

EFFECTS OF COLD WATER SITZ BATH IN MANAGEMENT OF VULVODYNIA - A CASE STUDY

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ABSTRACT

Vulvodynia is pain in vulvar region more than 3months. This case report is based on a female suffering from this condition.

Aim of this study: was to find the effects of cold water sitz bath along with conventional treatment in management of vulvodynia.

Methodology: The patient came with history of painful sexual intercourse and difficulty in sitting in hard surfaces; wearing tight clothes. She was assessed using vulvar pain functional questionnaire (VPFQ); Female Sexual Functional Index (FSFI) and finally cotton swab test was done both before and after the treatment protocol.

Result: After the analysis of pre and post test values of the cotton swab test, female sexual functional index and the vulvar pain functional questionnaire results patient shows improvement with the following treatment regimen

Conclusion: the cold water sitz bath is a effective treatment method and can be followed along with conservative management to treat women with vulvodynia.

Keywords: vulvodynia; cold water sitz bath; FSFI; VPFQ; cotton swab test

Introduction

The international study society for vulvar pain defines vulvodynia as chronic pain in the vulvar region for more than 3 months without any known reasons. It can be generalized or localized with respect to location. ^{1, 2} Vulvar pain is not new. It was first described in the late 19th century as “hyperaesthesia” of the vulva. In 1976 the term “burning vulva syndrome” was used, but in 2003, it was replaced with the term “vulvodynia” by the International Society for the Study of Vulvovaginal Disease ISSVD⁸. The vulva is the external female genitalia which include the mons pubis, labia majora, labia minora, clitoral hood, clitoris, and vestibule². The pain and discomfort of vulvodynia affects the quality of life of women with this condition. Pain can be continuous or intermittent, often aggravated by activities such as sitting at a desk, bicycle riding, and sexual intercourse⁴. Rather than pain their major symptoms will be itching, burning, stinging, irritation, stabbing, and/or rawness. Vulvodynia is widely divided into localized (which include clitorodinia, vestibulodynia) or generalized, it can also be classified as provoked (in which symptoms increase with touch, pressure) unprovoked or mixed¹. Although a single cause for this condition has not been identified, the Vulvodynia Association lists several possibilities, including weak pelvic floor muscles, leading to excessive excitation of the sensitive nerves which surround the vulva, wearing tight clothing, vaginismus spasm of vaginal muscles, current infection or inflammatory skin condition, hormonal changes caused due to menopause and even breast feeding, vaginal delivery, abuse, stress^{1, 5, 6, 7}. It is thought to affect about 15 in 100 women. It is not contagious or related to hygiene or hygiene products. Vulvodynia is one type of ‘complex regional pain syndrome’, others including migraine and fibromyalgia. It may be primary (with no known cause) or secondary (following another condition, usually one in which there is inflammation in the vulva, such as that from thrush) ¹⁷. Vulvodynia affects women of all ages, reproductive stages, and ethnicities¹. Only 15% of the women consult doctor for their vulvar pain but still more unreported cases are present^{1, 3}. It’s also reported that 28% of women’s in 18-40 years of age are affected. It’s also reported that 30% of post menopause women at the age 45-60yrs are reported to have vulvodynia ¹⁶. It is also reported that 60% of women with vulvodynia suffer with sexual dysfunction¹⁸. Pelvic floor muscle strengthening and perineal stretching are commonly used to treat vulvodynia and one of its causes is vaginismus and pelvic floor muscle weakness^{2, 4, 5, 6, 8}. Perineal stretching will help you get used to touch and pressure in a very sensitive area. A normal instinctive response to the pressure and stretching sensations in the vagina and rectum is to try and hold back, tense up, or resist the intensity. Perineal stretching will help to both increase the flexibility of your tissues and provide you with some training about how to relax into the very intense sensations²². To reduce spasm and sensory disturbances cryotherapy is commonly used in sports and other fields. It is also used to reduce pain and sourness after vaginal delivery¹⁰. Cool tub is commonly used to reduce soreness, spasm after vigorous sports it’s also advised as home remedy in vulvodynia^{2, 23}. The physical examination is an important part of the diagnostic process hence cotton swab test to localize the site of pain and its intensity the posterior introitus and the posterior hymeneal remnants are the most common sites of increased sensitivity^{12, 13}. Vulvar pain functional questionnaire is a reliable scale to assess the effects of vulvar pain in daily living¹⁵. In this questionnaire least value (0) denote no problem as the score increases problem is high. Female sexual function index is reliable and valid scale used to find sexual function in women¹⁹.

