



## A Case of Treating Chronic Pain Syndrome After Vaginal Surgery with a Pudendal Nerve Block - A Case Report

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### Abstract

**Introduction:** The chronic pain syndrome is a serious disease that is recently recognized. For treating it a number of methods have been developed. This is a case of using a pudendal nerve block for treating chronic pain after Bartholin's cyst removal.

**Case:** This is the case of a 42-year-old suffering from chronic pain syndrome after Bartholin's cyst removal 7 months ago. The patients attempted treatment via non-steroid anti-inflammatory drugs and opioids. After unsuccessful treatment a pudendal nerve block was performed with dexamethasone and ropivacaine was performed. The follow-up continued for a year and no pain was detected.

**Discussion:** An important part of diagnosing the chronic pain syndrome is the assessment of the pain levels and symptoms that the patient displays. If the disease is recognized, a treatment process is to begin with a number of medications such as non-steroid anti-inflammatory drugs, opioids, topical analgesics and in some cases even antiepileptic drugs and adjuvants. Other methods include peripheral nerve blocks. They are an effective method for chronic pain treatment.

In cases of pudendal neuralgia, a peripheral pudendal nerve block is an advantageous treatment.

**Conclusion:** Chronic pain is a complex problem and must be treated with extreme care. In this case the pudendal nerve block appears as an effective and potent method for treating chronic pain syndrome after pudendal neuralgia.

**Keywords:** Pudendal Neuralgia; Chronic Pain Syndrome; Vaginal Surgery

### Introduction

Chronic pain syndrome is a relatively newly recognized disease. It combines a number of physical and mental symptoms that could lead to depression and alienation. For coping with this syndrome a wide variety of methods such as non-steroid anti-inflammatory drugs, opioids, surgical treatment and the peripheral nerve block [1].

The nerve block has mainly perioperative uses. However, it is highly effective in chronic pain treatment as a long-term surgical complication. In this article I will present the case of a pudendal nerve block performed as chronic pain countermeasure after a Bartholin's cyst removal.

### Case

I present the case of a 42y.o. female with chronic pain syndrome. She underwent Bartholin's cyst removal 7 months ago and immediately after the intervention she started experiencing vaginal pain. After consulting her, a general practitioner prescribed her diclofenac 150mg. 4 months later there was no improvement of the pain and she started displaying the symptoms of a chronic pain syndrome. She then consulted her gynecologist who prescribed her paratramol. After further 3 months she was directed to Department of Anesthesiology in University Hospital "St. Marina" Pleven. After careful examination, it was determined that the pain level of the patients was 7 according to numeric rating scale (NRS) (Figure 1).

A pudendal nerve block was performed via ultrasound guidance. First, the sacrospinous ligament (SSL) and the sacrotuberous liga-

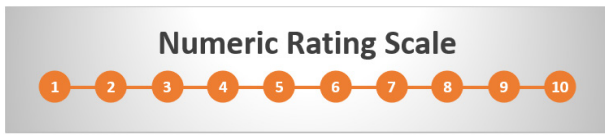


Figure 1: Numeric Rating Scale.

ment (STL) are visualized and then a needle is inserted between the two ligaments in medial-to-lateral direction. After the needle penetrates the STL, a 10ml solution of 50mg ropivacaine and 1 ampule dexamethasone was injected (Figure 2).

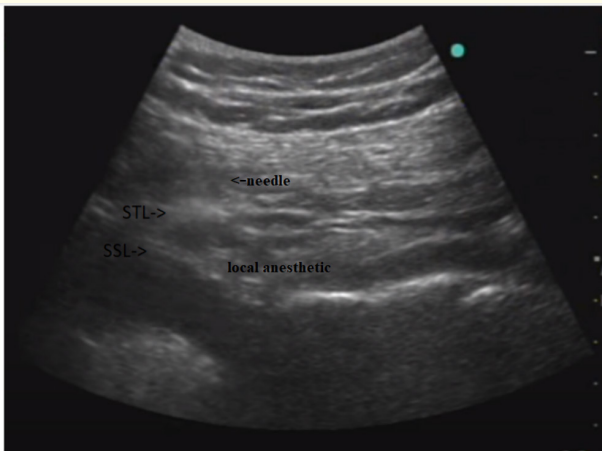


Figure 2: Ultrasound image of the sacrospinous and the sacrotuberous ligament and the needle injecting the local anesthetic.

After the procedure a follow-up of the patient was conducted regularly every three months in the span of a year. She did not display any symptoms of chronic pain (Table 1).

Discussion

Chronic pain syndrome - diagnosis and assessment

One of the most serious problems of chronic pain syndrome is diagnosing the temporal features and level of the pain. The International Association for the Study of Pain came up with the definition that any pain with duration over 3 months is to be considered chronic. Therefore, it is essential for the patient to be conscious of the pain they feel.

