

Perianal abscess mimicking levator ani syndrome: a case report and approach to the differential diagnosis of anorectal pain.

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Objective: To present the clinical management and comprehensive differential diagnosis of a patient with anorectal pain from a perianal abscess.

Clinical Features: A 41-year-old woman presented with pain localized to her perianal and gluteal region, accompanied by internal and external rectal pain. Prior to presentation, the patient had received a working diagnosis of levator ani syndrome.

Intervention and Outcome: An interdisciplinary management approach was utilized. Diagnostic imaging confirmed the clinical suspicion of a perianal abscess and the patient underwent surgical drainage.

Summary: Anorectal pain is complex and multifactorial and a diagnosis such as an abscess should not be overlooked. This case emphasized that

Objectif : Présenter le traitement clinique et le diagnostic différentiel complet d'une patiente atteinte de douleur ano-rectale découlant d'un abcès périanal.

Caractéristiques cliniques : Une femme de 41 ans se présente avec une douleur dans la région périanale et fessière, accompagnée de douleur rectale interne et externe. Avant la présentation, la patiente a reçu un diagnostic de travail de syndrome du muscle élévateur de l'anus.

Intervention et résultats : On a utilisé une approche de prise en charge interdisciplinaire. L'imagerie diagnostique a permis de confirmer le soupçon clinique d'abcès périanal et la patiente a subi un drainage chirurgical.

Résumé : La douleur ano-rectale est complexe et multifactorielle; il ne faut pas négliger un diagnostic tel qu'un abcès. Ce cas souligne que les praticiens doivent

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Consent: The patient has provided written consent to having their personal health information, including radiographs, published.

The authors have no competing interests to declare.

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practitioners must be diligent in their evaluation and management of patients with anorectal pain, including recognizing situations that require further imaging and interdisciplinary management.

(JCCA. 2017;61(2):145-152)

KEY WORDS: chiropractic, perianal abscess, levator ani syndrome, anorectal pain, differential diagnosis

Introduction

Anorectal pain can be a debilitating condition for patients and a diagnostic challenge for health practitioners. Chronic or recurrent pain in the anal, rectal, or pelvic region has been reported to occur in 7% to 24% of the population.¹ Anorectal pain is very heterogeneous and can range from mild discomfort secondary to myofascial pain, to incapacitating pain with life-threatening consequences, such as in the case of abscess formation.^{2,3} Nonspecific symptoms and a poor understanding of etiology compounds the difficulties surrounding management of patients with anorectal pain and may lead to chronic and persistent symptoms.² There are cases where chronic pelvic and anorectal pain cannot be explained by a structural or other specified pathology and are termed functional chronic pain disorders.⁴ These conditions are poorly understood and are often under recognized pain syndromes associated with significant impairment, decreased quality of life, and psychological distress.¹ Although practitioners should be mindful of functional disorders in patients with chronic anorectal pain, this diagnosis is one of exclusion after structural causes are ruled out. Diagnostic considerations for structural pathology that are commonly associated with chronic anorectal pain includes cryptitis, fissure, abscess, hemorrhoids, solitary rectal ulcer, inflammatory bowel disease, and rectal ischemia.¹ Accurate diagnosis can often be made based on a thorough history, physical examination, and necessary ancillary work-up including diagnostic imaging and laboratory investigation.⁵

We present a case of a patient with a perianal abscess initially misdiagnosed as myofascial pain of the levator ani muscle. This case report emphasizes the importance

faire preuve de diligence lors de leur évaluation et prise en charge des patients qui souffrent de douleur ano-rectale, y compris reconnaître des situations nécessitant une imagerie et une prise en charge interdisciplinaire supplémentaires.

(JCCA. 2017;61(2):145-152)

MOTS CLÉS : chiropratique, abcès périanal, syndrome du muscle élévateur de l'anus, douleur ano-rectale, diagnostic différentiel

of a broad differential diagnosis for chronic anorectal pain. Additional diagnostic evaluation and interdisciplinary management is also discussed.

Case Presentation

A 41-year-old woman presented to an academic chiropractic clinic with complaints of severe sacrococcygeal and gluteal pain, accompanied by burning and stabbing internal and external rectal pain. The symptoms had been intermittent for 6 months, lasting 3-4 days at a time, but had become constant the week prior to her visit. There was no history of trauma or other mechanism for her pain. Aggravating factors included prolonged sitting, shifting her weight while sitting, flatulence, and bowel movements. She denied any hematochezia or hematuria associated with the onset of her pain.

