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## Case Report

### Coccydynia Related to the Use of a Contraceptive Vaginal Ring<sup>☆</sup>



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#### ABSTRACT

Coccydynia is a syndrome that rheumatologists encounter frequently in the form of tailbone pain, which is usually worse when sitting. Although the most common origin is trauma, there are several other possible causes of pain in the coccyx. We present an unusual case in which coccydynia developed shortly after the insertion of a contraceptive vaginal ring and remitted completely upon removal of this system.

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##### Palabras clave:

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#### Coccigodinia relacionada con uso de anillo vaginal anticonceptivo

#### RESUMEN

La coccigodinia es un síndrome que se presenta con frecuencia en las consultas de Reumatología en forma de dolor en punta terminal del coxis, empeorando habitualmente al sentarse. Aunque la causa más frecuente es la postraumática local, existen diversas causas de dolor en el coxis. Presentamos un caso inhabitual en el que la coccigodinia comenzó poco después de instaurar un sistema de anticoncepción por anillo vaginal y remitió completamente al retirar este sistema.

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## Introduction

Coccydynia is relatively frequent in clinics dealing with the musculoskeletal system. This complaint is formed mainly by women of 20 to 50 years. In clinical terms, it is characterized by a sharp pain when a person who is sitting stands up. Physical examination usually comes across a point of selective pain in response to pressure on the tailbone. The most common cause is trauma.<sup>1</sup>

## Case Report

The patient was a 34-year-old woman who was referred to rheumatology for the study of coccydynia that had begun 3 months before. She mentioned pain upon sitting down and with certain postures. She reported no previous trauma; she works in an office. In the examination, there was discreet discomfort in response to

pressure on the tailbone. We recommended that she avoid sitting on hard seats and the use of an inflatable rubber ring for at least 2 months. As the symptoms persisted, she was referred to the rehabilitation unit, where she underwent up to 6 local injections with poor results.

The patient became a user of the Nuvaring<sup>®</sup>, a flexible contraceptive vaginal ring (ethynyl estradiol 0.12 mg, etonogestrel 0.015 mg/24 h), 2 months before the onset of her pain. She mentioned feeling better when the ring was removed during menstruation and that the pain returned when it was put in again. Thus, her gynecologist ultimately decided against that contraceptive system. Once the device was removed, the patient noted a rapid relief in the coccydynia. Six months later, she came to the rheumatology department and reported no recurrence of the pain in her tailbone.

## Discussion

We should know our bone, nerve and muscle anatomy, as each element can be the source of coccygeal pain. Certain anatomic factors of the coccyx and the formation of bone spicules have been related to a greater predisposition to pain. A very frequent cause

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of coccydynia is an unstable coccyx due to hypermobility, and it can even become dislocated. Muscle spasms or contractures of the pelvic floor muscles can provoke myofascial pain. In these cases, it is possible to identify points or bands as tense zones that correspond to the contracted fibers. Pudendal nerve neuropathy is presented as a perineal and/or pelvic neuropathy pain, which can accompany urinary, anal and even sexual dysfunction.<sup>2</sup> One little known aspect is the fact that the sacral sympathetic chain ganglia converge at the sacral level into a single ganglion, the so-called ganglion impar or (ganglion of Walther), which is located in front of the sacrococcygeal symphysis, between the sacrum and the posterior wall of the rectum, and contributes to the innervation of pelvic and genital organs, as well as those of the perianal region. The irritation of this ganglion may also be the cause of the sacrococcygeal dysfunctional pain. The differential diagnosis should include infections and tumors of the perianal region or pelvic inflammatory disease.<sup>1,2</sup> Cases related to calcifications,<sup>3</sup> glomus tumor<sup>4</sup> or hemangiomas have been reported.<sup>5</sup>

Thus, coccydynia can have many causes and, therefore, what is needed is an etiological study to deal with the most appropriate therapy. In our patient, the ancillary tests requested were a radiography and abdominal ultrasound, with normal results. The pain had a clear relationship to the presence of the contraceptive vaginal ring, appearing when the latter was used and remitting on a couple of occasions when the device was removed.

A causal hypothesis is that the pain affects the coccyx. It has been reported in pelvic diseases, transmitted via the hypogastric plexus. The inferior third of the vagina is the only region with somatic innervation. The remainder of the vagina is insensitive to touch, and receives innervation from the uterovaginal plexus, which originates in the inferior hypogastric plexus, and is the region where the contraceptive ring should be placed.<sup>5</sup>

Another possibility could be the indirect irritation of the ganglion impar; this ganglion is classically identified as the cause of the sympathetic afferent of the pelvic organs, including the region that is distal from the vagina; however, some authors associate it with nociceptive pathways, although this concept has not remained clear. The compression of this ganglion has been reported

in patients with anterior dislocation of the coccyx. It could be irritated by the vaginal ring, if we take into account the proximity of the vaginal fornix to the rectum and the fact that this ganglion has a variable size and location.<sup>6</sup> In clinical practice, digital rectal examination is not usual, but it is clearly a maneuver indicated for a more complete study. This is the first report of a case of coccydynia related to a contraceptive vaginal ring.

### Ethical Disclosures

**Protection of human and animal subjects.** The authors declare that no experiments were performed on humans or animals for this study.

**Confidentiality of data.** The authors declare that they have followed the protocols of their work center on the publication of patient data.

**Right to privacy and informed consent.** The authors declare that no patient data appear in this article.

### Conflicts of Interest

The authors declare they have no conflicts of interest.

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