The Use of Versapoint in Operative Hysteroscopy

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Abstract: To assess the efficacy and safety of operative micro-hysteroscopy versapoint bipolar measurements and main results. Fifteen women (age range 35 – 55 years) with abdominal uterine bleeding (AUB) were treated with endometrial ablation (10), ablation polyps (3) and myoma (fibroid) submucous (2). All surgeries were performed without complication. The anesthesia were spinal block. Distension medium is established with normal saline. All patients are ambulatoir. All procedures could be finished within 40 minutes. The Gynecare Versapoint Bipolar Electroscopy System offers breakthrough technology for use in a safe saline environment and permits treatment of various benign intrauterine pathologies, as well as the treatment of abnormal uterine bleeding. This innovative system represents a significant advance in bipolar electrosurgical technology, permitting rapid and controlled tissue effects such as vaporization, desiccation and cutting. Fifteen women underwent hysteroscopic procedures, using the 5 mm continuous flow hysteroscope by the versapoint bipolar electrosurgical system. Normal saline was used for distension of the uterine cavity. Case of versapoint were treated by using the Twizzle electrode of the versapoint bipolar system: 10 (66,6%) endometrial ablation, 3 (20%) ablation polyps, and 2 (13,3%) myoma submucous. Hysteroscopic treatment of benign intrauterine pathology or abnormal uterine bleeding with the versapoint system is an effective safe and simple procedure.

Keywords: versapoint, hysteroscopy

INTRODUCTION

To assess the efficacy and safety of operative micro-hysteroscopy versapoint bipolar measurements and main results. Fifteen women (age range 35 – 55 years) with abdominal uterine bleeding (AUB) were treated with endometrial ablation (10), ablation polyps (3) and myoma (fibroid) submucous (2). All surgeries were performed without complication. The anesthesia were spinal block. Distension medium is established with normal saline. All patients are ambulatoir. All procedures could be finished within 40 minutes. The Gynecare Versapoint Bipolar Electroscopy System offers breakthrough technology for use in a safe saline environment and permits treatment of various benign intrauterine pathologies, as well as the treatment of abnormal uterine bleeding. This innovative system represents a significant advance in bipolar electrosurgical technology, permitting...
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**DESCRIPTION OF VERSAPOINT BIPOLAR**

Versapoint electrosurgical system is designed procedures. A typical versapoint system would can pause the following items:\textsuperscript{2-6}
- Versapoint electrosurgical generation
- Versapoint dual pedal foot switch
- Reusable 3 m connector cable
- A range of sterile, single axe electrodes

The electrodes such as the 5F type are approximate 360 mm long and intended for insertion down the working channel of standard commercially, available hysteroscope, different active tip are available to provide apposite tissue effect according to preference and nature of the gynecological operation. The electrodes are designed to provide both ablation and coagulation of tissue only when active within a saline environment, thus minimizing the risk of hyponatremia.

**INDICATION OF VERSAPOINT BIPOLAR SYSTEM**

The versapoint hysteroscopic system is an electrosurgical system used in conjunction with continuous flow hysteroscopes with 5Fr or larger working channels for correction of the following pathologies:\textsuperscript{2-6}
- Submucous myoma
- Endometrial polyps
- Hyperplasia endometri (DUB)
- Intrauterine adhesion
- Uterine septa/synochia

A range of tissue effects can be achieved using various electrodes and six modes of operation including Vapor Cut 1, 2, 3; Blend 1, 2; and Desiccate to treat a wide array of benign uterine pathologies. In either hysteroscopic or resectoscopic applications, the Gynecare Versapoint Bipolar System can deliver instantaneous vaporization, thereby eliminating the creation of resection “chips” that can obscure visualization and extend procedure time.

**ADVANTAGES OF THE VERSAPOINT BIPOLAR SYSTEM**\textsuperscript{4,6,10}
- Easy to set up
- Works under normal saline
- Versatile: allows varying tissue effect
- Facilities, virtually “bloodless” intrauterine surgery
- Safe and well toleratedly patients
- Relatively short hearing curve

The system was designed to respond to the increasing need in the gynecological practice to provide "See and Treat." That is, the surgeon has the option to treat benign uterine pathology at the time of diagnosis in a single intervention which offers many advantages:
- saves time
- reduces costs by eliminating a return office visit for treatment
- can often reduce patient anxiety by eliminating the waiting time between diagnosis and treatment

In addition, little or no cervical dilation is required because the Gyncare Versapoint Bipolar 5 Fr. Electrodes can be used with small diameter hysteroscopes. Fluids which are used as distention medium can be absorbed into the cells during hysteroscopy by four distinct means:
- through vascular absorption
- into cervical lacerations, and
- by conductive venous pressures via tissue extravasation

During fluid absorption by vascular absorption, an acute expansion of blood volume occurs with the introduction of a water load such as a distention medium. When using nonphysiologic solutions such as glycine, sorbitol, manitol, hyskon, dextrose, etc., this causes a dilution of blood constituents which can lead to the hyponatremia typical of water intoxication. The fall or differential shifts and change in serum sodium levels can significantly affect morbidity leading to cerebral edema, delirium, coma and even death.