A case report

After getting the informed consent form signed from the patient for publishing her details this case report has been submitted. A 25 years female came to Obstetrics and Gynecology outpatient department of Saveetha Medical College and Hospital with complaints of pain in the perineal region while sitting in hard surface for long time, wearing jeans or jeggins, sitting cross legged from her puberty (from 13 years). She has been married before a month and she is experiencing severe pain in the vagina during intercourse. Touching the perineal region is severely painful that she withdraws and this creates problem between the couple. She have previously visited a doctor for same problem and was given counseling along with a gel (which she did not have prescription). She was clearly explained about the procedure and uses of the test and data collected from her. Then she was examined for sensitivity by cotton swab test in which she spotted more pain around vagina along with spasm of vaginal muscle was present. She had severe pain even with gentle with cotton swab in the labia majora inner aspect and in minora. After which the therapist clearly explained the use of the questioners and she was asked to fill female sexual functional index and vulvar pain functional questionnaire. Both before and after the treatment protocol all the test values are gathered from the patient.

Exercise protocol

- **Cool tub** ^[23] is a technique in which the participant is asked to sit in a tub (sitz bath) filled with water approximately at 10-15°C (59 degrees Fahrenheit) for about 10min after stretching and strengthening exercise. This helps in reducing spasm, soreness, pain by making the area numb and it also improves circulation. To maintain the temperature water based ice is use, ice cube are added to the water in the tub once the ice is completely melted she is instructed to sit in the water for 10minutes after washing her vulva with tap water.

Picture 1: shows the sitz bath tub



- **low back stretching** lie on your back and bring both knee towards chest place one hand over each knee and pull them towards chest and hold for 10-15seconds breath in and out gently.
Tilt knees to left and right lie on your back with both knees flexed tilt them to once side bring them as far down as comfortable
Cat/camel stretch start with arms straight and hands directly under the shoulder level knees wider (quadrupod position) start with flat back then arch the back as high as possible hold for 10-15 seconds without holding breath.
- **gluteus muscles stretching**
Starting with long sitting bend one of the knee (right) and place the heel closest to the left leg. Reach the right arm behind /extend place your palm and fingers on the floor. Place your left arm over the right knee and pull towards the left side till they feel the stretch hold for 15 seconds and do the same for other side.
- **IT band** stand upright and cross right leg behind left and gently lean forward and towards the left feel the stretch hold for 15 seconds breath gently in and out repeat the same for other side.
- **Quadriceps** stand upright flex one of the knees, hold the ankle of the flexed knee and pull towards the trunk hold for 15 seconds after feeling the stretch.
- **Hamstring** start with upright position cross right foot over left gently flex the trunk to reach the floor hold for 15 seconds once stretching is felt.
- **Piriformis** beginning with sitting upright on a chair cross one leg over the other placing the ankle over the opposite leg and lean your trunk forwards to feel the stretch hold for 15 seconds with gentle breathing.
- **Hip adductor** stretching to stretch both sides simultaneously sit with your legs straight out in front of you with your back straight. Slowly work your legs apart as far as they will go. Hold the stretch for 15 seconds. Now as you exhale bend forward at your hips until you feel more resistance. Be sure to keep your chest up and maintain a lumbar lordosis (normal inward curvature of the lower back)

- **Hip abductor** To perform the stretch for the left hip, sit on the floor with your right leg straight and your left leg bent with your left foot on the floor to the outside of your right knee. Twist your torso to the right and place your right triceps against the outside of your left thigh to push yourself further into the stretch. Stretch the right hip the same way with the opposite leg positions. Holding the stretch for a minimum of 15 seconds
- **Butterfly stretching** Sit up tall with the soles of your feet pressed together and your knees dropped to the sides as far as they will comfortably go. Pull your abdominals gently inward and lean forward from your hips. Grasp your feet with your hands and carefully pull yourself a small way farther forward.
- **Perineal stretching** can be done by them self or by their partner with lubricant (olive oil, coconut oil, vegetable oil) 'U' stretch should be given focusing on the length of the bastretchingnd of perineal muscle at the base of the vagina, avoid the urethra. Maintain the stretch and pressure for 15sec and massage for about 3-4min²².
- **Kegel's exercise** Make sure your bladder is empty, then sit or lie down tighten your pelvic floor muscles. Hold tight and count to 8 relax the muscles and count to 10 repeat 10 times.
- **Wall squats** stand upright leaning against the wall gently bend the knee and hip without flexing the trunk hold for 5 seconds and repeat for 10counts.
- **Pelvic bridging** lie flat on the back with both knees flexed and both arms sideways with both palm on the floor. Gently lift the hip from the ground and hold for 10seconds without holding the breath.

All these exercises will be demonstrated and make the participants to do for better understanding.

