

In-office Hysteroscopic polypectomy

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Hysteroscopy Newsletter Vol 7 Issue 2

Since the year 2000, hysteroscopy has been considered the gold standard for the evaluation of the uterine cavity and allows diagnosis, treatment and to obtain pathological sample to be studied in a single procedure (1,2). Suspicion of endometrial polyps (EP) (Figure 1) requires visual verification for which blind diagnostic and therapeutic procedures are of no use (3,4).

In-office hysteroscopy is performed entirely in an office setting without any sedation or medication during the procedure. Developed by Dr. Stefano Bettocchi since 1995, thanks to the miniaturization and changes in the design of the hysteroscopy equipment available up to that time, generating significant time and cost savings in the management of the pathology of the uterine cavity (5).

With the development of working instruments with monopolar, bipolar, laser and electro-mechanical energy (morcellators), the number and complexity of the hysteroscopic treatments that can be performed in the office setting have increased (6,7).

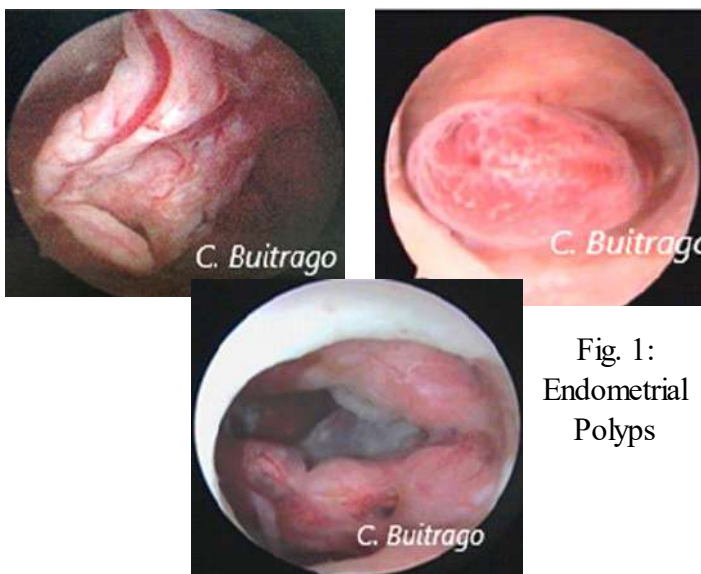


Fig. 1:
Endometrial
Polyps

HYSTEROSCOPIC UNITS

Today's office hysteroscopy units can be classified into (Figure 2): (3)

Low complexity services:

These are those that have the basic equipment, which consists of:

- Gynecologist with only basic training in hysteroscopy.
- Medical Assistant.
- Hysteroscopy with operating channel.
- Mechanical instruments (scissors and grasper)
- Equipment for irrigation and evacuation of the distension medium.
- Monitor and image capture system.

In this type of service, almost 100% of the diagnoses can be performed, taking endometrial biopsies and it can be therapeutic in 30 to 40% of cases with structural pathology.

High complexity services:

These require in addition to the above mentioned, the following:

- Gynecologist with training in advanced hysteroscopy
- Electrosurgical energies with miniaturized working elements (from 5 to 16 Fr), lasers, hysteroscopic morcellators, miniresectoscopes, etc.

Finally, the complexity of the procedures performed in the office, including polypectomy, will depend on the skill of the hysteroscopist, the technology available, and the patient pain tolerance. Therefore, there is no specific measure that limits the decision to do it in the office, although the difficulty of the procedure is directly related to the size of the polyp.

TYPES OF POLYPECTOMIES

The polypectomy can be performed in the following ways (Figure 3)

1. Resection with grasper.
2. Resection with scissors.
3. Resection with monopolar or bipolar energy electrodes.
4. Laser resection.
5. Resection with a mini-resectoscope
6. Resection with a morcellator.



Fig. 2 Low complexity service

1. Grasper resection: it is the simplest and most frequently used method for resection of small EP generally of less than one centimeter in size, preferably with a pedicle, very useful also for the excision of atrophic EP of postmenopausal patients in which the polyps are easily detached without causing bleeding. The technique consists of firmly grasping the base of the polyp and making lateral or cephalic traction that allows visualizing and controlling the complete detachment, later the entire hysteroscope is extracted (without retracting the grasper into the operating channel), visualizing the passage through the canal.

