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NHysteroscopy **EWSLETTER**

The first hysteroscopy in the Ukraine was performed in the mid-1980s by groups of enthusiasts in clinics at medical universities. In those years, the main medium for visualization was carbon dioxide and, as a rule, Storz hysteroflators were used. Even in those early years, hysteroscopy fans performed almost all the different intrauterine surgeries, including myomectomy.

In connection with the emergence of deaths due to gas embolism, in the early 90's, the ubiquitous transition to liquid hysteroscopy began. As a rule, in those years hysteroscopy was an examination of the uterine cavity by a single-channel hysteroscope without an instrumental canal. After examining the cavity, the curettage of the uterine cavity was performed. Despite the primitiveness and low quality information, this practice persisted until the early 2000s and is still preserved in few clinics.

Since the beginning of the 2000s, monopolar hysteroresectoscopy began to develop actively. Since that time, hundreds and thousands of hysteroresectoscopies have been performed by individual enthusiasts. As a medium, glucose or balanced amino acidcarbohydrate solutions of low viscosity were used.

Despite the widespread use of the Internet and the emergence of social networks, diagnostic and surgical hysteroscopy has not been widely used in Ukraine until 2006. Since 2006 there has been a more active development of hysteroscopy, which is connected to the organization of a number of regular conferences devoted to gynecologic endoscopic surgery, with the involvement of international experts. It was 2006 that, in my opinion, became the year of Ukraine for the rapid development of gynecological endoscopy and hysteroscopy in particular.

From 2006 to the present day, the spread of hysteroscopy has steadily increased. To date, many public and private centers have in their arsenal hysteroscopes and hysteroresectoscopes. Since 2012, bipolar hysteroresectoscopy has started to develop actively. Diode lasers have been widely used since 2013. After 2015, shavers appeared in some places. In 2018, the first systems using 3 mm laparoscopic instruments for performing intrauterine manipulation have appeared.

Despite the huge growth spurt that hysteroscopy has had in our country, the issues of training and acquiring new equipment remain urgent. However, all gynecologists understand the importance and benefits of hysteroscopy, which makes 100% incorporation of this technique into our practice a matter of time. I hope, and I am even confident that office hysteroscopy, intrauterine operations in outpatient settings, laser



technologies, hysteroscopic embryoscopy and many other kinds of hysteroscopy will become a "stethoscope" of Ukrainian gynecologists in the next five years. Progress is inevitable.

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INSIDE THIS ISSUE



Welcome	1
Hysteroscopy Pictures Chronic endocervicitis	2
Interview of the month Luiz Cavalcanti	3
HysteroProject	5
Original Article Experience with Radiofrequenc Endometrial Ablation System	6 ;y
Talking About The use Resectoscope to treat Cesarean Scar Defects	10
Original Article Pregnancy Outcome in Women with Uterine Anomalies (II)	12
Case Report Cystic Atrophy of the Endometrium	16

1

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PICTURES



Detailed view of multiple papillae covering the endocervical canal



Papillae with mononuclear cells infiltration

The inflammation of the cervix is divided into two categories according to the etiology causing the inflammation. Noninfectious endocervicitis originates from a mechanical or irritative cause, as occurs in patients who have an IUD, pessary, wear tampons, etc. The most frequent subtype is non-specific chronic cervicitis, in which there is an infiltration of mononuclear cells. The second most frequent type is polypoid endocervicitis, in which the endocervical mucosa is covered by papillae with infiltration of mononuclear cells.

In the early proliferative phase of the cycle, a combination of structural heterogeneity, increased echogenicity, the presence of an irregular shape of small cystic cavities and hyperechoic inclusions, moderate or increased vascularization are reliable echographic signs of chronic endocervicitis (Transvaginal Echographic Diagnosis of Chronic Cervicitis. Abdullayev R Ya*, Sibihankulov AH, Kiriya DG and Abdullayev RR. J Gynecol Reprod Med, 2017)

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. Luiz Cavalcanti is recognized as a pioneer of hysteroscopy in Latin America who has trained in the art of hysteroscopy more than 2000 gynecologists from many different countries.

You went to Paris with Prof. Hamou to improve your hysteroscopic skill. How do you remember those days?

In the early 80's, I went to Paris to meet and see Prof. Jacques Hamou performing the Ambulatorial Hysteroscopy procedures. At that time the camera did not exist and the procedures were performed with gas distension, speculum and the clamping of the cervix. Plus, the procedure was not easy to perform or even to share with other doctors, therefore the learning curve was slower than today.

That past experience with Doctor Hamou was fundamental to my professional path, because that technique was almost unknown in Brasil.

