearance and hysteroscopy to observe the mobilization and distention of uterine wall are necessary to decide any treatment or not

Recomendar

Roberto Ovando  Fusion defect

Recomendar

Jose Alanis-Fuentes  We need the best images by us 3 or 4 D o by resonance the treatment HOME-DU

Recomendar

Jose Metello  What is the US like?

Recomendar

Roberto Ovando  Is it the traction of the cervix well done? I can’t see any tenaculum

Recomendar
Hysteroscopy in acute uterine bleeding

Dr. Alejandro M. Gonzalez
Chief of Ginecological Endoscopy and Endometriosis Section
Naval Hospital Surgeon Dr. Pedro Mallo, Buenos Aires, Argentina

The use of operative hysteroscopy in acute uterine bleeding that does not respond to medical treatment is a change in diagnostic and therapeutic paradigm to improve the results, to avoid unnecessary repetition of procedures and increase significantly the diagnostic sensitivity, in addition to adapt to the international recommendations to classify HUA PALM-COEIN within the system.

The quality and quantity of material removed for biopsy, with the intact endometrium without lesions or disrupted areas without hemorrhagic material with measures that allow multiple cuts, and the presence of myometrium to evaluate the eventual depth of invasion, significantly increase the effectiveness of study.

SURGICAL TECHNIQUE

The procedure will always be operative in an operating room with a resectoscopy of 10mm, with a liquid medium which may be glycine or irrigation water, to make a good washing of the cavity, to evacuate clots and achieve a correct view.

Methodology

1. Evacuation of blood clots.
2. Bleeding control and to form the image.
3. Evaluation and endometrial biopsy.
4. Treatment of concomitant disease.
5. Endometrial surgery.

1. Evacuation of blood clots.

Clots are observed as large purplish-black masses that remove light and hide the endometrium (Photo 1). Large clots are convenient to extract with the loop resection under direct vision, the smaller usually go away alone, in the input-output movement with the resectoscope. To achieve this effect you will need a good continuous flow of glycine, with good pressure and adequate intracavitary recirculation circuit.
2. Bleeding Control and to form the image.
   After the evacuation of intracavitary blood and clots, different possibilities can be found
   a) Visible active bleeding with single vessel
   b) Visible active bleeding with multivessel (Photo 2)
   c) Endometrial bleeding superficial and homogeneous.
   d) Unidentifiable bleeding.

   The visible active bleeding with single vessel usually seen in lesions of nutrient vessels of polyps or submucosal leiomyoma. The presence of multivessel bleeding is characteristic of neoplastic lesions for breaking newly formed vessels, causing the most difficult to control acute bleeding.

   Endometrial bleeding superficial and homogeneous usually occurs in the hormonal disturbances and hyperplasias, where a uniform, usually not serious, across the endometrial surface bleeding is observed.

3. Evaluation and endometrial biopsy.
   The next step is the evaluation and biopsy of the endometrium. You will be made it with the cutting loop in the most representative area, and according to age group and pathology may include the underlying myometrium.

4. Treatment of concomitant disease.
   Myomectomy.
   Polypectomy.
   Removing suspicius lesionsç
   Removing retain products of conception.
   Removing intrauterine device

5. Endometrial surgery
   Hysteroscopy techniques:
   • Parity fulfilled and perimenopausal: Deep endometrial resection to muscle up (white plane) (Photos 3,4).
   • Desire parity: Superficial endometrial resection preserving basal layer of the endometrium. Selective endometrial bleeding.
   • Postmenopausal Superficial endometrial ablation with Roller-Ball
Global Congress on Hysteroscopy
Barcelona 2-5 May 2017

Preliminary Scientific Program
Wednesday 3rd May 2017
08:00 - 08:30: Registration, coffee, exhibition and poster viewing.
08:30 - 10:00: Presidents welcome and opening ceremony
10:00 - 10:30: Coffee Time