Her medical history was remarkable for ulcerative colitis, diagnosed at age 29, in addition to anxiety and depression. Noted medications included Pentasa (Mesalamine) and monthly intravenous immunoglobulin (IVIG) for her colitis. She had visited her gastrointestinal specialist the preceding month for an endoscopy, the results of which were reportedly unremarkable. She was diagnosed by her specialist at that time with a suspected levator ani syndrome (i.e. myofascial pain of the levator ani muscle) and was instructed to seek physical therapy for management of her symptoms.

During the initial examination at the chiropractic clinic, the patient was in visible pain and had difficulty ambulating. There was no observed swelling, discolouration, or deformity visualized over the gluteal or sacrococcygeal region. Lumbar range of motion was severely reduced

in all directions due to pain. A lower limb neurological examination was unremarkable. Gluteal pain was reproduced with palpation of the sacrotuberous ligaments bilaterally, and digital pressure over the L4 and L5 vertebral segments during prone examination. Additionally, tenderness was elicited with palpation of the sacrum and external coccyx, as well as gluteal musculature bilaterally. During the physical examination, paroxysmal pain lasting several seconds, and not provoked by movement or testing maneuvers, was reported.

Due to the severity of her pain and the erratic nature of her symptoms, radiographs of the sacrum and coccyx were ordered, demonstrating enlargement of the pre-sacral soft tissues (Figure 1). There was no effacement of the colon wall or underlying bone destruction on the radiograph. The patient was subsequently referred to her family physician for blood tests as well as pelvic and abdominal ultrasounds to further evaluate pelvic soft tissues and rule out a potential space occupying lesion, such as from a sacral neoplasm.

She was also treated by a chiropractic intern on three separate occasions over the course of three weeks to provide symptomatic relief while she was awaiting further diagnostic testing. Ischemic compression was applied to the sacrotuberous and sacrospinous ligaments and the surrounding hip and pelvic musculature. Grades 1 and 2 mobilizations were performed at the sacroiliac joint. After the second visit the patient reported a subjective decrease in the duration and intensity of her symptoms, with minimal pain on bowel movements. On the third visit the patient described a severe exacerbation of her rectal and gluteal pain, return of pain with bowel movements, and an incidence of bleeding during a bowel movement.

Blood tests revealed mild anemia, as well as elevated neutrophils (8.2 [ref. 2.0-7.5] xE9/L) and high-sensitive C-reactive protein (6.2 [ref. < 3] mg/L), suggestive of inflammation or infection. An abdominal ultrasound was normal. A pelvic and transvaginal ultrasound revealed non-specific mild thickening of a segment of the sigmoid colon with retention of the normal wall layers. The patient was then referred for a pelvic MRI, performed two weeks following her initial assessment at the chiropractic clinic. The MRI revealed evidence of a near circumferential horse shoe shaped abscess in the intersphincteric plane, measuring 1cm at its widest area; the opening approximately 3cm from the anus (Figure 2). A left-sided

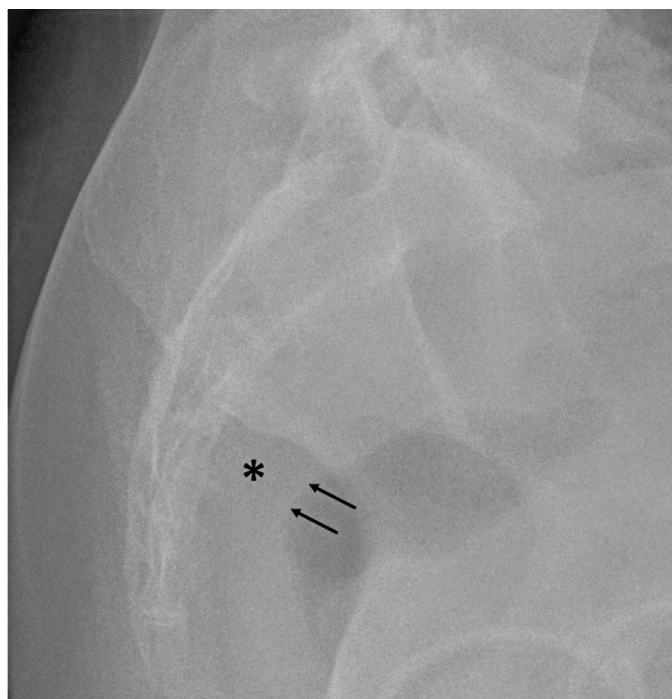


Figure 1.

