

The Treatment of Coccydynia and Headache with Transrectal OMT: A Case Report

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Abstract:

Coccydynia is debilitating pain of the coccyx that substantially impacts quality of life. Although most cases resolve with conservative therapy, pain can become chronic and involve other anatomical areas. Treatment options include physical therapy, manual medicine, injection, and surgery with mixed results. Manual medicine options vary depending on provider and physical exam findings. Little is known about transrectal therapy. We present a case of a 21-year-old female with coccydynia and subsequent headaches that failed conventional work-up and conservative therapy but resolved with osteopathic manipulative treatment (OMT).

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Introduction:

Coccydynia is debilitating pain of the coccyx that substantially impacts quality of life. Although most cases resolve with conservative therapy, treatment options are limited for the 10% of patients refractory to conservative care.¹⁻³ Pain can become chronic and involve other anatomical areas.⁴⁻⁶ Treatment options include physical therapy, manual medicine and less often surgery, with mixed results. Transrectal manual therapeutic options are rarely discussed in the literature. We present a case of a 20-year-old female with coccydynia, subsequent headaches that failed conventional work-up and conservative treatments but resolved with a modified trans-rectal treatment (OMT) protocol.

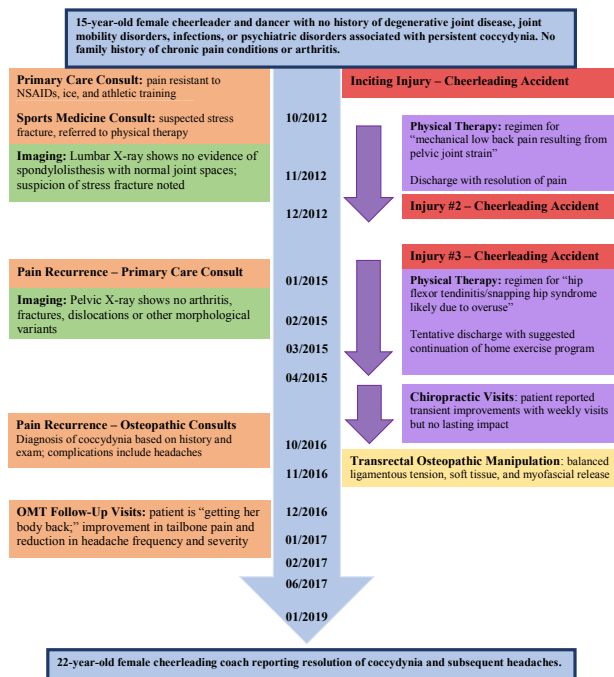
Case Report:

A 20-year-old athletic female with several years of coccydynia and headaches was evaluated in our clinic (Figure 1). Following a fall while cheerleading at age 15, the patient initially developed a two-week history of sharp, achy right hip, low back, and tailbone pain. The pain did not resolve with ice, NSAIDs, or athletic training. X-rays were

unremarkable and without fractures or dislocations. She underwent physical therapy (PT) for ‘mechanical low back pain resulting from pelvic joint strain’ (chart review) and full activity restriction. After three months, the pain improved enough for the patient to go about her activities of daily living and sport. Upon completion of physical therapy; she returned to cheerleading and reinjured herself on the same day upon landing unequally on her feet, resulting in new, less intense bilateral hip, low back, and coccyx pain. Despite ongoing pain, she continued cheerleading and dancing for the next two years.

She then sought medical care when her pain worsened after head trauma associated with a failed aerial stunt. She had mild-to-moderate headaches with blurry vision every 2-3 days, and became more aware of her hip, low back, and coccygeal pain. The pain limited her ability to sit comfortably and sleep well; blurry vision and headaches limited computer use. She used NSAIDs daily.