"Office hysteroscopy is the ultimate procedure for modern Gynecology"

What's your opinion about the improvement of the devices in the last years?

The endoscopic advances are exceptional, making the procedure safer, faster and more simple. Learning now is easier because the high definition images captured by the new cameras show a lot more details, and sharing them to the students or other doctors is so simple. The HD images are also crucial for better diagosis, but what I see as a total revolution when it come to hysteroscopy procedures is the Bettocchi set.

A new age in hysteroscopy started when smaller devices were created and made it possible to perform the exam in the office, without anesthesia. It is safer for the patient, and it is faster to perform saving a lot of time on a daily basis.

What is your vision regarding the application of Office Hysteroscopy in Modern Gynaecology?

Office hysteroscopy is the ultimate procedure for the modern Gynecology, because it offers multiple possibilities for distincts pathologies, is minimally invasive and no analgesy needed.

When it's possible to have a procedure done in the office, not in the



Luiz Cavalcanti de Albuquerque Neto

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In this book the authors, in addition to the technical aspects of the method, describe the main hysteroscopic surgeries in a practical way. Some chapters offer the reader clinical tips for the management of surgical patient with great imaging documentation. The work presents themes such as - anatomy of the uterus; hysteroscopic surgery; gynecological endoscopy electrosurgery; evaluation and preoperative orientation, ultrasound and Doppler-colored velocimetry of the endometrium; surgical hysteroscopy; GnRh analogs; hysteroscopic myomectomy; uterine malformations; endometrial ablation; hospital infection associated with hysteroscopy and hysteroscopy training.

hospital, the cost is reduced and more pacients have access to the treatment.

As Brasil's economical situation is not so good, medical costs must be rethinked and reduced if possible, and that's the main reason office hysteroscopy is so importante here. There are public hospitals but low budget, so the new techniques are essential to the public health services.

You have organize several courses in different countries. In your opinion, what is the best way for learning hysteroscopy?

Teaching hysteroscopy must be based on theoretical knowledge and practice.

After a theoretical orientation, I think the students should apply to an endoscopy group and be monitored for a long period by more experienced colleagues.

Since 1995, with the help of professors Luca Mencaglia and Alfonso Arias, we have organized practical courses for more than 2000 Latin America hysteroscopists. To follow our colleagues development is very satisfying!

Recently we had the 11° Italian Brazilian Symposium of Gynecological Endoscopy. There were 400 participants and as speakers: Luca Mencaglia, Alfonso Arias, Stefano Bettocchi, Atillio Di Spiezio Sardo, Giuseppe Bigatti, by video conference Luis Alonso and Antonio Setubal. We had a demonstration of several live surgeries. We launched the mini resectoscope and other equipments.

Do you have any advise for the young physician who is starting out in the world of minimally invasive gynecological surgery?

The young physician should combine theoretical knowledge with practical experience. and needs to be patience, perseverant and to practice a lot

Endoscopy requires practice and dedication. There's a knoledge learning curve that must be attended. Hysteroscopy requires permanent update and following technological advances.



Projects

Hysteroscopy Newsletter & OBG Project



Learn more about THE OBG PROJECT

Original Article

Hysteroscopy Newsletter Vol 4 Issue 5

Experience with Radiofrequency Endometrial Ablation System in the management of the abnormal uterine bleeding

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ABSTRACT

Abnormal uterine bleeding is a common gynecologic problem. In this study we assessed the effectiveness and safety of the NovaSure Endometrial Ablation System for the treatment of anomalous uterine bleeding in pre and early menopausal women.

We designed a retrospective, unicentric, open-label, interventional, descriptive study at the tertiary La Paz University Hospital. Data were retrospectively collected from medical records: a total of 116 pre and early menopausal women with heavy uterine bleeding, secondary mainly to nonestructural causes and unresponsive to medical therapy, who underwent radiofrecuency endometrial ablation using the NovaSure System between September 2011 and September 2016 and their later follow-up. The mean age was 47.5 +/- 3 SD, and mean parity was 1.61 +/- 1.1. In 93% of the cases, there were neither intraoperative and posoperative adverse events reported. Results from a period of 3 months demonstrated that the NovaSure System was effective in reducing excessive uterine blood loss in 87.5% of patients.

We conclude that the NovaSure System is effective and safe in the treatment of symptomatic uterine bleeding in pre and early menopausal women.



Keywords:

Abnormal uterine bleeding Endometrial ablation NovaSure System.

