

N HYSTEROSCOPY NEWSLETTER

The present light weight, narrow diameter, well illuminated, clarity of picture hysteroscope, allowing both diagnoses and treatment, has been achieved after a journey of nearly three and a half decades, crossing several continents and involving many nationalities.

It was first just a glimmer of light, in the eye of Al Quasim. 90 years later Philippe Bossini kick started the process. He was an Italian, exiled with his family in Germany, interested in philosophy, chemistry, and maths. He appreciated the need to look inside hollow organs using a small hole to reach the area, thus leading to the term “minimal invasive surgery”. He combined the use of candlelight and mirrors, so that in 1805 he announced in the papers that it was possible to illuminate and visualize deep-seated organs in the body. The light mechanism he devised is still used in the Mercedes Benz factory!

After this there was a hiatus, which extended over many years. Antoine Jean Desormeaux of France, devised a tubular instrument which he called “endoscope” to examine the bladder. Commander D C Pantaleoni of Ireland modified this and 60 years after Bossini’s death used it on a patient who was bleeding off and on. They were able to diagnose a polyp in the uterine cavity, remove it and cauterize. Thus for the first time combining diagnosis and treatment through the hysteroscope. Sadly it did not gain popularity, indeed was reviled for its poor visibility, due the muscular walls collapsed on each other and blood in the field, Obscuring the lens.

After another 100 years Jacques Hamou revolutionized hysteroscopy. He built a scope of 5 mm, which carried a rod lens of 4 mm of improved visual optics and guided the distension media to the cavity. This eventually led to “the traditional technique”, which involved a vaginal speculum, a tenaculum; often-cervical dilatation was necessary, which meant that the whole had to be done with Anaesthesia and in a operating theatre. Which necessitated a longer hospital stay, greater discomfort and expense. Liquid media and co2 were used.

In early 1990 and onwards, several improvements were introduced. The major one, diameter of the scope was reduced to 2mm, by Bettocchi without compromising the visibility and quality of work. The no touch technique did away with the speculum, the tenaculum, need for dilatation and operating theatre. Procedures could be carried out in the OPD, suddenly making it a hugely popular device to diagnose, plan further surgery and carry out a variety of extensive surgical procedures. The instrument has evolved from a diagnostic tool to one where treatment can be carried out, using isotonic solution and in a out patient setting.



It is not possible to forecast when the procedure will reach its full potential or what the “potential” is. It is essential for both the scientists and doctors to strive to go that little further.

It is important that hysteroscopists all over the world keep in touch with each other so that these latest improvements and advances can be shared and translated into benefits for the patient.

Rahul Manchanda & Prabha Manchanda

INSIDE THIS ISSUE



<i>Welcome</i>	1
<i>Hysteroscopy Pictures Dysmorphic Uterus</i>	2
<i>Interview of the month Jacques Hamou</i>	3
<i>Brief Review Hysteroscopic Endometrial Embryo Delivery (HEED)</i>	5
<i>Conundrums Blue small Balls? What's your opinion about?</i>	10
<i>Memories of the Congress</i>	13
<i>Hysteroscopy & Fertility An Update (III)</i>	16
<i>Best Oral Communication 20 Assessment of uterine contractility in women with Type 3 leiomyoma</i>	20

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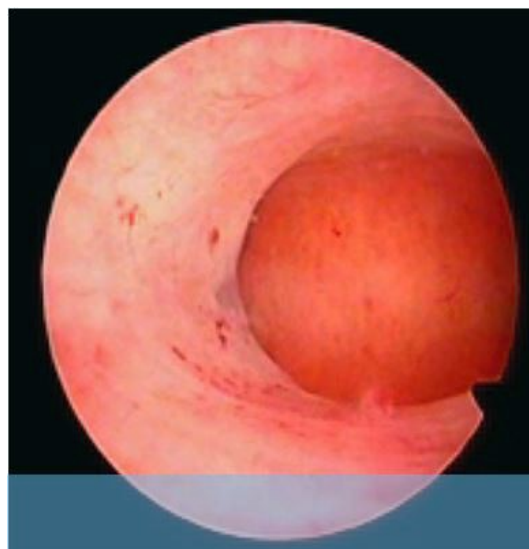
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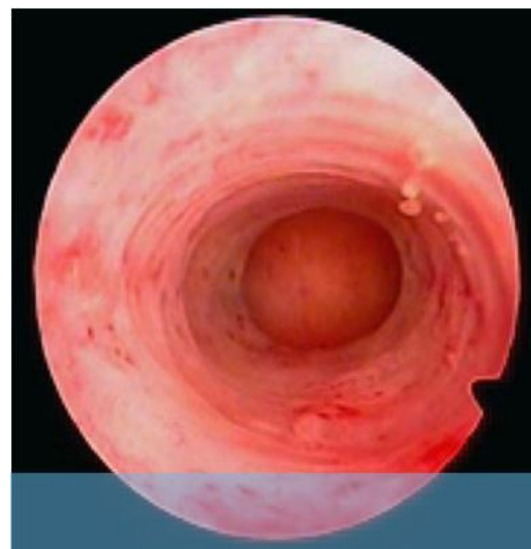
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PICTURES

*Lateral wall of a
Dysmorphic uterus*



*Tubular Shape of the
uterine cavity*

The new classification system of Müllerian anomalies developed by the ESGE/ESHRE CONUTA working group has dedicated a specific interest to those uteri, named “dysmorphic”, characterized by a normal outline but with an abnormal lateral wall’s shape of the uterine cavity (i.e. T-shaped uterus and tubular-shaped/infantilis uteri). These uteri are associated with infertility and pregnancy loss and in the previous American Fertility Society classification were included in class VII and mainly related to diethylstilbestrol-related (DES) exposure. However clinical experience has shown that these uteri are more common than expected, mostly diagnosed in young infertile patients with no history of DES exposure.

Recently, Dr. Attilio di Spiezio Sardo has developed a new outpatient minimally invasive technique yielding an increase in volume and an improved morphology of both tubular uterine cavities and T-shaped (Hysteroscopic Outpatient Metroplasty To Expand Dysmorphic Uteri: the HOME-DU technique). The technique, performed under conscious sedation, involves that two incisions of 3–4 mm in depth are made with a 5-Fr bipolar electrode along the lateral walls of the uterine cavity in the isthmic region, followed by additional incisions placed on the anterior and posterior walls of the fundal region up to the isthmus.

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...

Dr. Jacques Hamou changed hysteroscopy and must be considered the father of modern hysteroscopy. His genial idea of minimizing the size of the hysteroscope was the tipping point that revolutionized the hysteroscopy.

The breakthrough of ambulatory hysteroscopy is due to the adaptation Hopkins lens, so that the outer diameter of the scopes could be reduced using a 6mm scope. Can you tell us how were those investigations?

Hopkins lens were a major new concept to improve the endoscopes in gynecology. Conventional glass lens were replaced by rod lens. Switching air by glass and glass lens by air in previous rigid old endoscopes. transmitting light rays in a more narrow diameter with the same resolution and with less dispersion or loss of light. it was manufactured since 1960 by Harold Hopkins.

”I do not think hysteroscopy have reached its limits”

You investigated about hysteroscopy sterilization in the 80's. Nowadays, there is debate about the actual hysteroscopic sterilization method (Esure). Do you think that the hysteroscopy route will continue as a valid alternative?

I have initiated hysteroscopic sterilization in 1982 with nylon plugs of 23 mm long and 1 mm diameter. I did 140 procedures under a program supported by northwestern university of chicago.