Figure 1: Timeline of Injury, Evaluation, and Treatment



15 year old female with inciting cheerleading injury and subsequent coccydynia. Over a period of time, she experienced acute on chronic pain and attempted physical and chiropractic therapy. Long term relief achieved with osteopathic manipulative treatment, including transrectal manipulation.

After the head injury, she was again evaluated for hip and back pain. X-rays were again negative. She received PT, chiropractic adjustments, and home exercise for 'hip flexor tendonitis and snapping hip syndrome, likely due to overuse' (chart review). This provided temporary partial relief during the three months of active treatment, but she was unable to establish long term relief or continue physically demanding activities. The coccygeal pain intensified; a seated posture during her eight hour job was problematic. Her hip pain, low back pain, and headaches continued with the same intensity and frequency. The patient sought osteopathic consultation.

Evaluation:

Low back, hip, and coccyx pain on the day of evaluation were 7/10. Low back, hip, and coccyx pain upon awakening were typically 5/10; by midday 6/10; and by bedtime 3-4/10, all with 600 mg

ibuprofen up to three times daily. Pain was 8/10 if she did not use ibuprofen. Her structural exam included somatic dysfunctions (Table 1) that have been described in osteopathic literature. Palpation of the coccygeal apex exacerbated her low back pain and headache and was noted by the patient to be the most tender area examined.

Table 1: Osteopathic Structural Exam Findings Pre- and Posttreatment

Body Region	Pretreatment	Posttreatment
Cranial	sphenobasilar synchondrosis compression	resolved after transrectal OMT
Cervical	C2 flexed, rotated and sidebent right	resolved after transrectal OMT
Thoracic	T6 flexed, rotated and sidebent right	resolved after high velocity low amplitude
Lumbar	L3 extended, rotated and sidebent right	resolved after transrectal OMT
Sacrum	anterior coccygeal apex tenderness	resolved after transrectal OMT
Abdomen	inhaled diaphragm	resolved with transrectal OMT

Osteopathic structural exam findings pre- and posttreatment, listed by body region. Transrectal osteopathic manipulative treatment provided resolution of somatic dysfunctions of cranial, cervical, lumbar, sacrum, and abdominal regions.

Intervention:

Transrectal osteopathic manipulative treatment (OMT) utilizing craniocervical active patient assistance was offered. Goals of procedure, including potential risks and benefits were discussed. Written and verbal informed consent was obtained in the presence of a female medical assistant and the adult patient's mother. Both were present for the discussion. The female medical assistant was present for the entire duration of the procedure. The patient was placed in a prone position while the osteopath's (BN) gloved, lubricated index finger was inserted transrectally, contacting the anterior coccyx internally and palpating the posterior coccyx externally with the thumb. While propped on her elbows to induce spinal extension, the patient flexed, rotated, and sidebent her cervical spine as directed to localize to the area of sacrococcygeal dysfunction. Indirect and direct balanced

ligamentous tension and myofascial release were applied with active patient assistance during the three-minute procedure. The patient tolerated the procedure well and experienced immediate resolution of coccygeal pain.

Outcomes:

Post-treatment evaluation is listed in Table 1. The patient noted immediate improvement in her ability to sit, stand, and walk, and reduction in lumbar and coccygeal pain and cervical tension. Within one week, she noted substantial decrease in her overall pain, and improvement in her headaches. She decreased her use of NSAIDs.

At three-week and five-week follow-up, the patient reported decreased intensity and frequency of headaches, and hip, back, and tailbone pain. She reported more comfort while standing, sitting, and lying down, and tolerated increased duration of daily activities, including sitting at work. Her headaches and blurry vision were resolved. She reported that she 'was getting her body back.' She no longer experienced tenderness to palpation of the coccyx on physical exam.

Over the next nine months the patient followed up every one-to-two months for other complaints not related to her original complaints of headaches, low back, hip, and coccyx pain. At both nine months and 26 months after transrectal OMT, she continued to report enduring resolution of her coccydynia, headaches, and blurry vision. Her posture was improved. She slept 6-7 hours nightly and awoke well-rested. She returned to coach cheerleading, and even performed tumbling and aerial stunts after her treatment.

