

MASTER CLASS

Vaginoscopy's Approach to Hysteroscopy



BY CHARLES E. MILLER, M.D.

Over the past several years, the number of office-based gynecologic surgical procedures has skyrocketed. Factors cited in this trend toward in-office surgery are better reimbursement, greater efficiency for both patient and physician, as well as the ability to provide a familiar environment for the patient. Both diagnostic as well as operative hysteroscopy are two such procedures that easily can be converted to the office setting.

A common concern from the inception of in-office surgery is patient comfort. With the use of anesthetic agents, convalescence both in the office setting as well as at home may be extended. Furthermore, the cost of the procedure will be increased, thus affecting overall reimbursement. Finally, most gynecologists are uncomfortable providing even conscious sedation for their patient in the office. Thus, the key to successful transition to surgery in an office setting would be to modify the procedures to minimize pain. Vaginoscopy allows such an approach to both diagnostic and operative hysteroscopy.

I am especially pleased that my associate, Dr. Aarathi Cholkeri-Singh, has agreed to write this edition of the Master Class in

Gynecologic Surgery on vaginoscopy. After completing her residency at Advocate Lutheran General Hospital, a large teaching hospital in a Northern suburb of Chicago, Dr. Cholkeri-Singh went on to complete an AAGL/American Society for Reproductive Medicine Fellowship in minimally invasive gynecologic surgery at Harvard Medical School and Brown University hospital affiliates. It was during her training that Dr. Cholkeri-Singh gained experience with in-office vaginoscopy under the watchful eye of noted hysteroscopic guru Dr. Keith Isaacson.

Now the associate director of minimally invasive gynecologic surgery at Advocate Lutheran General Hospital, Dr. Cholkeri-Singh's practice is concentrated

on minimally invasive gynecologic surgery and office gynecology. She will be a featured speaker at the AAGL's 38th Global Congress of Minimally Invasive Gynecology this month in Orlando.

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BY AARATHI CHOLKERI-SINGH, M.D.

Vaginoscopy in Practice

Gynecologic surgeons are getting good reimbursement rates for office hysteroscopy, and patients appreciate the convenience of having hysteroscopic evaluations done more quickly and comfortably in an office with which they are familiar.

As commitments to office-based surgery expand, it seems logical and important for physicians to become familiar with—and consider adopting—a less-invasive approach to hysteroscopy. The vaginoscopic technique for hysteroscopy—sometimes referred to as a no-touch approach—avoids the use of a vaginal speculum and cervical tenaculum. It is an easier and quicker procedure for the surgeon, provides equally good visualization, and most importantly is even more tolerable for patients than the traditional approach that utilizes instrumentation.

Without placing a speculum in the vagina, grasping the cervix with a tenaculum, or injecting a paracervical block, I have seen a significant decrease in discomfort among my patients. I use minimal premedication and rarely use any local anesthetic. In addition to diagnosing and evaluating the uterine cavity, I can perform minor therapeutic and operative procedures such as removing polyps, lysing adhesions, obtaining biopsies, removing lost intrauterine devices, and occluding the tubes using the Essure sterilization system.

With patients tolerating the procedure even more than they would a traditional hysteroscopy, we have the opportunity to increase the possible applications of hysteroscopy, to do more during the procedure, and to advance hysteroscopy even further as a successful in-office procedure that is part and parcel of our diagnostic and therapeutic armamentarium.

Key Studies

Vaginoscopy has been described in the literature as far back as the 1950s and continues to be used for diagnosing vaginal endometriosis, pelvic floor mesh erosions, vaginal fistulas, and cervical pathology, for example, as well as excising vaginal lesions or longitudinal vaginal septums. It has also been utilized in the pediatric/adolescent population for visualizing and removing foreign bodies, and for evaluating pelvic trauma, abnormal bleeding, and infection.

Dr. Stefano Bettocchi and Dr. Luigi Selvaggi in Italy were the first, however, to describe the utilization of a vaginoscopic approach to office hysteroscopy for evaluating the endocervical canal and uterine cavity in ad-

dition to the vagina and external cervical os. In a paper published in 1997 in the Journal of the American Association of Gynecologic Laparoscopists (4:255-8), they described various approaches they took to improve patient tolerance during the 1,200 diagnostic hysteroscopies they performed between 1992 and 1996.

The first 49 procedures were done using the speculum and tenaculum but without local anesthesia. The investigators saw high rates of discomfort (53%), moderate pain (25%), and severe pain (20%), as well as two cases of serious vagal reactions.