After 3 failures in placement and one pregnancy followed by miscarriage discouraged me to pursue. Since other investigators have proposed similar devices. but you are aware of following controversies!!

Has Hysteroscopy reached its limits?

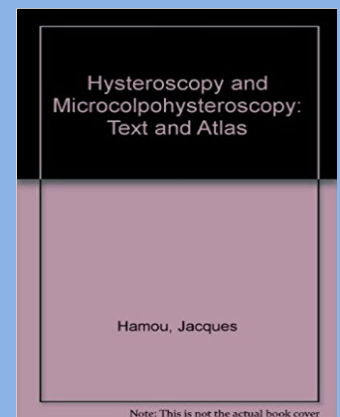
I do not think hysteroscopy have reached its limits. since 1981 every few month a new diagnostic and therapeutic indication and instrumentation improvement have arised then it only slow down.



Jacques Hamou

Gynécologue médical et
obstétrique

Paris, France



Note: This is not the actual book cover

The author of this atlas-style work on hysteroscopy has developed many of the instruments (bearing his name) that are used for this procedure. In this work, he covers the of hysteroscopy to diagnose and treat conditions such as unexplained uterine bleeding, infertility, sterilization, IVF, uterine adhesions, and embryoscopy. The use of micro-colpohysteroscopy to diagnose and treat conditions is also explained, including cervical disorders, dysplasia and CIN, condyloma, and cervical dystrophy. Over 250 full-colour illustrations are contained in this atlas.

Can our hysteroscopic skill be improved with the use of audiovisual media?

Nothing will replace direct training in a diagnostic setting and operative theater with a confirmed hysteroscopic surgeon. Then comes improvement by live video transmission, video training, congresses and literature

” Nothing will replace direct training in a diagnostic setting and operative theater”

In the latest Global Congress the presence of the “Fathers of the hysteroscopy” aroused the interest of young gynecologists in the Hysteroscopy. I remember a young gynecologist from Moldova who told me that she had discovered her new passion in this congress. Do you think there is a growing interest in this field?

Undoubtedly any young gynecologist can assess the elegance and less invasive procedures of hysteroscopy compared to conventional surgery during a congress workshop and live transmission.

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

Evident advice for a young gynecologist is after a complete comprehension of fundamentals and instrumentation to start training with at least 100 diagnostic procedures step by step operative procedure.



Brief Review

Hysteroscopic Endometrial Embryo Delivery (HEED)

MM Kamrava¹, L Tran² and JL Hall³

¹West Coast IVF Clinic, ²LA Center for Embryo Implantation, ³UCLA, the Geffen School of Medicine. USA

It has been over 30 years since the first successful pregnancy using in vitro fertilization (IVF). There have been major advancements in the different components of IVF such as ovulation induction protocols, oocyte retrieval techniques, and culture medium tailored to improving embryo quality (Gardner 1998). However, the discrepancy between women undergoing IVF with normal embryo development and live pregnancy rates continues to exist. It is estimated that up to 85% of replaced embryos fail to implant despite the selection of apparently normal embryos for transfer (Sallam 2002). This failure rate suggests that the embryo transfer stage is a key step to successful live pregnancy rates in assisted reproductive technology (ART) (Meldrum 1987).

Embryo transfer is traditionally performed by “blindly” replacing the embryos into the uterine cavity utilizing a transcervical catheter at approximately 2-5 days of development. This technique relies highly on the skill and tactile senses of the clinician. Many clinicians will transfer the embryos at a fixed distance (6 cm) from the external os; however, with varying cervical lengths and uterine anatomy, this often does not ensure optimal placement (Brown 2007). Recently, there have been many studies proposing potential embryo transfer related factors to the low success rate in pregnancy outcomes such as uterine contractions, expulsion of embryos, blood or mucus on the catheter tip, bacterial contamination of the catheter, and retained embryos (Schoolcraft 2001). Ultrasound guided embryo transfer (UGET) is currently suggested as the standard clinical practice and appears to improve the chances of live/ongoing and clinical pregnancies compared with clinical touch methods (Brown 2007).



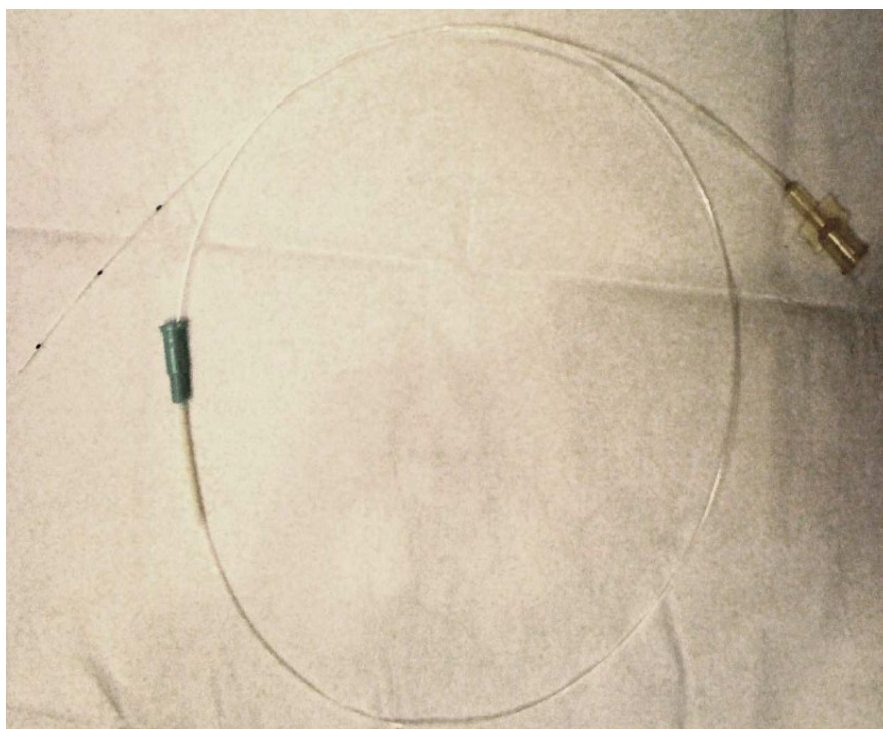
However, controversies still remain regarding the actual benefit of UGET in successful clinical pregnancy rates (Kosmas 1999). The subendometrial embryo delivery (SEED) technique has been previously reported to increase pregnancy rates and eliminate ectopic pregnancies associated with ART (KAMRAVA 2010). In this study, we set out to use a similar technique which utilized a mini-hysteroscope with a flexible catheter for direct delivery of embryo(s) at the 4-12 cell stage onto the endometrium under direct visualization. The hysteroscopic visual guidance ensures more precise and reliable placement at the desired location of the endometrium.

35 patients between 22 and 46 years of age undergoing IVF were included in this report. Informed consent was obtained prior to the start of the cycle. Controlled ovarian hyperstimulation was initiated with Follitropin β (Follistim®, Organon Pharmaceuticals, Inc.). Endogenous gonadotropins surge (i.e., the prevention of an LH surge) was controlled with ganirelix acetate (Antagon™, Organon Pharmaceuticals, Inc.). Oocyte retrieval was carried out in an office setting under local anesthesia and mild sedation. Oocytes were fertilized and cultured in a human tubal fluid formulated medium at 37 degrees C and 5% CO₂ in air". Embryos were transferred at 48-72 hours post fertilization. All women received some type of luteal support, be it progesterone or hCG (3000 IU of hCG at 3 and 6 days post retrieval). Serum hCG was quantified at 10 days after the last hCG; a concentration of 5 IU/ml with a delayed menses was used as confirmation of pregnancy.

