

Breaking the Pain Cycle Successfully in a Woman with Chronic Pelvic Pain due to Anterior Cutaneous Nerve Entrapment

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ABSTRACT

Chronic pelvic pain in women has multiple aetiologies. An interdisciplinary approach is needed for accurate diagnosis and effective treatment. We present a case of the successful pain management of a 30-year female with anterior cutaneous nerve entrapment syndrome (ACNES) bilaterally below the umbilicus. The patient was referred to the pain management clinic by a gynaecologist due to her refractory pelvic pain where treatment was started with education, counselling, and multimodal analgesia. Trigger point injection was applied bilaterally with local anaesthetic and steroids (5 ml 0.25% Ropivacaine and Dexamethasone 4 mg) to confirm the diagnosis. After two weeks, on her follow-up visit, the patient reported more than 60% pain relief and improvement in daily activities. So, ultrasound-guided rectus sheath block was applied using 10 ml of 0.25% Ropivacaine and Dexamethasone 4 mg bilaterally, with complete pain relief and excellent patient satisfaction on her next follow-up after two weeks.

Key Words: Chronic pain, Pelvic pain, Anterior cutaneous nerve entrapment, Pain management, Trigger point injection.

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INTRODUCTION

Pain arising from the abdominal wall is often mistaken for visceral pain. Cutaneous nerve entrapment must be excluded in patients with chronic pelvic pain (CPP) before extensive diagnostic tests.¹ The entrapment of the terminal branches of sensory nerves of the abdominal wall causes anterior cutaneous nerve entrapment syndrome (ACNES). These nerves arise from T6 to L1, make a 90-degree angle via the posterior rectus sheath, pass through a fibrous ring in the rectus abdominis muscle, and divide again at a 90-degree angle below the skin (Figure 1).² ACNES is diagnosed on the history of chronic pain and local tender points (positive Carnett's sign).³

We present a case of the successful pain management of a 30-year female with ACNES bilaterally below the umbilicus.

CASE REPORT

A 30-year female presented to the gynaecology clinic with complaints of lower abdominal and pelvic pain.

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complete blood count (CBC), urine detailed report (DR) and culture, and high vaginal swab test, she was diagnosed with bacterial vaginosis, for which she received treatment. For persistent lower abdominal and pelvic pain, she was referred to the pain management clinic for further treatment.

In the pain management clinic, the patient presented with moderate to severe lower abdominal and pelvic pain. Pain intensity was 7/10 on the numeric rating scale (NRS), pain was sharp, stabbing in character, and associated with nausea. The pain aggravated with bending and walking, and she was unable to perform her daily routine activities. Regarding her past surgical history, she had undergone lower segment caesarean section twice (six and four years back) under spinal anaesthesia. Physical examination showed tenderness on superficial palpation over the lower abdominal wall below the umbilicus near the midline bilaterally. The detailed bedside examinations showed positive Carnett's sign bilaterally.

Patient treatment was started with education, counselling, and multimodal analgesia. She was counselled for trigger point injection for the diagnosis of possible ACNES. After a week, on the first follow-up visit, she got limited pain relief of about 20% with medications. So, trigger point injection was applied bilaterally below the umbilicus with 5 mL of local anaesthetic (0.25% Ropivacaine), and 4 mg Dexamethasone.

After two weeks, on the second follow-up visit, the patient reported more than 60% pain relief and improvement in routine activities. She was counselled for the ultrasound-guided bilat-

eral rectus sheath block below the umbilicus. Procedure details, risks, and benefits were explained to the patient and informed consent was taken. Ultrasound-guided bilateral rectus sheath block was performed with the standard aseptic technique. The linear ultrasound probe was placed in a transverse orientation, 2 cm lateral to the midline. The needle was inserted in-plane through the rectus abdominis muscle (from medial to lateral direction) until the tip reached the space between the muscle and posterior rectus sheath. Fifteen mL of local anaesthetic (0.25% Ropivacaine plus Dexamethasone 4 mg) was injected. The same procedure was repeated on the contralateral side.

