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Osteopathic Treatment Consideration for Polyuria and Retching in a Soft Coated Wheaten Terrier- A Case Report

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ABSTRACT:

The purpose of this paper is to consider the effectiveness of osteopathic treatment of a 4-year-old female canine Soft Coated Wheaten Terrier exhibiting polyuria and retching. Through principles of osteopathic structural correction, this paper will show how functional changes were made to the patient. This paper outlines the collective mechanics observed during treatment and details application of treatment. It provides osteopathic diagnostic reasoning and thought process for treatment considerations and correlates treatment outcome.

KEY CLINICAL MESSAGE:

The reader will learn how osteopathic assessment and treatment is administered and the importance of the osteopathic principle stating structure (anatomy) and function (physiology) are interrelated. Osteopathic treatment removes restrictions and clears pathways to allow blood, (carrying oxygen, nutrients, waste products and hormones) and nerves to reach vital organs and target tissues. The soft tissues, such as muscles, tendons, ligaments, as well as the hard tissue (bone) are addressed to coordinate and integrate treatment. Lines of force are examined to determine the cause of dysfunction in the body and are removed through applying mechanical principles.

KEYWORDS:

Osteopathic treatment, Polyuria, Retching, Canine

INTRODUCTION:

The patient presented with unexplained weight gain, polyuria, retching and anxious behaviour. The patient received three treatments from June-August 2023. The initial visit consisted of a complete health history intake, assessment and treatment followed by a second treatment 4 weeks later and a third treatment three weeks later. The outcome to the treatments was positive. Structural alignment improved through the treatment of the bony framework and surrounding tissue, and tissue tension became more balanced. The symptom of retching stopped, and incidences of inappropriate urination decreased.

PRESENTING CONCERNS:

The canine patient is a spayed 4-year-old female Soft Coated Wheaten Terrier. She weighs 45lbs and is rated as 4/5 on the BCS. She is a family pet and lives in a household with a senior Havanese and a young Standard Poodle. She is moderately active and playful. She exhibits anxious behaviour daily. The patient presents with unexplained weight gain, incidences of retching, polyuria, polydipsia, and panting. She has been in the care of a veterinarian over the past two years for unexplained weight gain and polyuria. She was placed on a metabolic prescription food for weight loss and the owner was asked to monitor her water intake. After being on the prescribed food for 4 months, the patient lost 0.5lbs and the water intake did not change. This was determined to be insignificant weight loss, so the vet advised the owner to stop the prescription food. The patient is currently on a reduced-calorie high-grade kibble with a raw boost mixer for calming support. She is not given table food and is given limited, low-calorie

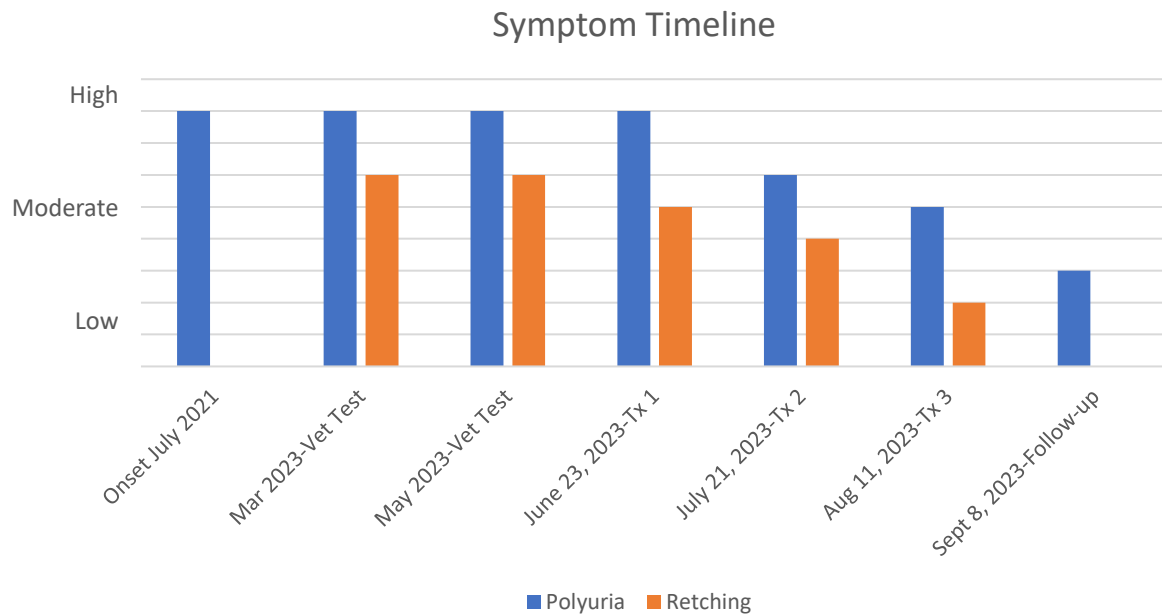
treats. Laboratory testing was conducted to rule out diabetes and thyroid dysfunction. Both tests resulted in negative findings. In March of 2023, the owner reported the patient started randomly retching without vomiting and not always after eating. After examination by the veterinarian, the owner was advised to soften dry kibble to aid swallowing and to prevent retching. The owner found this was mildly helpful but did not alleviate the retching. The frequent urination continued, despite frequent bathroom breaks. In May of 2023, the treating veterinarian suggested further testing for Cushings Disease (Hyperadrenocorticism). The general tests performed on the patient were a CBC, chemistry panel and urinalysis. The findings were unremarkable. A specific adrenal gland function test was then performed. The veterinarian administered a Low Dose Dexamethasone Suppression Test (LDDST). The results from this testing indicated the adrenal glands and pituitary gland were functioning normally and Cushings Disease was ruled out.