MAIN HALL
10:30 - 12:15: Hysteroscopy Basics
Vaginoscopic approach
Stefano Bettocchi, Italy
How to set up a hysteroscopic unit
Antonio Simone Laganà, Italy
The use of anaesthesia in hysteroscopy
Malcolm Gordon Munro, USA
"In office" hysteroscopy
Alicia Ubeda Hernández, Spain

ROOM 1
10:30 - 12:15: Uterine malformations
What is new about the classification?
Grigoris Grimbizis, Greece
Uterine septum
Osama Shawki, Egypt
Unicormate uterus: is there a place for the hysteroscopic management
Sunita Tandelwadkar, India
Role of the 3D in the evaluation of the uterine anomalies
Betlem Graupera, Spain

ROOM 2
10:30 - 12:15: Hysteroscopy and Menopause
Postmenopausal bleeding and hysteroscopy: Overview
Tirso Pérez Medina, Spain
Pain control in hysteroscopy in postmenopausal women
Maite López-Yarto, Spain
How thick is too thick? Endometrial cut-off in postmenopausal patient
Lotte Cleinh, Denmark
Hysteroscopy or curettage?
T. Justin Clark, UK

ROOM 3
10:30 - 12:15: Improving pregnancy Rates
Hysteroscopic embryo transfer
Michael Kamrava, USA
Hysteroscopy in patients with repeated implantation failure
Alka Kumar, India
Outpatient hysteroscopy in Recurrent pregnancy loss
Roberto Liguori, Italy
Dysmorphic uterus and pregnancy outcomes
Attilio Di Spiezio Sardo, Italy

MAIN HALL
13:45 - 15:15: Hysteroscopy and ART
Hysteroscopy before in vitro fertilisation (InSIGH)
Grigoris Grimbizis, Greece
Hysteroscopy in improving reproductive outcomes of infertile couple
María Luisa Spinelli, Italy

Utterine Causes of Infertility. What’s new?
Xavier Santamaria, Spain
Refractory Endometrium and Hysteroscopy
Jaime Ferro, Spain.

MAIN HALL
15:45 - 17:15: Hysteroscopy and drugs
Tamoxifen: an update
J. Jimenez, Spain
How the ulipristal acetate affects the hysteroscopic myomectomy?
Giuseppe Bigatti, Italy
Endometrial presurgical preparation
Raffaele Tinelli, Italy
How to overcome a resistant cervix for hysteroscopy
Alessandro Favilli, Italy

ROOM 1
15:45 - 17:15: Oncology
Endometrial Hyperplasia and Focal Endometrial Cancer
Luca Mencaglia, Italy
Hysteroscopy classification for endometrial cancer
Su Hsuan Taiwan, Taiwan
Early stages, is there a place for hysteroscopic treatment?
Francesca Guatina, Italy
Is there retrograde seeding of malignant cells?
Hua Duan, China.

ROOM 2
15:45 - 17:15: Pros and cons
Uterine septum: always correct?
Marco Cergolet, Italy, & Grigoris Grimbizis, Greece
Intrauterine pressure during hysteroscopy
Ichhandy Arief Rachman, Indonesia, & Vasillis Tanos, Cyprus

ROOM 3
15:45 - 17:15: Hysteroscopy in Contraception
Hysteroscopy and contraception: an overview
Andreas de Heer Thurkow, The Netherlands
Side effects review. Is there a problem?
Pierre Panel, France
Managing difficult insertion and removal
Sebastiaan Veersema, The Netherlands
Essure and IVF
Hervé Hernandez, France

17:45 - 18:45: Free & video communications

Thursday 4th May 2017
MAIN HALL
08:30 - 10:00: Submucous Myomas
Is the distance between myoma and serosa a limiting factor?
Pao Casadio, Italy
Physiology and Importance of the myoma’s Pseudocapsule
Andrea Tinelli, Italy
Hysteroscopy Myomectomy: respecting the pseudocapsule
Ivan Mazzon, Italy
Hysteroscopic Myomectomy: Don’t let your resectoscope become obsolete
Linda D. Bradley, USA.
10:00-10:30: Coffee Time

**MAIN HALL**
10:30-12:15: Cesarean scar defect
   - Why some women develop CSD? 
   - Surgical management of cesarean scar defect
   - Marlo Franchini, Italy.
   - Hysteroscopic treatment of the cesarean-induced isthmocoele in restoring infertility.
   - Giampietro Gubbin, Italy.
   - Pregnancy over cesarean scar defect
   - Ospan Mybav, Russia.