INTRODUCTION

Abnormal uterine bleeding (AUB) is a common gynecologic condition that affects up to 14% of women during the reproductive years and adversely impairs their health and quality of life (1). In heavy uterine bleeding (HUB), medical treatment with oral contraceptive pills or levonorgestrel intrauterine devices is generally the first line of therapy (2).

Endometrial ablation describes a range of minimally invasive techniques to treat HUB using a hysteroscopic approach (3) and has proved to be an effective and safe alternative for women who wish to conserve their uterus, have completed childbearing or not tolerate other therapy (4). They are associated with less morbidity, significantly less pain and fewer complications (5,6) and almost half the overall costs compared with hysterectomy (7). In this study, our objective was to evaluate the effectiveness and safety of the NovaSure Endometrial Ablation System in pre and early menopausal women derived to La Paz University Hospital for the treatment of abnormal uterine bleeding.

METHODS AND MATERIALS

We conducted a retrospective descriptive study of endometrial ablation using the NovaSure device in 116 women with heavy uterine bleeding between September 2011 and September 2016. The study obtained approval from Ethics Committee,

The eligibility criteria of patients were: pre and early menopausal aged women derived to our hospital for the treatment of HUB who were not responsive to medical management and without



Second-generation endometrial ablation techniques have demonstrated similar efficacy to firstgeneration endometrial ablation procedures (8). The NovaSure impedance-controlled endometrial ablation system (Hologic, Bedford, Mass. USA) employs bipolar radiofrequency (RF) energy to desiccate the uterine lining and superficial myometrium (9). A cavity perforation test must be passed before activating the electrode by insufflating the uterus with carbon dioxide and ensuring that the pressure can be maintained for 4 seconds. Mean endometrial ablation time is 90 seconds (range: 60-120 s) (1).

Multi-centre randomised trials have proven both effectiveness and safety of NovaSure System (10). Satisfaction rate have been evaluated showing a rate of about 90% (11,12).

contraindications to NovaSure System. Active genital or urinary tract infection, pregnancy or for future pregnancies, endometrial desire hyperplasia or cancer, previous uterine surgery (classical cesarean section, transmural myomectomy) or pathologic condition that could lead to weakening of the myometrium , an intrauterine device (IUD) currently in place, uterine cavity length less than 4 cm., uterine cavity width less than 2.5 cm. (13) and irregular cavity with congenital defects and submucous fibroids with significant cavity distortion (14) were excluded.

All women were evaluated by clinical examination and cervical cytology were up-to-date at the time of the procedure. Pelvic ultrasound and office hysteroscopy were used to evaluate any intracavitary distortion. Pre-operative endometrial biopsy was performed to rule out relevant pathology; hyperplasia or cancer. After signed informed consent was obtained, every patient was scheduled for surgical intervention.

The ablation treatment was performed by an experienced senior gynecologist after cervical dilatation required. Diagnostic hysteroscopy was performed after ablation to all patients to check the efficacy of the device and rule out any complications.

The procedures were carried out under general intravenous anesthesia, excepted 8 patients who were treated with local anesthesia blocking both paracervical and uterine fundus.

Follow-up assessments were carried out at three months post-ablation: Information concerning patient satisfaction was asked to the patients. It was asked whether additional intervention or hysterectomy had been performed due to previosus method failure.

Statistical analysis was performed using the software Statistical Package for the Social Sciences (SPSS) by Biostatistic Service of our center. The description of the quantitative variables was performed with mean and ± standard deviation. Qualitative variables were described with proportions.

RESULTS

Among 116 patients analyzed, the mean age was 47.5 + -3 SD, ranging between 34 and 57 and the mean parity was 1.6 + -1.1.

Before the endometrial ablation, 62 patients (54.4%) did not undergo previous additional no pharmacological therapy. 14 patients (12.3%) were carriers of levonorgestrel intrauterine devices; 26 patients (23.7%) had carried out a hysteroscopic polypectomy; hysteroscopic myomectomy was performed in 5 patients (4.4%), and there were two cases (1.75%) of uterine curettage.

In 66.4% (75 patients) of the cases no underlying organic pathology was identified during the procedure. In 25.9% (30 patients) of patients it was visualized endometrial polyps, 6% (7 patients) was showed intramural myoma; and in one patient (0.9%) it was observed a submucosal myoma of small size.

Concomitant treatment was performed during the same surgical procedure in 6.9% of the interventions (8 cases): 5 Essures (Bayer, Leverkusen, Germany) were inserted, a laparoscopic tubal ligation, a myomectomy and an evacuation curettage were performed.

