Dysmenorrhea, or painful menstruation, is a common cause of acute pelvic pain that affects approximately two-thirds of women who are postmenarchal in the United States. Dysmenorrhea pain is frequently severe enough to disrupt daily activities and often accompanied by other symptoms, such as diarrhea, nausea, vomiting, headache, and dizziness. Primary dysmenorrhea is likely due to an excess of prostaglandins and is traditionally treated with nonsteroidal anti-inflammatory drugs and hormonal therapy. Secondary dysmenorrhea can have multiple origins and requires targeted therapy. Currently, musculoskeletal dysfunction and psychosocial factors are not listed as causes of secondary dysmenorrhea. The authors present a case in which the cause of secondary dysmenorrhea was thought to be related to both musculoskeletal dysfunction and emotional stress. Osteopathic manipulative treatment and lifestyle changes helped resolve secondary dysmenorrhea.

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of manual therapy. Furthermore, psychological and social issues should be considered with other secondary causes because of the connection of mind and body.

There we present a case of adult-onset, nongynecologic secondary dysmenorrhea that resolved using a holistic approach with both osteopathic manipulative treatment (OMT) and management of psychosocial factors. We propose that these 2 elements should be included as part of the treatment of patients with secondary dysmenorrhea.

Report of Case

A 32-year-old female medical student presented to our osteopathic medicine center in October 2017 with back and hip pain. At the time of her presentation, the pain was so severe that she considered missing classes. Three weeks later, at her second visit, she disclosed the onset of dysmenorrhea during the previous week. Although her back and hip pain resolved after 2 visits and OMT sessions, the patient was seen during the next 5 months for continued dysmenorrhea described as “horrible pain and crampingness” that lasted several hours per day for up to 1 week in the perimenopausal period.

The patient’s gynecologic history before dysmenorrhea was normal, with menarche at age 12 years, 28-day cycles, 4 to 5 days of regular flow, and nondebilitating, mild colicky pain that did not interfere with her daily activities. She had never been sexually active. She had normal pelvic examination and Papanicolaou test results in September 2017. She regularly tracked her periods with a smartphone application and noted that the only significant change to her periods was the severity of pain experienced. Of note, her older sister had severe grade 3 dysmenorrhea for most of her adult life, which was resolved with hysterectomy after unsuccessful treatment with hormonal therapy. With the exception of her sister’s dysmenorrhea, her medical and family histories were noncontributory.

According to the verbal, multidimensional scoring system for the assessment of dysmenorrhea, she reported being grade 0 or 1 before October 2017. She progressed to grade 2 during October and November and worsened to grade 3 in December. She then improved to grade 2 in January and was finally back to her predysmenorrhea baseline by March 2018 with nondebilitating, mild colicky pain that did not interfere with her daily activities.

The patient reported no significant physical trauma except for an adductor strain before symptom onset. The only abnormal historical information reported was stress from first-year medical school coursework and living with a roommate during the 4 months prior to presentation. As a self-described introvert, she noted that her living situation added a lot of psychological stress to her life.

The review of systems was notable for a 12-pound weight loss from July 2017 to February 2018 that was accompanied by decreased appetite and inconsistent eating habits. She also reported headaches, lumbar back pain, changes in mood (eg, “feeling short with people”), mild breast tenderness, nausea, diffuse abdominal pain, constipation, and diarrhea during these dysmenorrheic periods. She denied menorrhagia, oligomenorrhea, intermenstrual bleeding, mittelschmerz, bloating, vomiting, dysuria, urinary retention, vaginal discharge or irritation, and dyschezia. She was advised to follow up with a primary care physician for further evaluation of symptoms.

Clinical Findings

The patient had normal cardiopulmonary, neurologic, and abdominal examination results. The osteopathic structural examination results showed considerable asymmetries of the occipitoatlantal joint, thoracic spine, lumbar spine, sacrum, and innominate bones throughout treatment. A right-side superior shear of her ilium and a left-on-left sacral torsion during dysmenorrhea were consistently found. The patient had a decreased cranial rhythmic impulse early in the course of treatment, accompanied by hypertonicity in the suboccipital muscles.