Description of Hysteroscopic Endometrial Embryo Delivery (HEED):

A transvaginal ultrasound of the uterus is performed and the direction and thickness of the endometrial lining is ascertained. With patient in dorsolithotomy position, a bivalved speculum is placed in the vagina and the cervix exposed. Vagina and cervix are washed with modified HAM's solution. Subsequently, 10 cc of 1% xylocaine is injected bilaterally in the utero-sacral nerve endings.

The cervix is grasped with an allis clamp and stabilized. Nitrogen gas is used as the distention media throughout the procedure via a hysteroscopic insufflator. A 3 mm flexible hysteroscope (Figure 1) loaded with embryo catheter containing the embryos (Figure 2) is then gently inserted through the cervical os under direct visualization of the cervical canal into the uterine cavity. Once the cavity is visualized, it is then further advanced to the fundus of the uterus. The loaded embryo transfer catheter (Precision Reproduction, LA, CA USA) is then advanced to 1.5 cm from the tip of the hysteroscope and placed over the point of embryo deposition, half way between the lowest point of the fundus in the midline and the tubal opening into the uterus.



The embryos are then gently released by the embryologist. Our results show that hysteroscopic guided early embryo transfer results in a high pregnancy outcome, 2-3x greater than "blind" transfer technique rates. Directvisualization provides an objective, visually confirmed, replicable technique for embryo transfer. The end result is less operator dependent and in contrast to routine ET techniques in which operator experience may account for the variable overall pregnancy rates (Garcia 2002). Hysteroscopic direct embryo delivery may circumvent many of the known and previously reported embryo transfer related factors associated with poor outcomes. Many of our patients had failed prior IVF-ET attempts due to multiple etiologies.

A light weight flexible minihysteroscope was used for visualization of the endometrial cavity (Storz®, LA, CA USA). The scope incorporates a flexible distal end of 3mm in diameter with a straight through operating channel. In addition, the optic filter is directly connected to a light source, decreasing the weight of the scope and giving a better "feel" for the scope. The transfer catheter (Precision Reproduction, LLC, LA, CA USA) is polycarbonate based with a tapered tip (to 500 μ m), beveled to 60°.

Results

35 cycles were started and all had retrievals. 22 cycles involved use of intra-cytoplasmic sperm injection (ICSI) due to male factor problems. Endometrial thickness varied between 7 and 16 mm. 22 cycles had transfers on day 2 and 13 cycles had transfers on day 3. There were 16 positive β hCG's greater than 5 IU/ml twelve days after embryo transfer. Of these, 2 had biochemical pregnancies, and 12 had clinical pregnancies as evidenced by presence of gestational sac by ultrasound examination at five weeks of gestation and presence of the fetus and a heart beat at six weeks of gestation. There were 5 first trimester spontaneous abortions at 7-8 weeks of gestation. Seven(7) patients have delivered healthy babies at term; there were 2 ectopic pregnancies (Table 1).

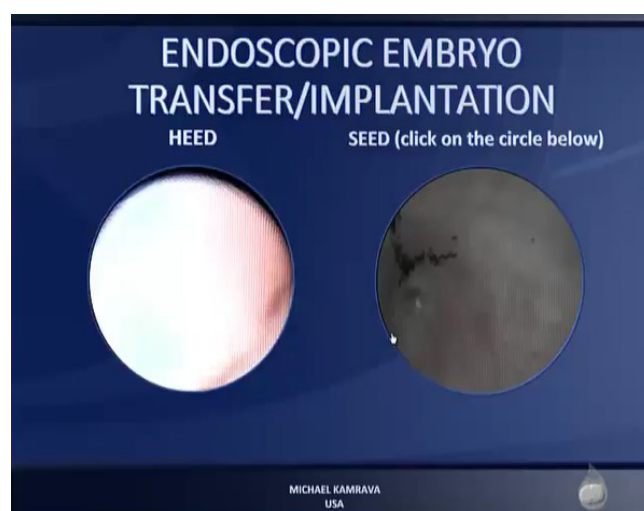
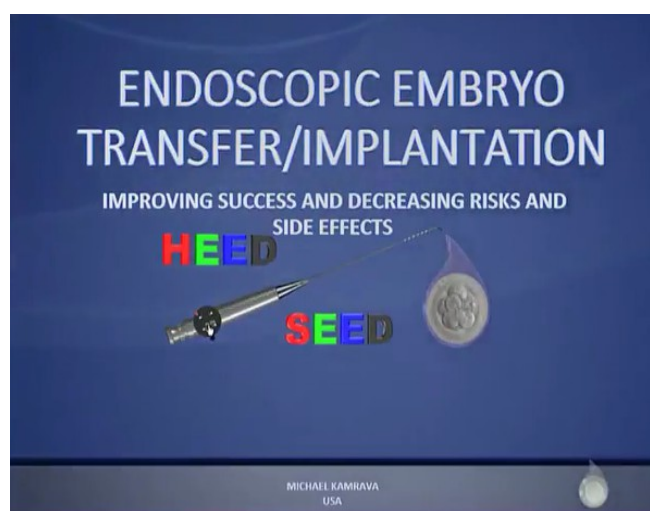
	Day 2 Transfer average age 3835	Day 3 Transfer average age 38
Total Start	22	13
Cancelled	0	0
Retrievals	22	13
Transfers	22	13
Total + Beta	9	7
Chemical Preg	2	0
Spotaneous ab	3	2
Multiple Preg	3	1
Ectopic preg	1	1
LiveBorn	3(13%)	4(30%)

Discussion

As may have been expected, the average age of patients for transfers on day 3 versus day 2 was lower (35 vs. 38 years of age), as they had better quality embryos which made it more feasible to continue embryo culture 1 day longer. Interestingly enough, the live pregnancy rate was also higher in day 3 transfers (31% vs. 15%).

Advantages of hysteroscopic guided direct embryo delivery include objectivity and replicability of the procedure. This unique and significant aspect of the procedure increases the reliability of correct entry into the uterine cavity with direct visual confirmation. Furthermore, placement and subsequent implantation at a precise location, with minimal volume of transfer media, provides an obvious benefit to patients with distorted uterine cavities, myomas, and adenomyosis and uterine adhesions. Visualization also provides the advantage of maneuvering along the contours of the uterus, thus decreasing the rate of trauma to the endometrial lining.

In addition, performing gas distension of the uterus by an inert gas (N₂), the catheter tip is less likely to come into contact with the uterine fundus which has been associated with stimulating uterine contractions and creating an unfavorable environment for implantation (Kovacs 1999, Lesny 1998). It has been reported that high frequency uterine contractions are associated with a lower ongoing clinical pregnancy rate and complete expulsion of the embryo (Fanchin 1998). It has also been postulated that the expulsion of the embryo into the lower uterine segment may result in higher rates of cervical ectopic pregnancy and placenta previas (Romundstad 2006; Schoolcraft 2001).