In 8 patients, the technique of ablation with Novasure System was performed using local anesthetic at the pericervical level and uterine fundus. All patients presented good tolerance. In only one case it was reversed to general anesthesia due to the impossibility of uterine infiltration because of the presence of an advanced secretory endometrium.

Up to 93% (107 patients) had no complications during the procedure. From the 8 intraoperative complications, we found: 3 cases of error in the CO2 tests; 2 cases of false pathway during cervical dilatation and one uterine perforation with abrasion intestinal. One case of post-intervention endometritis was documented.



The main reason for subsequent treatment was in 9.5% (11 patients) due to persistent bleeding: in 6 cases (5.8%) a hysterectomy was performed; 2 patients required reintroduction of oral hormonal therapies and 3 levonorgestrel intrauterine devices were ruled out. 2 patients required repeat endometrial ablation.

A successful bleeding reduction with the use of NovaSure bipolar ablation was achieved in 91 patients (87.5%) at 3 months follow-up, 101 patients (87.2%) reported to be satisfied with the outcome of the treatment.

DISCUSSION

Our experience with NovaSure System is comparable with other studies: the success rate was similar, even slightly less than other published (93% at 3 months in our study vs 90.5% at 18 months (15) vs 97.2% at 36 months (16)); considering that our follow-up period is lower. Hysterectomy and retreatment rates were of 2.9% and 3.8%, respectively

The complication rate, both intraoperatively and postoperatively, in our study is 7% vs 13% as reported by Cooper et al. (10). Despite the low rate of complications, it should be noted that there was a serious complication: an uterine perforation with abrasion intestinal that required a bowel resection of the patient.; due to an error in cavity perforation test.

The avoidance of a hysterectomy and retreatment is an important aspect in the assessment of the efficacy of endometrial ablation: our hysterectomy rate is 5,2% and 1.9% for retreatment, similar t Gallinat s trial (17), who reported 2.9% and 3.8% respectively.

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It would be interesting to determine feasibility and efficacy of this device in the outpatient setting under local anesthesia (18,19) compared to general anesthesia; given the good tolerance presented.

The main limitations of our study were the lack of an objective method to measure the reduction of uterine bleeding, the use of standardized satisfaction surveys as well as the short-term follow-up.

In conclusion, NovaSure endometrial ablation System had demonstrated a high effectiveness and safety with a good patient satisfaction rate in the short term for the control of abnormal uterine bleeding at the expense of minimally invasive surgery in our population.

In the future this device could be presented as a first-line treatment: an effective alternative to the conventional management of abnormal uterine bleeding in pre and early menopausal women, although cost-effective studies are needed.

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Talking About

Hysteroscopy Newsletter Vol 4 Issue 5

The use Resectoscope to treat Cesarean Scar Defects

Luis Alonso. Centro Gutenberg. Spain

The healing process of the cesarean section scar can be incomplete. In that situation there is a disruption of the myometrium at the site of the uterine scar. This "gap" in the anterior lower uterine segment receives different names, being the terms "niche" or isthmocele the most commonly used. This defect and the relation with some clinical symptoms such as menorrhagia, abdominal pain, dyspareunia and dysmenorrhea was first described by Morris using the term "cesarean scar syndrome".

The estimated incidence of cesarean scar defect (CSD) ranges between 24% and 56%. This incidence varies considerably depending on the reports. This is due to variation on definitions and the differences in the methods used for the diagnosis of the defect.

There is a clear relationship between the anatomic defect and the existence of different degrees of postmenstrual bleeding disorders and other gynecological symptoms as dysmenorrhea, chronic pelvic pain and infertility.

Various surgical options have been proposed to treat the CSD. On one hand, a reparative treatment with laparoscopic repair of the dehiscence, On the other the resectoscopy correction in order to improve the symptoms. Other alternatives are the vaginal repair of the CSD and the use of oral contraceptives to reduce menstrual blood. The surgical treatment should only be reserved for symptomatic patients with postmentrual bleeding, chronic pelvic pain or secondary infertility. The first two options are the commonly used and the election of any of them is usually related with anatomical conditions of the CSD

Author	Total number (N)	Technique	Type of Study	Device
Fabres C. 2005	24	Hysteroscopic resection of the edges and coagulation of the bottom	Retrospective Study	Monopolar resectoscope with loop and a ball electrode
Gubbini G. 2008	26	Hysteroscopic resection ofthe edges and the bottom	Prospective observational study	Monopolar resectoscope with loop and a ball electrode
Feng YL. 212	62	Hysteroscopic resection of the edges and coagulation of the bottom	Retrospective Study	Bipolar resectoscope with loop and a ball electrode
Vervoort A. 2018	52	Hysteroscopic resection of the lower rim and coagulation of the surface	Multicentre randomised controlled trial	Resectoscope (no more data)

The first reference about the use of the resectoscope in the treatment os a CSD was made by Fernandez who 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, improving the postmenstrual bleeding. Since then multiple articles have been published and the resectoscopy have become most reported approach for the treatment of symptomatics CSD.



