



Neural Prolotherapy in Persistent Post-Surgery Pain: A Case Report

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ABSTRACT

Introduction: Persistent postoperative pain is a clinical condition of discomfort (pain) and lasts more than 2 months after surgery without other causes, such as chronic infection or pain due to chronic conditions that occurred before surgery. This study aims to describe PPSP management and its outcomes. **Case presentation:** A woman, 54 years old, a housewife, came to the hospital with complaints of persistent pain from a surgical scar in the abdominal area. The pain has gotten worse in the last 3 months and sometimes feels like it's spreading to the area around the surgical wound. The pain is felt sharp and hot, spreads to the area around it, and is felt when resting, aggravated by activity experienced 5 months ago since the operation to remove the uterus. The patient was diagnosed with persistent post-surgical pain. Neural prolotherapy is performed on patients with PPSP indications. The drugs used are 5% dextrose solution and 2% lidocaine. Injection of 0.5-1 ml of dextrose was carried out in the area along the surgical scar and its surroundings. After the injection, the patient felt that the pain was reduced (numeric rating scale 1/10). **Conclusion:** Neural prolotherapy can be used in the management of patients with PPSP complaints. Treatment with neural prolotherapy injection using a mixture of D5% solution and lidocaine has a good prognosis for symptom improvement and relatively minimal complications.

Keywords: chronic pain, dextrose, lidocaine, post-surgical pain, prolotherapy.

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Introduction

Persistent post-surgical pain (PPSP) is a significant health problem in postoperative patient outcomes.^{1,2} The International Association for the Study of Pain defines persistent postoperative pain as a clinical condition that is uncomfortable (pain) and lasts more than 2 months after surgery without other causes, such as chronic infection or pain due to chronic conditions that occur before surgery. Currently, PPSP is recognized as the most common sequela of surgery.³ One study reported that every 10% increase in severe postoperative pain was associated with a 30% increase in chronic pain 12 months postoperatively.⁴ Ongoing inflammation or injury to peripheral nerves due to surgery is thought to be the main cause of PPSP. Inflammation and nerve injury leads to long-term synaptic plasticity that both amplifies and also sustains pain signals, a phenomenon known as pain sensitization. PPSP can occur in patients undergoing surgery and has the potential to become a burden on the health system in postoperative patient care.^{5,6} This study aims to describe PPSP management and its outcomes.

Case Presentation

A woman, 54 years old, a housewife, came to the hospital with complaints of persistent pain from a surgical scar in the abdominal area. The pain has gotten worse in the last 3 months and sometimes feels like it's spreading to the area around the surgical wound. The pain is felt sharp and hot, spreads to the area around it, is felt when resting, and is aggravated by activity experienced 5 months ago since the operation to remove the uterus. There was no history of trauma and no referred pain to the shoulder and neck. The patient admitted that she had consumed analgesics given by an internist, namely meloxicam 2x15 mg and, paracetamol 4x500, pregabalin 2x75 mg, but there was no change. Physical examination showed blood pressure 140/90 mmHg, respiratory rate 18x/minute, pulse 92 x/minute, temperature 36.8°C, and body weight 55 kg. In the abdominal region, there is a surgical incision in the form of a line measuring 20 cm, and there are no signs of inflammation. The patient was diagnosed with persistent post-surgical pain.

Neural prolotherapy is performed on patients with PPSP indications. The drugs used are 5% dextrose solution and 2% lidocaine. Injection of 0.5-1 ml of dextrose was carried out in the area along the surgical scar and its surroundings. After the injection, the patient felt that the pain was reduced (numeric rating scale 1/10). No signs of hematoma were found at the injection site. Patients are advised to control and reinjection 1 week later.



Discussion

According to the International Classification of Diseases, persistent postoperative pain is described as pain intensity that increases or has pain characteristics that are different from pain before surgery and is a series of acute pain that develops after an asymptomatic period. The International Classification of Diseases defines the duration for persistent postoperative pain, which is more than 3 months after surgery because the postoperative healing process differs for each treatment.^{7,8}

The management of PPSP depends on the identification of the etiology and the right type of pain through a thorough history and physical examination. Pain arising from the preoperative period, postoperative complications (most commonly infection), or recurrence of the primary disease must be ruled out before labeling PPH. More than half of PPSP patients experience neuropathic pain, and the rest experience nociceptive pain (somatic or visceral). A patient may have different types of pain, and these must be identified for effective management. During the preoperative period and early postoperative period, it is very important to educate and counsel patients about the possibility of PPSP.^{9,10}

Prolotherapy is injection therapy using natural irritant fluids, generally hypertonic dextrose, for chronic musculoskeletal injuries, which can trigger local healing reactions in the injected tissue. This irritant fluid functions as a nutrient, as well as stimulates the body's natural ability to repair damaged tissue.^{2,6}

Neural prolotherapy is an injection therapy performed on chronic musculoskeletal pain. In this case, 5% dextrose solution is injected around the scar. The observation results showed that after 3 treatments with 1-week intervals, there was a fairly good improvement in the pain intensity experienced by patients by measuring using a numeric rating scale.

Conclusion

Neural prolotherapy can be used in the management of patients with PPSP complaints. Treatment with neural prolotherapy injection using a mixture of D5% solution and lidocaine has a good prognosis for symptom improvement and relatively minimal complications.

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