

NHYSTEROSCOPY NEWSLETTER

From the time of my residency training, in the mid-90s, my interest in endoscopic surgery began, however, the opportunity for laparoscopic training was minimal and for Hysteroscopy was nil. Hysteroscopy was a procedure performed only for infertility patients going to high end infertility centers and was not included in the curriculum of residents in training. In Colombia, doctors Jaime Ferro and Arturo Aparicio were the pioneers in the 90s and began to perform and teach these procedures.

A little before the year 2000 I started performing hysteroscopic procedures in the operating room, self-taught, even a few years later, during my official training in endoscopic surgery, very few teachers had a real training in hysteroscopic surgery. With the development of the “Office Hysteroscopy” (Performed in the office and not in the operating room) by Dr Bettocchi, the interest in hysteroscopy began in Colombia, with Professor Alfonso Arias being the leader instructor in Latin America and to whom I am grateful that he motivated me to enter this world. Later, we had the opportunity to host world well recognized leaders in our local academic events, including Dr Bettocchi, Dr Isaacson and Dr Munro among others. All of them have greatly contributed to my training and recently Dr Sergio Haimovich who very generously hosted me in his office and introduced me to the world of laser for Hysteroscopy.

Fortunately, today, things are very different; there is a generalized interest in hysteroscopy as a specialty, with unquestionable uses as a diagnostic and therapeutic tool, relatively easy to learn, with frequent updates and web based events, which allows to see a large number of surgical interventions, images, conferences, etc., easy access to equipment, and the generosity of those who teach this art and the incorporation of specific dedicated hysteroscopic rotations in training programs. This year, we will start a fellowship in gynecological laparoscopy in Colombia, the first program endorsed by the AAGL outside the United States and Canada, where I have the honor to be the professor of Hysteroscopy.

In my opinion, what differentiates hysteroscopists from other surgeons is the possibility to complete most of the procedures in the office, without anesthesia, without sedation, as Dr. Bettocchi described it; The most important challenge and the resounding success of Hysteroscopy will be when we routinely have all gynecologists perform diagnostic Hysteroscopy in the office and have Hysteroscopy centers of high complexity, with greater resources that handle cases with great complexity.



Carlos Buitrago
Presidente Federación Colombiana de Obstetricia y Ginecología
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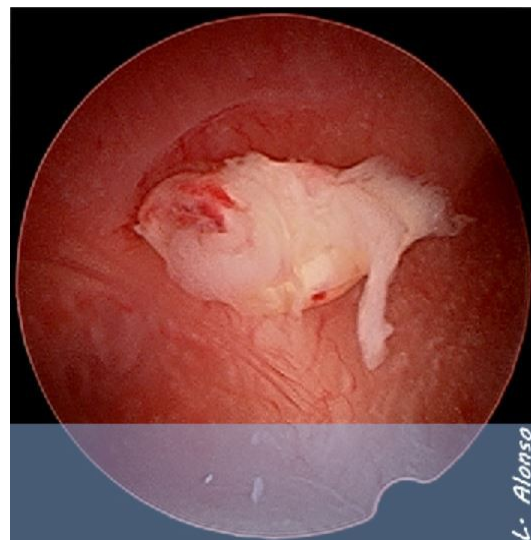
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HYSTEROSCOPY PICTURES



The hysteroscopic appearance of RPOC varies widely



Detailed view of RPOC type 0

Hysteroscopy is considered the gold standard for the diagnosis of intrauterine pathology including gestational retained products. The hysteroscopic appearance of this pathology varies depending on the involution, vascularization and the degree of necrosis of the trophoblastic retained tissue, which results in no single hysteroscopic pattern. This is because the retained tissue undergoes a process of involution over time that makes changes in their macroscopic appearance, so it is important to know the different macroscopic aspects that this pathology presents.

The Gutenberg classification correlates the different ultrasound patterns with the hysteroscopic appearance of RPOC, which allows to anticipate the complexity and degree of difficulty that may be encountered at the time of uterine evacuation.

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. Ted Anderson has a passion for hysteroscopy and teaching that has made of him one of the most respected authorities in the field

Hysteroscopy is gaining a very important role in modern gynecology. In your opinion, how is hysteroscopy changing the practice of general gynecology?

Hysteroscopy has always played an important role in gynecology. However, I am happy to see that it is gaining increasing recognition as a fundamental tool for the diagnosis and management of uterine disorders affecting fertility and abnormal uterine bleeding, which accounts for about one third of visits to the general gynecologist. It has been recognized for quite some time that hysteroscopy adds specificity in diagnostic evaluation of abnormal bleeding, especially when focal lesions are present. Further, direct visualization of intrauterine pathology may be helpful in planning operative intervention and a negative hysteroscopic evaluation can prevent unnecessary trips to the operating room altogether, adding value to the healthcare system.

The recent development of reusable and disposable instrumentation mitigates the need to invest in acquisition of a complete hysteroscopy system (including camera, light source, and monitor tower), as well as the equipment, materials, room, and time for sterilization, maintenance, and storage. This, along with increased reimbursement for hysteroscopy (especially with directed biopsies), has re-focused attention on hysteroscopy with increased ergonomic and economic attractiveness to the modern gynecologist, particularly in the office setting.

"Hysteroscopy has always played an important role in gynecology"

You are a leader of a very important organization. How can medical societies help individual practitioner to expand the use of hysteroscopy?

I think the greatest roles that professional organizations can play include education, advocacy and clinical support. We need to continue to help our colleagues appreciate the added value of hysteroscopy over indirect imaging and blind biopsies in diagnosing (or ruling out) and treating significant pathologic contributions to abnormal uterine bleeding as well as uterine anomalies. Further, we need to demystify the challenges of performing hysteroscopy in the office setting and provide our colleagues with practical tools, techniques, and tips in hands-on experiences to support integration of these procedures into practice.



Ted Anderson

President-elect of American College of Obstetricians and Gynecologists



President, Fellowship in Minimally Invasive Gynecologic Surgery



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Establishing registries and supporting outcomes research would provide guidance to hysteroscopic best practices. Equally important, but more neglected, is increasing awareness in our patients of the value of hysteroscopy. Simultaneously we need to advocate for appropriate access to and reimbursement for hysteroscopic procedures to treat uterine anomalies and intrauterine pathology.

You are a strong advocate of innovative enabling technology. How is technology impacting the practice of hysteroscopy?

