



# NHYSTEROSCOPY NEWSLETTER

I have been working at the Infertility Center in Tehran for the last 15 years and I have done numerous advanced hysteroscopy operations. Since hysteroscopy was introduced into my country 25 years ago, few doctors have been willing to perform hysteroscopy and there are even fewer experts in advanced hysteroscopy.

Unfortunately, the majority of the gynecologists prefer D+C for common problems like polyps and retained product of conception, which is a blind procedure with lots of complications. On occasion these aggressive curettages for RPOC end up in totally destroyed endometrium.

During the last 15 years in IVF center, I have encountered many patients with infertility, some of them in IVF cycles with a thin endometrium. Such patients are victims of aggressive curettage after miscarriage in which the basal layer of the endometrium has been destroyed and the endometrium will not respond to any dosage of estrogen. Why have they not undergone hysteroscopy?

The reason is most gynecologists prefer to stick to their old routines. I have thought a lot about this problem. I believe the less sophisticated the hysteroscopy device is and the fewer the complications, the more the gynecologist will show interest in this procedure, especially in common cases like polyps and RPOC.

In the last 5 years since I started using Bigatti shaver (IBS) I have performed most of my operative hysteroscopies with this device due to its ease of use, safety, speed and the fact that it is free of complications.

In my view, one of the problems with operative hysteroscopy in my country is the long learning curve for the resectoscope and the complications like fluid overload syndrome.

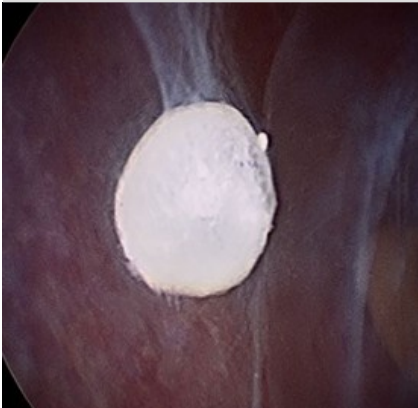
To gain more expertise in operative hysteroscopy there are two solutions. One is to attend different workshops and work with experts for a while, the second is to work with less sophisticated devices like Tissue removal systems.

Personally I have experience only with IBS (Bigatti Shaver) as it is totally reusable and thus quite economical which suits a country like mine.

In the end, with the help of pioneers in this field and by employing more user-friendly and safer devices I believe it is possible to encourage both the older generation of gynecologists and the younger colleagues to adopt hysteroscopy in preference to blind D+C.

**Shahrzad Ansari**  
**Iran**

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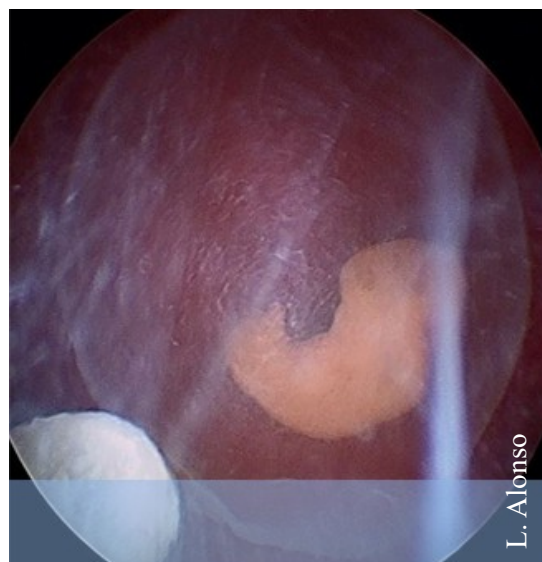
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HYSTEROSCOPY  
PICTURESExtra-embryonic  
membranes*Detailed view of the yolk  
sac*

The extra-embryonic membranes are continuous with the embryonic tissues, but are not part of the embryonic body. They are the yolk sac, the amnion and the chorioallantois. Yolk sac lies outside the embryo connected by a yolk stalk (vitelline duct, omphalomesenteric duct) to the midgut. The yolk stalk normally degenerates around the time the midgut herniation return to the peritoneal cavity and the anterior body wall closes (week 8).

YS has a vital function in transporting nutrients to the embryo and fulfilling exchange functions that are assumed by the placenta, liver, and bone marrow at a later stage.<sup>8</sup> The YS has a complex protein secretion system,<sup>9,10</sup> and it is also the primary source of blood that is transported to the embryo during a period in which the main embryogenetic processes are taking place.<sup>11–13</sup> To permit the transport of nutrients and oxygen to the embryo, a circulatory system begins at an early stage in the wall of the human YS<sup>14</sup>; in addition, the YS is also considered as the source of primordial germ cells, the precursor of gametes. (Pereda T., J., & Motta, P. M. (1999). New advances in human embryology: morphofunctional relationship between the embryo and the yolk sac. Medical Electron Microscopy, 32(2), 67–78. )

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*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](mailto:hysteronews@gmail.com)*

# INTERVIEW WITH...

Somebody really interested in the training of young and not so young doctors

**New technologies, new indications, Is the hysteroscopy having a revolution?**

Hysteroscopy currently undergoes several developments, in the field of telescopes, instruments, uterine distention devices as well as in training and education. Hysteroscopy becomes more popular as a procedure among doctors, although, I am not quite sure how many colleagues understand the importance of hysteroscopy for diagnosis and treatment of endometrial and myometrial pathologies. In my opinion, due to diagnosis accuracy, patients' safety and low cost, office hysteroscopy should replace D&C and become the gold standard technique for investigation of endometrial lesions and symptoms. The appearance of disposable sheaths, use of mobile phones connected to hysteroscopes will continue to develop and technologically will simplify even more diagnostic hysteroscopy. Today, the small diameter hysteroscopes facilitate the direct under vision entry to endometrial cavity, minimizing the risk of perforation. Automated control of intra uterine pressure enable diagnostic and operative hysteroscopy with very low intracavitary pressures reassuring patients' safety and minimizing the risk of distending fluid intravasation. The concomitant use of sonography during hysteroscopy, hystero-contrast sonography has been proved very helpful for diagnosing myometrial and sub endometrial pathologies as well as navigating the hysteroscope towards ostia and measuring the distance between cavity and myometrium serosa margin during surgery. The technological advances and the spectrum of pathologies treated by hysteroscopy are under continuous exploration and development. Hysteroscopy undergoes at present an accelerated evolution, directed mainly by professional societies and industry.

**In your opinion, will the morcellators be the death of resectoscopes?**

Shavers / morcellators are very important instruments in hysteroscopy and indeed can shorten the learning curve of hysteroscopic myoma surgery. It's a part of hysteroscopy evolution. According to NICE, hysteroscopic morcellators improve patients' safety, since there is a clear operative field and fast evacuation of the chips. However, shavers/morcellators do not have the ability to coagulation yet, while the technique to various lesions approach is still under investigation. Bipolar resectoscopes are also important tools for every hysteroscopist armamentarium with tremendous ability of cutting using energy or using cold tip for dissection and mobilization of a mass like fibroids. In addition, resectoscopes are of multiple use instruments and very cost effective once the surgeon, has proper training and experience. Once shavers/morcellators will have the extra features for dissection, cutting power and haemostasis like resectoscopes will probably attract most surgeons to use them.



