



# Manipulation to Treat Superior Cluneal Nerve Entrapment

Wang Jun<sup>1</sup>, Yin Jichao<sup>2\*</sup>, Hu Xing IV<sup>3</sup> and Lei Chengxiang<sup>1</sup>

<sup>1</sup>Department of Epidemiology and Biostatistics, Shan'xi University of Traditional Chinese Medicine, China

<sup>2</sup>Department of Epidemiology and Biostatistics, Shan'xi Xi'an Health School, China

<sup>3</sup>Department of Epidemiology and Biostatistics, Xi'an Traditional Chinese Medicine Hospital, China

## Abstract

**Background and Objectives:** Superior cluneal nerve entrapment syndrome is one of the causes of low back pain. Explore new treatment methods for the treatment of Superior cluneal nerve entrapment syndrome.

**Case Report:** A 44-year-old man with severe pain in the right lower waist for 3 days, pain in the right iliac crest, accompanied by throbbing pain in the right hip, restricted waist movement, increased pain during forward bending and rotation his straight-leg-raising tests were negative on both sides. Check the sacroiliac joints and spine without obvious abnormalities.

**Result:** Manipulative therapy can relax the tension of the waist and hip muscles, and comprehensively obtain better treatment results for the compression of the buttock epithelial nerve; ultrasound examination can well describe the damage of the buttock epithelial nerve.

**Keywords:** Superior cluneal nerve entrapment syndrome; Manual therapy; Low back pain

## Introduction

According to reports, the lower back pain caused by the Superior cluneal nerve entrapment syndrome is about 1.6% to 12% [1,2] of the patients with lower back pain, and the bilateral incidence is about 20% to 33% [3]. Research on gender it shows that the incidence of women is higher than that of men [4], and manual workers have a higher incidence [5]. Superior cluneal nerve entrapment syndrome is well known to cause lower back pain, but it is rarely diagnosed. We have 1 case of low back pain, which is believed to be caused by entrapment of the superior cluneal nerve.

## Case Presentation

Male, 44 years old, 75 kg. Severe pain in the right lower waist for 3 days, pain in the right iliac crest, and throbbing pain in the right hip, came to the orthopedics clinic. The pain was not responsive to non-steroidal anti-inflammatory drugs. Inquiring about the medical history and physical examination, the patient complained that he had difficulty in turning over and walking after sitting for a long time 3 days ago, and his living ability was seriously affected. On physical examination, it was found that the waist movement was limited, the pain increased during forward bending and rotation, and his straight-leg-raising tests were negative on both sides. Check the sacroiliac joints and spine without obvious abnormalities. However, there is severe tenderness in the iliac crest. According to the visual analog pain score, the patient's pain score is 7 to 8 points, with a maximum score of 10.

According to the strong [6] diagnostic criteria, we consider the gluteal epithelial nerve compression syndrome. It is recommended to perform musculoskeletal ultrasound examination. The results of the examination revealed that the gluteal epithelial nerve narrowed in the iliac crest tunnel (Figure 1). Based on the patient's symptoms, physical examination and musculoskeletal ultrasound results, we diagnosed the compression of the gluteal epithelial nerve and gave manual treatment. After the manual treatment, the musculoskeletal ultrasound examination found that the tunnel at the iliac crest had the original 1.7 mm changed to 3.0 mm (Figure 2). After 1 week, a reexamination revealed that the tunnel at the iliac crest became 5.0 mm (Figure 3), and the patient's symptoms disappeared completely.

## Technology

When the patient was brought into the treatment, lying prone on the treatment bed, a therapist performed relaxation treatment for the patient's waist and hip muscles and fascia for about 10 min.

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### \*Correspondence:

Yin Jichao, Department of Epidemiology and Biostatistics, Xi'an Health School, Beilin District, Xi'an City, Shaanxi Province, 710000, China, E-mail: 444604786@qq.com

Received Date: 23 Feb 2021

Accepted Date: 30 Mar 2021

Published Date: 02 Apr 2021

### Citation:

Jun W, Jichao Y, Hu Xing IV, Chengxiang L. Manipulation to Treat Superior Cluneal Nerve Entrapment. Clin Surg. 2021; 6: 3115.

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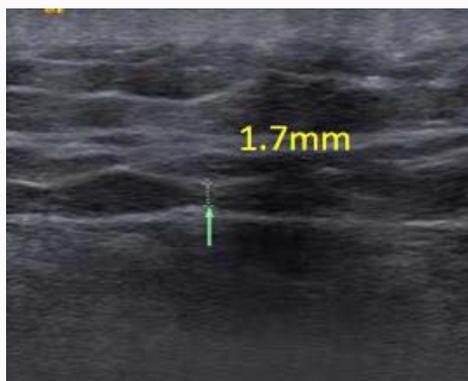


Figure 1: Patient ultrasound appearance before treatment.

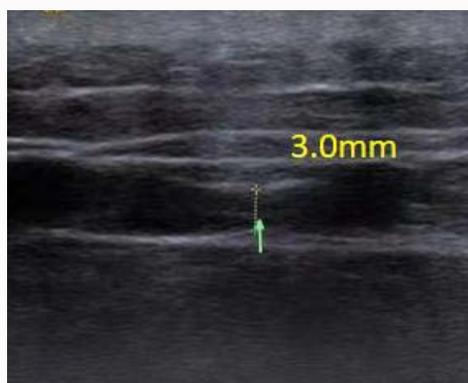


Figure 2: Ultrasound appearance of patients after treatment.



Figure 3: Ultrasound appearance of the patient 1 week after treatment.

The patient takes a sitting position, the surgery is located on the back of the patient, and the thumbs of both hands are placed on the painful part of the patient's iliac crest, and there will be a noticeable depression. Instruct the patient to try his best to stretch the upper limbs of the affected side over the top of the head, stretch the body of

the affected side, and make the patient do chest-lifting and waist-up exercises. The surgeon uses the thumb to push the tissue toward the depression, reset and smooth. The local depression is smoother than the front, indicating successful reduction.

## Discussion

The Superior cluneal nerve consists of fibers from L1 to L3 [7]. The entrapment of the Superior cluneal nerve is closely related to the fragility of its surrounding anatomy. It often occurs when the peripheral nerve passes through the opening of the fibrous tissue or the bone fiber tube [8]. A general physical examination of a patient cannot make a diagnosis, so it is often easy to be misdiagnosed. Ultrasound can better describe the gluteal epithelial nerve, which can reduce the misdiagnosis rate of gluteal epithelial nerve compression [9]. On the other hand, by comparing the ultrasound data before and after, it objectively reflects the changes before and after treatment. We believe that the uneven force of the lower waist muscles and fascia is an important reason for the overall entrapment of the superior cluneal nerve. The unbalanced force on the lower waist and local traction caused the tissue position at the iliac crest to shift. Through manual treatment, the dislocated tissue can be restored to its original position, which relieves the tension of the local muscle fascia and reduces the traction on the iliac crest can achieve the therapeutic effect.

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