Enabling technologies permit the surgeon to perform techniques he or she otherwise would be unable to perform safely, if at all. Two excellent examples that have essentially revolutionized the practice of hysteroscopy are global endometrial ablations (GEA) and hysteroscopic morcellators. Both ablation and resection of masses require refinement of hand-eye coordination as well as appreciation of time and fluid management constraints associated with electrosurgery in a fluid environment, with successful outcomes directly dependent on surgical skill. It has been shown that relative novices can use GEA and morcellation technologies safely and effectively to achieve the same results as experienced surgeons in selected patients. While adding cost to individual procedures, these technologies allow more surgeons to provide these surgical alternatives to a greater number of appropriately selected patients, resulting in decreased need for hysterectomy and a reduction in health care costs overall.

"You can do anything, but you cannot be a master of everything"

You are extremely involved in resident's education. Should advanced hysteroscopic surgery be part of the curriculum of the OB/GYN residency program?

Our residents today are faced with an explosion of educational requirements, including the breadth and complexity of surgical procedures, without appropriate expansion of time for mastery. It is unrealistic to expect every resident to master everything. While basic hysteroscopic techniques are not overly difficult to learn and perform, we must make decisions about which procedures the general gynecologist needs to master for every day practice and which procedures should be left to those with advanced training. For example, the rate of hysterectomy after rollerball endometrial ablation is up to 3 times higher when performed by a novice learner compared with an experienced surgeon, a discrepancy that is virtually eliminated with GEA. Accordingly, we should be teaching our residents GEA technologies and save the resectoscopic training for advanced (fellowship?) training. When the general gynecologist encounters a situation where the uterus is outside the bounds of GEA utility, the patient should be referred to someone with that more advanced hysteroscopic training. Conversely, every gynecologist should be trained in loop resection of small (1-2 cm) polyps and type 0 submucosal fibroids. Encountering larger masses could be an opportunity for cost-effective use of hysteroscopic morcellators. At some point, masses of larger size (to be determined) should be referred to those with advanced hysteroscopic training. This perspective is not meant as dogma to limit scope of practice, rather as guidelines to maximize economy, efficiency, and patient safety.

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

The diversity that is encompassed by the specialty of obstetrics & gynecology, even within the more narrow focus of minimally invasive gynecologic surgery, is both a blessing and a curse. Remember that you can do anything, but you cannot be a master of everything. Find those aspects for which you have a passion and an aptitude. Surround yourself by like-minded colleagues, go to the professional meetings and hands-on courses, read the manuscripts and editorials, and seek out the mentors who can help you refine your competence and confidence. When someone gives you an oar, start paddlingpretty soon they will give you a bigger oar. Go out and distinguish yourself, but have fun while you are doing it!



Global Congress on Hysteroscopy

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Back to Basics

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Hysteroscopic Fluid Management (I). A Review of the AAGL Practice Report: Practice Guidelines for the Management of Hysteroscopic Distention Media

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BACKGROUND

Hysteroscopy is a surgical procedure that allows for direct visualization of the uterine cavity and is the gold standard for many uterine pathologies. These procedures can occur in an office or operating room setting. Hysteroscopy can be used for both diagnostic and operative purposes. Uterine distention can be accomplished with either gas (CO₂) or fluid media. The use of CO₂ for uterine distention should be limited only to diagnostic purposes due to risk of embolism. Fluid media is preferred for any operative hysteroscopy. Fluid can be of high or low viscosity, high or low molecular weight, and electrically conductive or nonconductive. The purpose of this paper is to give a basic understanding of hysteroscopic fluid management.

DISTENSION MEDIA TYPES

Carbon Dioxide

CO₂ as a distention media should only be used for diagnostic purposes in the right setting and is not suitable for operative hysteroscopy. CO₂ is highly soluble in blood, and consequently, if large volumes of gas reach the systemic circulation catastrophic cardiorespiratory collapse can occur. If CO₂ is to be used, a specific hysteroscopic insufflation system must be used which can regulate the low-pressure flow needed. The use of a high-pressure laparoscopic insufflation system could be associated with death secondary to CO₂ embolism. CO₂ is also noted to have numerous disadvantages compared to fluid media. CO₂ is associated with higher procedure-related pain scores, increased vasovagal reactions, longer

operative times, requiring more analgesics after the procedure and decreased post-operative satisfaction.

High-viscosity distending media

High-viscosity media have advantages of being immiscible with blood, meaning it will not mix with blood, and this allows for increased evaluation of the endometrial cavity in the presence of bleeding. The most common high-viscosity distending media is a hyperosmolar solution of 32% dextran 70 in 10% glucose (Hyskon). The osmolality of Hyskon is such that 100mL of the solution intravenously can expand plasma volume by 870mL, which can lead to heart failure or pulmonary edema. The manufacturer suggests the maximum volume of infusion should not exceed 500mL, however, adverse outcomes could occur with as little as 300mL. Hyskon is also associated with anaphylaxis possibly related to prior sensitization from other dextran sources. Finally, Hyskon is also known to caramelize quickly on instruments which can lead to severe damage, and precludes the use of Hyskon with flexible hysteroscopes.



Low-viscosity distending media

Low-viscosity distending media can vary in their osmolality and electrolyte count. Low electrolyte levels are required for monopolar electrosurgical instruments, whereas, high electrolyte solutions can be used with bipolar electrosurgical instruments. Sterile water was the original electrolyte free distention media, however, systemic absorption was associated with hemolysis. The addition of glucose, sorbitol and glycine increased the medium's osmolality and decreased the likelihood of hemolysis. Another risk of using hypotonic, electrolyte free solutions, is the risk of hyponatremia, which when severe, can cause permanent brain damage. These

Electrolyte Free, Low-Viscosity

Sorbitol (3%), is a reduced form of dextrose that when absorbed systemically is either excreted intact by the kidney or rapidly metabolized by the fructose pathway to CO_2 and water.

Glycine (1.5%), is a nonconductive amino acid with a plasma half-life of 85 minutes which is uniquely metabolized in the liver to ammonia and free water.

Mannitol (5%), is a 6-carbon polyol that occurs in nature, is often called a sugar alcohol because of its derivation, and isotonic when mixed with water.



Electrolyte Rich, Low-Viscosity

Normal saline and other isotonic electrolyte rich solutions are useful and safe distention medias. Even with systemic absorption of large amounts, normal saline does not cause electrolyte imbalance. The electrolyte-rich solution does not allow for the use of monopolar energy instruments as the media disperses the current from the active electrode, but the development of bipolar hysteroscopic equipment has made normal saline the primary distention media for hysteroscopic procedures.