**ROOM 1**
10:30-12:15: Adenomyosis
   - Adenomyosis: overview
   - Hysteroscopic patterns of the adenomyosis
   - Rudi Campo, Belgium.
   - Cystic adenomyosis
   - Rahul Manchanda, India.
   - Hysteroscopy changes in the endometriosis station
   - Tamer Seckin, USA.

**ROOM 2**
10:30-12:15: Endometrial ablation
   - Systems and methods for endometrial ablation
   - Natasha Waters, UK.
   - Predictors of endometrial ablation failure
   - Aarathi Chokkeri-Singh, USA.
   - Complications during Endometrial Resections
   - Bruno J. van Herendaal, Belgium.
   - Is there still a place for it in modern practice?
   - Linda D. Bradley, USA.

**ROOM 3**
10:30-12:15: Pregnancy related
   - Embryoscopy today
   - Thomas Philipp, Austria.
   - Performing hysteroscopy during pregnancy
   - José Alanis Fuentes, Mexico.
   - Cervical ectopic pregnancy
   - Vasilis Tancs, Cyprus.
   - Retained Products of conception, Hysteroscopic management
   - Luis Alonso Pacheco, Spain.

**MAIN HALL**
15:45 – 17:15: Submucous Myomas and Office Hysteroscopy
   - Myoma’s classification and correlation with surgical outcome
   - Ricardo Lasmak, Brazil.
   - New devices and techniques: what are the limits?
   - Cinta Vidal Mazo, Spain.
   - Medical preparation / treatment previous to hysteroscopy
   - María Luisa Cañete Palomo, Spain.
   - Strategies in office hysteroscopy
   - Sergio Haimovich, Spain.

**ROOM 1**
15:45-17:15: Infections / Inflammations
   - Chronic Endometritis
   - Ettore Cicinelli, Italy.
   - TBC and Hysteroscopy
   - Sushma Deshmukh, India.
   - Role of Hysteroscopy in proximal tubal occlusions: Hysteroscopic tubal catheterization
   - Shlomo Cohen, Israel.
   - Is the use of prophylactic antibiotics for hysteroscopy necessary?
   - Pasquale Florio, Italy.

**ROOM 2**
15:45-17:15: Curiosities
   - Osseus metaplasia
   - Eric Cayuela Font, Spain.
   - Complex Uterine malformations and hysteroscopy
   - Nash Moawad, USA.
   - IUD’s: hysteroscopic removal and uses after uterine procedures
   - Mark Levine, USA.
   - Vaginal lesions diagnosed with hysteroscopy
   - Brunella Zizolfi, Italy.

**ROOM 3**
15:45 – 17:15: Asherman
   - Asherman’s Syndrome: office-based treatment
   - Keith Isaacson, USA.
   - Adhesions and abortion
   - Jude Okohue, Nigeria.
   - Hysteroscopic treatment of Asherman’s Syndrome
   - Mark Hans Emanuel, The Netherlands.
   - Prevention of the adhesion reformation after hysteroscopic surgery
   - Narendra Malhotra, India.

17:45 – 18:45: Free & video communications

**Friday 5th May 2017**
08:00-08:30: Breakfasts with...
09:00 – 11:00: The Future of Hysteroscopy
09:00 – 11:00: Hysteroscopy Trainees Session
09:00 – 11:00: Expert meeting
09:00 – 11:00: What’s your idea?   Innovation in Hysteroscopy
Despite heterogeneity in the diagnostic criteria and in patients type, hysteroscopic detectable pathology is quite common in infertile patients. Molinas and Campo, categorized findings as major if they have significant anatomic distortion of the cavity or mild if they do not.