Original Article

Hysteroscopy Newsletter Vol 4 Issue 5

Pregnancy Outcome in Women with Uterine Anomalies (II)

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SEPTATE UTERUS

Canalization defects, namely subseptate or septate uteri, are significantly more common in women with miscarriage (5.3%), especially if this is combined with a history of infertility (15.4%; Chan, 2011).

A septate uterus has generally been associated with the poorest reproductive performance, with fetal survival rates between 6 and 28% and abortion rates up to 80%. (Grimbizis et al., 2001) The finding of a septate uterus per se is not a mandatory indication for surgery because it is not always associated with a severe reproductive performance (Heinonen, 1982; Ashton, 1988). Ludmir et al. (1990) have managed 42 patients with previously diagnosed but uncorrected uterine malformations: they have reported a 44% pregnancy loss before the 25 week of gestation, 8% premature deliveries, 48% term deliveries and a fetal survival rate of 53% in the septate group. Very similar to the latter are the data reported by Woelfer et al. (2001) in women with congenital anomalies incidentally three-dimensional detected by ultrasound. In this patient population considered at low risk of having an abnormal uterus, subseptate uterus is associated with first and second-trimester miscarriages in 45.6% of cases and preterm labor in 10.5% of cases. Nevertheless, the difference as against women with a normal uterus remains highly significant (Z = 4.68).

In a survey on women with untreated septate uterus (four studies between 1982 and 1997, pooled patients. Grimbizis *et al.* 2001), the authors have reported a mean 44.1% abortion rate, a mean 22.3% preterm delivery rate, a mean 32.9% term delivery rate and a mean 50% live birth rate. These data suggest that pregnancy outcome in patients with untreated septate uterus remains significantly lower than in women with a normal uterus, even though not so low as reported in other studies (Homer *et al.* 2000), and it is close to that of women with an untreated bicornuate uterus.

Nevertheless, mention has to be made that the term 'untreated' means a woman who have not undergone/will not undergo corrective surgery, so that we could suppose it is the reproductive performance of a mixed group of patients with either asymptomatic and symptomatic infertility or miscarriage.



On the other hand, if we look at most studies concerning hysteroscopic metroplasty for septate uterus in women with infertility or miscarriage, the results are totally different from those reported in unselected untreated patients, with a very poor reproductive performance before surgery. In one systematic review (Homer *et al*, 2000) on 1,062 pooled pregnancies from 658 patients the miscarriage rate before hysteroscopic metroplasty is 88%, preterm delivery rate is 9%, and term deliveries rate is 3%. In another review, (Grimbizis *et al*,2001) the data are very similar: out of 599 pooled pregnancies from 292 women the reported abortion rate is 86.4%, preterm delivery rate is 9.8%, term delivery rate 3.3% and live birth rate only 6.1%. Hence, we can suppose that in patients with a septate uterus who are symptomatic for infertility and/or miscarriage, wastage of the reproductive performance is an adverse reality.



Focusing on the most updated literature on the topic, we have found some remarkable studies published in the last ten years, which supports the poor reproductive performance of selected patients with a septate uterus prior to hysteroscopic surgery. Gergolet et al. (2012) has reported a miscarriage rate of 82.1%, an ectopic pregnancy rate of 2.1% and a live birth rate of 15.7%; Saravelos et al. (2007) have reached miscarriage, ectopic pregnancy and live-birth rates of 85.7%, 4.7% and 9.4%, respectively. Hollett-Caines et al. (2006) and Pace et al. (2006) have reported a nearly identical obstetrics history of their patients, with abortion premature labor rates around 95% and 5%. No data have been recorded on term delivery and live-birth rates, and we can presume it was nearly zero, as in the study by Venturoli et al. (2002) who reported a 100% abortion rate.

In conclusion, the review of the data seems to demonstrate a strong relationship between septate uterus and adverse reproductive outcome in selected patients with infertility and miscarriages.

Moreover, according to the systematic review and meta-analysis performed by Chan *et al.* (2011), canalization defects (septate and subseptate uteri)

are associated with reduced clinical pregnancy rates (R.R. 0.86) and increased rates of first-trimester miscarriage (R.R. 2.89), preterm birth (R.R. 2.14) and fetal malpresentation (R.R. 6.24).