MECHANISMS OF SYSTEMIC ABSORPTION

The principle mechanism of systemic absorption of distention media appears to be directly related to the surgical disruption of the integrity of venous sinuses in the deep endometrium and myometrium. When these vessels are transected, the media is provided opportunity to access the systemic circulation if the intrauterine pressure is greater than the pressure in the sinus or blood vessel. It is then anticipated that the amount of fluid absorption is greater in operative hysteroscopy with transection of tissue compared to diagnostic. The degree of distention is also related with absorption, with higher intrauterine distention pressure leading to increased absorption. Increased operative time also logically increases amount of fluid absorption.

CONSEQUENCES OF FLUID OVERLOAD

The incidence of fluid overload is estimated to be 0.1-0.2%. The use of electrolyte-free solutions allows for the use of monopolar instruments, however, are related to fluid and electrolyte disturbances (i.e., hyponatremia, heart failure, pulmonary and cerebral edema). Absorption of hypotonic fluids cause an osmotic imbalance between extracellular fluid and cells including those in the brain. Under conditions of hyponatremia, water moves into brain cells, causing cerebral edema, which can lead to pressure necrosis and progression to brain stem herniation and rarely death. Premenopausal women are 25 times more likely to die or have permanent brain damage compared to men or post-menopausal women because the Na^+/K^+ -ATPase pump which removes osmotically active cations to prevent swelling, is inhibited by female sex steroids. Theoretically, 5% Mannitol (osmolality, 274 mOsm/L), by virtue of its near

isotonic composition (normal osmolality, 280 mOsm/L), is a safer choice than either 1.5% glycine (200 mOsm/L) or 3% sorbitol (179 mOsm/L).

The impact of fluid imbalance also varies according to the patient's age and comorbid conditions including cardiovascular and renal function. While low or even modest volumes of absorbed fluid can be accommodated by most healthy individuals, excessive absorption can result in fluid overload leading to right-sided heart failure or pulmonary edema, and if non-physiologic fluids are used, electrolyte disturbances can result.

MANAGING FLUID MEDIA

The goals of fluid management include:

- Choosing the distention media least likely to cause complications in the event of excess absorption
- Minimizing systemic absorption during surgery
- Early recognition of excess absorption

SELECTION OF DISTENDING MEDIA

The selection of distention media primarily depends of type of electricity required. If monopolar instruments will be used, the distention media cannot contain electrolytes, and 5% mannitol would be the preferred solution due to its near isotonic composition. On the other hand, if mechanical or bipolar electrosurgical instruments are to be used, then normal saline should be used. While normal saline is associated with fewer unfavorable changes in serum sodium and osmolality, the use of normal saline does not eliminate the need to prevent excess absorption or to closely monitor fluid balance, as overload can cause pulmonary edema and has even cause death. Wherever possible, isotonic media should be used when performing operative hysteroscopic procedures.

TECHNIQUES AND EQUIPMENT FOR UTERINE DISTENSION

Gravity is the simplest method of instilling fluid under constant hydrostatic pressure. The container of fluid is generally hung from an intravenous pole and should be initially placed at a height above the patient's uterus that creates an intrauterine pressure that is just below the patient's mean arterial pressure. If inadequate pressure is obtained, a simple pressurized delivery system can be created by placing a pressure cuff around the

bag filled with the distention media. A variety of automated infusion pumps exist. Simple single pump devices deliver a constant infusion rate into the uterus regardless of resistance, whereas, pressure sensitive pumps reduce the flow rate when a preset pressure level is reached. Maintenance of a standard intrauterine pressure is essential for prolonged operative interventions and can help minimize systemic absorption of distending media.



MONITORING ABSORPTION

The detection of excess absorption requires accurate measurement of both media infused into the endometrial cavity and that removed or otherwise returned from the uterus. Calculation of systemic absorption is complicated by four factors:

- It may be difficult to collect all of the media that passes out of the uterus, including that which falls on the procedure or operating room floor
- The actual volume of media solution in a 3-L bag is more than the labeled volume
- Difficulties in estimating the volume of media left in a used or "emptied" infusion bag
- Systemic absorption that in some instances may occur extremely rapidly

The simplest method of monitoring is to subtract the volume collected from the volume infused. Collected volume should include all sources including the hysteroscope/resectoscope outflow, the perineal drape collection bag, and the media spilled which collects on the floor. The limitations of manual measurement make it preferable to use an automated fluid measurement system that considers an exact measurement of infused volume as well as all of the potential sources of returned media. An alarm can be set to sound a warning when a preset infusion volume is reached.

Talking About

Hysteroscopy Newsletter Vol 5 Issue 1

Cervical Septum's Dilemma

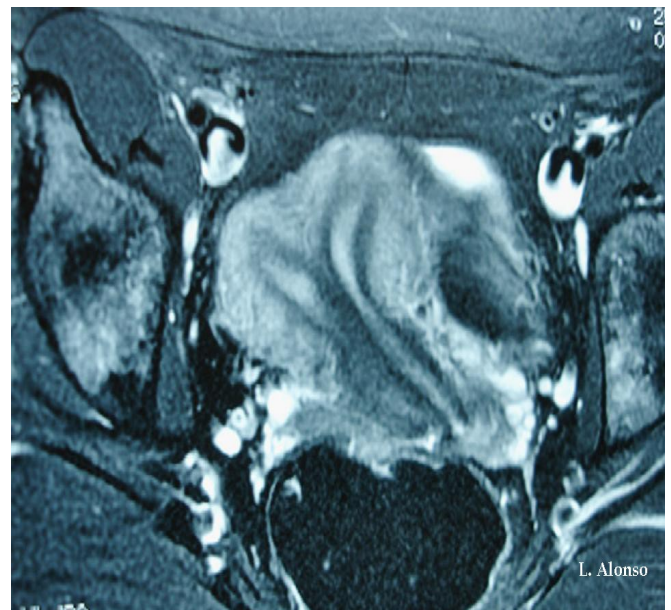
Dr. Luis Alonso. Centro Gutenberg. Spain

The surgical management of uterine malformations is one of the main indications of hysteroscopic surgery. It is difficult to establish the prevalence of this condition due to the different definitions used to describe them and the various methods used for diagnosis. Chang's review of 94 observational studies including a total of 89,861 women reported that the prevalence was 5.5% in the general population, 8.0% in infertile patients, 13.3% in women with history of spontaneous abortions and up to 24.5% in women with 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.](#)

According to the results of the Grimbizis study, the most frequent uterine malformation is septated uterus, which accounts for 34.9% of the total uterine malformations, followed by the bicornuate uterus with 26% and the arcuate uterus with 18.3%. The remaining 20.8% corresponds to all the rest of more uncommon uterine malformations. [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.](#)