2. Resection with scissors: It is recommended to cut with scissors from the base of the polyp to avoid recurrences. If the size of the cervical orifice is exceeded by the polyp, it is suggested to thin or fragment the polyp with cuts before resecting the base. After its release, a grasper clamp or preferably a hysteroscopic tenaculum is passed for its extraction together with the hysteroscope, verifying the passage of the pathology through the canal.

3. Resection with energy

a. Monopolar: It is characterized by its low cost. Its advantages are the low generation of bubbles during activation on the tissue, however, it requires the use of non-electrolytic distension means which increases the risk of complications associated with hypotonic solutions, although for the office setting, this risk is negligible. It forces the use of a grounding pad on the patient with the associated risk of thermal injury.

b. Bipolar: Currently they are the preferred energy systems for use in hysteroscopic surgery both in the office and in the operating room. This type of electro-surgical energy can be used in the office setting with 5 Fr electrodes through the working channel or with miniresectoscopes up to 13 Fr.

Hysteroscopic 5 Fr electrodes.

Advantages: Excellent in the office, they allow hemostasis and provide clean cuts, there is no need to change instruments.

Disadvantages: Produces a large amount of bubbles, does not ensure the extraction of the specimen from the endometrial cavity, can cause damage due to burns or perforations.



Fig. 2 High complexity service

4. Laser resection: The use of laser in hysteroscopy is not new, however, it is only over the last 10 years that it has been gaining an important role in hysteroscopic surgery. CO₂, Nd:YAG, KTP, He: Ne, argon lasers have been used, and recently diode lasers which seem to be the most versatile and cost effective compared to other types of lasers and the one with the greatest amount of scientific evidence for its use for the management of polyps and submucosal myomas. The diode laser has a wavelength of 980 to 1470 nm, a spectrum that gives it a special affinity for water and hemoglobin, allowing excellent control of hemostasis and vaporization or cutting on endometrial and myometrial tissue. With a penetration that does not exceed 3 mm thus giving great safety for its use in the office environment (10).

Advantages: less pain, less expensive if the fiber is reusable, and more versatile for office use, excellent hemostasis, good for vaporizing, there is evidence of lower recurrence rate, few bubbles, always works with the same power, fiber Slim

optics that allow a greater flow of liquid, improving the visual.

Disadvantages: it is not available in most centers, there is little training among gynecologists and it does not ensure the extraction of samples from the endometrial cavity.

5- Mini-rectoscopes: they use energy for the resection. Both monopolar and bipolar.

Advantages: Excellent for the office setting, allows hemostasis and to perform clean cuts, allows removal of resected tissue by destroying the lesion into small fragments or "chips". Complete extraction has been described in 96.15% of the cases with excellent patient tolerance for the procedure and great patient's satisfaction (8).

Disadvantages: Produces a large amount of bubbles, can cause electrical damage, requires instrument change, requires special irrigation-aspiration system, requires special generator capable of producing plasma energy and cost (9).



Fig. 3: Instruments used for hysteroscopic polypectomy

6- Resection with tissue retrieval systems

They allow the destruction of the tissue through rotating blades integrated into a flow system of the distension medium with which the destroyed tissue can be recovered in a clean and organized way. Recovery of tissue in hysteroscopy has always been one of the greatest difficulties, especially for novice operators. This difficulty is overcome with training and the appropriate instruments.

Its efficiency will depend on the system used, the size of the window, the revolutions per minute, the vacuum pressures of each equipment and the expertise of the operator. Another benefit is that some of them are reusable. There is high success

rate even in resecting polyps bigger than 2 cm (96.92% vs. 97.53% in less than 2cm) without complications and excellent patient tolerance in the office setting (11).

Disadvantages: It is more expensive (cost of disposables (blades, tubes), their performance decreases as the blades wear out, not available in most centers, does not provide hemostasis (except for models that have associated bipolar energy cutting). It requires an instrument change and its diameters are still too large for the office environment (6-7 mm).