It is unclear whether the length of the uterine septum can have an impact on pregnancy outcome in women with a septate uterus. Kupesic and Kurjak (1998) have found no correlation between septal length and rate of obstetrics complications. Other authors suggest that pregnancy wastage, late firsttrimester abortion or early second-trimester abortion could correlate with the length of the septum, with longer septae posing the highest risk (Valle *et al.*, 2013). Nevertheless, most studies in the literature do not distinguish between septate and sub-septate uteri in terms of reproductive outcome, which means that patients under consideration are usually included in the same study group.

Recently Gergolet et al. (2012) have investigated prospectively whether hysteroscopic metroplasty in patients with a small septum could increase fertility and reduce the miscarriage rate as against metroplasty in a group of patients with a subseptate uterus that is having a septum of greater length. Both groups have shown very similar results: miscarriage respectively 94.9% and 82.1% before rate metroplasty vs. 11.1% and 14.0% after surgery; delivery rate 2.6% and 15.7% before metroplasty vs. 88.9% and 84.2% after the operation. The conclusion is that, according to the above results, there is no evidence to support that a small septum (indentation < 1.5 cm) has a different effect on the reproductive outcome as against a subseptate uterus (indentation of 1.5 cm or more), either before or after surgical correction of the anomaly. In other words, the septum length seems to be ineffectual in determining the reproductive performance of those patients, being a little septum as detrimental as well as a long one.

In a series of 826 deliveries from 730 women previously treated with hysteroscopic metroplasty, Tomazevic *et al.* (2007) have reported an improved pregnancy outcome after metroplasty both in the septate/subseptate uterus and small septate uterus (arcuate) groups. They have concluded that clinical behavior of a small septate uterus is not different from that of a septate uterus.

Woelfer *et al.* (2001) has found no correlation between the depth of fundal indentation in an arcuate uterus and first-trimester miscarriage, secondtrimester miscarriage or preterm labor rates. In women with a subseptate uterus, the first-trimester miscarriage rate appears to decrease as the uterine septum length increases, but that finding has not reached statistical significance. Furthermore, there is no correlation between septum length and secondtrimester miscarriage or preterm labor rates.

Therefore, further prospective controlled trials are needed in order to get to a definite conclusion on the issue, even though the most recent studies seem to contradict the importance of the internal indentation degree of the septum into the uterine cavity.

T-SHAPED / HYPOPLASIC UTERUS

Hypoplasia and dysmorphism of the uterine cavity are unfavorable factors for fertility and pregnancy outcome. The etiology of uterine hypoplasia is generally unclear, apart from in-utero exposure to diethylstilbestrol (DES) (Garbin et al, 1998). DES was prescribed during the 1950s and late 1960s as a treatment for threatened miscarriage; it was given to some four million women in the USA while in France approximately eighty thousand women were exposed to DES in utero (Pons et al., 1998). On a group of 277 patients who underwent to HSG Kaufman et al. (1977) report abnormalities in 70% of the DESexposed women, whereas the most prevalent uterine anomalies are T-shaped uterus (19%) and hypoplastic uterus (13%; Cabeau, 1982). In addition, strictions, especially a constriction ring in the miduterus. irregular uterine contours and other anomalies can coexist.

Many studies have reported an increase in the infertility and miscarriage rates in women affected by T-shaped uterus or hypoplastic uterus. Kaufman *et al.* (1986) has reported the risk for infertility increased by 1.49 in the presence of a T-shaped configuration, by 2.26 in the presence of mid striction, and by 2.63 when both anomalies were present. Even the pregnancy outcome appears often compromised, with higher rates of ectopic pregnancies, abortions and premature deliveries (Pons *et al., 1988*).

Katz et al. (1996) have described eight women with reproductive dysfunction who had been diagnosed by hysterosalpingogram and hysteroscopy as having a "T-shaped" uterus and had been submitted to hysteroscopic metroplasty. Before the operative procedure, they had had ten spontaneous abortions (90.9%) and one ectopic pregnancy (9. 1%), no term delivery. *Garbin et al. (1998)* have reported on fifteen women with a hypoplastic malformed uterus who had been exposed to DES in utero: before hysteroscopic metroplasty they had totalled 32 pregnancies without any live birth. Similar data are referred by Barranger



et al.(2002) on 15 women with hypoplastic uterus and 26 overall pregnancies before surgery: they have reported a first-trimester abortion rate of 61.6%, a second-trimester abortion rate of 7.7%, an ectopic pregnancy rate of 11.5%, two cases of death in utero (7.7%), and one preterm delivery before 32 weeks (3.8%). No term deliveries and two legal abortions are referred.