**Vasilis  
Tanos**

European  
Academy of  
Gynaecological  
Surgery

Scientific Director



The European Academy for Gynaecological Surgery (+the Academy) offers the gynaecological community scientifically validated standards and criteria for training and education in gynaecological endoscopy and establishes certified training programmes for residents and postgraduates.



### Have hysteroscopy reached its limits?

Hysteroscopy is a single and small port entry, endoscopic technique. It's a difficult method of minimally invasive surgery with great diagnostic variability among hysteroscopes and surgeons. The 3 dimensional-hysteroscopy seems difficult to be implemented due to the miniaturization of the telescopes. The normal physiological condition of the uterus is that both anterior and posterior walls are flattened and close to each other and separated by a thin layer of endometrium. The fact that we use distending medium, even at low intrauterine pressure, a-priori we change the appearance of the endometrium and these morphological changes continue, as long distention is increasing. In my opinion diagnostic hysteroscopy has reached a dead end, and probably we may start thinking, about other approaches to visualize in situ the endometrial cavity, without disturbing the endometrium during cycle phases. In operative hysteroscopy the most challenging part is the intrauterine pressure control and avoidance of distending fluid intravasation and fluid overload syndrome. We still have a lot to research and learn about the anatomical structure and functionality of the myometrium, junctional zone endometrium and endometrium as fluid barriers and in association to intrauterine pressure fluctuations, permeability and intravasation pressure levels.

### Is the embryoscopy an underused hysteroscopic indication?

Hystero-embryoscopy (HEpy) can be used for an in-situ autopsy of an embryo in spontaneous miscarriage (SM) and repeated pregnancy loss (RPL). Such an autopsy of a miscarried embryo can provide useful information regarding its morphology to rule out anatomical defects. Additionally, collecting the embryo under direct vision facilitates accurate karyotyping. In our prospective study the cause of SM and RPL was investigated. Embryo autopsy was performed by hysteroscopy technique using 2.9mm – 5mm hysteroscopes, 5Fr graspers and scissors, and normal saline as distending medium. The embryo morphology results were correlated with the genetic results and compared with the patients' diagnosis and treatment during the last miscarriage. Chromosomal abnormalities are diagnosed in 70% of both SM and RPL cases while morphological defects are observed in 51% and 15.7%, respectively. HEpy only failed to diagnose a clear cause of the miscarriage in 10.6% of SM and 5.9% of RPL cases. Therefore, embryoscopy seems to be a valuable method for accurate diagnosis of first trimester SM and RPL causes.

### What's the role of the societies in the training of young and not so young doctors?

The ESGE and EAGS have established a validated system of training and assessment in Minimally Invasive Surgery for both Hysteroscopy and laparoscopy, the Gynaecological Endoscopic Surgery Education and Assessment (GESEA) program, in action since 2008. Other Professional Societies also try to implement various courses in MIS, however, travelling, accommodation, registration fees and leave of absence are the main obstacles for most young doctors to attend such courses. Industry and Societies usually encourage and help financially interested gynaecologists in MIS, during National Congresses and by organization of workshops. In my opinion hysteroscopy should be an obligatory section of residency curriculum since D&C a blind method with poor diagnostic accuracy, should be replaced by office hysteroscopy.

The GESEA Programme is currently represented by 10 accredited GESEA Diploma Centres. Our e-learning platform reports over 10,000 registered learners, the total number of test reports issued to date is 11,250 and the total number of certifications performed is more than 2000, represented by 76 countries.

### Do you have any advice for the young physician who is starting out in the world of surgery?

Patients' safety and surgery optimum outcome should be the cornerstones of a successful surgeon. Most of the complications in hysteroscopic surgery can be prevented. Education and good training are the most important factors for both novice and experience surgeons to reduce the risk of complications. Recent evidence-based studies have shown that certain exercises and training can improve both novices' and experts' skills far more than the traditional apprentice–student method. Vast majority of patients, 30 minutes, even after major hysteroscopic surgery should feel good. In case of severe post-operative pain and /or cardiovascular symptoms may indicate of a complication.

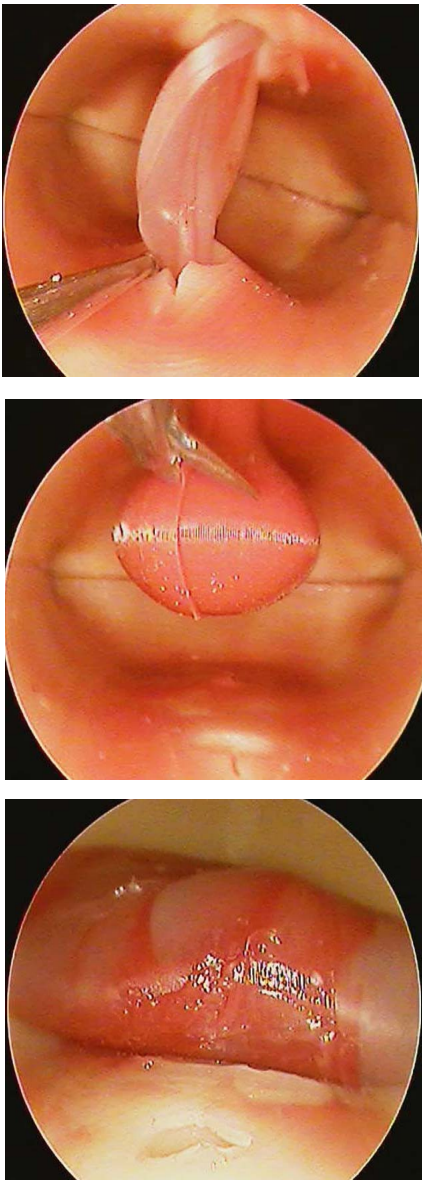


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# Original Article

Hysteroscopy Newsletter Vol 5 Issue 6

## Hysteroscopic structured endometrial evaluation in postmenopause patients with thickened endometrium on ultrasound

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**OBJECTIVE:** To evaluate the performance of the HYCA scoring system in the prediction of endometrial cancer in postmenopausal patients with endometrial thickening in two highly complex institutions.

**MATERIALS AND METHODS:** Descriptive study in postmenopausal patients with endometrial thickening who underwent hysteroscopy and had endometrial tissue for histopathological study for a period of 1 year in two high complexity hospitals; the entire universe was taken (105 patients), measured sociodemographic and clinical variables, HYCA score and pathology result of endometrial biopsy. In the analysis sensibility, specificity, likelihood ratio, predictive values and under curve area, with the respective confidence intervals were estimated; histopathology was taken as gold standard.