For example, a review by Lasmar in 2010 reported that 54% patients had identified anomalies, including adhesions (19.4%), endometrial polyps (12.1%), submucosal myomas (4.9%), endometrial hyperplasia (4.1%) and uterine malformations (3.4%). Other works present with different numbers.

**POLYPS**

Endometrial polyps are benign, localized overgrowths of endometrial glands and stroma covered by endometrial epithelium.

Several authors agree that polyps may interfere with fertility, both by natural conception and intrauterine insemination. There are only few reports assessing the effect of endometrial polyps on IVF/ICSI cycles. In a study by Isikoglu et al, endometrial polyps <1,5cm discovered both before or during IVF/ICSI cycles did not seen to affect implantation and pregnancy rates. Lass et al, claimed that polyps <2cm did not decrease pregnancy rates but increased miscarried rates. In this chapter we are going to analyses the factors that can influence the presence of endometrial polyps and the fertility of the women. Also studies have shown a higher frequency of endometrial polyps in patients with endometriosis compared those without the disease. Shen et al found endometrial polyps in 68,35% of the patients with endometriosis, compared with 20,51% in the control group.

**Infertility**

The polyps are often asymptomatic but they can sometimes cause menstrual irregularities such as intermenstrual bleeding. They are commonly identified during the investigation for abnormal uterine bleeding and infertility. Little is know about the association between endometrial polyps and fertility. The mechanism by which polyps may adversely affect fertility is also poorly understood but may be related to mechanical interference with sperm transport, embryo implantation, or through increased production of inhibitory factors such as glycodelin. Among other possible mechanism, the most empathized is an inflammatory process caused by the polyp acting in a similar way as an intrauterine device. Anatomical distortion of the endometrial cavity is another postulation and focuses mainly in the diminished volume of the endometrial cavity. There are a lot of postulations about a single or multiple mechanisms by why the polyps affect the endometrial receptivity.

In the normal patient glycodelin has an important and isolated peak of secretion at mid and late luteal phase, 6 days following the LH peak but in investigation using endometrial flushing in patients with polyps and fibroids, the investigators find a high concentrations of this glycoprotein in the proliferative phase compared with control group, and no increase at the luteal phase.
This absent of elevation can be in relationship with a deficiency in maternal immunosuppression during the window of implantation that can lead to a rejection of the pre-implantatory blastocyst by the maternal immune system. Okamoto et al, demonstrate that glycodelin has immunosuppressive properties through it suppression of natural killer cell activity; witch we know may protect the embryo.

Other important glyprotein factor for the embryo implantation, is the **Insulin growth factor binding protein-1 (IGFBP-1)**, with effects on decidualization, implantation and trophoblast invasion, and is secreted principally at the luteal phased and decidualized stromal endometrial cells. Is a major protein product of the non-pregnant endometrium during middle- to late-secretory phase. The presence of a polypoid lesion within the endometrium may alter the secretion of IGFBP-1 from the glandular epithelium resulting in significantly lower concentrations in women with polyps. Theoretically, low concentrations of IGFBP-1 may result in inadequate endometrial decidualization and failure of implantation in women with endometrial polypoid lesions.

**Cytokines** are produced by the human endometrium and are important mediators between the embryo and decidua during implantation. Investigators have shown that there are significantly higher concentrations of CD4+ T-helper 2 cells producing interleukin-4 (IL-4), interleukin-6 (IL-6) and interleukin-10 (IL-10) in decidua from women with normal reproductive histories compared with women with recurrent miscarriages. The secretion might be altered when polyps are present and its removal seems to alter the pattern of secretion of the IL-6 and IL-10 throughout the menstrual cycle. It is therefore possible that low concentrations of IL-10 indicate an aberrant response to the implanting blastocyst in women with endometrial polyps.