Fernandez et al. (2011) have published the largest serie on the reproductive outcome before and after surgical correction of a T-shaped uterus. They have presented a retrospective study on 97 women with a hypoplastic uterus, a cylindrical uterine cavity and bulging of the uterine side walls; while 63 had a history of DES exposure, the remaining 35% had either a congenital malformation attributable to other causes or an acquired T-shaped malformation. On a total of 78 pregnancies before hysteroscopic metroplasty the miscarriage prevalence is 78.2%, ectopic pregnancy 17.9%, preterm delivery 3.8% with all neonatal deaths and no live birth.

In conclusion, the pathogenesis of this congenital uterine anomaly remains unclear, apart from the exposition to DES in utero, and its cause is still unknown. When it is not treated surgically, it seems to be associated with a very poor pregnancy outcome

WHAT'S YOUR DIAGNOSIS?





Answer to last edition: Complete septate uterus with bilateral nabothian cysts



Endoscopy in Infertility - ECAB Urvashi P Jha Elsevier India- 2013

Historically, gynecologic endoscopy began in the 1930s with the development of diagnostic laparoscopy, but today gynecologic endoscopy has become an essential part of gynecologic surgery. In present practice, the benefits of hysteroscopy have become safely entrenched behind undeniable facts, to the hospitals as well as the patients. Hysteroscopy can be regarded as the gold standard for the evaluation of the uterine cavity in cases of abnormal uterine bleeding, infertility, recurrent pregnancy loss, and suspected intrauterine out-growth. It can be performed in the office setting (outpatient hysteroscopy) or as a day-case procedure, under general anesthesia (inpatient hysteroscopy).

Case Report

Hysteroscopy Newsletter Vol 4 Issue 5

Cystic Atrophy of the Endometrium

Dr. Tanvir Singh, Dr. Meeta Singh Hyderabad, India

ABSTRACT

Endometrial cystic atrophy is a benign and an unfamiliar/infrequent hysteroscopic finding, seen more frequently in tamoxifen treated postmenopausal women, and may explain "thickened endometrium" on transvaginal ultrasonography in this patient population with no evidence of endometrial polyps, hyperplasia, or adenocarcinoma after surgical evaluation [1,2].

Keywords:

Cystic atrophy, Hysteroscopy, Post menopausal discharge In postmenopausal women not receiving tamoxifen, abnormal endometrial thickness (with the abnormal cutoff variably defined between 3 and 8 mm double-walled thickness) on transvaginal ultrasonography is commonly associated with endometrial abnormalities, such as endometrial polyps, hyperplasia, or adenocarcinoma [3].

CASE REPORT

73 year old parous lady presented with persistent white discharge and itching since one month. She attained menopause at the age of 51. She has no co-morbidities and is not on any medication. Her body mass index is 28 and waist circumference is 102 cm. On local examination, external genitals are normal. Speculum examination revealed atrophic vagina, which was corrected with local estrogen. Pap smear was negative for intraepithelial malignancy.

She was put on one week of oral broad spectrum antibiotic.Following the treatment she had persistent white discharge. Endometrial thickness on transvaginal ultrasonography was 5 mm with a suspicion of endometrial polyp. Office Hysteroscopy was performed using a 4 mm continuous flow office hysteroscope (Bettocchi Office Hysteroscope size 4, Karl Storz, Tuttlingen, Germany) with a 2.9 mm rod lens optical system. Distension of the uterine cavity was performed with saline solution and intrauterine pressure was controlled with Hamou Endomat and kept at 50 mm of Hg. A 5 Fr semirigid mechanical sharp scissors was used to puncture the cystic lesions and endometrial sampling was taken using a punch biopsy forceps.

Hysteroscopically, the endometrium appeared flattened with the presence of multiple cystic protuberances with spurious fluid. Histopathology reported cystic atrophy of the endometrium. At 6 months review, her endometrial thickness was 2 mm on trans vaginal ultrasound and she is doing symptomatically better.

DISCUSSION

This is a unique case of endometrial cystic hyperplasia, as the presenting complaint was excessive white discharge ,which on examination was not from the vagina or cervix. In most of studies, the presenting symptom is post menopausal bleeding.

Endometrial cystic atrophy is a rare variety of postmenopausal endometrial thickening. It is a benign process which does not identify with true hyperplasia. It is one of the four types of atrophic endometrium grouped into four categories namely (1) atrophic and inactive (2) atrophic and weakly proliferative (atrophic non-inactive) (3) mixed and (4) atrophic cystic. It is a hystological diagnosis.