**RESULTS:** The evaluation of the test performance showed a sensitivity of 66.70% (CI 95%: 30-90.3), specificity of 99.0% (CI 95%: 94.5-99.8), positive predictive value of 80.0% (CI 95%: 37.6-96.4), negative predictive value of 98.0% (CI 95%: 93-99.4), a positive likelihood ratio of 66.0 (CI 95%: 8.6-502.7), negative likelihood ratio of 0.34 (CI 95%: 0.11-1.05), and an area under the curve of 82.8% (CI 95%: 62.2-100).

**CONCLUSION:** The HYCA scoring system has a high capacity for the prediction of endometrial cancer in postmenopausal patients with endometrial thickening and the results of the present study are similar to those found in the literature.

### KEYWORDS:

Hysteroscopy.  
Endometrial Neoplasms.  
Postmenopause.  
Uterine Hemorrhage.

### INTRODUCTION

Endometrial cancer is the fifth leading cause of morbidity in women over 45 years of age worldwide (1) and the first gynecological cause of malignancy in developed countries (2-5). More than 70% of cases of endometrial cancer are stage I at the time of diagnosis, since it is a frequently symptomatic pathology, reporting 5-year survival rates of 90% (2). In 2018, an incidence of 336,067 cases was documented in patients older than 45 years, with a rate of 29.8 cases per 100,000 women over 45 years of age; ranking fifth in this

population behind breast, colon, lung and cervical cancer (1). The estimated number of deaths for the same year was 86,490 cases with a rate of 7.4 per 100,000 women. According to GLOBOCAN 2018, in Colombia the incidence in 2018 was 1,448 cases with a rate of 18.5 cases per 100,000 women over 45 years with a mortality rate of 4.4 cases per 100,000, representing the ninth leading cause of morbidity due to cancer and the fourteenth leading cause of cancer mortality in this population age group (1).

The main symptom associated with endometrial cancer is vaginal bleeding occurring in up to 90% of post-menopausal women (2-4,6), but only 10% of postmenopausal bleeding is related to neoplasia, so further investigation is necessary in patients presenting with postmenopausal bleeding (7). The American College of Gynecology and Obstetrics (ACOG) recommends transvaginal ultrasound as an initial evaluation in patients with postmenopausal bleeding; taking as cut-off 5 mm thickness, since lower values reliably exclude endometrial cancer with a negative predictive value greater than 99% (4).

Patients with endometrial intraepithelial neoplasia or endometrial cancer may be asymptomatic, so measurements of 10 mm or more in postmenopausal patients without bleeding require individualized evaluation taking into account clinical characteristics and risk factors for conducting studies such as hysteroscopy that allow diagnosis and timely treatment (8-14).

The International Federation of Gynecology and Obstetrics (FIGO) recommends performing endometrial biopsy to all postmenopausal women with a history of vaginal bleeding and risk factors for endometrial cancer (prolonged exposure to estrogens, smoking, diabetes mellitus, hypothyroidism, breast cancer , exposure to selective estrogen receptor modulators) (7).

Direct visual evaluation of the endometrial cavity by hysteroscopy has shown good accuracy for diagnosis of clearly malignant lesions (15) and associated with directed endometrial sampling

improves the accuracy in the diagnosis of lesions such as endometrial polyps, focal endometrial hyperplasia or carcinomas, compared with blind sampling; This is because different types of lesions can be seen in different areas of the endometrial cavity and the accuracy of the targeted sampling depends on the observation of the most suspicious pattern (16).

There are hysteroscopic patterns that allow predicting the risk of endometrial cancer, however there are few standardized hysteroscopic evaluation scales to predict the risk of endometrial cancer (17,18). These scales avoid delay in diagnosis and timely referral to the gynecology oncology services. Among these, we find the Hysteroscopic Cancer scoring system (HYCA) (Table 1), which demonstrated great effectiveness and predictability of endometrial cancer taking as a cut-off score greater than or equal to 3, with a sensitivity of 88.5%, specificity of the 92.1%, positive likelihood ratio of 11.13, negative likelihood ratio of 0.125 and an area under the curve of 0.973 (95% CI 0.95-0.99) (15,16).

The few studies that document the costs of treatment for endometrial cancer show that the majority of years of life gained are attributable to hysterectomy. The years of life gained and the costs are greatly affected by age at the time of diagnosis, the histological grade of the cancer and the associated comorbidities (19). Thus, since treatment costs are almost 3 times higher for cancers detected in stage III compared to stage I, explained by the need for adjuvant therapy and the cost of managing complications and follow-up procedures for patients in advanced stage (20).

Due to the high burden of disease caused by this pathology, survival rates of only 25% in patients in advanced stages of the disease, high costs for the health system that represents a late diagnosis, the application of strategies that allow for early and timely diagnosis and management, therefore, the objective of this study was to evaluate the performance of HYCA scoring system in the prediction of endometrial cancer in postmenopausal patients with endometrial thickening in two highly complex institutions.

Hysteroscopy Cancer (HYCA) scoring system			
VARIABLE	SCORING		
	PRESENT	ABSENT	VALUE
Irregular surface	1	0	N1
Papillary projections	1		N2
Surface necrosis	1	0	N3
Candy floss pattern	1	0	N4
Hyperintense white spots	1	0	N5
Irregular branching	1	0	N6
Irregular distribution	1	0	N7
HYCA: N1+N2+N3+N4+N5+N6+N7			



## MATERIALS AND METHODS

A descriptive study was carried out with a review of medical records including postmenopausal patients with thickened endometrium determined by transvaginal ultrasound, who underwent hysteroscopy with endometrial biopsy during a period of 1 year in two hospitals: San José University Hospital (Popayán), Nuestra Señora de los Remedios Clinic (Cali), located in the south west of Colombia, which serve the underserved population. All consecutive patients were taken, sociodemographic, clinical variables, HYCA scale and pathology result of endometrial biopsy were measured. In the analysis, sensitivity, specificity, likelihood ratio, predictive values and area under the curve were estimated with their respective confidence intervals. The medical records that did not meet 90% of the variables were excluded.

### Procedure

Medical records of women undergoing operative hysteroscopy were analyzed in a period between January 2018 and January 2019; to which the inclusion and exclusion criteria were applied. Hysteroscopy was performed with a 5 mm Storz rigid hysteroscope in patients under anesthesia using the vaginoscopy "No touch" technique, with a Karl Storz Full HD endoscopic camera with 4K technology. The hysteroscopic procedures were performed by two gynecologists experts in hysteroscopy. Normal saline solution was used as a means of distension of the endometrial cavity. The systematic evaluation of the cervix, endocervix, endocervical canal, endometrial cavity was performed visualizing anterior, posterior, lateral walls, uterine fundus, ostiums and the corresponding endometrial characteristics. The duration of each procedure was between 15 and 20 minutes. The hysteroscopic findings were evaluated using a hysteroscopic scale called HYCA scoring system based on the characteristics of the lesion such as surface, papillary projections, necrosis, spots, vessel characteristics and their distribution.