**Tumor necrosis factor-α (TNFα)** is known to be one of the most versatile cytokines. It is speculated that TNFα promotes DNA synthesis in the early proliferative phase and participates in cell differentiation and tissue remodeling, which is required to support embryonic attachment. TNFα also facilitates apoptosis and therefore initiates menstrual shedding. Abnormal TNFα expression may be a contributory factor in the role of endometrial polyps in infertility and miscarriage. Ben-Nagi et al found that the TNFα concentration was significantly higher following surgical polypectomy. The secretion of TNFα also increased throughout the menstrual cycle after removal of polyps reaching its peak in the secretory phase. This observation is concordant with previous findings.

**Osteopontin** is a progesterone-regulated glycoprotein component of the extracellular matrix. It is secreted by the glandular epithelium of mammalian uteri and later by the decidualized stroma. Osteopontin is recognized by the integrin family to facilitate cell–cell attachment and adhesion. Ben-Navi et al showed that endometrial polyps significantly affect the concentration of osteopontin in the mid-secretory phase. Von Wolff et al demonstrated that osteopontin concentrations in uterine secretion were low in the proliferative phase and increased 3- to 4-fold in the secretory phases of the menstrual cycle. The lower concentrations and lack of increase in the secretory phase found in the pre-polypectomy patients suggest the negative effect of polyps on osteopontin secretion, which may contribute to the failure of the pre-implanting blastocyst to attach to the decidua in women with endometrial polyps.

The pathophysiological mechanisms by which endometrial polyps cause significant reduction of IGFBP-1, TNFα and osteopontin concentrations in uterine flushings are unclear. Endometrial polyps differ from the surrounding endometrium and they contain extensive fibrotic stroma and dilated thick-walled blood vessels. This abnormal endometrial architecture may be the cause of the impaired secretion of implantation factors. Furthermore, endometrial polyps also have decreased expression of hormone receptors in the stromal component.
The glands and stroma of the polyps are unresponsive to progesterone stimulation. This may cause abnormalities in the secretion of progesterone-regulated endometrial markers in the presence of endometrial polyps. A polyp may also cause mechanical blockage of the lumen of the glandular epithelium, which could also lead to decreased concentrations of implantation factors.

There are papers that demonstrated a reduction in the mRNA expression of HOXA 10 and HOXA 11 in patients with asymptomatic endometrial polyps compared with patients without it. HOXA 10 and 11, are known molecular markers of endometrial receptivity, and is also decreased in patients with sub mucosal myoma.

In most cases, the endometrial polyp presents itself as a single lesion and it is mostly located close to the uterine fundus. The question whether the localization of the endometrial polyp has an effect on pregnancy rates is also challenging. Tiras et al study failed to show any effect of the endometrial polyp localization on pregnancy rates. However, the observation from non-controlled trials that pregnancy rates are higher after removal of tubocornual polyps than after removal of polyps situated in other intrauterine locations suggests that tubocornual polyps may have a different effect on reproductive function. Besides, polyps in the isthmocervical part of the uterus may preferentially interfere with sperm transport.

Instead, there are a lot of postulations about a single or multiple mechanism by why the polyps affect the endometrial receptivity, is clear that the polyps produce alterations at various levels, anatomic, genetic expression, immunologic modulation, etc., and its necessary its remotion to reverse this changes.

Treatment

There is Class II evidence that polyps may spontaneously regress in approximately 25% of cases, with smaller polyps more likely to regress compared with polyps over 10 mm in length. However this option might not be the best in the infertile women.