Conventional lateral radiograph of the sacrum and coccyx demonstrating enlargement of the pre-sacral soft tissues (asterisk). The posterior colonic wall (arrows) is uneffaced and there are no destructive sacral lesions. Although initially interpreted as evidence for a pre-sacral mass, the enlarged soft tissues in this patient were secondary to fat deposition. This is an established complication of chronic ulcerative colitis.⁶

Bartholin cyst was noted which may have been secondary to the underlying inflammatory process producing ductal obstruction. There was no pre-sacral mass or fluid collection, but rather a notable amount of fat surrounding the colon at this location consistent with the history of chronic inflammatory bowel disease.⁶

Based on these findings, a diagnosis of perianal abscess was made by the gastroenterologist. The patient was subsequently scheduled for urgent surgery approximately three and a half weeks post-MRI. Incidentally, a pre-surgical screen of the patient revealed a pyoderma gangrenosum lesion initiating over her right shin; most likely secondary to her chronic inflammatory bowel condition.

At the hospital, she underwent an examination under

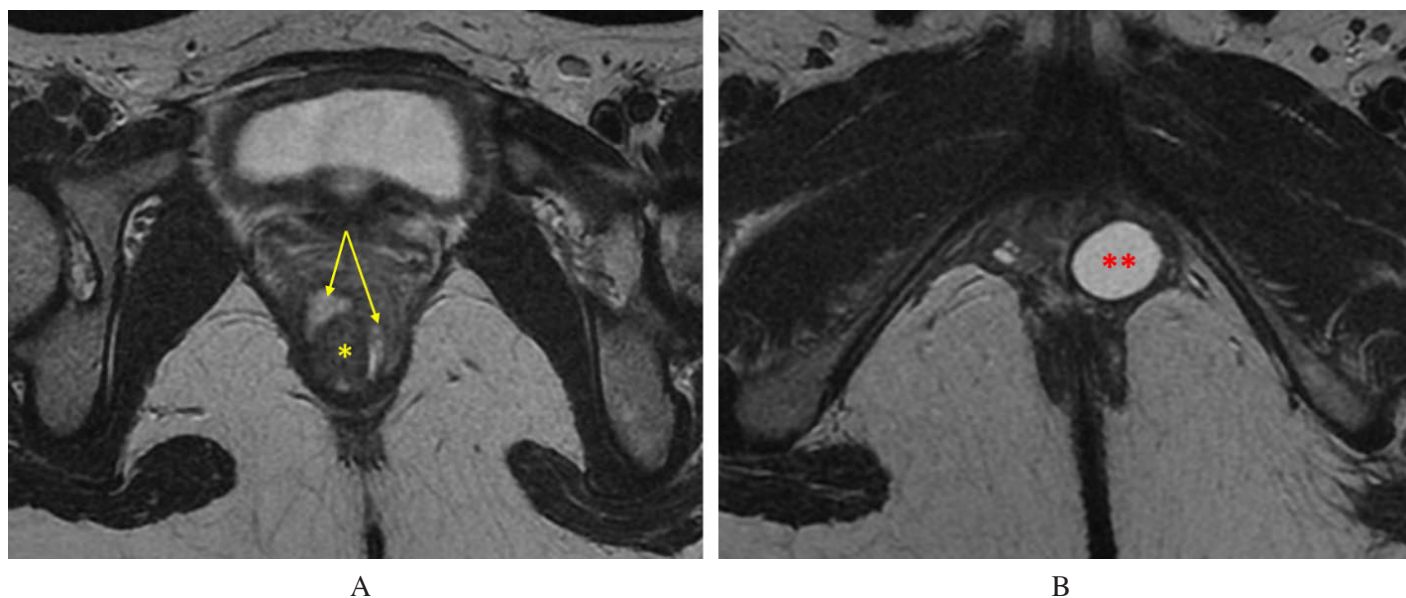


Figure 2.

Axial T2-weighted fast spin-echo sequences.