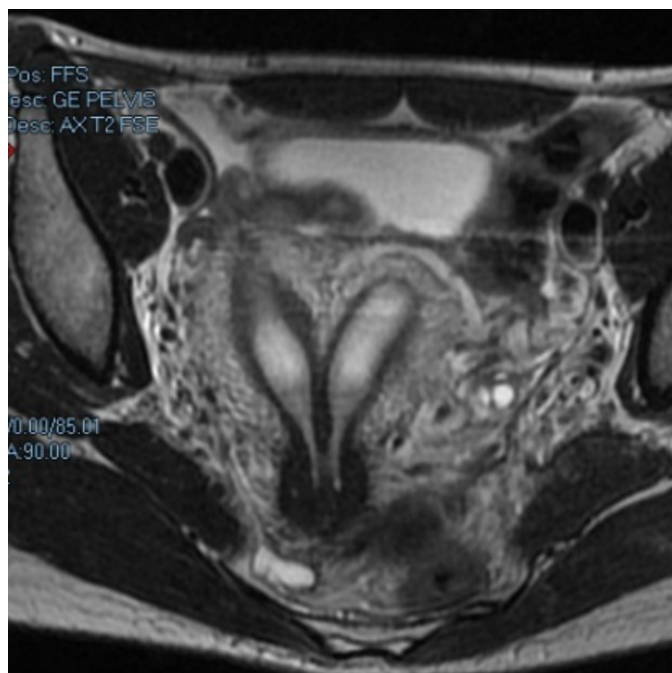
Similar results were published by Raga [[Raga F, Bauset C, Remohi J, Bonilla-Musoles F, Simon C, Pellicer A. Reproductive impact of congenital Müllerian anomalies. Hum Reprod. 1997; 12 \(10\): 2277-81.](#)] Who reported that 60% of congenital uterine malformations were septated or arcuate uterus, which represents the most uterine malformation approached by hysteroscopy

Classically, septated uterus has been divided into complete and partial. The complete septum divides the uterine cavity, reaching up to the internal OS while the partial septum is an "incomplete" division of the uterine cavity. This is classified as class V (complete Va and partial Vb) by the classification of congenital uterine malformations of the AFS.



Occasionally, septated uterus are associated with cervical septum and even a vaginal septum. The first case of septated uterus and vagina was published by McBean [[McBean JH, Brumsted JR. Septate uterus with cervical duplication: a rare malformation. Fertil Steril. 1994; 62 \(2\): 415-7.](#)] Since that publication, there have been less than 300 cases published in the literature..

The presence of double cervix can be associated with different uterine anomalies such as uterus didelphus, bicornuate uterus and septated uterus. The presence of complete septated uterus in cases of double cervix is



probably the most frequent association, followed by didelphus uterus, and much less frequent bicornuate uterus. Although a separation of both cervix of more than 1.5 centimeters is more frequent in cases of didelphus uterus, this is not a confirmed rule, and additional diagnostic evaluation must be performed to determine the type of associated malformation [Smith, BC, et al. (2014). "Double cervix: clarifying a diagnostic dilemma." *Am J Obstet Gynecol* 211 (1): 26 e21-25.].

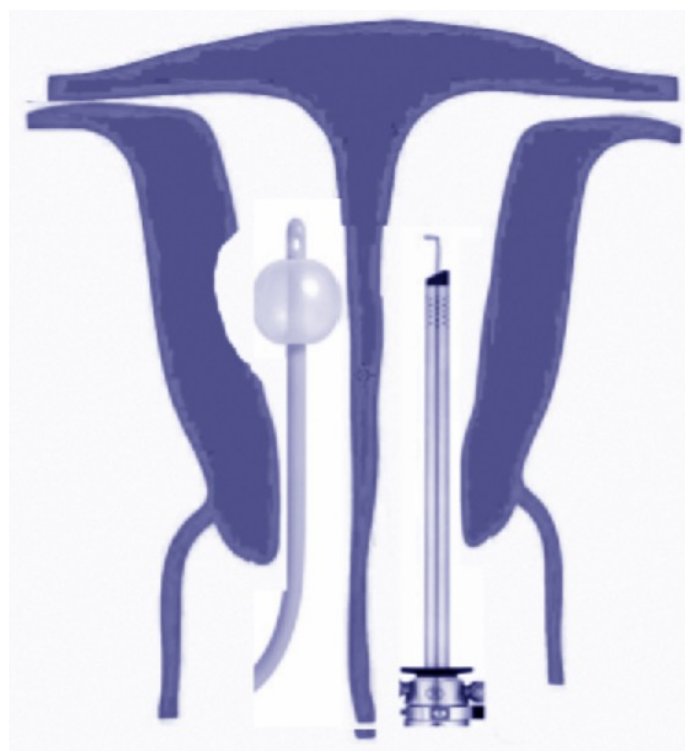
There are several imaging techniques used for the diagnosis of uterine and cervical anomalies, with a different degree of diagnostic accuracy. 2D ultrasound and hysterosalpingography have lower diagnostic accuracy than MRI, which has an accuracy for the diagnosis of Mullerian anomalies between 96-100%. In addition, MRI allows the study of the urinary system, which in some occasions have also associated malformations. 3D ultrasound has similar diagnostic accuracy than MRI.

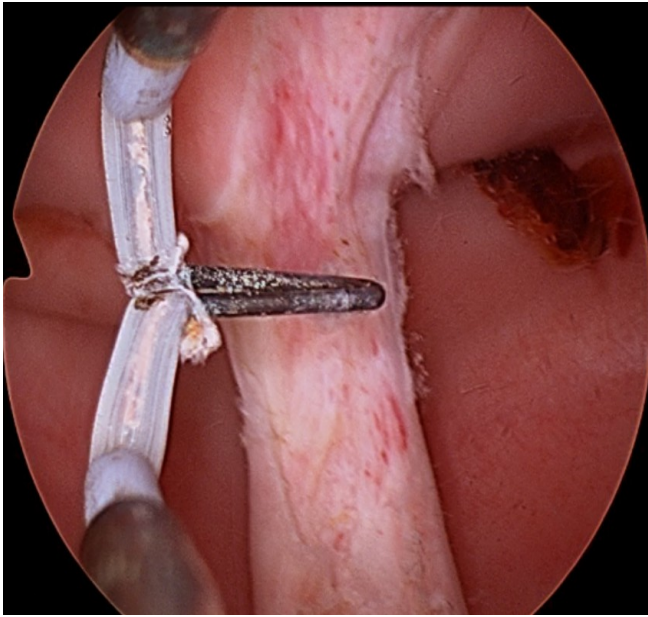
The largest series published of patients with a complete septated uterus, vaginal duplicity and vaginal septum was reported by Heinonen [Heinonen, P. K. (2006). "Complete septate uterus with longitudinal vaginal septum." *Fertil Steril* 85 (3): 700-705.]. In this work, he described the reproductive outcome and clinical implications of septated uterus. This is a descriptive study of 67 patients in which they

observed that this malformation was not related to primary infertility and in terms of obstetric outcomes, the spontaneous abortion rate was 27%, the preterm delivery rate was 12% and the newborn alive rate of 72%. Only 4 of these women underwent metroplasty, 3 by hysteroscopy and 1 patient had Jone's metroplasty.