In their study, Spiewankiewicz et al obtained a 76% pregnancy rate in one year, after hysteroscopic removal of the endometrial polyp among 25 infertile patients. Varasteh et al reported a similar 78% cumulative pregnancy rate after hysteroscopic polypectomy in cases of female infertility. In another study, investigating the effect of endometrial polyps on pregnancy rates in IUI cycles, Perez-Medina et al studied subfertile women with sonographic diagnosis of endometrial polyps trying to conceive for at least 24 months and planned for IUI. The polyps were detected in 452 of 2800 (16.1%) consecutive patients scheduled for IUI and after hysteroscopic removal of endometrial polyps there was a 63% cumulative pregnancy rate compared with 28% in the control group (relative risk (RR) 2.3). Interestingly, 65% of all pregnancies in the polypectomy group occurred before the first IUI cycle was started, resulting in a spontaneous pregnancy rate of 29% in the polypectomy group versus 3% in the control group (RR 10, 95% CI 3–30). The pregnancy rate after surgery at the uterotubal junction was significantly higher than that of other locations.

Technique

Hysteroscopy and electrosurgical removal of polyps is both commonly available and of relatively low cost. Visualization and direct removal is reported to be effective and reduces recurrence rate compared with the use of vision and removal by polypectomy forceps. Other instruments include bipolar systems and the hysteroscopic morcellator, although these techniques may be limited by availability and the cost of disposable and specialized equipment.

Intrauterine adhesion risk is low after polypectomy, because the myometrium is not incised. A class 1 study reports no adhesions after hysteroscopic polypectomy.
Firefly DE1250 is the industry’s first wireless compact digital Endoscope Camera with image and video capture capabilities. It provides unprecedented viewing convenience with popular rigid and flexible endoscopes. Besides endoscopic examinations, this powerful tool can also be used for teaching applications, for EMR (Electronic Medical Records) as well as for patient education. Unlike older endoscope cameras, the DE1250 delivers these breakthrough capabilities - and much more - at a highly economical cost.

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CASE REPORT
An Unusual Case of an Asymmetric Uterine Septum with Bladder Endometriosis
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INTRODUCTION
Mullerian anomalies are present in 2-4 percent of the population. Although the uterine septum is the commonest uterine anomaly (90% of all anomalies) [1], the obstructing asymmetric uterine septum (Robert’s uterus) is an extremely rare anomaly presenting with severe cyclical dysmenorrhoea, regular menstruation and with clinical features often mistaken for obstructed uterine horn of a bicornuate uterus and endometriosis. Here, we present a case of missed diagnosis of a Robert's uterus with extragenital endometriosis.

CASE REPORT
A 24 year old, unmarried lady presented at our clinic with complaints of severe dysmenorrhoea since 6 to 7 years. The dysmenorrhoea was not completely relieved by non-steroidal antiinflammatory drugs (Ibuprofen 250mg three times a day or Aceclofenac 100mg twice a day). The pain was severe enough to enforce her to undergo complete rest at home during her menses.

The woman had undergone an exploratory laparotomy 4 years earlier for suspected intestinal obstruction. During the surgery, her right Fallopian tube was removed due to hematosalpinx in that tube. Further details of the surgery were not available. However, following the surgery, she was administered anti-tuberculous drugs for 6 months on clinical suspicion of abdominal tuberculosis.

On clinical evaluation her vital parameters were unremarkable. Per abdominal evaluation revealed a midline vertical surgical scar extending both above and below the umbilicus. There was suprapubic tenderness on deep palpation. Per vaginal examination was not done since she was unmarried and not sexually active.

Her hematological investigations were normal. Hemoglobin was 12.2 grams %, CBC 9450 / cmm, platelet count 3.2 lacs / cmm, TSH 2.8 U / L and her HIV / HbsAg / HCV & VDRL serology was negative. Her serum CA125 was 78 U / L. Ultrasound revealed a hyperechoic collection on right side of the uterus. MRI revealed a unicorneate uterus with rudimentary right uterine horn containing hematomata. There was also a heterogenous collection between the right horn of the uterus and the anterior abdominal wall (Fig. 1).