Discussion:

This case report describes the osteopathic evaluation and successful treatment of recurrent acute on chronic coccydynia and headaches refractory to conventional therapy. Transrectal OMT appears to be associated with long-lasting benefit of both the coccydynia and the subsequent headaches. Non-surgical treatment options for coccydynia are limited; surgical results vary and the procedure is invasive and irreversible. While discussion and conduct of transrectal OMT is delicate given the anatomy involved, the single transrectal treatment for the patient described

appears to have been safe and effective. Appropriate patient-centered dialogue, shared decision-making and written informed procedural consent are especially important; a same sex chaperone is strongly encouraged. Contraindications include patient refusal.

These findings are consistent with and adds to the limited coccydynia literature. Although most patients with coccydynia improve with conservative management, no protocol consistently treats those with chronic coccydynia refractory to more conservative care. Transrectal manual treatment is an anatomically reasonable approach to coccydynia given its direct contact with injured tissue and access to the anterior coccyx. Techniques such as levator ani stretch, pelvic floor massage, and coccyx mobilization are associated with limited improvement in pain and quality of life in patients compared with placebo.⁷ A case report noted successful treatment of coccydynia using transrectal OMT with supplemental anesthesia, but duration of benefit and follow-up was not described.⁸ A 2017 retrospective study of 93 patients supports at-home exercises with weekly one-hour visits with a trained pelvic floor physical therapist utilizing transrectal manipulation without simultaneous active patient assistance, focusing on lengthening and relaxing overactive pelvic floor muscles for coccydynia.⁹ A 2018 case series of 52 patients used visual analogue scale and Oswestry Low Back Pain Disability Questionnaire to evaluate pharmacotherapy and OMT. The study included transrectal manipulation without active patient assistance as described by Maigne et al. 2006 as a treatment for coccydynia.⁷ Results supported OMT over pharmacotherapy for coccydynia, including coccydynia associated with low back pain and radicular pain, but long-term follow-up was lacking.¹⁰ Combination therapy pairing manual techniques with other treatments have also produced positive but inconsistent results.¹¹⁻¹³ To date, an active transrectal osteopathic approach has not been well described for coccydynia with concomitant pain in anatomically related areas.

In this case, recurrent symptoms of headaches, neck, back, and hip pain significantly improved after transrectal coccygeal OMT. Balanced ligamentous tension, a commonly used osteopathic technique to treat soft tissue dysfunctions, may

provide an anatomical mechanism for the patient's improvement. The spinal dura mater provides extensive superior-inferior tissue connectivity throughout tissue relevant to this patient's symptoms. In the context of extensive ligamentous and dura mater continuity between the coccyx and cranium, active cervicocranial motions by the patient, as directed by the clinician, may enhance the targeted localized treatment with balanced ligamentous tension and myofascial release. Balanced ligamentous tension may have helped her improve bodily homeostasis and restore function.¹⁴

The rapid and enduring resolution of the case patient's coccydynia and concomitant headaches after transrectal treatment suggests that this therapy was effective for her condition, and that the headaches were associated with coccygeal somatic dysfunction.

Conclusion:

This case report suggests that osteopathic evaluation and transrectal OMT provided rapid and enduring pain relief for a patient with persistent coccydynia and associated headaches, and back and hip pain. The case further illustrates the potential value of coccygeal evaluation during work-up of back and hip pain, and suggests the need for further study of transrectal OMT for coccydynia.

Author Contributions:

Authors Ross Gilbert, David Rabago, and Bobby Nourani each provided substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; all authors drafted the article or revised it critically for important intellectual content; Ross Gilbert, David Rabago, and Bobby Nourani all gave final approval of the version of the article to be published; and Ross Gilbert, David Rabago, and Bobby Nourani all agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Potential Conflicts of Interest Disclosures:

The authors declare no conflict of interest.