It is not uncommon to find co-existence of urinary system malformations in these patients. Hainonen reported the presence of renal malformations in 11 patients (20%), being double ureter the most frequent.

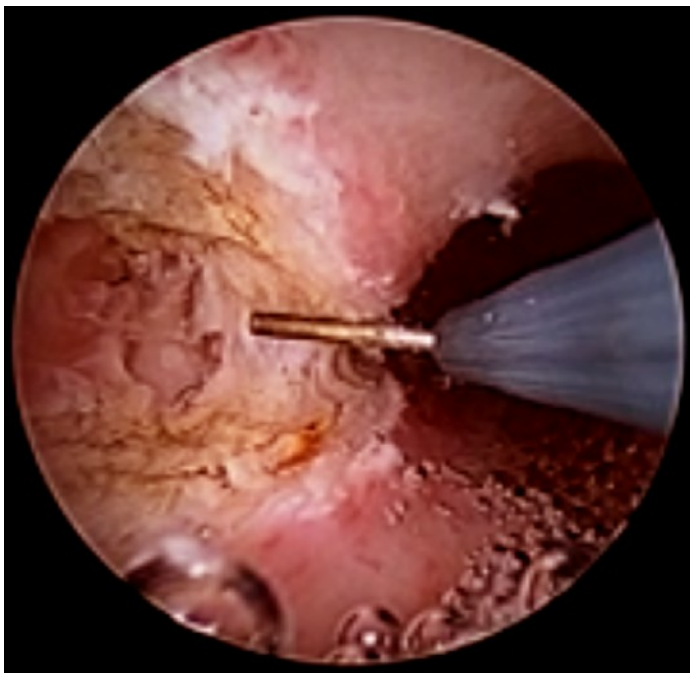
The surgical technique with preservation of the cervical septum was described in a series of 21 patients by Rock [Rock, J.A., et al. (1999). "Hysteroscopic metroplasty of the Class Va uterus with preservation of the cervical septum." *Fertil Steril* 72 (5): 942-945.] The description of the technique is as follows: after cervical dilatation, a Foley catheter or a dilator is inserted into one of the cavities that serve as a guide for the section of the body part of the septum. Subsequently, the resectoscope was inserted with a Collin's loop in the other cavity and the intrauterine septum was incised at the supracervical level.





The arguments favoring to preserve the cervical septum are that it is a vascular structure whose section could result in massive intraoperative bleeding and that the transection of the cervical septum could cause cervical incompetence, which would require performing a cerclage if the patient were to conceive.

The first publication regarding the section of the cervical septum was reported by Vercellini [Vercellini, P., et al. (1994). "A modified technique



technique for correction of the complete septate uterus." *Acta Obstet Gynecol Scand* 73 (5): 425-428.] Who performed the section of the cervical septum with Metzenbaun scissors in 7 patients in which they had great difficulty in creating the initial communication between the two endometrial cavities. Later, they compared the results of these patients with another group of 9 patients in whom this intracervical septum was left intact. There were no intraoperative or obstetric complications related to the section of the cervical septum. No cerclage was performed on any of the patients.

There are few randomized studies comparing the outcome of excising the entire septum in patients with cervical duplicity. Parsanezhad [Parsanezhad, M.E., et al. (2006). "Hysteroscopic metroplasty of the complete uterine septum, duplicate cervix, and vaginal septum." *Fertil Steril* 85 (5): 1473-1477.] compared the results of 28 women with complete uterine septum who had clinical history of poor obstetric outcomes or infertility. The patients were assigned to one of two groups, in one group the intracervical portion of the septum was excised while in the other group the cervical septum was left intact. Both the surgical time and the fluid deficit were greater in the group in which the cervical septum was left intact. In addition, they had two cases of pulmonary edema and 3 cases of massive bleeding in this group. There were no significant differences in obstetric outcomes. 4 of the 15 patients in the group in which the septum was transected had cervical cerclage, whereas it was performed only in 2 of the 13 patients in the group in which the cervical septum was left intact.

In view of these results, the authors recommend transecting the cervical septum in all cases of complete uterine septum, since it makes the procedure safer, faster with similar obstetric outcomes.

Further studies are needed to determine the implications that the transection of the cervical septum may have on patients with this rare uterine congenital malformation.

Original Article

Hysteroscopy Newsletter Vol 5 Issue 1

Hysteroscopic features of intra uterine omentum Incarceration

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It is a fact that hysteroscopy is gaining more and more territory in intra-uterine pathology, both diagnostically and therapeutically, thus putting the gynecological world in the heart of a veritable transition phase between, on the one hand, the formerly wide spread blind intra-uterine procedures, such as aspiration and curettage; and on the other hand, more sophisticated under-visual-control techniques, or hysteroscopy. This will more likely lead to particular situations hysteroscopists might be faced with, among which, intra uterine omentum incarceration.

This condition schematically consists of a piece of omentum trapped inside the uterine cavity through a previous misdiagnosed perforation. The patient presents with a history of D&C or other intrauterine procedures (1;2), and complains of mild chronic pelvic pain. The clinical examination doesn't show particular signs. The ultrasound scan ideally demonstrates a hyper-echogenic intra uterine image crossing the uterine wall from inside out, with poor Doppler signals (fig1.2.3). However, incomplete aspects could be demonstrated, consisting of intracavitary echogenic images, partially invading the uterine wall (fig 4 ; 5), thus arousing suspicion of trophoblastic disease, placental remnant or neoplasm. In all cases, MRI is the imaging technique of choice, as it demonstrates both the uterine defect and the fat nature of the tissue, thanks to the fat-suppressed T1-weighted images (3). The gold standard for management consists of laparoscopic repair.

Ideally, this is how diagnosis and management should be addressed. Yet, in most developing countries, MRI is still out of reach for most patients. The presence of an intra uterine formation usually and directly leads to patient counseling in favor of hysteroscopic diagnosis and resection, if not an iterative curettage in some regions, which should be particularly prohibited under such circumstances.