Witnessing uterine contractions hysteroscopically can also guide the clinician to abort and defer the procedure, thus decreasing costs, multiple failed attempts of ET, embryo loss, and risk of cervical ectopics and placenta previas. Direct visualization of the catheter tip ensures that the embryos are not retained in the catheter or lost. Viser et al. found a lower pregnancy rate when retained embryos were present (3% vs. 20.3%). In addition, catheter tip visualization allowed us to deliver smaller aliquot volumes for ET (5 μ l) as opposed to routine volumes (30 μ l). Smaller volume allows better handling of the embryo for proper orientation to the uterine lining, stabilizing the position and has been reported to increase pregnancy and implantation rates (Meldrum 1987). It may also contribute to the reduced ectopic pregnancy rates, as larger volumes have been associated with increased ectopic pregnancy risk (Marcus 1995). Expulsion of this low volume of transfer media, carrying the embryo(s), from the tip of the catheter can only now be verified under direct visualization. In the “blind” procedure there is a real concern that this tiny droplet can be dragged into the lower uterine segment or into the cervical canal or out of the uterus along with the catheter during the final withdrawal of the catheter after embryo transfer.

The potential disadvantage and risk of this technique is disruption of the uterine lining, however the risk is postulated to be less than “blind” and ultrasound guided transfers due to the advantage of direct visualization of the uterine lining and not requiring movement of the catheter to facilitate identification during ultrasound (Garcia-Velasco 2002). In addition, visualization allows one to place the embryo at a different location if trauma ensues. The major drawback to its acceptance is that hysteroscopy is an invasive procedure. However, as opposed to rigid endoscopes which may cause trauma to the uterus, the hysteroscope used in this study is a mini hysteroscope with a 3 mm diameter and flexible tip that allows one to easily follow the curvature of the uterus.

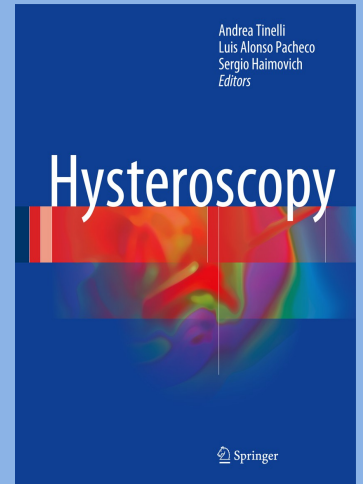
The catheter used is semi-rigid to prevent kinkage as it passes through the endoscope yet with flexibility to bend with the endoscope. In our study, no disruption to the uterine lining or uterine bleeding occurred. Increased cost is another drawback, however utilizing a hysteroscope will decrease the costs from multiple failed IVF-ET attempts and improve patient satisfaction.

Conclusion

Hysteroscopic endometrial embryo delivery (HEED) is a beneficial technique in increasing clinical pregnancy rates, especially in patients with repeated failed IVF-ET attempts. Due to the objective and replicable nature of the hysteroscopic procedure along with increased accuracy of placement of embryo(s), efforts in reducing multiple pregnancies should now be more focused on increasing our knowledge of selecting embryo(s) with high survival potential for embryo transfer. Ectopic pregnancies from IVF will be minimized by using lower transfer volumes of 5 μ l and visually confirmed positional placement of embryos away from the uterine cornu. Ectopics are almost eliminated when using the SEED technique for blastocyst embryo transfer.

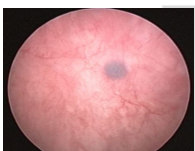


H BOOKS ! Hysteroscopy



WHAT'S YOUR DIAGNOSIS?

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



*Answer to the previous issue:
Cystic adenomyosis*

Hysteroscopy

A. Tinelli, L. Alonso & S. Haimovich

2018 Springer

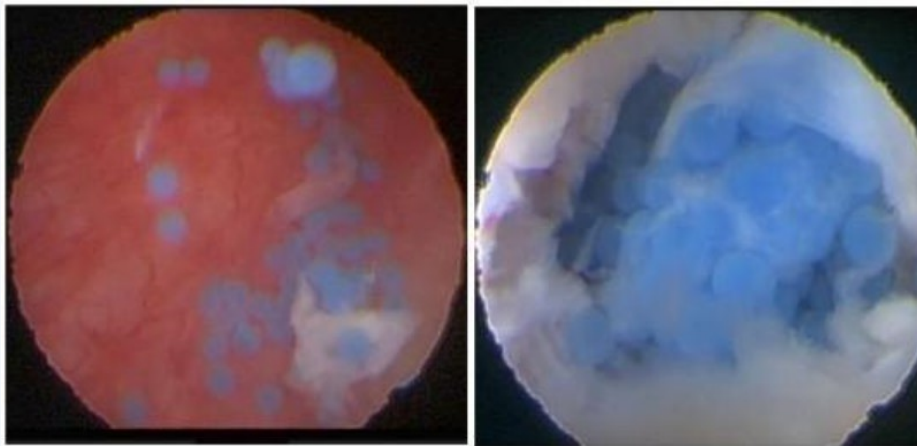
This book offers a cutting-edge guide to hysteroscopy and provides readers with the latest and most essential information on procedure techniques, clinical advances and international developments in practice and treatment of endometrial pathology. Providing comprehensive coverage, it explains in detail every aspect of hysteroscopy, from diagnostics to hysteroscopic surgery. As such, it addresses the bases of hysteroscopy; pre-, intra- and post-hysteroscopy medications; intracavitary pathologies; fertility issues; and surgical implications and complications. At the same time, it also explores challenging and controversial topics, such as hysteroscopy and ART, submucous myomas, and uterine malformations.

All topics are discussed by prominent experts in the field, and clearly organized and illustrated to help readers gain the most from each chapter. Accordingly, the book offers a valuable resource for all gynecologists working at hysteroscopy units, reproductive units, gynecological and oncological units, as well as a quick reference guide for all other physicians interested in the topic.

Hysteroscopy Conundrums

What's your opinion about this hysteroscopy?

Have you seen this image before? Blue small balls? What do you think about?



(courtesy of Dr. Bernardo Lasmar)



José Jiménez I never had seen something like that

[Recomendar](#)

1 semana



Bernardo Lasmar It was really beautiful to see!!!

[Recomendar](#)

1 semana



Jose "Tony" Carugno Is she taking any medications?

[Recomendar](#)

1 semana



Bernardo Lasmar No!! No meds...

[Recomendar](#) | 1

1 semana



MICHAEL KAMRAVA, MD I wonder if it is cystic hyperplasia or more aggressive variants

[Recomendar](#)

1 semana

Look for us: hysteroscopy group in Linked In



David Stone MD Beads from a previous uterine artery embolization

[Recomendar](#)

1 semana



Slavcho Tomov Methilen blue application for sentinel lymph node dissection?

[Recomendar](#)

1 semana



Aarathi Cholkeri-Singh Gel beads from radiologic fibroid embolization? Although I have only seen white beads.

[Recomendar](#)

1 semana



Marcos Romer Herrera Endometrial tuberculosis?

[Recomendar](#)

6 días



Enrique Perez de la Blanca ¿From the pads?

[Like](#) [Reply](#)

2w ...



Alessandro Favilli Uterine artery embolization?

[Like](#) [Reply](#) 2 Likes · 2 Replies

2w ...



Vaggelis Sakkas Artefacts ?

[Like](#) [Reply](#)

2w ...



Sergio Haimovich the only time I saw this was during a histeroscopy to a degenerated myoma after UAE

[Like](#) [Reply](#) 3 Likes

2w ...



Andreas Thurkow I'd say: typical image of embolisation particles after UAE

[Like](#) [Reply](#) 1 Like

2w ...



ati abdelouahab UAE

[Like](#) [Reply](#) 1 Like

2w ...



