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Case Report Open Access

Botox for the Treatment of Vaginismus: A Case Report

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Abstract

Aim: This case report aims to present our experience with intra-vaginal injections for the treatment of primary vaginismus.

Methods: The patient underwent intra-vaginal injections of Botox and insertion of a dilator under anesthesia with follow up progressive dilation.

Results: The patient experienced complete resolution of vaginismus and pain-free intercourse within 10 days of the procedure.

Conclusion: Intra-vaginal Botox injections with progressive dilation should be considered for treatment of primary vaginismus.

Keywords: Vaginismus; Botox; Painful intercourse; Vaginal dilation

Introduction

In this case study, we describe a patient with primary vaginismus who achieved resolution with the injection of Botox and insertion of a dilator under anesthesia with follow-up progressive dilation. The first reported use of Botox to treat vaginismus was in 1997 [1]. The Botox protocol we use is adapted from the procedure developed by Dr. Peter Pacik who has received approval from the FDA to continue studies on the use of Botox to treat vaginismus [2].

Vaginismus is a sexual pain disorder, indicating persistent or recurrent difficulty in allowing vaginal entry of the penis, finger, or any object, despite the woman's expressed wish to do so [3]. It is a condition in which the muscles in the vagina spasm involuntarily preventing vaginal penetration or, if penetration is possible, it can be painful. The cause of vaginismus is unknown however fear, anxiety, and pain are three contributing factors.

Botulinum toxin A is a neurotoxin produced by *Clostridium Botulinum* that paralyzes muscles by the prevention of acetylcholine release and has been shown to be useful in treating conditions associated with neuromuscular dysfunction such as muscle hyperactivity [4]. This toxin has a long-duration action of up to 6 months [5]. During this time period, patients have ample time for progressive dilation and most patients have successful intercourse within 1-2 months, some within a matter of days. The vaginal injection of Botox is usually a one-time outpatient procedure. Although Botox loses its effectiveness within 4-6 months, a second Botox procedure is usually not needed if the patient has made the transition from post-operative dilation to intercourse during this time period.

The protocol for evaluation consists of an in depth medical history and physical exam. The psychosexual history focuses on all dimensions of sexual functioning. Pain in the genital area often leads to avoiding sexual contact due to fear of pain as well as anxiety [6,7]. This creates a complex pain cycle that can be very difficult for a patient to break on her own. A medical practitioner and sexuality counselor work together to determine the level of anxiety, fear, and/or pain surrounding vaginal penetration in order to provide the patient with the best treatment options.

The traditional treatment for vaginismus includes sexuality counseling, education and progressive dilation with dilators of increasing size [2]. Some patients may benefit from more intensive psychotherapy. However, there is a subset of patients that do not respond to conservative treatment either due to severe pain or intense fear. The option of the Botox procedure coupled with sexuality counseling and education allows for successful treatment of these patients.

Defining Vaginismus

According to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), vaginismus is defined as: A recurrent or persistent involuntary spasm of the musculature of the outer third of the vagina that interferes with sexual intercourse. The disturbance causes marked distress or interpersonal difficulty. The disturbance is not better accounted for by another axis 1 disorder (somatization disorder) and is not due excessively to the direct physiological effects of general medical condition. It can be lifelong/acquired, generalized/situational, or due to psychological factors/combined factors [8].

This condition can make intercourse, tampon insertion, and speculum exams uncomfortable, painful and even impossible. The etiology is unknown. The incidence of vaginismus is thought to be about 1-7% worldwide, and the disorder is cross-cultural. In clinical settings, the incidence may be as high as 5-17% [7,9]. Vaginismus is the most common reason for unconsummated marriages [2].

The Lamont Scale is used to classify the severity of vaginismus according to the patient's presenting symptoms and behavior during a physical examination. He describes four degrees of vaginismus:

First degree: perineal and levator spasm-relieved with reassurance, able to tolerate gynecological exam

Second degree: perineal spasm-maintained throughout pelvic exam, unable to relax for a gynecological exam

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Third degree: levator spasm and elevation of buttocks to avoid being examined

Fourth degree: levator and perineal spasm, elevation of buttocks; adduction of thighs and retreats to the back of the table, unable to tolerate gynecological exam [10].

Assessment

A team-approach is used to determine the diagnosis of vaginismus. A psychosexual history is obtained by the sexuality counselor and a detailed medical history and physical with a focused pelvic exam are performed by the practitioner.

After the psychosexual history, the patient meets with the practitioner for a review of her medical history and a pelvic exam. The pelvic exam begins with a review of the patient's genital anatomy using a mirror. A Q-tip test is then performed to see if there is pain in the area of the vestibule characteristic of vulvodynia (may be referred to as vestibulodynia or vulvar vestibulitis). A wet Q-tip is pressed against the vestibule at the 2, 4, 6, 8, and 10 o'clock positions to determine if there is provoked pain. In cases in which the Q-tip test is negative, vulvodynia is ruled out [11].

If the patient responds positively to the Q-tip test, she may be suffering from vulvodynia. The Botox procedure is not indicated as treatment for vulvodynia; however some patients experience resolution of vulvodynia once their vaginismus is successfully treated by Botox [11].

Once the diagnosis of vaginismus has been determined, treatment options can be discussed. Some women choose the more traditional treatment of dilation. Dilation consists of using several dilators over time in increasing size. A dilator is inserted into the vagina to gradually stretch the vaginal muscles. This process usually takes between 2-4 months. Some patients become frustrated with the dilation process and opt for Botox so they can progress to the larger sized dilators more quickly. Other women, like the patient in this case study, seek the Botox procedure directly. Many of these women have tried dilation at home and were either unsuccessful with progressing to the larger sized dilators or were too fearful to even begin treatment.