(A) Perirectal fluid collection consistent with a horseshoe shaped abscess is outline by the arrows. The centrally located rectum (asterisk) is also seen. (B) A Bartholin gland cyst (double asterisk) can be seen on the left side of the distal vagina. Smaller discrete fluid collections are noted in a similar location on the patient's right side. Pelvic inflammation from the abscess may have caused duct obstruction and cyst formation.

anesthesia which identified an internal opening of the abscess. Pus was expressed through the internal opening. No external opening or fistula was identified and no incision was required. The next day IVIG was administered to the patient. Her peri-anal pain remained minimal, however she did experience some stool leakage/incontinence the day following her examination. At discharge the patient was ambulating, tolerating an oral diet, and her peri-anal pain had generally resolved. Her right shin pain at the pyoderma gangrenosum lesions was under control with opioids, appeared stable, and was covered with a non-adherent dressing and gauze.

The patient returned to the chiropractic teaching facility for a follow-up appointment at one-month post-surgery. She had not experienced any episodes of incontinence since returning home from her surgery. She denied any recent fever, night pain, or night sweating; however, she reported a daily occurrence of blood in her stool since the surgery, for which she was being monitored for by her gastroenterologist. Moreover, she described complaints

of persistent gluteal pain and associated sacral pain, aggravated by prolonged sitting, and lumbar stiffness, worse in the morning. On physical examination, she demonstrated full lumbar spine ranges of motion with segmental restrictions noted at the lumbar spine and sacroiliac joints. Point tenderness was reported with palpation of the left sacrotuberous and sacrospinous ligaments, and gluteal musculature. Apart from her pelvic complaints, the gangrenous lesion on her right shin was healing adequately.

The patient was treated by a chiropractic intern over the course of three consecutive visits over three weeks. Her therapy entailed spinal manipulation of the sacroiliac joints and lumbar spine, soft tissue therapy to the surrounding hip and gluteal structures, and exercises emphasizing core stability. She was contacted by telephone two months following her last chiropractic visit to inquire about her status. She reported that her symptoms had significantly improved to the extent where she was absent of pain for three to four weeks and was no longer experiencing bleeding with bowel moments.

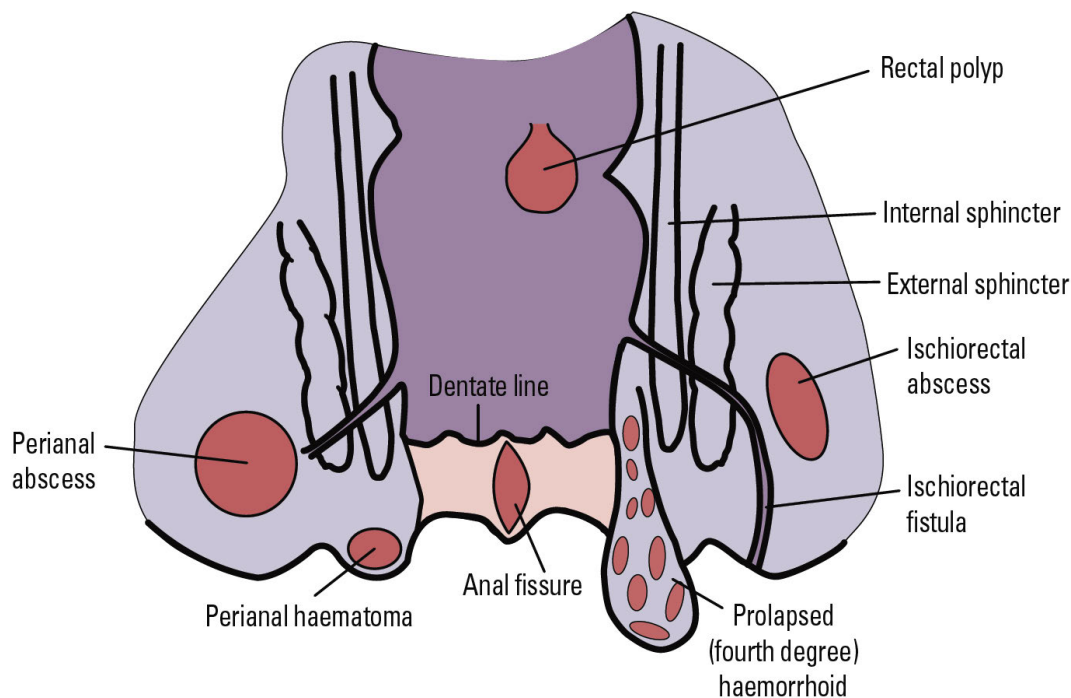


Figure 3.
Common anorectal conditions.
Reproduced with permission from The Royal Australian College of General Practitioners from Daniel WJ. Anorectal pain, bleeding and lumps. *Aust Fam Physician* 2010;39(6):376–81. Available at www.racgp.org.au/afp/2010/june/anorectal-pain,-bleeding-and-lumps