There comes the role of the pain levels assessment. As the feeling of pain is highly subjective, questionnaires and tables such as VAS (visual analogue scale) and NRS (numeric rating scale) are used for self-assessment (Figure 1). It must be noted, however, that in order to complete an adequate pain assessment it is vital to determine the mechanisms and the burden of the pain. The mechanisms are determined by disruption of the location and duration of the pain combined with the perception. On the other hand, the burden can be diagnosed both with subjective and diagnostic features. The subjective include the ones used for determining the pain mechanism and further include the intensity and affect. The methods for diagnosis include brain imaging (most often computer tomography), quantitative sensory testing (QST) technique, genetic examinations and further, such as examination of the peripheral nerves and assessing the results after pharmacology.

The mental symptoms of the chronic pain syndrome include depression, nausea and social alienation [2,3].

Pain level Pre-block	Pain level 1day post block	Pain level 7 days after block	Pain level 3 months after block	Pain level 6 months after block	Pain level 9 months after bock	Pain level 12 months after block
7	0	0	0	0	0	0

Table 1: Pain levels.

Chronic pain treatment

The analgesic ladder in chronic pain treatment includes different kinds of drugs.

It starts with non-steroid anti-inflammatory drugs. They reduce inflammation and provide pain relief by inhibiting the COX-1 and

COX-2 cyclooxygenase enzymes. COX-1 acts on a general level, as its effect can be localized in all tissues. It produces prostaglandins and thromboxane. COX-2 is mainly responsible for the local inflammation. The enzyme is induced in inflammatory cells as it reacts to damage. Yet a high number of cases of cardio-vascular events has been registered throughout the literature. Therefore, they are not

recommended for patients with discovered risk factors for cardiovascular diseases [4].

The second step of the analgesic ladder are the opioids. They decrease the secretion of beta-endorphins by mimicking the effects of pain. However, using opioids for extended periods of time can lead to depression, drug addiction, nausea and hyperalgesia [5].

The patches are another method for chronic pain treatment. Different kinds of analgesics and even local anesthetics such as lidocaine are absorbed through the skin. Recent studies show that the topic analgesics are effective in cases of both cancer and cancer-free patients. Moreover, topical administration of capsaicin is effective in treating pain due to peripheral nerve damage [6].

The final step of the ladder includes antiepileptic drugs and adjuvants. In this case the pain treatment is a side effect.

Other method for chronic pain treatment include physiotherapy and electrical stimulations. Khoder, *et al.* points out the importance of stretching and exercising especially the regions of the lower pelvis and legs especially in cases of pudendal neuralgia [7].

### Pudendal neuralgia

Pudendal neuralgia is often correlated with mechanical compression or lesion, infection after a complicated childbirth or trauma or immunologic disease.

The mechanical entrapment is a possible complication in vaginal surgery, often after prolapse or incontinence when a suture or a mesh is used. Involvement of the SSL is dangerous as it allows for displacing the suture [8-10].

Other causes are inflammation or compression from tumors, every day activities, pelvic traumas, endometriosis and herpes simplex infection [11].

### The peripheral pudendal nerve block

The peripheral nerve block is an is an old procedure. It is easy to perform and highly effective. It is used widely in gynecology, abdominal and thoracic surgery, orthopedics, vaginal surgery and even HIFU surgery, applying ports for chemotherapy and urology [12-14]. The technique is performed by accessing the branches of the nerve we would like to block and then injecting local anesthetic and long-term corticosteroid (in case of chronic pain) under ultrasound control.

When addressing the pudendal nerve, it is important to note that it branches in the inferior rectal nerve, the perineal nerve and

the dorsal nerve of the clitoris. This branches innervate the lower region of the pelvis including the rectum, perineum and vulvar region. Therefore, a pudendal nerve block allows for total analgesia of the region and has many uses both peri- and postoperative [15].

The pudendal nerve block for chronic pain is a rare procedure that includes applying local anesthetic and a long term corticosteroid. A number of approaches has been discovered including the trans perineal, the trans gluteal, and the transvaginal approach. Different studies prove that these techniques can be performed by nearly all methods for visual diagnostics including a real time CT, MRI and US guidance [7,16]. However, the golden standard is considered the ultrasound guidance. The side effects can include nerve trauma or ineffective block as well as inflammation and infection in non-sterile environment [17].

### Conclusion

Chronic pain treatment is a complex problem. For an effective treatment a multidisciplinary approach is required. In this case we treated a case of chronic pain syndrome developed after Bartholin's cyst removal with a pudendal nerve block. It is our belief that this is the most effective invasive method; however, it must be performed by a skilled specialist in a safe environment.

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