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References:

- 1) Capar B, Akpınar N, Kutluay E, Müjde S, Turan A. A 2007 coccygectomy in patients with coccydynia. *Acta Orthop Traumatol Turc.* Aug-Oct;41(4):277-80.
- 2) Thiele GH. Coccygodynia: cause and treatment. *Dis Colon Rectum.* 1963 Nov-Dec;6:422-36. Available from: <https://doi.org/10.1007/bf02633479>
- 3) Trollegaard AM, Aarby NS, Hellberg S. Coccygectomy: an effective treatment option for chronic coccydynia: retrospective results in 41 consecutive patients. *J Bone Joint Surg Br.* 2010 Feb;92(2):242-5. Available from: <https://doi.org/10.1302/0301-620X.92B2.23030>
- 4) Lirette LS, Chaiban G, Tolba R, Eissa H. Coccydynia: an overview of the anatomy, etiology, and treatment of coccyx pain. *Ochsner J.* 2014 Spring;14(1):84-7.
- 5) Pennekamp PH, Kraft CN, Stütz A, Wallny T, Schmitt O, Diedrich O. Coccygectomy for coccygodynia: does pathogenesis matter? *J Trauma.* 2005 Dec;59(6):1414-9. Available from: <https://doi.org/10.1097/01.ta.0000195878.50928.3c>
- 6) Schapiro S. Low back and rectal pain from an orthopedic and proctologic viewpoint; with a review of 180 cases. *Am J Surg.* 1950 Jan;79(1):117-28. Available from: [https://doi.org/10.1016/0002-9610\(50\)90202-9](https://doi.org/10.1016/0002-9610(50)90202-9)
- 7) Maigne JY, Chatellier G, Faou ML, Archambeau M. The treatment of chronic coccydynia with intrarectal manipulation: a randomized controlled study. *Spine (Phila Pa 1976).* 2006 Aug 15;31(18):E621-7. Available from: <https://doi.org/10.1097/01.brs.0000231895.72380.64>
- 8) Emerson SS, Speece AJ. Manipulation of the coccyx with anesthesia for the management of coccydynia. *J Am Osteopath Assoc.* 2012 Dec;112(12):805-807.
- 9) Scott KM, Fisher LW, Bernstein IH, Bradley MH. 2017 The Treatment of chronic coccydynia and post coccygectomy pain with pelvic floor physical therapy. *PM R.* 2017 Apr;9(4):367-376. Available from <https://doi.org/10.1016/j.pmrj.2016.08.007>

- 10) Origo D, Tarantino AG, Nonis A, Vismara L. Osteopathic manipulative treatment in chronic coccydynia: A case series. *J Bodyw Mov Ther.* 2018 Apr;22(2):261-265. Available from: <https://doi.org/10.1016/j.jbmt.2017.06.010>
- 11) Khatri SM, Nitsure P, Jatti RS. Effectiveness of coccygeal manipulation in coccydynia: a randomized control trial. *The Indian Journal of Physiotherapy and Occupational Therapy.* 2011 Jul-Sept;5(3):110-112.
- 12) Wray CC, Easom S, Hoskinson. J 1991 Coccydynia: aetiology and treatment. *J Bone Joint Surg Br.* 1991 Mar;73(2):335-8.
- 13) Wu CL, Yu KL, Chuang HY, Huang MH, Chen TW, Chen CH. The application of infrared thermography in the assessment of patients with coccygodynia before and after manual therapy combined with diathermy. *J Manipulative Physiol Ther.* 2009 May;32(4):287-93. Available from: <https://doi.org/10.1016/j.jmpt.2009.03.002>
- 14) Spinaris T, DiGiovanna EL. An osteopathic approach to diagnosis and treatment. 2nd Ed. Philadelphia: Lippincott Williams & Wilkins; 1997.