Discussion

The differential diagnosis for chronic anorectal pain is extensive. Common organic causes include cryptitis, anal fissure, perianal abscess (with or without fistula), hemorrhoids, solitary rectal ulcer, inflammatory bowel disease, and rectal ischemia (Figure 3).^{2,7} A thorough and carefully focused history and physical examination should be used to identify signs and symptoms suggestive of these pathologies. Clinicians should also be cognizant that in spite of a rigorous evaluation, previous literature has suggested that in approximately 85% of patients presenting to a specialist with chronic anorectal or pelvic pain, an organic disease explanation will not be found.¹ This may prompt the consideration of functional anorectal disorders.

In the present case the patient's medical history was remarkable for ulcerative colitis, a known risk factor for the development of anorectal complications.⁸ It is estimated that approximately 15-20% of patients with ulcerative colitis will experience anorectal complications, the most common being anal fissures, seen in approximate-

ly 12% of patients, and anorectal abscesses and fistulas, seen in 5% of patients.⁸ An anorectal abscess typically presents with pain that is constant and throbbing in character and exacerbated by ambulation and straining. This is consistent with the present patient as she experienced constant pain that fluctuated in waves of intensity, and she had difficulty ambulating due to pain. Swelling, erythema, fever, and a fluctuant mass are additional signs and symptoms that may be present.⁸⁻¹⁰

Abscesses are classified according to their anatomical location in the potential anorectal spaces formed by the inner and outer layers of the pelvic floor musculature: perianal (most common), ischiorectal, intersphincteric, and supralelevator (least common).⁹⁻¹² The ability of these abscesses to track circumferentially through the anorectal spaces around the anus or the rectum can result in the formation of a horseshoe abscess⁹⁻¹¹, as was the circumstance in the present case. Timely aggressive surgical treatment under anesthesia, as done in this case, is advised to avoid prolonged morbidity and ensure low re-

currence rates.¹³ Consequences of delayed or inadequate treatment of an anorectal abscess may be severe or even fatal. If not drained, an abscess may spread and result in fistula formation, bacteremia and sepsis, and/or tissue necrosis.^{8,12,13} Given the susceptibility of colitis patients to anorectal complications, structural origins for chronic anorectal pain, such as an abscess, should be prioritized accordingly when considering differential diagnoses with these patients.

For many patients with chronic anorectal pain, the source of the pain cannot be definitively explained by a specific pathophysiological mechanism¹, and these cases are commonly defined as functional anorectal disorders.^{4,7,14-16} The absence of conclusive diagnostic biological markers for these functional gastrointestinal conditions has led to the development of the Rome diagnostic criteria for functional gastrointestinal disorders, that recognizes two forms of functional anorectal pain: chronic proctalgia and proctalgia fugax.⁴ A diagnosis of chronic proctalgia is made based on a history of chronic or recurring episodes of rectal pain, each lasting 20 minutes or longer, and exclusion of other causes of rectal pain. This criterion is fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis.¹⁷ Chronic proctalgia is further characterized into two subtypes, levator ani syndrome and unspecified functional anorectal pain, based on the presence or absence of reported tenderness during posterior traction on the puborectalis musculature.¹⁷ This taxonomy reflects the dominant hypothesis regarding the pathophysiological basis of levator ani syndrome, which is chronic tension or spasticity of the pelvic floor musculature.^{1,3,16} These pain syndromes pose many diagnostic challenges for clinicians¹⁵, largely owing to considerable overlap of their symptoms, frequent coexistence, unknown etiology and pathogenesis, as well as unpredictable prognosis¹⁸. Consequently, a comprehensive differential diagnostic process in which worrisome considerations are systematically excluded should be the foundation for an accurate diagnosis.^{1,18}

Obtaining a detailed history of a patient with chronic anorectal and/or perianal pain is a vital component of the clinical interaction. This is especially relevant for clinicians whose scope of practice may limit the performance of certain diagnostic techniques or procedures on these patients, such as chiropractors operating in a predominantly musculoskeletal environment. Billingham and col-

1) Where does it hurt?	7) Does anything make the pain better?
2) When does it hurt?	8) Does anything make the pain worse?
3) When did the pain start?	9) Is the pain associated with other symptoms, such as rectal bleeding?
4) How long does the pain last?	10) Do bowel movements make the pain better or worse?
5) What is the character of the pain?	
6) Does the pain radiate or travel?	