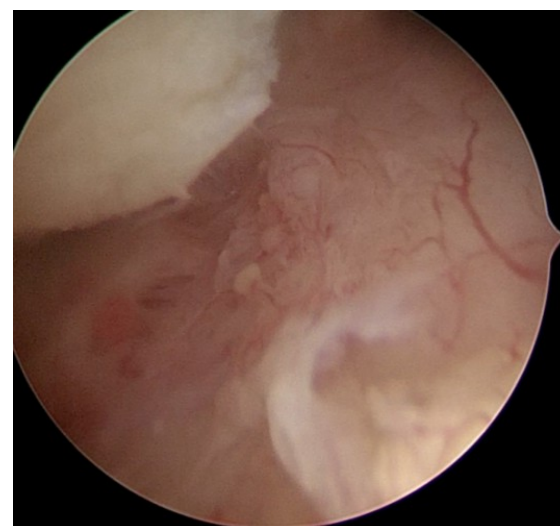
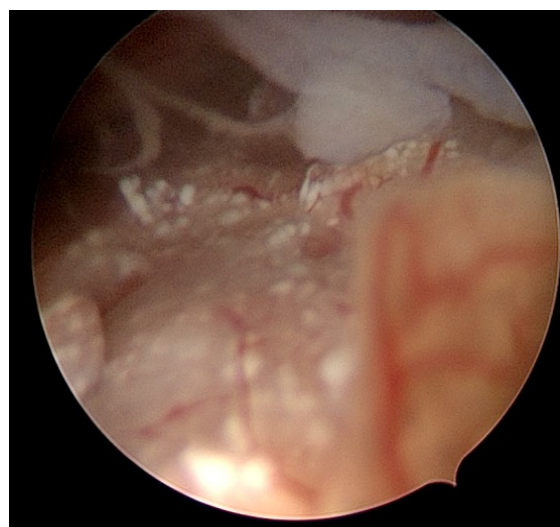
Endometrial tissue sampling was obtained by hysteroscopy-directed biopsy, the tissue was fixed with 10% formalin and sent to the pathology. There, the excess fixative was removed, the sample was placed in liquid paraffin forming blocks, which were passed through a microtome to obtain cuts of 3 microns; the plates were stained with the hematoxylin/eosin technique. The sample

was evaluated at the microscope by experienced pathologists who were blind to the hysteroscopic findings.

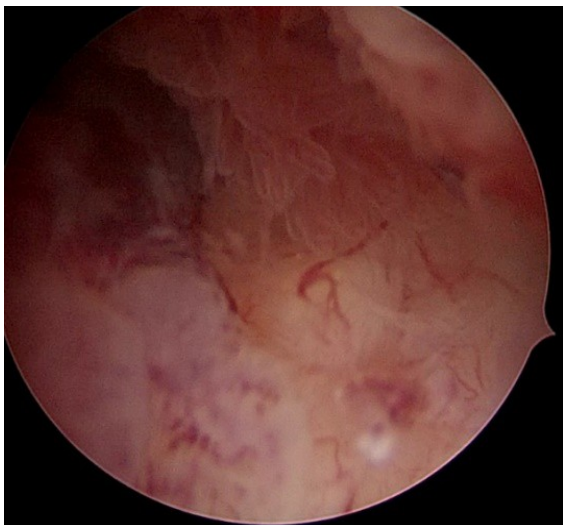
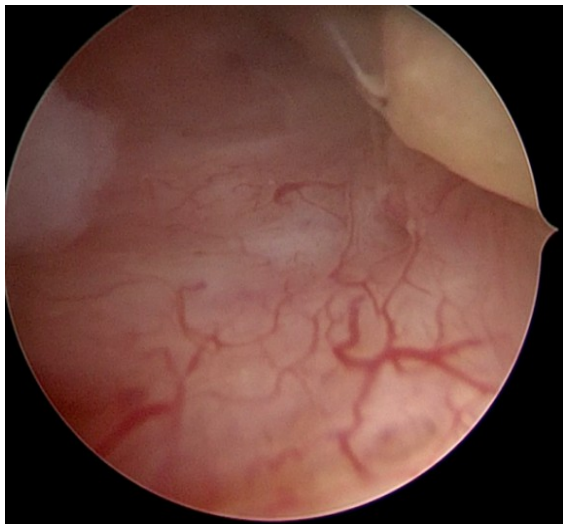
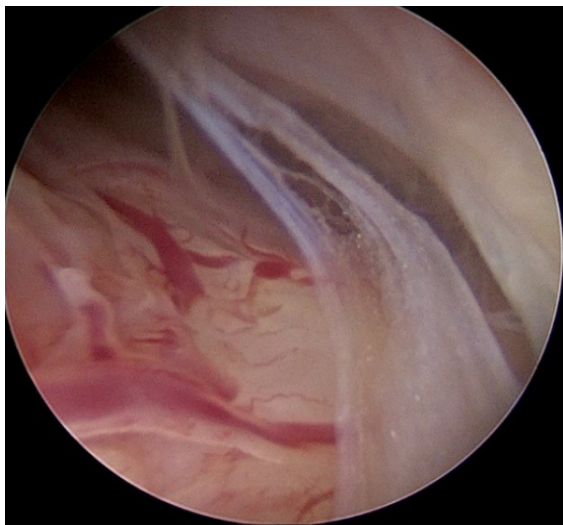
Finally, a database was created in Excel, controlling its entry through validation rules guaranteeing the reliability and quality of the data. The following variables were collected: age, comorbidities (diabetes mellitus, hypothyroidism, obesity, breast cancer, tamoxifen consumption, hormone replacement therapy), hysteroscopic findings (HYCA scale) and pathology results.

### Statistical analysis

The variables were analyzed individually, from the exploratory point of view, to look at the normality of their distribution and identify extreme and lost values that could influence the results; subsequently the test performance was evaluated by determining: sensitivity, specificity, predictive values, likelihood ratio and area under the curve; with a 95%







confidence interval. The Student's t-test was used for continuous variables with normal distribution after analysis of variance, for those of non-normal distribution, the Mann-Whitney U was used prior to

the application of Shapiro Wilk and chi-square or Fisher normality test when appropriate. The statistical analysis was performed with the statistical package STATA version 14.

The present study was approved by the IRB Committee and complied with the requirements for medical research in human beings established in the Declaration of Helsinki (21) and in accordance with resolution number 8430 of 1993 by which scientific standards are established, techniques and administrative for health research (22)

RESULTS

During the study period, a total of 400 operative hysteroscopies were performed. All the medical records were reviewed and after applying the inclusion and exclusion criteria, 250 were discarded because they were patients who were not in the postmenopausal stage, 20 medical records due to the absence of endometrial pathology results and 25 failed to meet requirements to enter the study (figure 1). The average age was 57.0 years (SD ± 9.4 years); Symptoms associated with postmenopausal uterine bleeding occurred in 42.86% (n = 45) of the population analyzed.