When hysteroscopy is performed, it is very important to be aware of the hysteroscopic features of incarcerated omentum, as this condition is already a contraindication to hysteroscopy, and mostly, to electrosurgery.

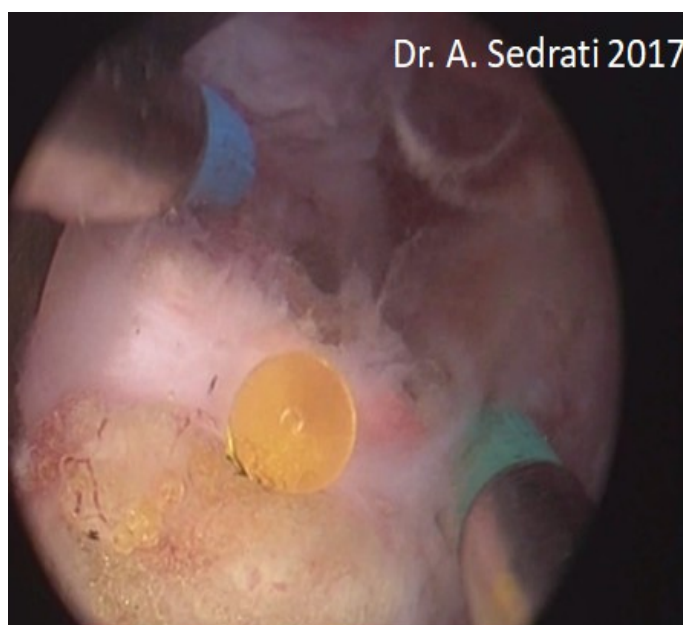
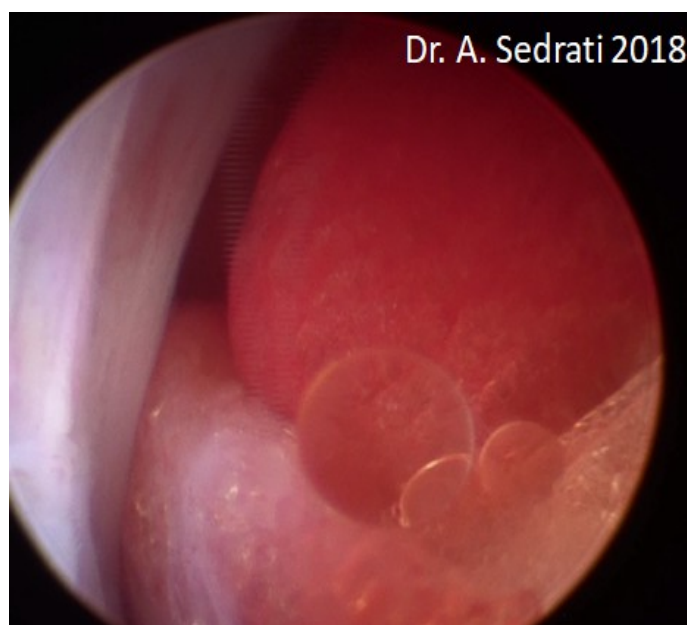
Omentum hysteroscopically appears as an intracavitary yellowish fat like lesion (fig6), initially raising the possibility of trophoblast or placental remnants. A case of intramyometrial fat metaplasia has also been reported in the literature, and is thus considered as a differential diagnosis(4). However, what seems to be pathognomonic of omentum, is that mechanical manipulation of the formation releases yellow drops of lipid nature. This could be termed the "fat drops sign", or the "Sedrati sign" (fig.7;8), as Dr. Sedrati's paper was the first in the literature to have described it (2).

Two videos related to this topic are available for the newsletter, and show the Sedrati sign in both cases of omentum incarceration we have had so far.

These hysteroscopic findings should lead to increased vigilance and immediate termination of the procedure. Electrosurgery is prohibited. Laparoscopy is to be subsequently scheduled in order to liberate the incarcerated omentum and repair the uterine wall defect.

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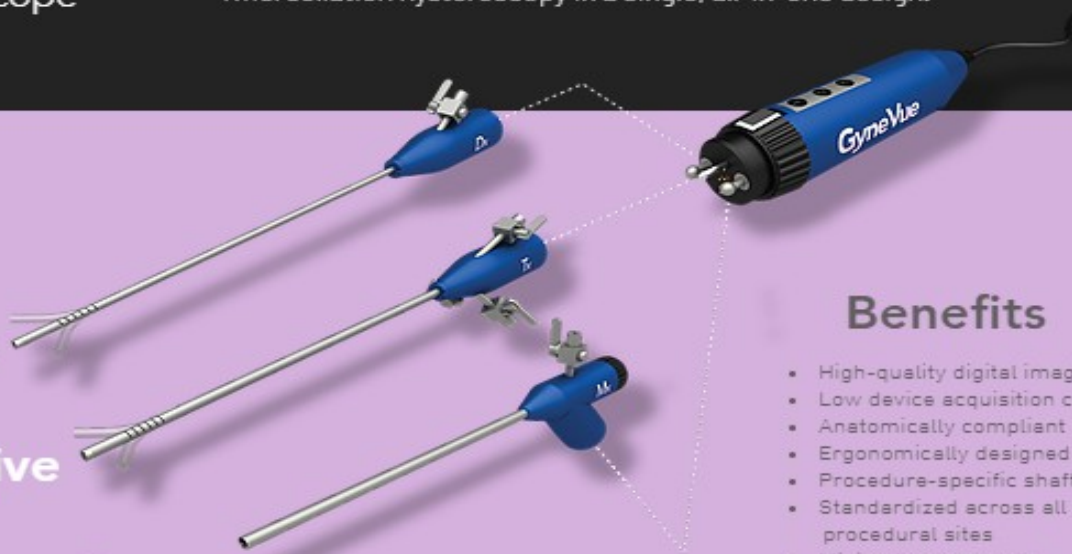
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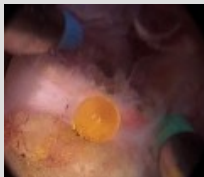


Tissue Removal Shaft

5.5 mm Diameter

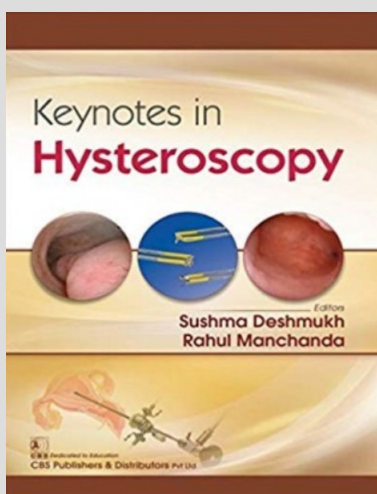


WHAT'S YOUR DIAGNOSIS?