CLINICAL FINDINGS:

The patient was adopted as a pet at the age of 10 weeks. She was acquired from a reputable breeder and was 1 of 9 pups in the litter. A veterinarian had checked the parents for any health concerns, of which there were none. The patient was brought to a home that had a 7-year-old Havanese. The two dogs did not bond immediately. The Havanese was indifferent, and the patient was eager to make friends. Over the course of 6 months, the relationship between the two animals developed but was not playful. When the patient was 1.5 years old, a second puppy was introduced to the family, a 10-week-old Standard Poodle. The patient and this puppy bonded immediately. The patient attended basic puppy classes and obedience training. She was socialized during the first year and has a happy, friendly disposition. House training was difficult, and the patient had many accidents in the house, urination, and defecation. The

accidents diminished over time but have not entirely ceased. Over time, the owner has observed that the patient often appears anxious, exhibiting panting, licking, and pacing, caused by sound sensitivities such as a person sneezing, microwave beeping or car door closing. She also demonstrates intense behaviour along the property line as other dogs or people pass by.

TIMELINE:



DIAGNOSTIC FOCUS AND ASSESSMENT:

Treatment One, June 23, 2023, 10am.

Purpose of the initial visit was to assess structural alignment and tissue quality and to treat globally to reduce any lesioning or restrictions. Assessment on the long axis revealed the pelvis and the thoracic girdle to be positioned counterclockwise. Assessment on the vertical axis revealed the pelvis to be positioned counterclockwise. The upper dorsals were restricted in extension, preferring flexion when a spring assessment was applied. The dorsal and sternal

fascial preferred a cranial motion. Treatment started with the patient standing, using an indirect approach to the fascia of the thorax and sternum. The position was held until tissue softened. Reassessment at this region was done. Tissue moved caudally with greater ease and flexion and extension of the upper dorsal region was more balanced, although motion in the upper dorsal still preferred flexion. Reassessment of the pelvis discovered the counterclockwise positioning on the long axis corrected but the positioning on the vertical axis did not change. Treatment continued with the patient now seated. A direct approach to the dorsal and scapular fascia was applied, following the tissue in a caudad direction. The tissue on the right ventrum was more restricted but softened following the application of this direct approach. A final reassessment showed the counterclockwise rotation on the long axis of the thoracic girdle corrected, and the counterclockwise rotation on the vertical axis of the pelvis lessened slightly, surrounding tissue softened but did not correct completely. Treatment was intentionally shortened to acclimate the patient to therapeutic touch in an unfamiliar setting and to assess therapy tolerance. It was recommended the patient return for a second treatment in 4 weeks.

Treatment Two, July 21, 2023, 10am.

The owner reported the patient was sleepy post treatment and was not retching as often over the past month. The incidences of inappropriate urination decrease slightly. The purpose of treatment two was to assess structural alignment, tissue quality, to observe changes from previous treatment and to treat on a more intermediate and local level. The diagnostic considerations and thought process of this assessment and treatment was to perpend the relationship of the pelvic and thoracic framework to the fascia of the abdomen. It stands to reason that if the two girdles are positioned counterclockwise on the long axis, this would put a

tensional strain dorsally on the right and ventrally on the left of the abdominal wall. This tensional strain could interfere with the mechanics, vessel supply and nerve conduction to the digestive and urogenital systems. Assessment on the long axis revealed the pelvis and the thoracic girdle to be positioned counterclockwise. This was the same finding as in assessment one. Although treatment did make some corrective changes, it did not hold between treatments. Assessment on the vertical axis revealed the pelvis to be positioned counterclockwise and the thoracic girdle to be positioned clockwise. The upper dorsal gave good and equal motion when a spring assessment was applied. The lumbar vertebrae were caught in extension, with very little motion obtained through springing. The abdomen was assessed. The tissue pulled dorsally on the right with a tensional strain running from left to right on the ventrum. Treatment started with the patient standing. A direct and intermediate approach to the muscular line from the forelimb to the lumbar spine was applied using the latissimus dorsi. A fulcrum was applied at the lumbar spine while the tissue was taken caudally and held until a release of tension was detected. Following this, an indirect and intermediate approach was taken, similarly using a fulcrum at the lumbar spine, utilising the gluteus muscles to move the tissue in a cranial direction. This was held until tissue softened. A reassessment of the vertical axis of both the pelvic and thoracic girdle was done. The counterclockwise rotation of the pelvis corrected as did the clockwise rotation of the thoracic girdle. A gentle oscillation of the spine was then used to integrate the upper and lower girdles. Reassessment by springing of the lumbar vertebrae revealed the motion increased and the extension pattern had decreased. To address the tensional strain through the abdomen, one hand was placed broadly over the dorsum of the patient and a second hand was placed gently on the abdomen. A balanced approach was taken on a fascial level until the tissue felt to be less under tension. Careful attention was used to not press into the abdomen. At this

point, the patient decided she was done with treatment. Upon leaving the treatment area, she went outside and urinated. It was recommended the patient return for a third treatment in 3 weeks. The shortened time frame was to ensure the patient maintained correction of the lesioning pattern.