Regarding baseline characteristics, we found a history of arterial hypertension in 34.29% (n = 36) of the population, obesity (body mass index ≥30) in 25.71% (n = 27), diabetes mellitus in 13.33% (n = 14), hypothyroidism in 7.62% (n = 8) and breast cancer who were using tamoxifen in 5.71% (n = 6).

Table 2 shows the main findings of hysteroscopy and Table 4 the application of the HYCA scale. The pathology showed high frequency of endometrial polyps, followed by endometrial atrophy and leiomyomas (Table 4).

Finally, the performance of the HYCA scoring system for endometrial cancer prediction was determined, obtaining the following parameters: sensitivity, specificity, predictive values and likelihood ratio (Table 5), in addition to obtaining the area under the curve (Figure 2).

DISCUSSION

The patients presented in this study mostly had history of hypertension, obesity and diabetes mellitus, which in the literature have been described as risk factors for endometrial neoplasia (23,24,25).

Benign hysteroscopic findings were present in most of the samples, finding a predominance of endometrial polyps, endometrial atrophy and submucosal myomas and showing only 5.7% suggestive findings of neoplastic pathology, data consistent with the literature (16,26). In the present study, the HYCA scale showed adequate performance in predicting endometrial cancer evidenced in an area under the curve of 0.828, which is similar to the value shown in the original study (0.964 [CI 0.94-0.99]), revealing that most cases of endometrial cancer could be identified by this scoring system (16).

Dueholm evaluated patients with postmenopausal bleeding and a high suspicion of malignancy obtaining a high percentage of endometrial cancer in the samples evaluated (40.9%) (16), while our study was conducted in patients with postmenopausal endometrial thickening and risk factors for endometrial cancer without taking into account the bleeding, which showed a low prevalence of endometrial cancer (5.72%). Despite this, the area value under the curve did not decrease significantly, reinforcing the idea of the effectiveness of the application of HYCA scoring system for the prediction of malignant endometrial pathology in our population.

HYSTEROSCOPIC FINDINGS IN POSTMENOPAUSAL WOMEN WITH THICKENED ENDOMETRIUM		
HYSTEROSCOPIC FINDINGS	n	%
Endometrial polyp	49	46,67
Endometrial atrophy	24	22,86
Submucous myoma	12	11,42
Thickened endometrium	7	6,67
Suspicious lesion HYCA $\geq 3$	5	4,76
Menstrual endometrium	5	4,76
Adenomyosis	1	0,95
Foreign body (IUD)	1	0,95
Isthmocele	1	0,95
TOTAL	105	100

When comparing the results with the original study, we found a lower sensitivity (66.7% vs. 88.5%), higher specificity (99% vs. 92.1%), LR + higher (66 vs. 11.3) and LR- higher (0.34 vs. 0.125) (16). The sensitivity variability could be explained by the sample size of our study, which in turn is reflected in the wide confidence interval obtained for this parameter. Within the results of the histopathological evaluation carried out, a small number of samples compatible with endometrial cancer were found, specifically 6 out of a total of 105, four of which were classified as high risk for endometrial cancer at the time of the hysteroscopic evaluation, presenting two false negatives thus

leading to a lower sensitivity of our study compared to the original study.

HYCA SCORING SYSTEM		
HYCA SCORE	n	%
< 3	100	95,24
$\geq 3$	5	4,76
TOTAL	105	100

Despite the above, among the patients who obtained a negative pathology result, only 1 of them was classified as high risk during the hysteroscopic evaluation, thus becoming a false positive, a result that does not greatly modify the specificity due to the large number of patients with a negative diagnosis for malignancy. Regarding the above, it is important to clarify that the patient who was classified as high risk with negative biopsy for endometrial cancer had endometrial hyperplasia with atypia on biopsy. The wide difference between the values of the likelihood ratios could be explained due to the small sample size of our study.

Gkrozou et al. performed a meta-analysis in 2015 where the sensitivity and specificity of hysteroscopy were evaluated for the diagnosis of endometrial carcinoma founding a sensitivity of 82.6% and a specificity of 99.7% (27). In the same way as in the previous analysis, the study in question has a higher sensitivity than that obtained in our study with a similar specificity, explained by the sample size and the presence of the two false negatives cases in our study.

We identify the following strengths in our study, the outcome variable was standardized, the patients who underwent hysteroscopy were evaluated without selecting cases with high suspicion of malignancy, thus becoming a representative sample of the general population that presents this condition. The procedure was performed by expert hysteroscopists, which improves the performance of the scale, since a decrease in the sensitivity and specificity of the diagnosis has been demonstrated when it is carried out by physicians with little experience in performing hysteroscopy (28).

It is important to highlight that at the time of the analysis of the pathology samples, the expert pathologist was blinded to the results of the hysteroscopic findings, which in turn were performed

PATHOLOGY RESULTS		
BIOPSY	N	%
Endometrial polyp	49	46,67
Endometrial atrophy	31	29,52
Submucous myoma	8	7,62
Normal Endometrium	6	5,71
Hyperplasia without atypia	4	3,81
Uterine serous carcinoma	3	2,86
Endometrioid carcinoma	3	2,86
Hyperplasia with atypia	1	0,95
TOTAL	105	100

by trained personnel with extensive experience in performing the procedure. We also acknowledge the small number of patients diagnosed with endometrial cancer as a weakness of our study.

Although hysteroscopy is sensitive and specific for the detection of endometrial cancer, the findings can be subjective, for this reason the present article brings to the light of the evidence in endoscopic surgery the application of a standardized hysteroscopic scale and seeks to give way to large-scale studies to universalize this concept that can be used by gynecologists to determine when to submit patients to hysteroscopy, avoiding delays in diagnosis and timely treatment.

CONCLUSSION

The HYCA scoring system for the prediction of endometrial cancer in postmenopausal women with endometrial thickening and risk factors for endometrial cancer presented adequate performance, similar to the literature published so far and could become a predictive instrument for the diagnosis of endometrial cancer. Given the small sample size of our work, studies with a larger population are needed to recommend its use.

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# Talking About

Hysteroscopy Newsletter Vol 5 Issue 6

## Dysmorphic Uterus. A new look at an old problem

Luis Alonso. Centro Gutenberg. Spain




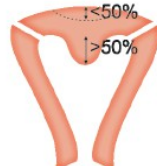
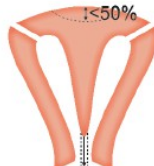


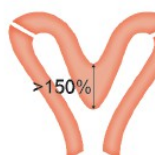




Uterine congenital anomalies have always fascinated the gynecologic surgeon. The option of surgically correcting uterine malformations is a combination of science and art turning those who perform these complex procedures in real plastic surgeons of the uterus or as I like to define them: utero-plastic surgeons.

The true prevalence of uterine anomalies is very difficult to establish. On the one hand, a large group of women with these uterine maslformation do not have any symptoms throughout their reproductive life, so they go unnoticed. On the other hand, the use of different classifications systems and of different diagnostic methods by different working groups, makes it impossible to obtain homogeneous results.