They then began using local anesthetic (mepivacaine 2%) but found that, while it helped some of the women, many of them continued to have discomfort or pain. In the next 169 cases, 69% had discomfort or mild pain, 11% had moderate pain, and 8% had severe pain resulting in suspension of the procedure (again, including two women who had vagal reactions requiring medical assistance).

Dr. Bettocchi and Dr. Selvaggi then decided to use the speculum to visualize the cervix but not place the tenaculum. They did not use any anesthesia with this group of 308 women. Their patients' pain levels started decreasing quite a bit, with 66% of these patients reporting no complaints. Cases of severe pain disappeared completely.

They then took it a step further to deal with the remaining causes of pain (32% had reported mild pain and 2% had reported moderate pain) and utilized the vaginoscopic approach. In these last 680 procedures—in unselected patients, both multiparas and nulliparas—the patients had a 96% no-discomfort rate. By not using the speculum and tenaculum to expose and grasp the cervix, the investigators nearly eliminated patient discomfort while still performing effective hysteroscopy.

Since this landmark report, several teams that have adopted a vaginoscopic approach to hysteroscopy have reported good results, and at least two teams among those I reviewed in the literature have conducted randomized prospective studies.

Dr. M. Sharma and his team in London randomized 120 women to undergo either traditional hysteroscopy or vaginoscopic hysteroscopy (60 women in each group)—with a further breakdown into the use of a 2.9-mm and a 4-mm hysteroscope. The investigators reported an overall success rate of 99%. They used the need for local anesthesia as a primary outcome measure. Although they reported lower requirements with the vaginoscopic approach using the narrower hysteroscope, they found that overall, there was no significant difference in the use of local anesthesia among the groups. There also were no statistically significant

differences in pain scores between the two techniques.

The main difference for this team lay in the length of the procedure. Hysteroscopy and biopsy times were significantly shorter (more than 25% faster) with the vaginoscopic technique—a difference that Dr. Sharma and his colleagues said is important for patients who are anxious about the procedure (BJOG 2005;112:963-7).

In the other randomized study, in contrast, Dr. O. Garbin and his colleagues in France found that patients had significantly less pain with the vaginoscopic approach. Their randomization of 200 patients to conventional and 200 patients to vaginoscopic hysteroscopy—with no use of either anesthesia or premedication in either group—showed no differences in the quality, success, or duration of the exam but significant differences in patients' ratings of pain on a visual analog scale. Two cases of vasovagal syncope occurred in the group with traditional hysteroscopy.

Cervical passage was easier overall with vaginoscopic hysteroscopy, Dr. Garbin and his team reported, though the differences were not significant (Hum. Reprod. 2006;21:2996-3000). All of their procedures were performed using rigid single-flow hysteroscopes with an external sheath diameter of 3.5 mm.

The two randomized studies were quite different, and it's possible that Dr. Sharma's study lacked sufficient power. Certainly, it was more complicated with its use of two different hysteroscopes and the frequent use of anesthesia. Interestingly, Dr. Garbin and his colleagues addressed the issue of pelvic infection and pointed out that their procedures began with disinfection—something that was not mentioned in either Dr. Bettocchi's or Dr. Sharma's reports but is a practice that we do routinely.

All told, what I've taken away from the literature thus far is that the vaginoscopic approach to hysteroscopy is superior in terms of patient tolerance and can be quicker—without any impairment in cervical passage or visual quality.

In Practice

I first prep the vagina and the cervix with a small-diameter swab dipped in Betadine (povidone-iodine), or an alternative if the patient has an allergy to iodine. I use normal saline as a distention medium, so each patient is positioned on an under-buttocks drape to catch fluid. A 1,000-cc normal saline bag inserted in a pressure bag is hung on a tall IV pole with standard IV tubing.

I tell patients in preprocedure counseling that the use of saline and distention of the uterine walls usually causes some cramping but that ibuprofen or Celebrex (celecoxib) can minimize this cramping. I show them

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the diameter of the hysteroscope, which often helps alleviate any anxiety. In rare cases, if a patient is very anxious and worried about her tolerance for the procedure, or if the procedure is expected to be unusually long, I will prescribe Valium (diazepam). Usually such patients are young and have never experienced a gynecologic procedure before. In practice, however, I have almost never needed to use any local anesthetic.

I do premedicate patients—especially nulliparous patients and postmenopausal patients with stenotic cervixes—with Cytotec (misoprostol) to facilitate an easier entry of the hysteroscope into the cervix.