Fig. 1- MRI showing hematoma in right uterine horn with endometriotic deposit between uterus and anterior abdominal wall
A decision was taken to perform an operative endoscopy. Under general anesthesia, a Verres needle was placed in the Palmer’s point for creating pneumoperitoneum followed by placement of a primary supraumbilical 10mm cannula. Three accessory cannulas were placed with on the left side and one on the right of the abdomen.

Dense adhesions were found between the omentum, bowel and anterior abdominal wall. These were lysed. Dense adhesions between the omentum, distal ileum, rectosigmoid, uterus and both adnexae were lysed (Fig. 2). Both ovaries, left Fallopian tube and uterus were freed from the adhesions. The right Fallopian tube was absent. A 4cm by 4cm mass was noted between the uterus and the dome of the bladder. As we excised the mass, we noted that it was infiltrating the dome of the bladder. The dome of the bladder was opened and the mass excised after noting that the ureteric orific were away from the lesion (Fig. 3). The bladder was sutures in 2 layers with No. 2-0 Polyglactin 910 continuous suture (Fig. 4).

A single uterus was noted. Hence an intra-operative ultrasound was performed. This revealed a hematometra in the right half of the uterine cavity. A diagnosis of a Robert’s uterus was made. A 28Fr resectoscope with monopolar Collins knife was introduced through the single cervix into the left half of the uterine cavity. Glycine was used as the distension medium. The intervening septum between the two cavities was divide midway between the fundus and cervix till hematometra fluid started pouring out (Fig. 5). This was drained and the stretched out obstructed cavity was inspected. The septum was incised with the monopolar knife craniocaudally upto the isthmus proximally and the fundus of the normal half of the uterine cavity distally (Fig. 6). A number 8 Foley’s catheter was placed under hysteroscopic guidance in the obstructed cavity with the balloon distended to 4cc of normal saline (Fig. 7). The whole procedure was performed under guidance of a trans-abdominal ultrasound. The laparoscopy ports were removed and incisions sutured with 3-0 Nylon interrupted sutures which were removed after 7 days.

Along with 3 doses of injection Ceftriaxone-Sulbactam 1.5grams IV, the woman was administered tablet Aceclofenac 100mg twice a day for 3 days, Tab Omeprazole 20mg twice a day for 3 days and tablet Estradiol valerate 2mg twice a day for 14 days which was followed by tablet Medroxyprogesterone Acetate 10mg twice a day for 5 days to induce withdrawal menstruation. A 3D ultrasound performed 6 weeks after the primary surgery revealed a small indentation at the fundus suggestive of a residual septum. A check hysteroscopy was performed 2 weeks later. The communication between the two cavities was found to be intact with slight constriction at the margins (Fig. 8). This opening was refashioned by cutting proximally and distally with a hysteroscopic scissors till a normal cavity was noted. This procedure was performed under ultrasound guidance. A 3D ultrasound performed 2 months after the procedure revealed a normal uterine cavity with a flat broad fundus. The woman is menstruating regularly with occasional and minimal dysmenorrhoea since 1 year.

DISCUSSION

Obstructing Mullerian anomalies such as a transverse vaginal septum and functioning rudimentary uterine horn are one of the differential diagnosis in adolescent girls with severe dysmenorrhoea with or without endometriosis and with or without amenorrhoea [2]. Robert’s uterus which is the presence of an asymmetric intrauterine septum obstructing one half of the uterine cavity was described by HG Robert in 1969. It is one of the rarest obstructing Mullerian anomalies [3].
Although Mullerian anomalies are known to be associated with pelvic endometriosis following Sampson’s theory of retrograde menstruation, their association with deep infiltrating endometriosis is uncertain. Our patient had pelvic and abdominal adhesions without any gross evidence of intraperitoneal endometriosis. It is possible that the bladder endometriosis which is a form of deep infiltrating endometriosis arose de novo, through retrograde menstruation and implantation or iatrogenically through disruption of the peritoneal barrier during the previous laparotomy for acute abdomen where the right hematosalpinx was excised.