Bernardo Lasmar Those particles were inside a Myoma 6 months after embolization!!

[Like](#) [Reply](#) 4 Likes

2w ...



APAGE 18TH ANNUAL CONGRESS
 Sept. 6 - 9, 2017
 Okayama Convention Center, Okayama, Japan

APAGE 2017
 In conjunction with The 57th JSGOE Annual Congress

Journey to the least invasive surgery
 Pre-congress workshop: Sept. 6, 2017
 Main congress: Sept. 7-9, 2017



ESGE 26th ANNUAL CONGRESS
 18th - 21st October 2017
 Sueno Hotel Belek & Convention Center · Antalya, Turkey

East Meets West

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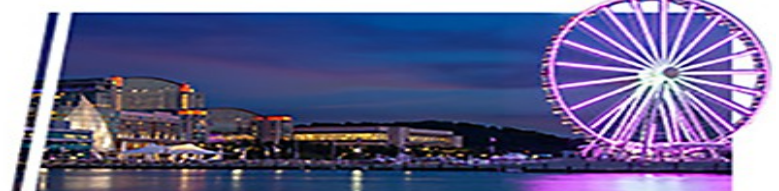
For more information visit www.esgecongress.eu



46th AAGL Global Congress on Minimally Invasive Gynecology
November 12-16, 2017

Gaylord National Resort and Convention Center National Harbor, Maryland (Washington, DC)

— Enhancing Minimally Invasive Gynecologic Surgery through Quality, Patient Safety, and Innovation —



25th World Congress on Controversies in Obstetrics, Gynecology & Infertility (COGI)

VIENNA, AUSTRIA - NOVEMBER 30 - DECEMBER 2, 2017



Memories of the Congress





DID YOU KNOW...?

Operative hysteroscopy is the most common gynecologic operation requiring cervical dilatation



There is no conclusive evidence that treatments following hysteroscopic resection of uterine septum work better than no treatment follow up

Hysteroscopy and Fertility: an Update (III)

José Metello (a,b) José Jiménez (c,d)

a Hospital Garica de Orta (Almada, Portugal), b Ginemed-Maloclinics (Lisbon, Portugal),

c Clínica "Leopoldo Aguerrevere" (Caracas, Venezuela), d Unidad de Fertilidad Unifertes (Caracas, Venezuela)

INTRAUTERINE ADHESIONS

The first case of intrauterine adhesion was published in 1894 by Heinrich Fritsch, but it was only after 54 years that a full description of Asherman syndrome (AS) was carried out by Israeli gynecologist Joseph Asherman. Specifically, he identified this pathology in 29 women who showed amenorrhea with stenosis of internal cervical ostium. The true incidence is unknown and is estimated to be around 0,3% in the general population and up to 21% after postpartum curettage.

Intrauterine adhesions are composed of fibrotic tissue, which may result in the adherence of opposing surfaces. The adhesions could be filmy or dense, simple or multiple and focal or total. It is possible that, after injury to the endometrium, fibrosis may follow with the potential for adhesion formation. The impact of AS or adhesions is important. There seems to be a high rate of infertility, poor implantation and miscarriage.

The goals of the hysteroscopic treatment are: 1) restoration of the triangular cavity, 2) visualization and confirmation of permeability of the ostiums, at least one of them, 3) avoid the destruction of normal endometrium, 4) minimal manipulation of normal endometrium and 5) avoid uterine perforation.

Hysteroscopic treatment enables lysis of IUAs under direct vision and with magnification. The uterine distention required for hysteroscopy may itself lyse mild adhesions, and blunt dissection may be performed using only the tip of the hysteroscope. Thus, in favorable cases the restoration of cavity can be obtained through "no touch" hysteroscopy in outpatient setting without general anesthesia.

A wide range of mechanical or electric equipment has been adopted during hysteroscopic adhesiolysis. Monopolar and bipolar electro-surgical instruments and the Nd-YAG (neodymium-doped yttrium aluminum garnet) laser have been described as techniques used to lyse adhesions under direct vision, with the advantages of precise cutting and good hemostasis. Disadvantages include potential visceral damage if uterine perforation occurs, further endometrial damage predisposing to recurrence of IUAs, cost, and the degree of cervical dilation required to accommodate the operative instruments.

However, one of the advantages of bipolar over monopoly energy is that the tissue effect is more focal, and the use of electrolyte-containing uterine distention media means that electrolyte changes are less likely to be clinically serious in cases of fluid overload. A cold-knife approach is supposed to prevent thermal damage of the residual endometrium and reduce the rate of perforation during the procedure.

Surgical success may be judged by the restoration of normal anatomy in the uterine cavity. The rate of successful anatomic restoration of a first procedure has been reported to range from 57.8% to 97.5%. However, even when the uterine cavity has been restored anatomically, the extent of endometrial fibrosis will determine the reproductive outcome. Hence, the restoration of both uterine anatomy and the function of the endometrium are equally important.



In women who present with infertility or pregnancy wastage, the outcome may be measured in terms of pregnancy rate and live birth rate. Pace et al. (77) reported that, in women with Asherman syndrome, pregnancy rate varied from 28.7% before surgery to 53.6% after hysteroscopic treatment. In a study of women with two or more previous unsuccessful pregnancies (39), the operative success as measured by live birth rate improved from 18.3% preoperatively to 68.6% postoperatively. In the literature, the pregnancy rate after hysteroscopic lysis of intrauterine adhesions in women who wanted to have a child has been about 74% (468 out of 632), which is much higher than found in untreated women (46%). The pregnancy rate after treatment in women with infertility is about 45.6% (104 out of 228); the successful pregnancy rate after treatment in severe cases is reported to be consistently lower (18 out of 55 1/4 33%). For women with previous pregnancy wastage, both the pregnancy rate and the live birth rate after treatment are reasonably high (121 out of 135 1/4 89.6% and 104 out of 135 1/4 77.0%, respectively). (4,28,30,32,34,37,42,48, 65, 78-83)

TUBAL LIGATION

Around 10-30% of couples presenting with infertility have hydrosalpinx. Alternative treatments include achieving tubal occlusion by devices inserted hysteroscopically. Both Essure® and Adiana® have been used in this context, however for infertility purposes most of the studies have been done with Essure®- off label use. The Essure® device is a spring like device consisting of a stainless steel inner coil and a nickel titanium elastic outer coil and polyethylene fibers. The device is usually performed in an outpatient setting, with local or no anesthesia at all. Sterilization is not immediate and women should use additional contraception for another 3 months. Rosenfield et al. in 2005 reported the first successful live birth following Essure® placement, in an obese woman with extensive pelvic adhesions.

A systematic review on the efficacy and safety of Essure® in the management of hydrosalpinx before IVF was published in 2014. Overall 115 women in 11 studies received Essure®, which was successfully placed 96.5% of women and tubal occlusion was achieved in 98.1%. The subsequent IVF resulted in 38.6% pregnancy rate and 27.9% live birth rate per embryo transfer.



A French survey of 45 centers reported attempts on 43 women. Of 70 tubes to be occluded, Essure® was successful in 93%. The mean number of visible coils was 1,6 and overall 66% had less than 3 coils visible. The mean number of months between placement and the first embryo transfer was around 6 months. The clinical pregnancy rate was 41% with 26% of live birth ratio. Concerning complications, one woman had pyosalpinx and two had to have the implants removed because they were almost completely expelled into the uterine cavity.

