

# Superior Cluneal Nerve Entrapment: An Additional Consideration in Low Back Pain

Selkin Yilmaz Muluk<sup>1</sup>

## Learning Point of the Article:

Superior cluneal nerve entrapment, particularly involving its medial branch, may represent an additional pain generator in patients with low back pain and should be considered in selected cases.

Dear Editor,

We read with great interest the case series by González et al. on the surgical management of symptomatic Bertolotti syndrome (BS), highlighting its role as a structural source of chronic low back pain (LBP) [1]. The authors should be commended for their meticulous diagnostic approach and for clearly demonstrating favorable surgical outcomes in carefully selected patients refractory to conservative treatment. While BS is a well-recognized cause of mechanical pain related to lumbosacral transitional vertebrae, we would like to emphasize that concomitant superior cluneal nerve (SCN) entrapment may coexist and contribute to the clinical picture.

The reported incidence of SCN entrapment among patients with LBP ranges between approximately 1.6% and 14% [2]. Given this non-negligible frequency, SCN involvement should be considered, particularly in patients with chronic LBP.

Several risk factors for SCN entrapment have been described, including altered lumbopelvic biomechanics, paraspinal muscle or fascial tightness, rigid thoracolumbar or gluteal fascia at the iliac crest, unstable facet joints, prior lumbar or pelvic surgery, spinal fusion, previous low back injury, and repetitive mechanical stress such as traction, friction, or compression [3]. Importantly,

patients with lumbosacral transitional vertebrae frequently exhibit altered load transfer and asymmetrical biomechanics. These changes may not only generate pain from the pseudoarticulation itself but may also predispose to secondary irritation or entrapment of the SCN.

From an anatomical perspective, the SCN consists of purely sensory branches arising from the dorsal rami of T12–L3 [4]. The nerve crosses the posterior iliac crest through an osteofibrous tunnel, where it is particularly vulnerable to entrapment, especially at its medial branch between the iliac crest and thoracolumbar fascia [3]. Notably, the medial branch typically crosses the iliac crest approximately 6–7 cm lateral to the midline [5]. This region closely corresponds to the location of pseudoarticulation in BS, suggesting a potential anatomical and mechanical interaction between these two pain generators.

Clinically, SCN entrapment presents with low back and upper buttock pain that may mimic BS-related symptoms [2]. A characteristic tender point over the posterior iliac crest, often accompanied by a Tinel-like sign, together with symptom relief following local anesthetic injection, constitutes key diagnostic features [4]. In patients with nonspecific LBP, particularly in suspected cases, performing a diagnostic SCN block may be useful in confirming the diagnosis. In patients diagnosed with BS,

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Dr. Selkin Yilmaz Muluk

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<sup>1</sup>Department of Physical Medicine and Rehabilitation, Ministry of Health Antalya City Hospital, Antalya, Turkey.

### Address of Correspondence:

Dr. Selkin Yilmaz Muluk,  
Department of Physical Medicine and Rehabilitation, Ministry of Health Antalya City Hospital, Antalya, Turkey.  
E-mail: selkinyilmaz@gmail.com

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an incomplete or transient response to injections targeting the pseudoarticulation should prompt consideration of an additional pain generator.

In terms of management, SCN-related pain can be effectively treated with targeted injections [2]. Various injectates have been described, including local anesthetics, corticosteroids, and dextrose solutions [3,6]. In refractory cases, further interventions such as neurolysis, radiofrequency procedures, peripheral nerve stimulation, or surgical decompression may be considered [3]. Ultrasound imaging plays a key role in both diagnosis and treatment by enabling the precise localization of SCN branches along the iliac crest [6].

In this context, SCN entrapment may represent a concomitant

pain generator in patients with altered lumbopelvic biomechanics, particularly in cases with persistent symptoms.

We would like to once again commend the authors for their valuable contribution and for increasing awareness of BS as an important source of LBP. Our intention is not to challenge or replace the diagnosis of BS but rather to complement the existing perspective by highlighting a potentially coexisting condition. In this regard, SCN entrapment may represent an additional or overlapping pain generator – particularly within the spectrum of relatively underrecognized or nonspecific LBP conditions, including conditions such as BS – that could be considered in selected cases to further refine clinical evaluation.

**Declaration of patient consent:** The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his/ her images and other clinical information to be reported in the journal. The patient understands that his/ her names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

**Conflict of interest:** Nil **Source of support:** None

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