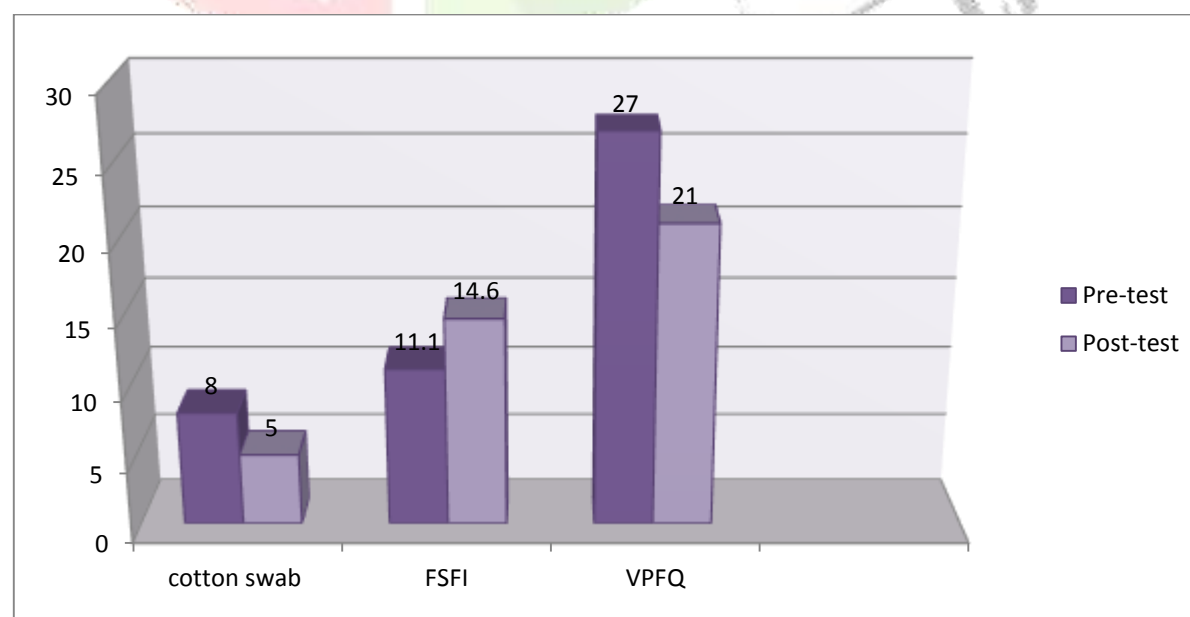
After all this exercise she is asked to it in a tub filled with cold water [cool tub] for 10 minutes naked as she had facilities of bath tub at home. She was instructed to follow the protocol for 4weeks and home and come back for review after a month. Following all the given protocol she came to Saveetha obstetrics and Gynecology OPD from there she was again referred to me. Then all the post test values were collected.

Table 1: shows pre and post test value of the test done on the patient.

Name of the Test	Pre-test value	Post-test value
Cotton swab test	8/10	5/10
Female sexual functional index	11.1/36	14.6/36
Vulvar pain functional questionnaire	27	21

This table shows both the pretest and posttest values of all three outcome measures used in this case report

Figure 1: Shows pre and post test value graph



Result

After the analysis of pre and post test values of the cotton swab test, female sexual functional index and the vulvar pain functional questionnaire results patient shows improvement with the following treatment regimen. The sexual function improved from 11.1 to 14.6 based on FSFI values and functional level improved from 27 to 21 based on VPFQ scores.

Discussion

Vulvodynia is a sensitive problem which most of the women hesitate to give open statement. There are very less number of studies and awareness based on this disease. Barbara D. Reed, MD, MSPH et al in 2012 stated that majority of the vulvodynia cases remain uncovered and he also recommend survey based on this disease. Leslie A Sadownik et al in the year 2014 in this study concluded that vulvodynia affect about 16% of the population across all age group and ethnicity of women. He also says vulvodynia leads to sexual dysfunction due to pain. They also said physiotherapy management like pelvic floor strengthening and perineal stretching is significant management for vulvodynia. He strongly recommends multidisciplinary approach to treat women with vulvodynia. Italo Morais et al in july 2016 in a randomized clinical trial have used 20 minutes of cryotherapy for perineal pain after vaginal delivery and proved that cryotherapy is helpful in reducing pain.

Hence in this study we have combined pelvic floor strengthening and perineal stretching along with cool tub for management of vulvodynia. As the patient showed improvement with the treatment it can be applied among a group of women with vulvar pain and the sensitivity of the management can be tested. Regional prevalence of the condition must be reported as there are very less number of researches has been carried out based on the same condition.

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