Answer to last edition:

"fat drops sign" or "Sedrati sign"



Keynotes In Hysteroscopy
Deshmukh Sushma, Manchanda Rahul
CBS Publishers & Distributors 2019

The book covers all aspects, practical tips and tricks in hysteroscopy. A compilation of keynotes, it will serve as a ready-reckoner for every gynecologist who wants to practise hysteroscopy, as well as those who are already in practice. It explains basics leading to advances in hysteroscopy. Many professionals of international repute have contributed their chapters in this multi-author book.

Case Report

Hysteroscopy Newsletter Vol 5 Issue 1

A rare case of vaginal epidermal cyst

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ABSTRACT

Vaginal cysts are uncommon, their prevalence is unclear but it is estimated to be close to 1%. They are usually asymptomatic and an incidental finding during gynecological examination. Some patients may present with vaginal discomfort, perineal pressure, or a bulging vaginal mass. In some cases, it may produce dyspareunia, vaginal spotting, or low urinary track symptoms. When these cysts present, patients are usually at the third or fourth decade of life

Keywords:

Vaginal Cyst,
Epidermoid Cyst

The origin of these cysts is not clearly understood, but some of the theories described in the literature link these masses with aberrant embryogenesis, with ectodermal cells misplaced during cellular differentiation; it could also be caused trauma, injury or pressure to an area transplants epidermal cells into the tissue.

CASE REPORT

A 54 -year-old woman, Para 1, was evaluated in our clinic because of a soft mass protruding from her vagina. She noted the mass for about 4 weeks, with no other symptoms. Her medical history was unremarkable. Examination revealed a tender mass attached to the left vaginal wall measuring 4cm in diameter, with a 1.5 cm opening.

Exploratory vagino-hysteroscopy was performed. The mass measured 4 x 3 cm with a 1 cm pedicle attached to the left wall of the vagina (Figure 1).

Endoscopic evaluation showed multiple small glove finger-like pedunculated papillae in the middle part of the mass. At its fundus, close to the pedicle, there was mucus and debris with no communication with the vaginal wall (Figure 2). The mass was excised vaginally using local anesthesia at the level of the pedicle; the procedure was uncomplicated.

Pathology results were compatible with a benign squamous epithelial inclusion cyst lined with hyperplastic Malpighian epithelium, non-keratinized with glycogenic cytoplasm. A Malpighian layer is by definition the innermost layer of the epidermis. Post-operative evaluation was normal and uneventful.

DISCUSSION

Vaginal cysts are uncommon, their prevalence is unclear but it is estimated to be close to 1%(1). They are usually asymptomatic and an incidental finding during gynecological examination. Some patients may present with vaginal discomfort, perineal pressure, or a bulging vaginal mass. In some cases, it may produce dyspareunia, vaginal spotting, or low urinary track symptoms. When these cysts present, patients are usually at the third or fourth decade of life (1, 2, 3).

They are classified based on origin and histology in four different types (4):

A) Mullerian cyst paramesonephric 30 %

B) Bartholin duct cyst - 27, 5%

C) Epidermal inclusion cyst squamous – 25%

**D) Gartner duct cyst - mesonephric
Endometrioid cyst and unclassified variety - 17, 5%**

The origin of these cysts is not clearly understood, but some of the theories described in the literature link these masses with aberrant embryogenesis, with ectodermal cells misplaced during cellular differentiation; it could also be caused trauma, injury or pressure to an area transplants epidermal cells into the tissue (4).

Epidermoid cysts are essentially benign and slow growing lesions that arise from implantation of epidermis into the dermal layer of skin or as in this case, the vagina. Vaginal trauma like an episiotomy, vaginal tears during delivery, and iatrogenic implantation of epidermal fragments via surgical tools can explain this rare location of an epidermal vaginal cyst (6).

The most common sites where they can be found are in hairy areas. With 90% of lesions found in the scalp, followed by other sites include trunk, neck, face, arms and legs and lastly and less frequent at the genital area (5).



These vaginal inclusion cysts are generally small and can be found at the lower end of the vagina, usually on the posterior wall. Near the fornix, they arise from epithelial inclusion below the surface of

The vagina because of fragments of mucosa resulted from perineal tears or from an improper surgical technique during repair of the perineum, after an episiotomy (3).