The predisposing factors of hyponatremia include:
- use of hyponatremic (non-electrolytic) distention media
- high distention pressure
- procedure duration
- resections extending intramurally

By using isonatremic irrigation or distention fluids such as normal saline, there are significant advantages to maintaining fluid balances. The critical advantage is: the ability of isotonic solutions to reduce the risk of hyponatremia. Unlike nonphysiologic solutions, normal saline
contains physiologic levels of sodium and, therefore, does not disrupt homeostasis. It should be noted that fluid monitoring is required even when using normal saline as a hysteroscopic distention and irrigation medium.

**PRINCIPLE OF ELECTROSURGERY**

The primary principle of electrosurgery is the underlying principle of energy conductance and transfer. This basic principle states that energy follows pathways of least resistance or impedance. In the case of electrosurgical instruments, energy will travel from the active electrode to the return electrode and back to the generator.

Electrosurgery is the process of cutting and/or coagulating tissue using a high frequency alternating current. This is achieved when an electrosurgical current passes through the tissue and dissipation of electrical power occurs within the tissue. The dissipation of electrical power causes a temperature rise within the tissue and results in thermal disruption at the cellular level. In order to complete an electrical circuit, two electrodes are necessary. The configuration of the electrodes that complete the electric circuit determine the type of electrosurgical technique: Monopolar vs Bipolar.

With conventional monopolar electrosurgery, the “active electrode” is where electrosurgical cutting or coagulation takes place by way of coronal discharges or sparking of the energy. The active electrode is relatively small and can be configured in various shapes such as loops, blades, needles, etc.

The second electrode required to complete the circuit is called the “neutral” or “return” electrode, also known as the “patient return electrode.” Compared to the active electrode, it is relatively large in size.

In monopolar procedures, electric current flows from the active electrode through the patient’s body to the return electrode. Current density is very high at the active electrode and very low at the patient return electrode resulting in good electrosurgical cutting at the active electrode and no electrosurgical effect at the return electrode.

The primary disadvantage of monopolar energy is the required use of high voltages (<9000V) plus resulting tissue effects of deep necrosis and thermal margins.

Advanced Gynecare Versapoint bipolar energy is significantly different from monopolar energy. While it performs like a monopolar device, it also provides all of the inherent safety features of conventional bipolar electrosurgery.

Gynecare Versapoint Bipolar Electrodes offer a complete array of tip configurations to choose from to provide a range of cutting and laser-like vaporizing tissue effects, as well as desiccation. Gynecare Versapoint Bipolar Electrodes are designed especially for electrosurgical applications using normal saline and offer:

- controlled, predictable tissue effects
- excellent hemostasis
- with little or no charring

Bipolar energy is delivered from the generator to the tissue through the active electrode. In the vaporization mode, the generator controls the creation of a “vapor pocket” which, upon contact with tissue, causes instantaneous cellular rupture which is characteristic of vaporization. The energy then seeks the path of least resistance—through the saline distention media, to the return electrode and back to the Gynecare Versapoint Bipolar Generator.

In the desiccation mode, the generator modulates the output waveform and limits the power delivered to the electrode, preventing the formation of a “vapor pocket.” Electrosurgical current flows from the active portion of the electrode through the tissue and back to the return electrode through the saline distention medium. The energy passing through the tissue dehydrates cells and causes hemostasis.

**IMPORTANT:** Never electrify or activate the electrode when the electrode is being extended. In addition, each inward stroke should be even in depth and parallel to the previous stroke. The Gynecare Versapoint Bipolar 5 Fr. Spring Electrode is ideal for removing large fibroids utilizing a “terracing” technique. This electrode expedites debulking of larger masses and is ideal for rapid tissue vaporization and desiccation.

The Gynecare Versapoint Bipolar System is a more advanced technology which has been developed to enable physicians to vaporize benign intrauterine pathologies using bipolar energy in a saline environment.

