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CASE REPORT

Osteopathic approach to chronic constipation in Prader—Willi Syndrome: A case report

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Abstract Prader—Willi Syndrome is a genetic disorder resulting from the lack of paternal expression of the 15q11.2-q13 chromosome with an estimated prevalence of 1/10,000—1/30,000. Gastrointestinal complaints are common in patients with Prader—Willi Syndrome, with an estimated 25—30 percent of those suffering from constipation. This case report examines an 18-year-old female with Prader—Willi Syndrome who presented with the complaint of chronic constipation. The use of osteopathic manipulative treatment (OMT) resulted in a significant improvement of this patient's bowel function. The authors theorize that osteopathic manipulative medicine could be useful as an adjunct therapy to pharmacologic intervention for chronic constipation in patients with Prader—Willi Syndrome.

Introduction

Prader—Willi Syndrome (PWS) is a genetic disorder resulting from the lack of paternal expression of the 15q11.2-q13 chromosome. The estimated prevalence of this disorder is 1/10,000—1/30,000 births.[1] Characteristics of PWS include hypotonia, early-onset hyperphagia and obesity, intellectual disabilities, behavioral problems, hypogonadism,

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Implications for practice

- This case report examines an 18-year-old female with Prader—Willi Syndrome who presented with the complaint of chronic constipation.
- The use of osteopathic manipulative treatment (OMT) resulted in a significant improvement of this patient's bowel function.
- The authors theorize that osteopathic manipulative medicine could be useful as an adjunct therapy to pharmacologic intervention for chronic constipation in patients with Prader—Willi Syndrome.

small hands and feet, and short stature.[2] Inherently, gastrointestinal complaints are common in patients with PWS.[3] Schiemann[4] estimated that 20—35 percent of those with this disorder suffer from constipation. Often costly and ineffective, many of these patients rely on the use of stool softeners and laxatives for mild relief. Previous studies have demonstrated the effectiveness of manual medicine in treating constipation.[5—9] In this article, we report the case of a Prader—Willi Syndrome patient with chronic constipation whose bowel function improved following osteopathic manipulative treatment (OMT).

Report of case

The patient was an 18-year-old female with genetically confirmed Prader—Willi Syndrome complaining of chronic constipation. The patient was accompanied by her mother who served as the primary historian. Her mother stated her symptoms have been occurring for multiple years. Her frequency of bowel movements varied from daily to as little as two to three times per week. The patient reported significant straining and pain during bowel movements in addition to frequent rectal tenesmus. The patient also complained of occasional lower left quadrant pain and tenderness, typically occurring before and/or after a bowel movement. The use of laxatives, high fiber diet, and increased fluid intake had provided some benefit. Because of the unremitting constipation, the patient underwent a complete gastrointestinal exam in 2013 including upper and lower endoscopies. The upper endoscopic exam revealed an atonic and enlarged stomach ("watermelon-shaped") with a redundant esophagus (these findings are not uncommon in PWS patients). The lower endoscopy demonstrated mild rectal inflammation and small hemorrhoids. The remainder of both exams was otherwise normal. As previously stated, her past medical history was significant for Prader—Willi Syndrome in addition to a levoscoliosis of 67° for which the patient underwent a spinal fusion procedure in 2001 resulting in the fusion of spinal levels T3—T11 with bilateral titanium rod placement. The patient's surgical history was also significant for tonsillectomy with adenoidectomy in 1997, partial pharyngoplasty in 2006 and 2007, and wisdom tooth extraction in 2011. Her mother stated that the patient takes a multi-vitamin, 2000 IU D3, 1 mg Risperdal, 0.7 mg Nutropin AQ, 300 mg Ranitidine, 500 mg Magnesium Oxide supplement, probiotic, and Miralax daily. The patient was allergic to penicillin. No significant family history was reported. The patient lived at home with her parents (who serve as her full-time caregivers) and she attended a community-based program for young adults with developmental disabilities on a daily basis during the week. She stated that she has never used tobacco products, illicit drugs, or consumed alcohol. Aside from what is noted in the chief complaint and history of present illness, the review of systems was non-contributory.

In addition to the aforementioned gastrointestinal workup, the patient also brought records of recent laboratory studies performed by her primary care physician. Her CBC, chemistries, and lipid panel were within normal ranges except for an elevated GGT level of 131 (Normal: 0—60). This elevation was attributed to the patient's daily subcutaneous growth hormone injections.

The patient was alert, oriented, and did not appear in distress upon examination. Physical exam revealed a weight of 243.5 pounds (110.5 kg) and height 66 inches (167.64 cm). Vital signs included a blood pressure of 110/65 mm Hg, heart rate of 72, respiratory rate of 14, and a temperature of 37.1 °C. Cardiac auscultation demonstrated distinct S_1 and S_2 heart sounds with a regular rate and rhythm. No gallops, murmurs, or rubs were audible. The patient exhibited equal chest expansion and her lungs were clear to auscultation