On the subsequent follow-up visit, she reported more than 90% pain relief in the lower abdominal and pelvic area and a resumption of daily routine activities. Pain medications were tapered and stopped after two weeks with 100% pain relief and excellent patient satisfaction. She remained pain-free for the next six months follow-up period.

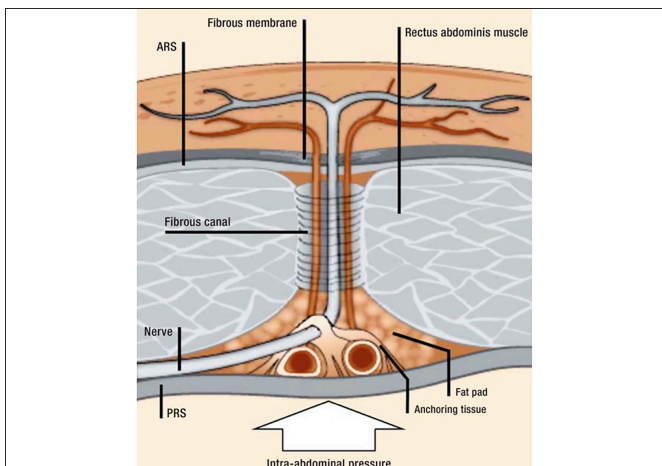


Figure 1: The nerves of the anterior abdominal wall and their double right-angle course at the lateral edge of the rectus abdominis muscle.² (The figure reproduced in this publication is used with permission from the original source).

DISCUSSION

Patients with chronic abdominal or pelvic pain are referred to a pain management clinic by a general surgeon or gynaecologist for evaluation and treatment. The literature suggests that CPP represents a considerable economic burden on women and healthcare systems worldwide.⁴ Patients presenting with CPP and having a prior history of surgery often have ACNES which is diagnosed on physical examination and confirmed with trigger point injection of a local anaesthetic agent.

Treatment starts with patient education and conservative therapy. Trigger point injection is given to confirm the diagnosis. Lifestyle modification and physical therapy, Gabapentin, or tricyclic antidepressants are usually prescribed. Repeated injections of local anaesthetic and glucocorticoid are often required for complete recovery.⁵ A recent randomised control trial showed that repeated injections of bupivacaine and steroids provided long-term pain relief in 78% of patients.⁶

For patients who report pain even after three injections within

one year, chemical neurolysis (with phenol or alcohol) or pulsed radiofrequency is recommended.^{7,8} Surgical release (anterior neurectomy) of entrapped nerves can be done in patients not responding to the above treatments. Literature showed 50% pain reduction in 61% of patients after primary anterior neurectomy.⁹

Management of female patients with CPP is often a challenging task for a primary physician due to its complex aetiology. This leads to costly investigations, imaging, and in some cases, unjustified operations. An interdisciplinary approach has been recommended to manage such patients that can reduce pain severity, improve quality of life, and appropriate healthcare utilisation.¹⁰ This patient was referred to the pain clinic by a gynaecologist due to her refractory pain where she was very well managed by making the correct diagnosis and patient-centred treatment.

In conclusion, patients with pelvic pain due to ACNES should be managed by an interdisciplinary team approach. Treatment should start with patient education and conservative therapy. If needed, trigger point injections or plane blocks can be given to improve the quality of life of patients and decrease dependence on pain medications.

PATIENT'S CONSENT:

Informed consent was taken before the pain intervention procedure and written consent was obtained from the patient to publish her case anonymously.

COMPETING INTEREST:

The authors declared no conflict of interest.

AUTHORS' CONTRIBUTION:

ASS: Conception of the work, introduction and discussion writing, and literature search.

BCK: Manuscript writing and literature search.

UK: Manuscript writing, literature search, and critical review.

All authors approved the final version of the manuscript to be published.

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