- Safe Saline Environment: Normal saline reduces potential for hyponatremia
- Innovative Bipolar Technology: Vaporizes, cuts and desiccates tissue
- Versatile: Resectoscopic and hysteroscopic applications
Instantaneous Tissue Vaporization: Eliminates resection chips permitting continuous visualization of tissue effect
- Contact Technique: Permits tactile feedback for improved control
- Cost Effective: Designed for outpatient/office use enabling “see and treat” diagnosis and treatment in a single intervention

INDICATIONS
The Gynecare Versapoint Bipolar Resectoscope is used to permit direct viewing and access to the uterine cavity for the purposes of performing hysteroscopic surgical procedures.7-9

The indications for use include:
- Removal of submucous fibroids
- Transection of intrauterine septa
- Removal of polyps
- Endometrial Ablation
- Transection of intrauterine adhesions

The Gynecare Versapoint Bipolar Electrodes are indicated for use in tissue cutting, removal, and desiccation as required or encountered in gynecologic hysteroscopic electrosurgical procedures for the treatment of intrauterine myomas, polyps, adhesions, and septa and benign conditions requiring endometrial ablation.

CONTRAINDICATIONS
The Gynecare Versapoint Bipolar System is contraindicated for non-hysteroscopic surgical procedures. The Gynecare Versapoint Bipolar System is contraindicated where hysteroscopic procedures are contraindicated. This includes, but is not limited to the following:7-9
- Pregnancy
- Uterine bleeding or menses
- Invasive carcinoma of the cervix
- Recent uterine perforation
- Cervical stenosis
- Intolerance to anesthesia
- Cervical or vaginal infection
- Medical contraindications
- Inability to adequately distend the intrauterine cavity

The Gynecare Versapoint Bipolar System is further contraindicated in patients with the following conditions: cervical or uterine malignancy, acute pelvic inflammatory disease, and unaddressed adnexal pathology. The Gynecare Versapoint Bipolar System is contraindicated for use in tubal sterilization procedures. Endometrial ablation by electrosurgical means should not be undertaken without adequate training and clinical experience. Additionally, endometrial biopsy should be performed prior to any endometrial ablation procedure. The Gynecare Versapoint Bipolar Electrodes are contraindicated where hysteroscopic bipolar electrosurgical procedures in normal saline solution are contraindicated. The Gynecare Versapoint Bipolar Electrodes are contraindicated in any non-hysteroscopic surgical procedure and in procedures where normal saline solution is not used as an irrigation and distention medium. The use of this device is contraindicated in patients with the following conditions: acute cervicitis, pregnancy, cervical or uterine malignancy, acute pelvic inflammatory disease, and unaddressed adnexal pathology. The Gynecare Versapoint Bipolar Electrodes are contraindicated for use in tubal sterilization procedures.12

Hysteroscopic myomectomy should not be undertaken without adequate training and clinical experience. The following are clinical conditions that can significantly complicate hysteroscopic myomectomy:
- Severe anemia
- Inability to circumnavigate a myoma due to size (e.g., predominantly intramural myomas with small submucous components)

PATIENT AND METHODS
Fifteen women underwent hysteroscopic procedures, using the 5 mm continuous flow hysterocope by the versapoint bipolar electrosurgical system. Normal saline was used for distension of the uterine cavity.

Case of versapoint were treated by using the Twizzle electrode of the versapoint bipolar system: 10 (66.6%) endometrial ablation, 3 (20%) ablation polyps, and 2 (13.3%) myoma submucous (20%).

CONCLUSION
Hysteroscopic treatment of benign intrauterine pathology or abnormal uterine bleeding with the versapoint system is an effective safe and simple procedure.
REFERENCES


4. MPH Vleugels. Hysteroscopic Surgery moves from Theatre to Office Procedure by the normal saline field Bipolar Electrosurgery, Dept. of OB/GYN, Canisius Wilhelmina Hospital, Nijmegen, Netherlands, 1998.

5. KAJ Chin and RJA Penketh. Clinical evaluation of the VERSAPOINT Bipolar Diathermy for Operative Hysteroscopy. Dept. of OB/GYN, University Hospital of Wales, Cardiff, UK, 1998.


11. MPH Vleugels, N Cuppen, J Bakker. Is hysteroscopic surgery really the cheapest surgical tool for gynecologists? A costs analysis study to calculate all costs of the different surgical treatments for dysfunctional bleedings with or without intracavital pathology. Dept. of Obstetrics & Gynecology Canisius Wilhelmina Hospital, Nijmegen, Netherlands, 1998.