Letter to the Editor

Focus on Intrauterine Morcellator

To the Editor,

The efforts in improving intrauterine treatment have lead biomedical engineering to develop new devices able to combine the advantages of outpatient hysteroscopy with the effectiveness of the resectoscope. Due to the lack in literature regarding the use of new hysteroscopic morcellator device, we want underline some concepts of clinic daily practice and clarify the new instrumentation with some tips and tricks. Nowadays Hysteroscopy allows an accurate diagnosis of benign endometrial pathology[1-5] and malignant endometrial pathology.[6] Endometrial polyps are very common desease in premenopausal women suffering from AUB[6-8] and in infertile women.[9,10] An innovative hysteroscopic tissue removal system (HRS) also note as intrauterine morcellator (IM) (TruClear 5C) in removing polyps with vaginoscopic approach is taking a great consideration in office setting, also if the knowledge of the instrument and the technique of procedure are not bell known by all the gynecologist, also linked to the lack and sparse data of IUM in literature.[11,12]

Four Tissue Removal Systems: TruClear (Medtronic), MyoSure (Hologic), IBS Integrated Bigatti Shaver (Karl Storz GmbH and Co.), and Symphion™ (Boston Scientific) are currently available. Since the diameter of all systems are >5 mm except TruClear 5C system which reaches without the outer sheaths.

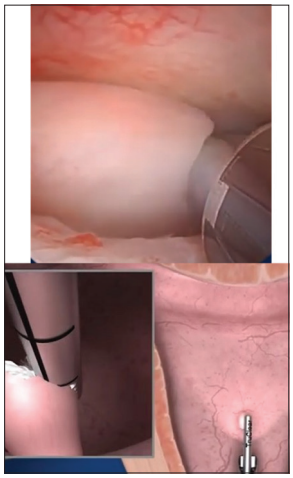

Figure 1: Hysteroscopic tissue removal system also note as intrauterine morcellator (TruClear 5C) in removing polyps with vaginoscopic. At the beginning of the procedure with foot pedal the black line have to be under vision by the operator to calibrate the device with crome filter A option

The recent IUM SISTEM, Truclear 5.0, incorporates a 2.9 mm a rotary-style morcellator through a 5 mm channel, with 0_lens hysteroscope. It consists of a set of 2 metal, hollow, rigid, and disposable tubes the inner tube fitting within the outer. The inner tube rotates within the outer tube, driven by an electrically powered control unit. Rotation and direction of the rotation of the inner tube could be regulated through the use of a foot pedal. The outer tube incorporates, at its distal part, a side-facing cutting window. A vacuum source is connected to the inner tube. Truclear delivers a high maximum flow rate of 800 mL/min and provides a rapid response to changes in intrauterine pressure with a maximum setting of 150 mm Hg [Figure 1].

The fragments of resected tissue were aspirated into a collecting pouch. Physiologic saline solution is used as a distension media instead of nonphysiologic, electrolyte-free solutions used in monopolar resectoscopy, avoiding fluid overload syndrome.

The short procedure times required with HRS may be explained by the simultaneous cutting and removal of tissue through the active suction blade, without the requirement of the surgeon's maneuvers. The TruClear system allowed the easy treatment of large flat base polyps located in the fundus or in the cornual area.

However if the surgeon have a timid approach, positioning the side-facing cutting window of the device, where are the rolling blades, on the more near anterior part of the polyps, there is the risk in voluminous polyps, that bleeding could obstacle the procedure and the internal structure of the polyps could adsorb the media, creating edema of the polyp's structure. We recommend to start in voluminous polyps from the base or from the more posterior part, avoiding the frontal approach on the surface of the polyp, also if initially could seem the more easy and fast solution. According our experience, we want to report the real less invasive approach of the device: The system uses no electrocoagulation, and there is no lateral thermal or electrical energy spread. Avoiding the use of a nonconductive distension media which carries additional risks of volume overload and electrolyte derangements, particularly hyponatremia, and secondary a cerebral edema. This procedure does not include cervical trauma, uterine perforation.

Based on how the blade is positioned in the device, when the operator is close to the endometrial wall, the risk of perforation is absent, because only protruding and

low-consistency tissue could be morcellated. Furthermore without the famous hysteroscopic bubbles and the continuous aspiration also of the little fragments of the polyps, that often during the conventional hysteroscopy could navigate in uterine cavity and positioning on the lens, occluding partially the view, avoiding in this manner also gas embolism.

Frequent multiple transcervical entries are related with a risk of cervical laceration or perforation and with a high rate of vasovagal reactions during the alternative conventional procedure. There is reduced risk of complications such as gas embolism. No scarring from thermal energy or energy discharge is performed, which could create tissue adhesions. For this reason, this device could be proposed for the treatment of young women with pregnancy desire. Finally, from the preliminary result in literature, is evidenced the absence of a steep learning curve. Indeed, the surgeon does not seem to affect the time needed to both acquire the skill and perform the procedure, strengthening our idea that the device is easy to use, also for unskilled operators. A possible disadvantage is related to the inability of IUM to coagulate bleeding vessels during surgery. Another possible disadvantage is related to the presumed histological misinterpretation of specimens following morcellation. An actual limitation to the use of IUM in clinical practice may be represented by large high-density myomas, particularly if approached in an outpatient setting.[13] In our first 50 cases, at 1-year follow-up no adhesions or relapse of polyps at hysteroscopic control were reported.

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Conflicts of interest

There are no conflicts of interest.

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