Therapeutic Intervention

The patient received 6 OMT sessions that took place over 5 months (Figure). The patient was treated with techniques that were tailored to each specific SD, including myofascial release, strain-counterstrain, soft
tissue, muscle energy, suboccipital release, abdominal plexus release, and joint articulation. Throughout treatment, we discussed outside stressors and counseled the patient on the importance of adequate caloric intake and aerobic exercise. As a result, she implemented mindfulness meditation and yoga on a weekly basis. Her irregular eating was an effect of stress and improved when she implemented the other lifestyle changes.

The patient’s pain improved, and there was a decrease in the severity of SD throughout the 6 OMT sessions. Her back and hip pain resolved within the first 2 OMT sessions, but her dysmenorrhea persisted. Her last 2 OMT sessions focused on relieving pelvic and sacral restrictions using balanced ligamentous and balanced membranous tension of the entire pelvic bowl, including the pelvic diaphragm. We also focused on alleviating psychological stressors, which included ending her co-living situation. After OMT and making lifestyle changes, the patient had normal menstrual periods without dysmenorrhea. By February 2018, she had only mild cramps that lasted for 10 to 20 minutes at a time, headache, fatigue, and some moodiness that decreased on the second day. In the following month, her moodiness resolved, her other symptoms were back to baseline, and her verbal multidimensional score was back to her baseline of grade 1. The patient confirmed that her dysmenorrhea symptoms remained at baseline in a 1-year follow-up interview.

Discussion
Given the timing of onset and relative ease of resolution, we attributed this patient’s adult-onset, severe secondary dysmenorrhea to SD of the pelvis and sacrum, which resulted in an imbalance of the ANS. Psychosocial stressors, via the hypothalamic-pituitary-adrenal axis, cause...
increased sympathetic tone and result in an imbalance of the ANS. This imbalance can have a negative effect on the function of organ systems, including the uterus via the sacral splanchnic nerves, which emerge from the sacral sympathetic trunks to join the inferior hypogastric (pelvic) plexuses. When the sacrum is distorted, asymmetrically torqued uterosacral ligaments also put mechanical stress on the uterus.

In our patient, pelvic and sacral SD seemed to increase somatovisceral reflexes in a system that was already hypersympathetic because of psychosocial stressors. These factors led to the increased autonomic neural tone of the uterus, uterine contractions, and reduced blood flow with resultant relative ischemia as uterine pressure exceeded arterial pressure. This function is supported by a historical method of correcting unresolved dysmenorrhea: performing presacral neurectomy to disrupt the connections between the neural plexi and the uterus. Our patient experienced considerable SD in the pelvis and sacrum, and OMT improved her symptoms.

In addition to OMT, the removal of psychosocial factors that contributed to her sympathetic hyperactivity helped resolve dysmenorrhea. There is a close association between emotional well-being and the severity of dysmenorrhea. With decreased stress through regular aerobic exercise, meditation, and an improved living situation, the patient was able to heal.

The results of this case are limited by unique musculoskeletal and psychosocial factors. Future studies could replicate OMT techniques to show that this was not an isolated case, continue longitudinal reassessment, and compare the efficacy of other treatment options, such as pelvic floor physical therapy, meditation, yoga, or other stress relievers with OMT.

Conclusion
This case suggests that SD and psychological factors should be considered during a secondary dysmenorrhea workup to help physicians provide appropriate and targeted treatment options. Physicians considering OMT for secondary dysmenorrhea management should examine and correct sacral and pelvic SDs when applicable. We also recommend managing cranial SD, particularly in the case of headaches, menstrual-associated migraines, or history of head trauma, to alleviate the effects of reciprocal tension membrane on the sacrum.

References

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