A Dutch study analyzed 50 pregnancies after Essure® insert, both intended or unintended and concluded that it is unlikely that the presence of Essure microinserts interferes with implantation or pregnancy. On the other hand no conclusion could be drawn regarding the number of coils visible left in utero.

A Dutch study was recently published comparing ongoing pregnancy rates after hysteroscopic proximal tubal occlusion versus laparoscopic salpingectomy. 85 women were randomized to either treatment. The ongoing pregnancy rates per patient 26.2% vs 55.8% ($P = 0.008$), with a relative risk of 0,56 in the proximal tubal occlusion group. The authors concluded proximal tubal occlusion by intratubal devices is inferior to laparoscopic salpingectomy in this context.

Adenomyosis

Adenomyosis refers to the presence of ectopic glandular tissue, located deep in the myometrium.

The prevalence ranges from 1-70% and increases with age. Many theories have been proposed. While the metaplastic theory supports the idea that there is a transformation of the embryologic pluripotent müllerian uterine remnants, the invasion theory suggests that the basal endometrium invaginates and penetrates into the myometrial fibers. Leyendecker, tried to explain the reason for the invagination with recurrent trauma and the molecular mechanisms associated with mechanical strain, injury, repair and hyperperistalsis of the endometrium that in end would be responsible for adenomyosis. However this endometrium does not undergo the same cyclic changes as normal endometrium. It seems that there is over expression of estrogen receptors and a down-regulation of progesterone receptors, with a progesterone resistance.

A 2014 review by Vercillini concluded that adenomyosis was associated with a 68% reduction in the likelihood of pregnancy in women seeking conception after surgery for rectovaginal and colorectal endometriosis. The same author reviewed the outcome of adenomyosis associated with IVF/ICS to conclude that women with adenomyosis had a 28% reduction in the likelihood of clinical pregnancy at IVF/ICSI compared with women without adenomyosis and a higher rate of spontaneous abortion.

Hysteroscopy allows for the direct visualization of the uterine cavity, however its ability to diagnose adenomyosis is limited.

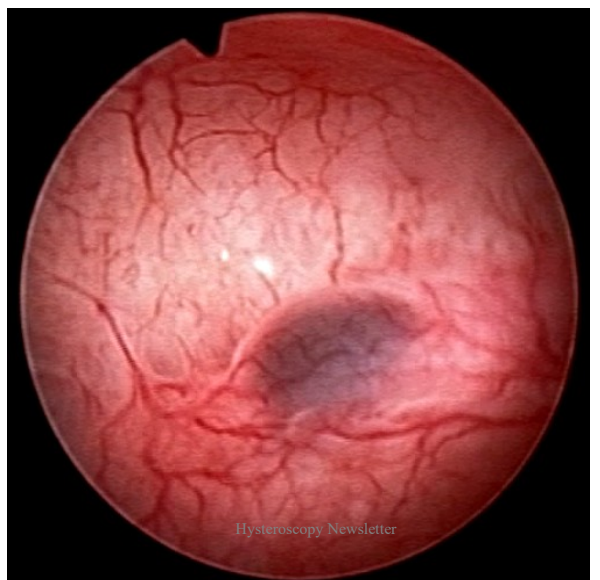
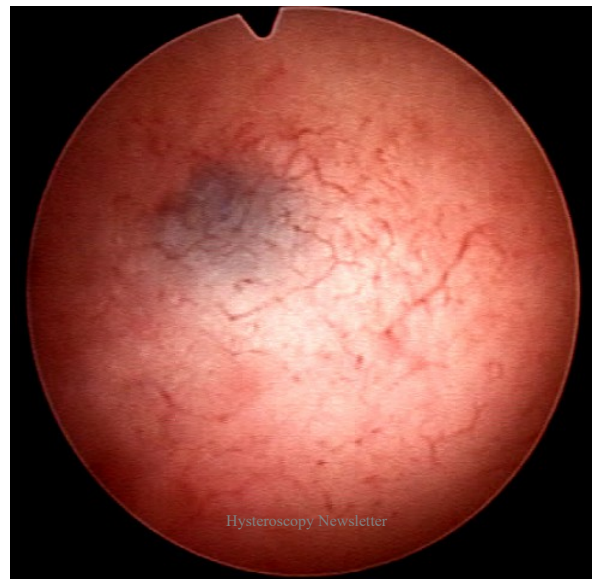
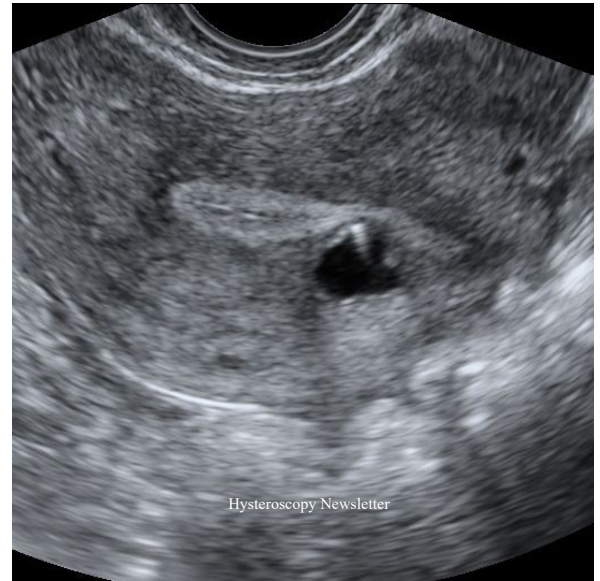
Several hysteroscopic patterns have been described:

- irregular endometrium or endometrial defects with superficial openings suggesting a disruption of endomyometrial surface
- abnormal hypervascularization under low pressure
- Cystic hemorrhagic lesions, with a brownish fluid draining into the endometrium

Dakkly et al. analysed the diagnostic accuracy of hysteroscopy and TVS for the diagnosis of adenomyosis on a cohort of 292 patients. He concluded that hysteroscopic appearance of the endometrial cavity had low sensitivity (40.74%) and specificity (44.62%). Endometrial biopsy had a sensitivity of 54%, but was more specific (78.46%). Contrasting with this was the accuracy of TVS with a high sensitivity (83.95%) and a moderate specificity (60%).

If submucous cystic adenomyotic are seen bulging into the uterine cavity, it is possible to dissect the myometrial wall of the cyst using a 5 Fr scissor335 or to do an ablative technique that destroys the inner cystic wall. Gordts agrees with the idea that the ablative approach is preferable to cysts localized deeper in the intramural portion.

However as opposed to what happens after a myomectomy where after resection a normal uterine cavity is expected, the resection or ablation of adenomyotic cysts usually results in a visible defect of the myometrium.



Cesarean Scar

During the last 30 years the rate of cesarean deliveries has increased, for example in UK cesarean deliveries increased from 12 to 29 % between 1990 and 2008 and in Brazil they raised up to 80%. Globally this has not resulted in decreased neonatal morbidity or mortality. However important maternal complications have been reported, not only on the short term, but also on the long term. Among the long term complications are infertility, pelvic adhesions, and pelvic pain and a higher rate of perinatal complications in a subsequent pregnancy such as uterine rupture prematurity, low Apgar scores, Neonatal Intensive Care Unit (NICU) admissions and higher perinatal death.

Sometimes the healing process of the cesarean section scar is incomplete, with a disruption of the myometrium. In the literature there are several names used for this “gap”, being the terms “niche” or isthmocele the most commonly used. The real incidence is unknown however it might range between 24% to 56%. There seems to be a relationship between multiple previous cesarean section and CSD.