Figure 4.
System-based approach to the history for patients with anorectal pain⁹

leagues⁹ advocate for a system-based approach in the assessment of anorectal pain that incorporates specific questions necessary for guiding the physical examination and the decision-making process (Figure 4). The authors note that these questions are not exhaustive or inclusive, and supplementary questioning may be necessarily applied to the individual symptoms. It is critical to inquire about pain with defecation, as bowel movements are unlikely to be associated with functional anorectal pain (such as levator ani syndrome)^{2,4}, and in fact may even be relieving for patients with levator muscle spasms⁹.

Anorectal pain that begins intensely during a bowel movement that may persist for minutes to hours after defecation is characteristically associated with an anal fissure^{2,3,9}; whereas, pain that is constant and is not altered markedly by bowel movements is more typical of anal abscesses and thrombosed hemorrhoids⁹. A small amount of bright red blood on toilet paper or in the bowl during defecation is often associated with hemorrhoids; however, depending on the hemorrhoid severity, pain may not be a main feature.¹⁹ Moreover, if recurrent abdominal pain or discomfort is reported by the patient, along with changes in bowel habits (frequency and/or consistency of stools) and relief following defecation, a diagnosis of irritable bowel syndrome should be taken into account.^{3,4} A diagnosis of functional anorectal pain is also less likely if the pain is associated with eating or menses.⁴

A comprehensive examination that includes inspection and palpation is necessary in most instances to substantiate a diagnosis in cases of anorectal pain.^{2,4,9} The exam-

ination should begin with observation of the patient's gait and sitting habits, to identify guarding of a particular body region or side²⁰, followed by inspection of the perianal region for signs of structural disease. Specific signs may include the presence of sentinel piles or skin tags, fistulous opening, pain while gently parting the anterior or posterior perianal tissue, in addition to the detection of excoriations, scars, anal strictures or indurations.^{2,3,9} The patient must be fully informed of the practitioner's intent and provide explicit consent before the examination is carried out. Offering to have a guardian or chaperone (e.g. the clinic's administrative assistant) present for the examination will help facilitate patient comfort.

Following the external inspection, a digital examination should be included to evaluate sphincter tone, height and symmetry, as well as to palpate for masses and areas of tenderness.^{2,9} For some clinicians, performing a digital rectal examination may not be possible due to licensing restrictions; in which case co-management of these patients with an appropriate health professional must be established to ensure a complete examination of the area is carried out so as to guide management and the need for further diagnostic testing. Lab tests (such as complete blood count and erythrocyte sedimentation rate), anoscopy/proctoscopy, flexible sigmoidoscopy, and perianal imaging with ultrasound, MRI or CT scan may be necessary, contingent on the results of the history and examination.^{2,4,14}

Although not the primary focus of this report, specific therapeutic interventions for patients with functional and chronic anorectal and pelvic pain disorders may include manual or manipulative techniques. Frequently recommended treatments for patients with conditions such as levator ani syndrome and coccydynia include digital massage of the levator ani musculature and/or mobilization of the coccyx.²¹⁻²⁶ These procedures are typically performed intra-rectally to allow for better access to the intended structures; however, practitioners must be cautious that carrying out these interventions falls within their professional scope of practice to do so. In addition to the precautions that must be taken from a legal perspective, one must be mindful of the potential harms that may be done from administering certain manual therapies in the presence of unidentified structural pathology.

Summary

This case demonstrates the critical need for clinicians to employ broad differential diagnoses when encountered with patients who report anorectal or perianal pain. The evaluation of these patients can be challenging due to a diversity of causative factors. The patient in this case presented to an academic chiropractic clinic with severe chronic anorectal and perianal pain that was initially thought to be due to a functional anorectal disorder, levator ani syndrome. Her symptoms were ultimately the result of a perianal abscess which was treated operatively. Functional pain syndromes, such as levator ani syndrome, are common and debilitating conditions; however, these disorders should be regarded as diagnoses of exclusion and considered only after a thorough evaluation has been performed to rule out structural causes of pain.

Acknowledgment

The authors thank Dr. Karen Ngo for her contribution to this manuscript.

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