Protocol

The patient is brought to the operating room and given IV sedation (versed, propofol, fentanyl) by an anesthesiologist. A pelvic exam is performed to assess vaginal tightness and for anatomical abnormalities. A dilator is then gently inserted into the vagina; we use the Pure Romance Vaginal Dilator Set which is a set of six progressive dilators. This brand is used because they are shorter in length which allows the patient to sleep with the dilator inserted in the vagina after the procedure. Initially the number 4 dilator is inserted then progression to the number 5 dilator. After dilation, a pediatric speculum is placed inside the vagina and a Pap smear is obtained.

A total of 150 units of Botox are then injected throughout the vaginal vault.75 units of Botox are injected into the puborectalis and pubococcygeus muscles; divided into four columns of three injections bilaterally. The bulbocavernosus is then injected in three columns; one proximal, one inferior and one distal bilaterally.

A total of 30 ml of a local anesthetic (0.5% marcaine with epinephrine 1:200,000) is then injected throughout the vault in a similar distribution to the previous Botox injections. The number 6 dilator is then inserted and remains in place as the patient is brought to the recovery room.

In the recovery room, instructions on progressive dilation are reviewed. The patient is informed that Botox takes effect in two to five days and consistent, progressive dilation can assist with relieving discomfort. A small jar of desensitizing lidocaine lubricant is to be used with the dilators since the local anesthetic wears off within 24 hours. Since Botox inhibits natural vaginal letdown and can cause additional dryness, a lubricant is necessary during dilation and intercourse. It is recommended the patient wean off of the lidocaine lubricant when possible. If it is used during attempted intercourse it can have an erection-prolonging effect on her partner. Condoms are recommended in this scenario.

Most patients are able to attempt intercourse within the first weeks to months after the Botox procedure and once they are able to achieve intercourse, the results appear to be permanent [2]. Sexuality counseling and education regarding first intercourse is reviewed.

Case Summary

The patient was a 28 year-old female, married for 1 year, who came to the medical center from Egypt. She had been diagnosed with primary vaginismus by her gynecologist and was advised to start dilation. Her gynecologist did not recommend any medications or physical therapy. When the patient was unable to insert the smallest dilator, her husband found information on the Botox procedure on the Internet. After discussing the procedure with her gynecologist she decided to come here for treatment.

She complained of the inability to have sexual intercourse because of persistent vaginal tightness and pain. She had never used tampons, was never able to tolerate a speculum exam and her husband was never able to insert his fingers. On their wedding night, they tried to have intercourse but she pushed him away because of the pain. She felt a great deal of pain at the vaginal entrance and felt like her husband was "hitting a wall."

The patient denied having any medical problems. She had no known drug allergies. She denied history of sexual abuse and trauma. Her husband was her first sexual partner. She denied history of vaginal infections or sexually transmitted infections.

Her physical examination revealed no abnormalities. She did not have an intact hymen and had no vulvar pain (negative Q-tip test) therefore vulvar vestibulitis was ruled out. During the examination, the patient was anxious and dilation was attempted with an extra small dilator. The dilator was inserted and a significant bulbocavernosus spasm was appreciated. The patient lifted her buttocks, complained of pain 8/10 and intense burning at the entrance to her vagina. She tolerated dilation for approximately thirty seconds before becoming very anxious, closing her legs and asking to stop. When the dilator was removed, she began to cry and stated she didn't want to do dilation again. She was classified as a Lamont 3/4, since she did allow examination and initial insertion of the dilator. She was not interested in starting physical therapy or taking anti-anxiety medications since she lived overseas and she strictly wanted to return for the Botox treatment. She scheduled an appointment for the procedure a couple of months later.

Upon arrival at the surgical center, informed consent was obtained and she was brought to the operating room and given IV sedation. A pelvic exam was performed which did reveal significant vaginal vault tightness throughout the vagina. She was then dilated gently with progressive dilators to enable a speculum to be inserted and a Pap smear to be obtained. Botox was then injected into the vagina. The

patient was progressively dilated while still under anesthesia, waking up in the recovery room with the largest dilator inside.

The patient responded well in the recovery room and completed all postoperative steps successfully. She was then instructed to return the following day to the medical center for a post-procedure follow-up. She left the surgical center with the number 4 dilator in place and was instructed to keep it in place overnight.

At her follow-up appointment the following day, gradual dilation progression was demonstrated with periodic breaks in dilation to allow the patient's confidence to build and encourage her to progress with dilation at home. She was able to tolerate an increase to the number 5 dilator in the office. Overall, the patient made great progress with dilation and did not experience any adverse events.

The patient returned to Egypt three days after the procedure with instructions on progressive dilation and aftercare. Patient education was provided for first intercourse and it was recommended that she continue with marriage and family counseling to support her during this transition.

We kept in touch with the patient via email. She progressed easily through the dilators and reported having successful, pain-free intercourse with her husband ten days after the Botox procedure. She is still having pain-free intercourse one year later.

Conclusion

The injection of Botox and insertion of a dilator under anesthesia with follow up progressive dilation has shown to be a safe and effective treatment for vaginismus. The Botox procedure has helped many women who have tried dilation at home and were either unsuccessful with progression to the larger sized dilators or were too fearful to begin treatment. Most women are able to have pain free intercourse within 2-4 weeks after the procedure. It is important for health care providers to know that traditional dilation, physical therapy and counseling are not the only options available for patients suffering with vaginismus. The Botox procedure coupled with sexuality counseling/education can help their patients conquer vaginismus once and for all.

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