Frequently it is asymptomatic, but sometimes is responsible for menorrhagia, abdominal pain, dyspareunia and dysmenorrhea. Infertility might also be present, as the accumulation of blood in the pouch can lead to minimal retrograde passage of blood, to the uterine cavity, especially in retroverted uteri, causing inflammation or an adverse environment for embryo implantation.

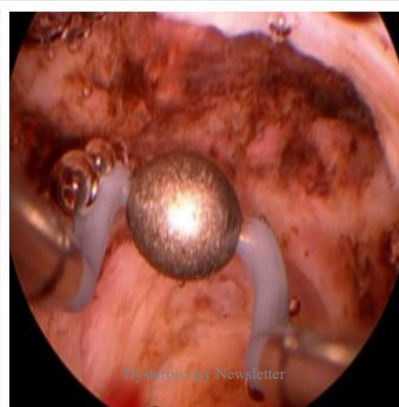
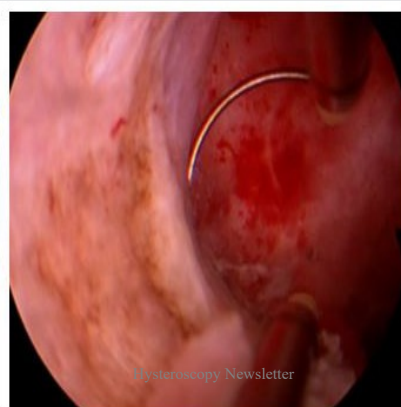
Hysteroscopy allows for the direct visualization of the defect. When passing through the cervix, or just after it, a pseudocavity can be seen in the anterior wall. The typical sign is a “double arch”. The dome is often covered with fibrous tissue or congestive endometrium. Depending on the cycle phase blood clots can sometimes be seen. This is usually not necessary, but can be useful to rule out other conditions or to plan the corrective surgery.

Different treatments have been proposed and should be reserved for symptomatic patients. Medical treatment with oral contraceptives reduces menstrual blood. The published results on effectiveness are conflicting and there are no consistent studies about the use of the hormonal intrauterine device.

Surgical treatment allows for the correction of the defect. A reparative treatment can be done laparoscopically or a resectoscopic correction can be performed mainly to improve the symptoms. A vaginal repair technique has also been described.

Multiple different hysteroscopic approaches have been published. Fernandez performed the resection of the fibrotic tissue of the inferior part of the scar to facilitate the drainage of the menstrual blood collected in the scar. Other authors, in addition to this fulgurated the dilated blood vessels and endometrial glands in the CSD. The surgery is risky as uterine perforation and secondary bladder injury is of concern. Some authors avoid the resectoscopic surgery if the remaining myometrium at the level of the niche is less than 2 to 3 mm. After hysteroscopy surgery, between 59,6% and 64% of patients reported a postoperative improvement of postmenstrual bleeding. This improvement was more evident in patients with anteflexed uterus. Improvement in pain complaints is seen in up to 97%

A reparative surgery intends to restore the myometrial continuity at the site of the CSD, which leads to an increase in the thickness of the uterine wall, with removal of the fibrotic tissue around the scar. This can be done laparoscopically or vaginally.



Best Oral Communication

The assessment of uterine contractility in women with type 3 uterine leiomyoma. A necessary step of preconception preparation?

Mykhailo Medvediev, Oleksiy Aleksenko, Valentin Potapov

SE "Dnipropetrovsk Medical Academy of Health Ministry of Ukraine"

Uterine leiomyoma is one of the most significant problems of gynecology as a result of its high prevalence, "rejuvenation" of the disease, and negative impact that it has on the health and reproductive function of women. It is known that the condition not only significantly reduces the quality of life, causing a number of adverse physiological, psychological and social consequences, but also reduces the chances of successful reproductive plans of women.

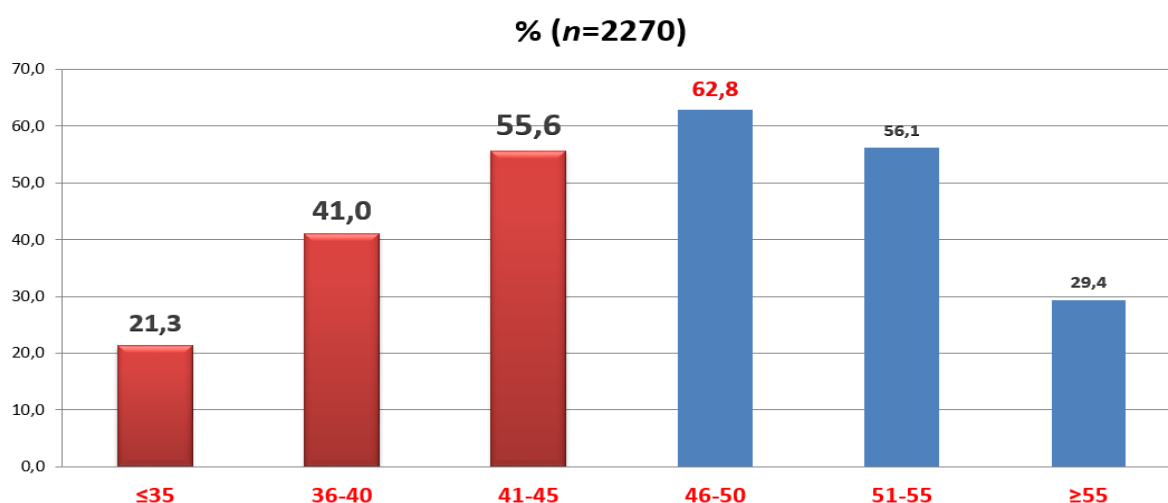


Fig. 1. Uterine leiomyoma prevalence in different age populations (Arch Gynecol Obstet. 2016 Jun;293(6):1243-53. doi: 10.1007/s00404-015-3930-8. Epub 2015 Nov 2. Prevalence of uterine myomas in women in Germany: data of an epidemiological study. Ahrendt HJ, Tylkoski H, Rabe T et al)

It's well known that submucosal myomas (types 0-2) are clearly associated with infertility and especially pregnancy loss. In case of the presence of such myoma deforming uterine cavity in most of the cases a hysteroscopic myoma resection would be appropriate option before attempts of conception. Association of leiomyoma without deformity of uterine cavity (FIGO type 3) with poor pregnancy prognosis is not so obvious. In this connection, an objective prediction of the potential impact of asymptomatic uterine leiomyoma on fertility and pregnancy outcome is of special importance. Reliable prediction of negative myoma impact on future pregnancy course could help with clinical decision about necessity of surgical intervention in only patients with 'poor prognosis' avoiding invasive procedures in the rest of patients.

It was found that the uterine peristalsis (contractility) of non-pregnant uterus can influence female fertility. It is believed that one of the mechanisms of uterine leiomyoma negative impact on fertility can be a change of amplitude and direction of normal uterine contractility in periovulatory period and during the "window of implantation." There's some evidence that myomectomy could improve reproductive function and pregnancy outcomes in patients with abnormal patterns of uterine peristalsis.