Based on the data of a systematic review published by Chang et al based on 94 observational studies including 89861 women, it was reported that the prevalence of uterine

malformations was 5.5% in the general population, 8.0% in infertile women, 13.3% in women with history of spontaneous abortions and up to 24.5% in women with combined history of abortions and infertility [Chan YY, Jayaprakasan K, Zamora J, Thornton JG, Raine-Fenning N, Coomarasamy A. The prevalence of congenital uterine anomalies in unselected and high-risk populations: a systematic review. Hum Reprod Update 2011; 17 (6): 761-71. ]

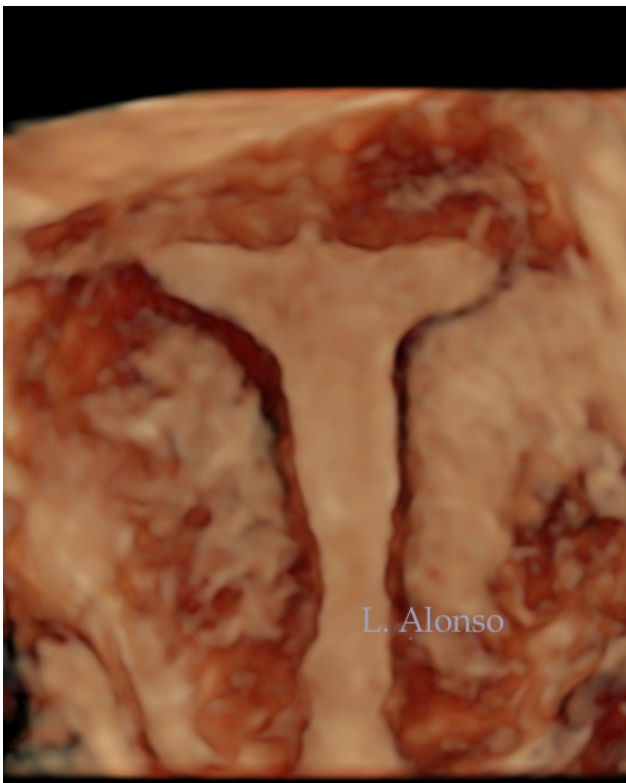
A great analysis of the distribution of uterine malformations was presented by Grimbizis et al. According to their report, the most common uterine malformation is septated uterus, which accounts for 34.9% of the total uterine malformations, followed by bicornuate with 26% and arcuate with 18.3%. The remaining 20.8% is composed by the rest of other uterine malformations combined. [Grimbizis GF, Camus M, Tarlatzis BC, Bontis JN, Devroey P. Clinical implications of uterine malformations and hysteroscopic treatment results. Hum Reprod Update 2001; 7 (2): 161-74.].

<b>Class U0/normal uterus</b> 	<b>Class U1/dysmorphic uterus</b>  a. T-shaped  b. Infantilis c. Others		
<b>Class U2/septate uterus</b>  a. Partial  b. Complete	<b>Class U3/bicorporeal uterus</b>  a. Partial  b. Complete  c. Bicorporeal septate		
<b>Class U4/hemi uterus</b>  a. With rudimentary cavity  b. Without rudimentary cavity	<b>Class U5/aplastic uterus</b>  a. With rudimentary cavity  b. Without rudimentary cavity		
<b>Class U6/unclassified cases</b>			

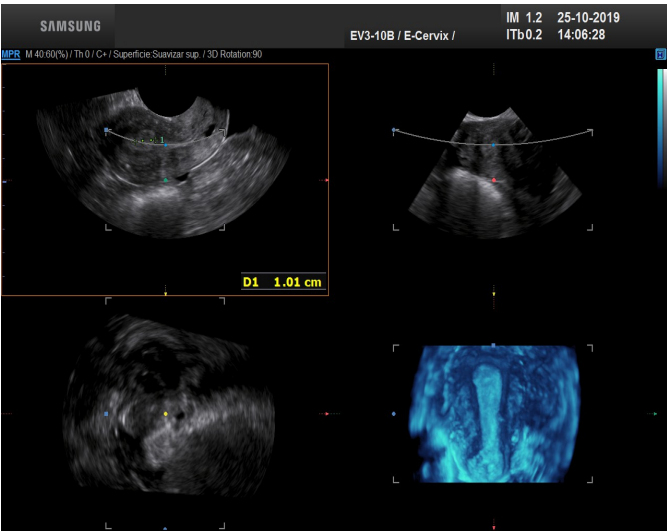
Similar results to those described by Grimbizis et al, are those published by Raga [Raga F, Bauset C, Remohi J, Bonilla-Musoles F, Simon C, Pellicer A. Reproductive impact of congenital Müllerian anomalies. Hum Play 1997; 12 (10): 2277-81.] In this work, they observed that 60% of uterine malformations were either septated or arcuate uterus, which makes the vast majority of the uterine malformations suitable to hysteroscopic diagnosis.

In 1930, doctors K. Menge and K. V Oettingen defined two clearly abnormal types of uteri, that were different from the normal uterus. The uteri with abnormal development had a modified uterine size or an abnormal morphology of the uterine cavity. The hypoplastic uterus that showed a normal relationship between length cervical and uterine body of approximately 1:2 ratio and the infant uteri that showed an abnormal relationship between the cervix and the uterine body, range 1:1 or 2:1.

Later in 1979, Buttram and Gibbons propose their classification of Müllerians Anomalies that was subsequently revised and adopted in 1988 by the American Fertility Society [currently American Society for Reproductive Medicine (ASRM)] In this classification, that is clinically used worldwide, the T shaped uterus is listed as type VII and is related to intra-uterine exposure to Diethylstilbestrol (DES).



Recently the classification of uterine malformations proposed by the ESGE / ESHRE has incorporated the category Dysmorphic uterus or class U1. Within this category we find the T shaped uterus or class U1a that is defined as any uterus with normal external uterine contour but with abnormal thickening of the uterine lateral walls that gives the uterine cavity a hypoplastic shape with a body/cervix ratio of 2:3 and 1:3. (Grimbizis, G. F., et al. (2013). "The ESHRE-ESGE consensus on the classification of female genital tract congenital anomalies. "Gynecol Surg 10 (3): 199-212.)



Finally, our group has presented a subclassification based on the findings observed through the combined use of 3D ultrasound and hysteroscopy (Alonso Pacheco L, Laganà AS, Ghezzi F, et al <https://doi.org/10.1016/j.fertnstert.2019.04.020>) Subtypes of T-shaped uterus. Fertil Steril 112: 399–400.)

According to our proposal, it is possible to identify three different subtypes of class U1a uterus:

- **T-shaped Uterus:** with thickening of the lateral walls and normal fundus (absence of septum or subseptum) with a normal or increased interostium distance.
- **Y-shape Uterus:** with thickening of the lateral walls and fundal indentation subseptum type and a normal or decreased interostium distance.
- **I-shaped Uterus:** with thickening of the lateral walls and a very marked reduction of the interostium distance, which gives the entire uterine cavity a tubular appearance.

