

TREATING CHRONIC PAIN SYNDROME AFTER VAGINAL SURGERY WITH A PUDENDAL NERVE BLOCK

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Summary

Chronic pain syndrome is a severe condition that has been recently recognized, and many methods for treating it have been developed. We present a case of using a pudendal nerve block for treating chronic pain after Bartholin cyst removal. A 46-year-old female presented with chronic pain syndrome, lasting eight months following Bartholin cyst removal. Treatment with non-steroid anti-inflammatory drugs and opioids was unsuccessful, and pudendal nerve block was performed with dexamethasone and ropivacaine. The follow-up continued for a year, and no pain was reported. In cases of pudendal neuralgia, a peripheral pudendal nerve block is effective. Chronic pain syndrome is a complex problem, and a multidisciplinary approach is often required. This case represents the efficacy of pudendal nerve block in chronic pain syndrome after Bartholin cyst removal.

Keywords: pudendal nerve block, chronic pain syndrome, Bartholin cyst removal

Introduction

Chronic pain syndrome is relatively newly recognized. It combines a variety of physical and mental symptoms that could lead to depression and alienation. For coping with this syndrome, various treatments are applied, such as non-steroid anti-inflammatory drugs, opioids, surgical treatment, and peripheral nerve block [1]. This article presents a case of a pudendal nerve block performed as a chronic pain countermeasure after Bartholin cyst removal.

Case

We present a case of a 46-year-old female with chronic pain syndrome. She underwent Bartholin cyst removal eight months ago. Immediately after the intervention, she started experiencing vaginal pain. After consulting her, a general practitioner prescribed diclofenac 150mg. Four months later, there was no improvement, and she started displaying the symptoms of a chronic

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pain syndrome. The patient then consulted a gynecologist who prescribed her tramadol. After another four months, she was referred to the Department of Anesthesiology and Intensive Care in St. Marina University Hospital - Pleven. After a careful examination, the pain level was determined to be six according to the Numerical Rating Scale (NRS) (Figure 1).

The pudendal nerve block was performed using ultrasound guidance. First, the sacrospinous

(SSL) and the sacrotuberous (STL) ligaments were visualized, and a needle was inserted between the two ligaments in a medial-to-lateral direction. After the needle had penetrated the STL, a 10ml solution of 50 mg ropivacaine and one ampoule of dexamethasone were injected.

After the procedure, the patient was seen every three months for a year. She did not report any symptoms of chronic pain (Table 1).



Figure 1. Numeric Rating Scale

Table 1. Pain levels

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

Discussion

Chronic pain syndrome - diagnosis and assessment

One of the major problems of chronic pain syndrome is diagnosing the level and duration of the pain. The International Association for the Study of Pain came up with the definition that any pain over three months is considered chronic. Therefore, patients must be conscious of their pain.

Here 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 (numerical rating scale) are used for self-assessment (Figure 1). However, it must be noted that it is crucial to determine the mechanisms and burden of the pain for completing an adequate pain assessment. The mechanisms are determined by disruption of the location and duration of the pain combined with perception. On the other hand, the burden can be diagnosed with both subjective and diagnostic features. The subjective ones include those used to determine the pain mechanism and the pain intensity and effect. The methods for

diagnosing include brain imaging (most often computer tomography), quantitative sensory testing (QST) technique, genetic examinations, and other methods, such as examining the peripheral nerves and assessing the results after pharmacology.

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

Chronic pain treatment

The analgesic ladder in chronic pain treatment includes different kinds of drugs. Treatment starts with non-steroid anti-inflammatory drugs to reduce inflammation and relieve pain 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 local inflammation. The enzyme is induced in inflammatory cells as it reacts to damage. However, many cases of cardiovascular events have been registered throughout the literature. Therefore, they are not recommended for patients with discovered risk factors for cardiovascular diseases [4].

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

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

The final step of the ladder includes antiepileptics. In this case, pain treatment is a side effect.

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

Pudendal neuralgia

Pudendal neuralgia is often connected with mechanical compression or lesion, infection after complicated childbirth or trauma, or immunologic disease. When a suture or mesh is used, mechanical entrapment is a possible complication in vaginal surgery for prolapse or incontinence. Involvement of the SSL is dangerous because misplacing a suture may occur [8–10].

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

The peripheral pudendal nerve block

The peripheral nerve block is a routine procedure. The technique involves accessing the nerve branches to be blocked and then injecting a local anesthetic and long-term corticosteroid (in the 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. These 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 can be used both peri- and intraoperatively [12].

The pudendal nerve block for chronic pain is a rare procedure that includes applying a local anesthetic and a long-term corticosteroid. Many approaches have been discovered, including the transperineal, the transgluteal, and the tranvaginal approach. Different studies have proven that these techniques can be performed by nearly all methods for visual diagnostics, including a real-time CT, MRI, and US guidance [13], [14]. However, ultrasound guidance is considered the golden standard. The side effects can include nerve trauma or ineffective block and inflammation and infection in non-sterile environments [15].

Conclusion

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

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