DISCUSSION

Hysteroscopy is the most efficient method for the diagnosis of endometrial polyps, better than transvaginal ultrasound and hysterosonography. Additionally, it allows to see and treat the findings in one setting (12). The predictive value of the most used diagnostic method; Transvaginal ultrasound is far from accurate, since out of 100 polyps reported in ultrasound, 20 to 40% may be false positives, forcing physicians and patients to undertake additional studies for their confirmation.

An RCT comparing hysteroscopic treatment of endometrial polyps in the office setting compared with management in the operating room, did not show significant differences in terms of symptom relief; 73% in the office and 80% in the operating room, concluding that ambulatory in office polypectomy was not inferior to polypectomy performed in the operating room, to treat abnormal uterine bleeding, proving to be a safe, feasible and cost effective procedure, however, they warn that patients should know that, the polyp is more likely not to be removed with the outpatient procedure and the acceptability of the procedure may be lower (3,13). The recurrence rate is low; (0% to 15%) after a polypectomy, regardless of the method used (14).

Ambulatory polypectomy was associated with a minimal, but significantly higher risk of residual endometrial polyps compared to hospital polypectomy. In contrast, hospital polypectomy was associated with a considerably higher risk of complications such as uterine perforation compared with office hysteroscopy. Due to the lower intraoperative risks and the higher cost effectiveness, office hysteroscopy can be considered, whenever feasible, as the gold standard technique for the diagnosis and treatment of EP (15).

In-office removal of endometrial polyps using mechanical instruments, a bipolar electrode, or a hysteroscopic morcellator provides adequate tissue for histologic diagnosis, and there is no difference between these three techniques for evaluation of the pathologic specimen, despite the effects of the device used on the specimen producing thermal or tissue fragmentation (16).

AlHilli and Collaborators (17) found that intrauterine morcellation may be associated with a lower recurrence of endometrial polyps. However, the incidence of recurrent abnormal uterine bleeding is independent of the polypectomy method. In a systematic review, they found that morcellation is associated with a higher surgical success rate and a shorter surgical time than resectoscopy and that the versapoint® (15,16).

In general, all studies (18–21) show that Morcellation has the following advantages

- More effective in achieving a complete polypectomy Significant decrease in total operative time

- Shorter learning curve
- Shorter procedure length
- Less painful
- More acceptable by the patient

Disadvantages include the requirement for a specific hysteroscope for the morcellator, the need for a specific infusion system and an infusion pump, and the diameter of the morcellator. (22)

Diode laser polypectomy produced fewer polyp recurrence (2.2% vs 32.6%; $P = 0.001$) and a higher satisfaction rate with the procedure compared to versapoint® at 3 months, with no differences in success, tolerance, surgical time or complications. (21)

The risk factors found for the recurrence of endometrial polyps are the duration of follow-up, the presence of abnormal uterine bleeding, and polyp size greater than 15cmm. (14) Other studies show endometriosis as a risk factor that increases the incidence and recurrence of polyps at 2 years by 23.08%, and at 5 years by 56.41%, however the type of polypectomy has not been related as a risk factor for recurrence in patients with endometriosis (23).

Regarding fertility, it is not known which is the best method for treatment, since no superiority has

been demonstrated with any of the methods. (24,25)

Finally, the cost-effective analysis, although they are specific to each institution, has shown that the total cost of hysteroscopic polypectomy is higher when disposable equipment is used compared to reusable equipment, both in the operating room and in the office setting. Surgery with reusable loop electrode resection is the most cost-effective approach in any setting, but requires experienced surgeon (26)

CONCLUSIONS

Office hysteroscopy, in the gold standard approach for the diagnosis and treatment of patients with EP. As a diagnostic test, it has a better performance in sensitivity and specificity compared to other diagnostic modalities, and it has the possibility of providing immediate and effective treatment (“see and treat” philosophy) in the same procedure, avoiding the dilemma of follow-up. It requires investment in technology and training and has a growing volume of evidence on its cost-benefit and cost-effectiveness for the patient and for health systems. Gynecologists are invited to abandon blind curettage for both diagnosis and treatment of patients with suspected endometrial polyps and in general of all pathology of the endometrial cavity, preferring office hysteroscopy over hysterosonography or hysteroscopy operating room, since they give confirmation of the pathology, characteristics of the polyps and are therapeutic the vast majority of the time.

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