The cause of this type of uterine malformation remains unknown and, although there is a clear correlation to in utero exposure to DES, the cases that we are seen today cannot be related to this drug, since it was withdrawn from clinical use in the beginning of the 1970s which makes it very difficult to find today a T-shaped uterus related to DES intrauterine exposure in a women of reproductive age.

The importance of this type of uterus lies in the ominous obstetrical outcome with a fertility rate under 2% and with extremely high infertility and miscarriage rates. These terrible obstetrical outcomes improve exponentially after hysteroscopic metroplasty with uterine cavity enlargement which is a quick and simple surgery that is offering very promising outcomes.

	REFERENCE	YEARS	DIAGNOSIS	N	LIVE BIRTH RATE BEFORE SURGERY	SURGERY	LIVE BIRTH RATE AFTER SURGERY
Hysteroscopic enlargement metroplasty for T-shaped uterus: 24 years' experience at the Strasbourg Medico-Surgical and Obstetrical Centre	<a href="#">Eur J Obstet Gynecol Reprod Biol.</a> 2018 Jul;226:30-34 <a href="#">Ducellier-Azzola G, Lecointre L, Hummel M, Pontvianne M, Garbin O.</a>	1992-2016	HSG $\pm$ 2D 3D $\pm$ HSC	112	2,5%	Resectoscope + Hysteroscope Versapoint	60,6%
Hysteroscopic outpatient metroplasty for T-shaped uterus in women with reproductive failure: Results from a large prospective cohort study.	<a href="#">Eur J Obstet Gynecol Reprod Biol.</a> 2019 Sep 21 <a href="#">Alonso Pacheco L, Laganà AS, Garzon S, Pérez Garrido A, Flores Gornés A, Ghezzi E.</a>	2015-2017	Office hysteroscopy and 3D ultrasound (3D-TVS)	63	0	Hysterposcopy Scissors	63,3%
Hysteroscopic Corrections for Complete Septate and T-Shaped Uteri Have Similar Surgical and Reproductive Outcome	<a href="#">Reprod Sci.</a> 2018 Dec;25(12):1649-1654 <a href="#">Şükür YE, Yakıştıran B, Özmen B, Sönmez M, Berker B, Atabekoğlu C.</a>	2009-2015	HSG and ultrasonography 2D-3D	78	8%	Resectoscope	62,1%
Surgical correction of T-shaped uteri in women with reproductive failure: Long term anatomical and reproductive outcomes	<a href="#">J Gynecol Obstet Hum Reprod.</a> 2019 Jan;48(1):39-44 <a href="#">Boza A, Akin OD, Oguz SY, Misirlıoğlu S, Urman B.</a>	2015-2017	HSG and ultrasonography 2D-3D	56	0	Hysteroscope Versapoint	66%
Surgical approach to and reproductive outcome after surgical correction of a T-shaped uterus	<a href="#">Hum Reprod.</a> 2011 Jul;26(7):1730-4 <a href="#">Fernandez H, Garbin O, Castaigne V, Gervaise A, Levallant JM.</a>	1995-2005	HSG $\pm$ 2D 3D $\pm$ HSC	97	0	Hysteroscope versapoint or monopolar Resectoscope	63%
Reproductive outcomes of office hysteroscopic metroplasty in women with unexplained infertility	<a href="#">Turk J Obstet Gynecol</a> 2018;15:135-40 <a href="#">Haydardedeoğlu B, Doğan Durdağ G, Şimşek S, Çağlar Aytaç P, Çök T, Bulgan Kılıçdağ E.</a>	2013-2016	HSG	272	0	Hysteroscope Versapoint	43%
Reproductive outcomes after hysteroscopic metroplasty for women with dysmorphic uterus and recurrent implantation failure	<a href="#">Facts Views Vis Obgyn.</a> 2018 Jun;10(2):63-68 <a href="#">Ferro J, Labarta E, Sanz C, Montoya P, Remohi J.</a>	2088-2015	Office hysteroscopy and 3D ultrasound (3D-TVS)	190	0,5%	Hysterposcopy Scissors	77,9%
Long Term Reproductive Outcome s after Hysteroscopic Treatment of Dysmorphic Uteri in Women with Reproductive Failure	<a href="#">J Minim Invasive Gynecol.</a> 2019 May 27 <a href="#">Di Spiezio Sardo A, Campo R, Zizolfi B, Santangelo F, Meier Furst R, Di Cesare C, Bettocchi S, Vitagliano A, Ombelet W.</a>	2011-2017	Office hysteroscopy and 3D ultrasound (3D-TVS)	214	0	Hysterposcopy Scissors	58,4%





## Hysteroscopy News

Andrea, Andreas Turkow, Dimitri Cvetkoff, Dr, Dr. Adel Sedrati, Dr. Alej...



All we know the recomendations of the different societies regarding the hysteroscopy in postmenopausal women.....  
But.....Is there for you any endometrial thickness under transvaginal sonography which indicates the need for further hysteroscopic diagnosis?  
Please give an answer ... more interesting answer will be included in the next issue of Hysteroscopy Newsetter!!!!

16:34 ✓

+55 21 99987-6107 ~Carmen Sonia

In my experience, thicknesses between 5 and 6 mm generally correspond to normal findings:

- inexperience of the sonographer.
- thick mucus retained in the uterine cavity.
- cystic atrophy of the endometrium.

Thicknesses over 7mm usually correspond to some type of pathology, and those with presents fluid, usually correspond to fibrocystic polyps.

Thickness over 10 mm, heterogeneous and accompanied by bleeding, have more probability to malignancy.

17:05

Rahul Manchanda

Anyone with symptoms I would scope and depending on the history anyone more than 3-4mm, I would scope especially given the fact that it is an office procedure without any anaesthesia/ pain . My threshold for erring would be on the side of extreme caution.

17:07

Dr. Haimovich

In our center if there is a single episode of PMB without reiteration with an endometrium under 5mm, we do not perform hysteroscopy. If their is more than one episode and/or endometrium is 5 or more...then hysteroscopy

18:57

+36 70 311 2864 ~Török P

- PMB always biopsy, hysteroscopy preferred
- >5mm hysteroscopy

19:02



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## Hysteroscopy News

Andrea, Andreas Turkow, Dimitri Cvetkoff, Dr, Dr. Adel Sedrati, Dr. Alej...



Luigi Montevercchi



Tú

All we know the recommendations of the different societies regarding the hysteroscopy in postmenopausal women.....

But.....Is there for you any endometrial thickness under transvaginal sonography...

Hello my friend 😊!