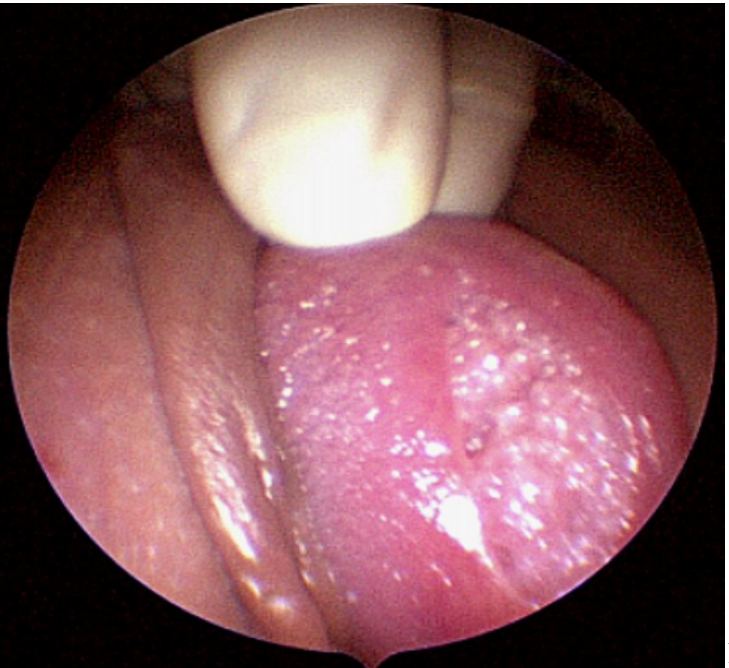
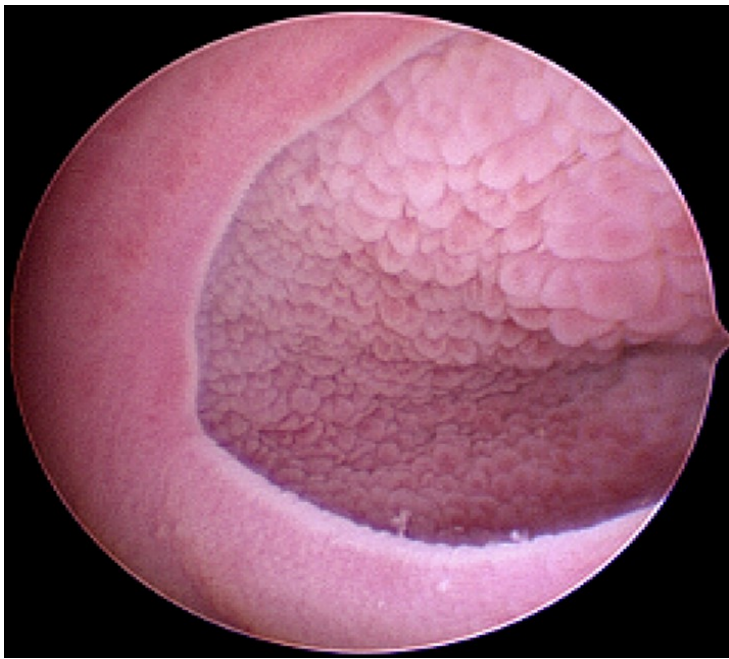
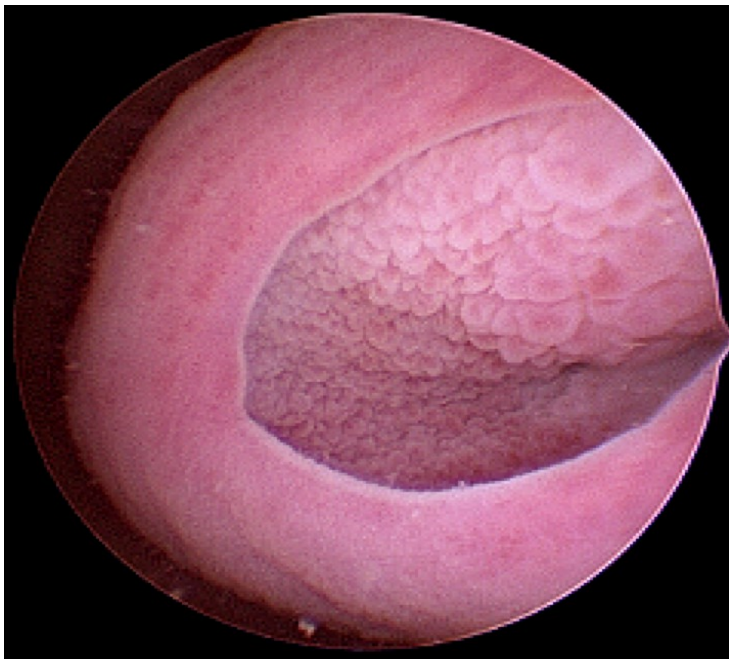
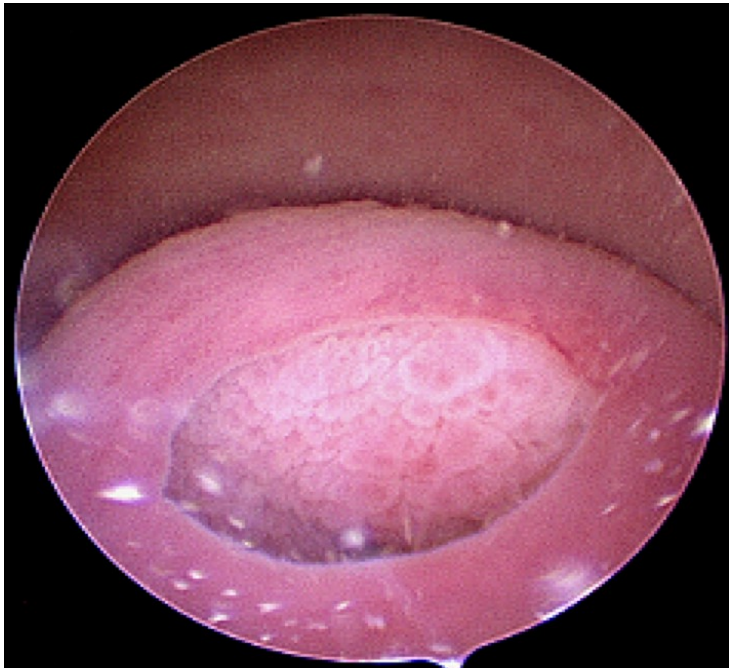
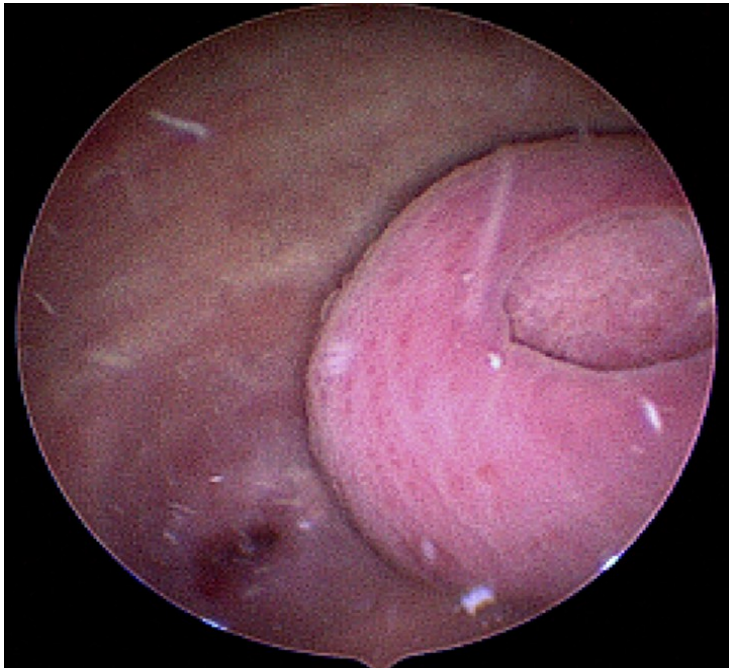
There are other very rare presentations of epidermal cysts described in some women as in the gastrointestinal tract (colon) (6,7), clitoris (8) and retroperitoneum as an adnexal tumor (9,10). Some of the largest pelvic cysts have measured up to 17.8 × 13.18 cm reported in 2010 (9) followed by a 15 × 10 cm cyst, reported in 2012 (10).

In this case, we consider the patient's spontaneous vaginal delivery and episiotomy repair with vaginal instrumentation as the only contributory factor to the formation of the cyst. The patient denies vaginal tears or forceps. The use of vaginoscopy allowed us to have an endoscopic close view of this rare pathology, even though it is not the standard of care to use it in cases like this.



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