I use a 3-mm single-flow rigid hysteroscope for diagnostic purposes and can quickly add the operative sheath, making the hysteroscope a 5-mm operative rigid hysteroscope, when I need to perform a minor procedure. If I anticipate performing a procedure, I will directly enter with the 5-mm hysteroscope. I prefer using the Bettocchi hysteroscope system (Karl Storz Endoscopy-America Inc.) because of its oblong shape that, when rotated horizontally with the light cord, easily slips into the slit-shaped external cervical os.

Rigid hysteroscopes have a camera lens angle of 0-30 degrees. I most often use scopes with a 30-degree angle to optimize visualization with minimal manipulation. With this angle, the hysteroscope can be brought to the midline of the uterine cavity and simply rotated about 90 degrees to the left or right with the light cord without much movement of the hysteroscope to visualize the cornu.

In contrast, visualizing the cornu with a 0-degree scope would require manipulation of the entire hysteroscope, potentially increasing patient discomfort. A 12-degree scope offers similar advantages to the 30-degree scope, and either one can be chosen based on physician familiarity and preference.

After placing the hysteroscope into the lower vagina, I guide it into the posterior fornix of the vagina so that I know I'm at the end of the vaginal canal. Then, I slowly pull back while observing anteriorly and visualizing the external cervical os. I then introduce the hysteroscope through the cervical os, and based on an understanding of the anatomy and the scope's angled view, I guide the hysteroscope through the endocervical canal and into the uterus. If I am not getting good distention of the vaginal walls, I will gently pinch the labia together to minimize fluid leakage.

Insertion of the hysteroscope without a tenaculum requires a great deal of dexterity and comfort with the in-

strument. The surgeon needs to understand the correlation between what is seen on the screen and the exact position of the hysteroscope so that the instrument does not rub against the cervix or the uterine tissue and cause trauma and pain.

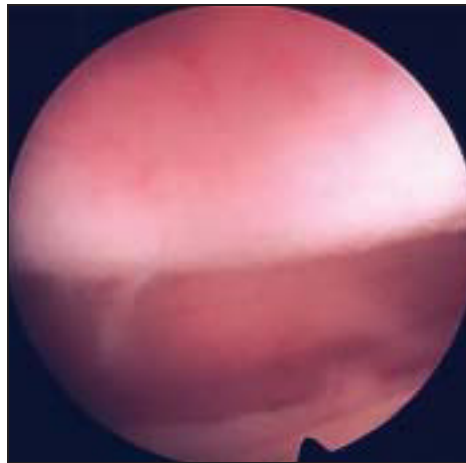
With an angled hysteroscope, the image displayed on the screen reflects what is actually above the tip of the instrument. If the opening to the cervical os looks like it's straight ahead, for instance, it is actually above the direction in which the scope is being guided, and the scope must therefore be angled to enter the canal. Understanding the correlation and being comfortable with this 12- or 30-degree fore-oblique view takes some practice, as does visualizing the cervix correctly when pulling back from the posterior fornix. For most gynecologic surgeons, the necessary skills and comfort levels fall into place after just a few vaginoscopic procedures.

I have not found any difference in difficulty based on the axis of the uterus. In fact, I have found that utilizing a vaginal speculum in conjunction with a cervical

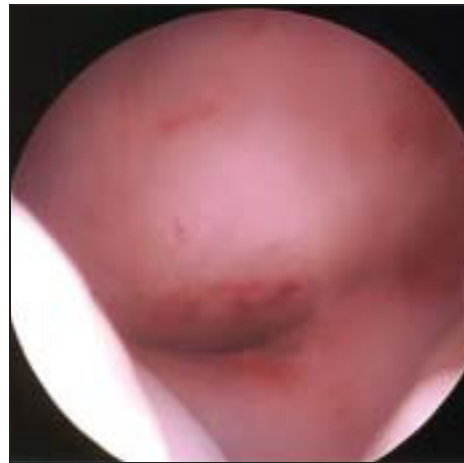
operative hysteroscopy especially. I generally monitor fluid outflow in my practice, with a nurse checking fluid levels and monitoring the deficit while I explain to the patient what I am doing and visualizing. Because diagnostic procedures are fairly short, the likelihood of fluid intravasation at high volumes is low, however.