Bladder endometriosis accounts for 90% of all urinary tract endometriosis [4]. Surgical treatment is warranted in case of failure of medical therapy. Surgical treatment involves excision of the implants with surrounding strip of normal bladder muscularis and mucosa. Recurrence following complete excision is rare [5].

Robert’s uterus, being an extremely rare anomaly, requires a high index of suspicion. It may not always be diagnosed on ultrasound which shows a normal uterine cavity in one half of the uterus with hematometra in the other. The primary diagnosis is often obstructed rudimentary horn of a unicornuate uterus. MRI usually clinches the diagnosis since it shows a septum without complete separation of the two halves of the uterus on T2W imaging and hematometra in one hemicavity on T1W imaging [6].

Awareness of this condition along with correct diagnosis intraoperatively is extremely essential. Intraoperative ultrasound with laparoscopic visualization of a single broad if asymmetrical fundus (due to distention of one half of the cavity) helps achieve a correct diagnosis. Unfortunately, there have been numerous cases of wrong diagnosis and incorrect treatment including mutilating procedures such as hysterectomy and excision of a hemiuterus [7]. This is detrimental for future fertility since these procedures reduce uterine cavity volume, scar the uterus, provide a nidus for adhesion formation and also entail removal of the Fallopian tube of the obstructed horn which can be a route for gamete transport if not damaged.

The treatment of choice is hysteroscopic excision with laparoscopic and ultrasonic guidance to help determine the depth and direction of dissection of the septum. The septum must be cut distally using the normal fundus as a guide and not the stretched fundus of the obstructed horn [8]. Postoperative estrogen, although often administered, is of uncertain benefit. A 3D ultrasound few months after the primary procedure is adequate to confirm complete division of the septum.

To conclude, Robert’s uterus is a rare obstructing Mullerian anomaly causing cyclical dysmenorrhea and, sometimes, endometriosis. Correct preoperative and / or intraoperative diagnosis is of essence to avoid improper treatment. Hysteroscopic metrplasty with laparoscopic and ultrasound guidance is the treatment of choice for resolution of symptoms and maintain uterine volume and integrity in view of future fertility.

REFERENCES

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

HYSTEROSCOPY

Editorial teaM

It almost seems like it was yesterday when I had the honor of writing the First Editorial of Hysteroscopy Newsletter (Mar-Apr2015; vol1; issue2). Time is running fast, almost without realizing it !!.

About this time, two years ago I was talking about the power of the internet, social networks and the key moment of the diffusion of digital information among professionals. That is why, 2 years ago, this bimonthly publication was born. As a result of an illusion, digital communication at a distance, interest and love for hysteroscopy and the altruistic work of great professionals.

That editorial finished with the following sentence: “Help us make Hysteroscopy Newsletter a more active and comprehensive publication. Help us to disseminate in the 2.0 world!”

Therefore, now I can only thank all our readers and collaborators of the Newsletter for the great welcome and response to the appeal of our first editorial. Your reaction has been enormous !! Thanks to all the professionals who provided their collaboration in each new issue that we launched, and Thanks to all the professionals that enjoy the Newsletter and contributed to its diffusion among colleagues and friends. Two years later, thanks to your collaboration, we are present in 148 countries. It is entrancing for everyone to take a look at a map so full of color with the last number !!

If we search for meanings of the word Revolution we can find: “Popular uprising or uprising” ... “Disorder or riot produced by a large number of people” ... “Fast and deep changes in anything” ... We can talk two years later that we are wrapped in a real "Hysteroscopy Revolution".

So from here, what else can I ask for? How to finish this new editorial two years later?

“We are approaching to the First World Congress of Hysteroscopy, probably at the gates of a before and after era in the world of hysteroscopy ... Enjoy, learn, participate, share .... HYSTEROSCOPY NEWSLETTER !! ”

Dra. Laura Nieto
Hospital Universitario Reina Sofia. Spain