In our study 32 reproductive age patients with type 3 myoma have been included. In all patients a computer-based analysis of uterine peristalsis has been performed during ovulation and 'implantation window'. Among this group of patients 23 women were with 'poor prognosis' pattern of contractions and 9 were with 'good prognosis'. After one year of pregnancy planning 5 of 9 of 'good prognosis contractility' got pregnant (55.5%) and only 4 of 23 'poor prognosis contractility' women (17.4%) with statistically significant difference (p=0,01).

Fibroid Subclassification System

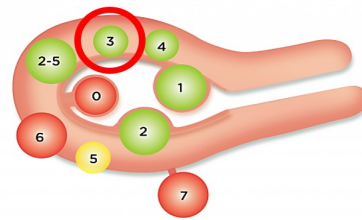
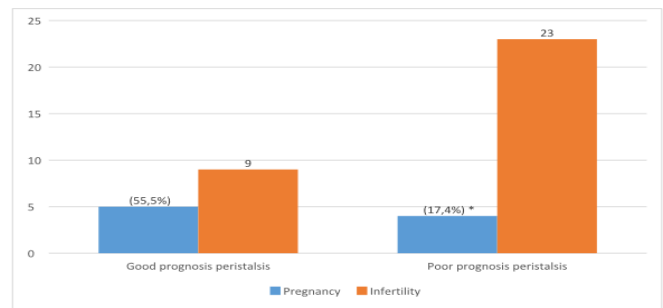


Fig. 2. Type 3 myomas – not distorting uterine cavity. Is it has role in infertility? (Pritts, Elizabeth A. et al. Fertility and Sterility , 2009, Volume 91 , Issue 4 , 1215 – 1223)



Conclusion: Investigation of uterine contractility in women with uterine leiomyoma non-deforming uterine cavity (type 3) may be one of the criteria that can be used for decision about whether myomectomy should be performed avoiding unnecessary risks of surgery in women with 'good prognosis peristalsis'.

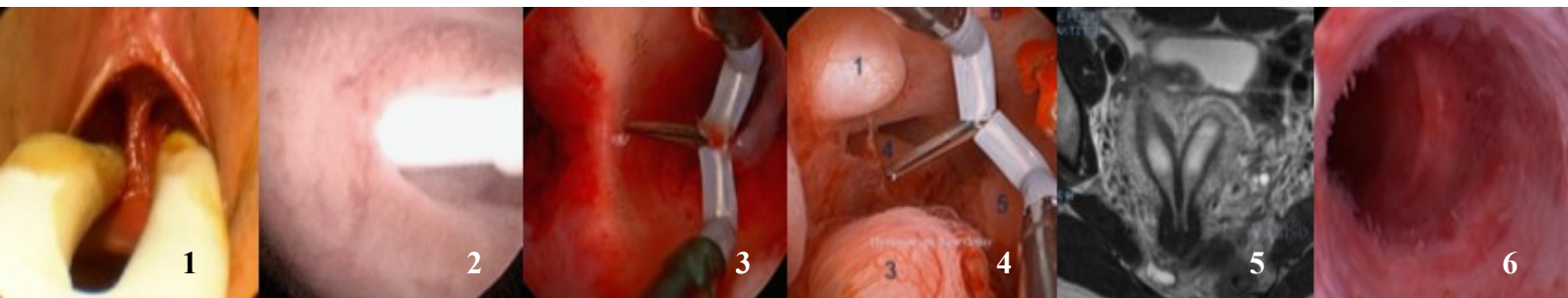


Hysteroscopy Quiz

During the past Global Congress on Hysteroscopy we had the opportunity to close the Hysteroscopy Trainees Session surprising with a live Quiz to all the attendees. What better way to end the conference after 3 days exclusively dedicated to hysteroscopy? What a better way to finish the motivational talks of this session?

The entire conference room, live polls via smartphones, hysteroscopic on-screen displays, 4 answer options, 30 seconds to respond, all the players competing with live ranking on the home screen ... it was just Awesome!!

We are totally satisfied with the participation and the results obtained. It was truly an exciting day with a very high level of participation, bearing in mind that we competed with 2 other rooms simultaneously. From the Hysteroscopy Newsletter team, we can say that we are very happy with the development of the Quiz, the participation, the Feed-back of the assistants and the results, that we want to share with you.



The total correct answers of the players were 55.97% with 44.03% of wrong answers. The 5 questions with the highest number of participants were: 1. Complete vaginal septum (97.33%) [1] , 2. IUD trapped by adhesions (85.92%) [2] , 3. Hysteroscopic image of uterine septum (93.22%) [3], 4. Bone metaplasia (82.54%) and 5. Isthmocele (76.92%). The 5 questions with the least participation were: 1. Endometrial smooth muscle metaplasia (13.56%) [4] , 2. Uterine septum MRI image (14.06%) [5] , 3. unicornuate uterus (17.65%) [6] , 4. Retained products of conception (25 %) and dysmorphic uterus (25.42%).

After analyzing the results of the Global Congress on Hysteroscopy Quiz and seeing that some difficulties arise when interpreting some basic images about endometrial changes, polyps or fibroids, endometrial hyperplasia or uterine malformations, we have reinforced our idea of the need to have good atlases of hysteroscopic images or collections of images to look at, from which to learn, to consult in case of doubt. Therefore, and because we don't get tired of working for hysteroscopy, we take note from the Newsletter so we can continue working on it!!!

Finally, we would like to thank all attendees for participating in the Hysteroscopy Quiz, while making a special mention to the Podium of winners:

- 1° - **Carlos Buitrago** *(Picture)*
- 2° - **Miguel Rodrigo**
- 3° - **Cristina Oleira**



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



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HYSTEROSCOPY Editorial teaM

Once upon a time, a group of gynecologists interested in hysteroscopy had a dream about the possibility of a global meeting. A way of gather together the best hysteroscopists from all around the world for an intensive and stimulating meeting. A general call to all the gynecologists interested in this art. The date was May 2017 and the selected city was Barcelona.

With and a great network of local representatives, our honorary Members and the Scientific committee... our Ferrari began to accelerate and suddenly the success was unstoppable.

During this race against the time and against the wind, some of our "Big brothers" gave us their support. On the one hand, there were companies really interested in promoting hysteroscopy, those companies that believed in this new and fresh project (Karl Storz, Biolitec, Medtronic, Rz Medizintechnik GmbH, Tontarra, Fziomed, Virtamed, Comeg, Delmond Imaging, Invidia Medical, Nordic Pharma, Yuria-Pharm, Gineworld, Wisepress, Aqueduct Medical and Olympus). On the other hand, the BIG societies who gave us their scientific support and helped us in the promotion of this unique event (ESGE, AAGL, ISGE, APAGE and MESGE)

But the most important part of this congress, the KEYPOINT was the presence of each and every one of you. Beginners and experts, young doctors and not so young, from Africa or from Asia. All of you, with your motivation and interest made this congress something special. A magic moment to meet friends, to look for new experiences, to talk with the FATHERS of the hysteroscopy, to ask Stefano or to talk with Osama. A moment to have a drink with that Italian doctor or to attend to that interesting presentation....



That was the MAGIC of the congress, almost 700 experts in hysteroscopy from all around the world, it was like a group of friends sharing their passion, talking during three days about techniques, tricks, devices, indications.....in one simply work, talking about HYSTEROSCOPY. All five continents under the same roof, all the science about hysteroscopy under the same meeting.

We're working in the next event which will be held in 2019 under the same roof

I 'm looking forward to see all of you there again.

The distance between dreams and reality is called action. It is now time for action...

Luis Alonso Pacheco
Team Coordinator
Hysteroscopy Newsletter