Vaginostomy can be extremely helpful for evaluating patients who are morbidly obese and for whom standard office instruments are not adequately sized for visualization of the cervix. I recently tried to obtain a Pap smear and do an endometrial biopsy in a patient who was morbidly obese and had a large fibroid uterus, but with conventional methods I was unable to do so using our instruments. I brought the patient to the operating room to use larger instruments, but even these were insufficient. I finally performed the Pap smear successfully by palpating the cervix and os, and used vaginostomy to visualize the entire cervix. I then continued with the hysteroscopy and endometrial biopsy.

After the diagnostic—and sometimes operative—



The hysteroscope is guided into the posterior vaginal fornix.



Then it is pulled back while the external cervical os is visualized anteriorly.



Then the scope is guided through the endocervical canal.

IMAGES COURTESY DR. AARATHI CHOLKERI-SINGH

tenaculum to straighten the uterine axis has limited my hysteroscope manipulation for extreme ante- or retroversion, increasing patient discomfort.

Just as with traditional hysteroscopy, operative hysteroscopy is possible right after or even at the same time as a diagnostic hysteroscopy performed with a vaginostomy approach. The gynecologic surgeon can remove polyps that are visualized during a diagnostic procedure, for instance; perform adhesiolysis for Asherman's syndrome and tubular cannulation for blocked proximal tubal obstruction; retrieve lost IUDs; and perform tubal occlusion using the Essure system. My most recent tubal occlusion procedure took less than 5 minutes from start to finish, and the patient drove herself home within 15 minutes after completion of the procedure.

I do nothing differently when performing an operative hysteroscopy utilizing the vaginostomy approach than I would using the traditional approach, except for not using the speculum and tenaculum.

I recommend fluid monitoring when performing op-

procedure, our nurses will check patients' vital signs and ensure that they are feeling well and are ambulatory. Most of the time, patients leave the office within 15 minutes or so, happy to have had their procedure done in the office as opposed to the hospital.

Vaginostomy also has been shown to be effective, fast, and easy for managing gynecologic problems in pediatric and adolescent patients. In a report published in 2000, Dr. Abraham Golan and his colleagues in Israel reported that they were able to complete the procedure successfully in 22 patients aged 3-16 years who were evaluated for vulvovaginitis, vaginal trauma, bleeding, or genital malformation (*J. Am. Assoc. Gynecol. Laparosc.* 2000;7:526-8). Gynecologic surgeons who build skills and experience with the vaginostomy approach to hysteroscopy could also serve the pediatric/adolescent community well. ■

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Uterosacral Nerve Ablation Failed to Help Chronic Pelvic Pain

BY MARY ANN MOON

Uterosacral nerve ablation via laparoscopy failed to improve chronic pelvic pain, dysmenorrhea, dyspareunia, and quality of life in a clinical trial four times larger than any previously published study of the issue, according to a report in *JAMA*.

Laparoscopic uterosacral nerve ablation (LUNA), using either lasers or electrodiathermy, has become increasingly popular for chronic pelvic pain, even though systematic reviews of the evidence have been "inconclusive" as to the procedure's benefit. "Clinicians' beliefs

about LUNA's effectiveness vary widely, and LUNA remains a controversial procedure," reported Jane Daniels of Birmingham (England) Women's Hospital, and her associates.

The investigators performed a randomized study of 487 women with chronic pelvic pain undergoing laparoscopy for a differential diagnosis at 18 British hospitals. Intraoperatively, the women were assigned to undergo immediate LUNA or no nerve ablation. The women were blinded to their treatment assignment.

"The ablation was performed as close to the posterior aspect of the cervix as possible and continued for a minimum of

1 cm posterolaterally on either side with the intended aim of destroying the sensory nerve fibers and the secondary ganglia as they left the uterus and lie within the uterosacral ligaments," Ms. Daniels and her colleagues noted. "Full or partial transection of the ligaments was achieved bilaterally with laser or electrodiathermy, according to the surgeon's preference."

Median follow-up was 69 months. The patients assessed their pain and health-related quality of life at 3 and 6 months, and 1, 2, 3, and 5 years post procedure.

The investigators found no differences between women who had LUNA and those who did not in terms of severity of

chronic pelvic pain, dysmenorrhea, or dyspareunia at any of those time points, Ms. Daniels and her colleagues reported (*JAMA* 2009;302:955-61).

There also was no difference in health-related quality of life. One year after the procedure, the two groups reported a similar number of visits to their general practitioners and a similar number of days off from work.

There were eight cases of minor hemorrhaging during the LUNA procedure and one case that required conversion to an open surgery.

The investigators reported no financial conflicts of interest. ■