In my opinion it is necessary to consider three parameters: 1) bleeding (present or absent) 2) uniformity of endometrial thickness (diffuse or focal) 3) quantity of thickness. The three criteria can have different combinations (for example: uniformly thick endometrium, 10mm, without bleeding or 4mm endometrium located on the uterine fundus, with bleeding. It is obvious that the meaning will be different, as is the diagnosis ...). In any case I follow this criterion: if bleeding is present, always hysteroscopy. If the thickness is greater than 4 mm (focally) or 6 mm (diffusely): hysteroscopy; in other cases: ultrasound check after three / four months

17:09

+39 347 223 0976 ~Francesca



This is "our US endometrial language." Endometrial thickness is high sensitive but presents low specificity. Nevertheless a cut off of 4 or 5 mm is still considered. Other factors are important to discriminate endometrial pathologies (written in the article). I agree: In the presence of AUB in postmenop patients Hys is indicated. In the absence of postmenop AUB endometrial thickness, vascularity, homogeneity, regularity of JZ etc have to be evaluated (and sonohysterography improves the sensitivity) but unfortunately US doesn't present the criteria to be considered as a screening test for endometrial cancer.

18:32

+213 662 35 46 46 ~Amal Drizi

Very interesting discussion!

The threshold to define post menopausal thick endometrium is = 5 mm too. But I agree it could be debatable.

If thick endometrium in asymptomatic patient, there is no scientific evidence that something should be done. Hydro sonography often reveals polyp. It's a problematic situation for me. I do counseling and together with the patient, we decide if we monitor or go to hysteroscopy.

If thick endometrium + symptomatic patient (AUB), honestly, I start with pipelle of cornier biopsy. If it reveals cancer, oncosurgery is directly scheduled. The pipelle would have thus allowed a diagnosis without any risk of iatrogenic dissemination to the peritoneal cavity (as we don't use any fluid).

If the pipelle reveals anything else but cancer, I schedule hysteroscopy (in order to formally eliminate a focal carcinoma + have a diagnosis plus eventual targeted biopsies).



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# Original Article

Hysteroscopy Newsletter Vol 5 Issue 6

## Chronic pelvic pain after Essure: results after device removal

García López E., Álvarez López C., Arispe Cornejo C., Hernández Gutiérrez A.  
Hospital Universitario La Paz. Madrid. Spain.

### ABSTRACT

There is a large number of women using Essure as definitive contraceptive method and we need to pay attention to the possible adverse effects that we may observe. This study is focused in the chronic pelvic pain that appear after the insertion of Essure.

Keywords:

Essure,  
Chronic pelvic pain,  
Complications

The main objective of the study is identify possible predictive factors related to the improvement of the patient after the removal of the device.

31 patients underwent intervention for Essure® withdrawal from 2006 to 2016 were reviewed.

When carrying out the statistical analysis of the data, it is demonstrated that the remission of the symptomatology after the removal of the device is fundamentally related to the description of a difficult insertion.

### INTRODUCTION

Until its withdrawal from the market, the use of the Essure® device as a permanent sterilization technique by hysteroscopy was widely used. The large number of patients using this method creates the need to pay attention to the possible adverse effects that we may encounter and that, although rare and generally of a mild nature, can have important consequences for the quality of life of the patient.

We will focus on the chronic pelvic pain that appeared after the insertion of an Essure® device. Despite being an unusual situation, some patients report diverse forms of discomfort that might even require re-intervention for the removal of the device.

### OBJECTIVE

To analyze the characteristics of the patients that require the removal of an Essure® device, trying to study possible predictive factors related to the improvement of the patient after the removal of the device and factors that help in the planning of the surgery.

### MATERIALS AND METHODS:

We reviewed the medical records of all patients from our center that had undergone reintervention using laparoscopic salpingectomy or hysteroscopy to remove the Essure® device from 2006 to 2016.

In all cases, the complete extraction of the device





was checked in the operating room. After the surgery, telephone follow-up of all the patients was performed to know their status after the intervention. The data was analyzed using the software STATA version 14.

## RESULTS

31 patients underwent intervention for Essure® withdrawal from a total of 1108 devices inserted in our hospital

The mean age of the patients was 41.3 years (24-52 years). Regarding the reason for withdrawal, 21 patients (67.7%) reported chronic pelvic pain, 5 of them reported dysmenorrhea, 2 generalized pruritus and 3 reported weight gain and asthenia. The mean time elapsed between the insertion of Essure® and the withdrawal was 51 months (15.9-120 months). Difficult insertion was described in ten patients (six of them due to previous synechiae and the rest due to stenotic ostium).

19 patients reported improvement in symptoms after device removal. These are 14 patients with chronic pelvic pain, 4 with dysmenorrhea and one with pruritus.

In all cases in which the Legendre classification indicated that the greater proportion of the device was in the tube, salpingectomy was performed.

In these cases when the device was at the level of the ostium (1 + 2 + 3, 1 + 2, 2 + 3), the salpingectomy could be performed up to the cornual level without incidents because the proximal fibrosis of the tube prevented bleeding at that level. In the case in which the ultrasound indicated the distal location of the device at the tubal level (+3), greater bleeding was observed at the cornual level when performing the surgery.

On the other hand, in the only case in which the ultrasound indicated that the greater proportion of the device was at the intracavitary level (1 + 2), the withdrawal was made via hysteroscopy.

When carrying out the statistical analysis of the data, it is demonstrated that the remission of the symptomatology after the removal of the device is fundamentally related to the description of a difficult insertion ( $p < 0.007$ ). Another element in which a statistically significant relationship was demonstrated was the time from insertion to surgery ( $p < 0.03$ ). No statistically significant differences were observed between the resolution of the symptoms and the age of the patient, the Legendre ultrasound classification, parity or the presence of comorbidities.

## CONCLUSION

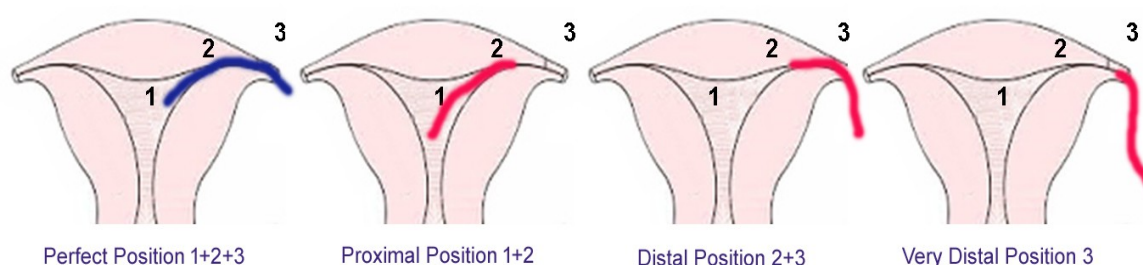
The rate of side effects associated with the Essure device is very low, which is proven in our series of cases.

It has been seen that in those patients in whom the insertion is unsatisfactory there is a higher probability of the appearance of pelvic pain, however, the remission of symptoms in these patients was 100% after the device was removed.

The time of evolution of the symptomatology is shown as a prognostic factor, which should be considered for the early approach of the intervention in case of the appearance of symptoms.

The Legendre classification is a very useful means when deciding the approach for the removal of the devices (hysteroscopic vs laparoscopic)

Legendre. 3D ultrasound to assess position of Essure. Fertil Steril 2010.







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