The endometrial epithelium in atrophy is either low columnar, cuboidal, or flattened with rare or no mitotic figures. Various explanation has been attributed to the development of cystic atrophy. It could be due to irregular proliferation or cystic glandular hyperplasia WHICH occurs prior to the decline in estrogen levels. The histological pattern generally depends on the last normal pattern before menopause [4]. The second cause may be the presence of atrophic variants of cyclically dilated glands seen in the lower functionalis in women aged 35 years and over. A third explanation is that the stromal fibrosis may block the glands and cause it to distend [5]. Atrophic endometrium is ideally very thin. Although the presence of endometrial cysts may lead to an appearance of thickened endometrium.

In one retrospective study conducted by Oronzo Ceci et al in 88 postmenopausal breast cancer women on tamoxifen for 12 to 72 months, hysteroscopic evaluation showed an incidence of 15. 4 % with glandular cystic atrophy [6].

In another retrospective review by McGonigle et al in 39 tamoxifen treated postmenopausal breast cancer patients the prevalence of endometrial cystic atrophy was 29 %. This study was undertaken to detect endometrial abnormalities by transvaginal ultrasonography in this group which represent endometrial cystic atrophy. may According to the authors. ultrasonographic characteristics did not accurately distinguish between the presence of endometrial polyps and endometrial cystic atrophy. And they found that endometrial cystic atrophy was more commonly detected in women who underwent hysterectomy (9 out of 11) then in women who had a curettage hysteroscopy (1 out of 24) [1].

D.G.E. Elkholi, et al conducted a prospective observational study in which the serum concentration of total testosterone (T), androstenedione (A), esterone (E_1) and estradiol



Author	Total number (N)	Group of women	Type of Study	Percentage of endometrial cystic atrophy
D.G.E. Elkholi, 2015	109	Post menopausal bleeding	Prospective observational study	6.18%
McGonigle et al, 1998	39	postmenopausal breast cancer women - tamoxifen treated	Retrospective review	29%
Oronzo Ceci et al, 2000	88	postmenopausal breast cancer women - tamoxifen treated	Retrospective Study	15.4%

(E2) and sex- hormone binding globulin (SHBG) were estimated for 50 patients with atrophic endometrium during episodes of bleeding and in 47 cases were estimated also between episodes of bleeding.

Cystic atrophic was detected in 6 cases (6.18%). Knowing that there are 4 histologic type of atrophic endometrium - atrophic inactive, atrophic/weakly proliferative (non-inactive), mixed (inactive and non-inactive) and cystic atrophic, serum concentration of sex steroid hormones T, A, E1, and E2 was significantly higher and SHBG was significantly lower in cases of atrophic /weakly proliferative and mixed endometrium than cases of atrophic inactive and cystic atrophic endometrium. This may explain the development of endometrial adenocarcinoma in an atrophic endometrium.

LEARNING POINTS

Presentation of persistent white discharge beyond the common causes need further evaluation as in this case was from a cystic atrophy of the endometrium.

Further evaluation for symptomatic postmenopausal women must include a transvaginal ultrasound, hysteroscopy as it is under direct vision and an endometrial biopsy.

Checking the serum concentration of sex steroid hormones T, A, E1, and E2 SHBG helps in differentiating an active atrophic endometrium which may help in management plan.

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The "unstoppable" hysteroscopy revolution

It started as a dream, then became a great idea... soon after, people called it a revolution... but now hysteroscopy has become the cornerstone of clinical gynecology, especially office gynecology. The moment has come, the gynecologic community has realized the substantial benefit of embracing hysteroscopy into clinical practice. Innovation technology, producing better and easier to use equipment, has been an important part of this revolution... But nothing would have happened if we didn't have the support and lidership of world recognized professor who believed in this project since its infancy.



"The hysteroscope is my stethoscope" is our slogan. This memorable inspiring phrase created by Dr Linda Bradley has become the leading flag of our "revolution". We, the Hysteroscopy Newsletter team, are extremely proud to have Linda in our team. It feels like having "Lionel Messi" or "Lebron James" or "Peyton Manning" as your teammate. Linda, being a pioneer of hysteroscopy for many years, not only believed in our revolution, she supported it from the start. Her leadership and passion for hysteroscopy in ispiring. Now, we are extremely proud to announce her appointment as the new Medical Director of the AAGL.

From the hysteroscopy newsletter we want to sincerely congratulate Dr Bradley for this well deserved professional achievement wishing her great success in this new endeavor.

Congratulation Linda!!!!