Treatment Three, August 11, 2023, 10am.

The owner reports the frequency of urinary accidents have decreased but are still occurring and that the incidences of retching have decreased significantly. The owner also reports the patient appeared calmer and less anxious for five days following treatment. The purpose of this treatment was to assess and treat the lesion pattern as it evolves, to investigate any new lesions that may have been uncovered and to continue to connect lesion patterns to the patient's symptomatic picture. The diagnostic considerations and thought process of this assessment and treatment was to examine the relationship between the cervical spine, anterior neck, and sternal region of the patient. It stands to reason if there is a bony misalignment from the occiput through the axis (C2) and cervical vertebrae, the thoracic ring and sternum, there will be restrictions in soft tissue through the tracheal region. This could interfere with the mechanics of swallowing, vessel supply and nerve conduction to the area. Assessment on the long axis revealed the pelvis and the thoracic girdle to be level. Assessment on the vertical axis revealed the pelvis to be positioned counterclockwise and the thoracic girdle to be positioned relatively level. The upper dorsals gave good and equal motion when a spring assessment was applied. A spinal sweep was performed and found the lumbar vertebrae were side bent to the right. With a springing assessment, the lumbar vertebrae were slightly caught in extension; however, motion was much better than in previous treatments. The abdomen was assessed. The tension left to right across

the ventrum was reduced compared to the previous treatment. It was noted the line of tension now runs cranial to caudal, preferring a cranial glide. A more local assessment was done of the thoracic girdle and neck, paying close attention to the ventral surface. The sternal tissue on the right showed restriction and preferred a cranial motion. This line of tension followed down the medial right forelimb. Careful assessment of the axis (C2) was done, which presented as a counterclockwise rotation. The remainder of the cervical spine was side bent to the left.

Treatment started with the patient standing. Using a global and superficial approach to the fascia, treatment started at the thoracic girdle. One hand was placed on the dorsum and the other on the ventrum, following the glide of the fascia. Once the fascia released, a deeper pressure was applied following the dorsal line of the trapezius and the ventral line of the pectoralis until a balance was felt. From a seated position, fascial release was applied to the right forelimb using an indirect approach turning the tissue cranially, then a direct approach, turning the tissue caudally. Reassessment revealed the sternal and forelimb tissue restrictions were removed.

Seated treatment continued to the cervical region. Using a superficial approach, one hand was placed on the dorsum of the neck and the other on the sternum. A gentle caudal pressure was applied. Once the fascia was engaged, an intermediate approach was taken. Following the line of the cleidocephalic and sternocephalic muscles, a fulcrum was held at the sternum and the muscles were taken caudally. The muscles of the oral diaphragm were also treated by placing the thumb and thenar eminence along the mandible. The patient actively assisted this movement by pressing down into the fixed point. Reassessment showed the positioning of the axis (C2) corrected and the cervical side bend dissipated. The thoracic girdle tissue was softened. The ventral tissues had also softened. To finish treatment, in a standing position, a gentle oscillation was applied along the spine using a fixed point at the lumbar apex. The abdominal tissue was

reassessed. The cranial to caudal line of tension had diminished, and tissue moved caudally with ease. It was recommended the patient return for a fourth treatment in 4 weeks. This appointment proved to be difficult to schedule as the owner's schedule did not allow time.

FOLLOW-UP AND OUTCOMES:

The diagnostic considerations moving forward would be to monitor areas of concern, particularly the ventral neck and thoracic sling as well as the lumbar region and abdomen. The bony lesion in the lumbar spine is situated over the kidney field. This bony lesioning could be mechanically restricting arterial flow and nerve conduction, and could be causing mechanical strain of muscles, ligament, and fascia in this region. This can also cause the abdomen to be unbalanced which can put stress on other abdominal organs, such as the bladder. This is an important consideration with this patient, as frequent urination has been an ongoing concern. Similarly, these principles apply to the thoracic and ventral neck regions. Bony lesioning in the cervical region can cause muscular and fascial strain which can alter function and supply to the oesophagus and trachea. Again, an important consideration for this patient, as retching has been an active concern. At the 4-week mark when the patient was to have a fourth treatment, the owner reported the retching had stopped completely and the excessive urination had decreased significantly. The patient had one incident of inappropriate urination. The owner and veterinarian had discussed a behavioural component as a possible contributing cause for the urination issue as laboratory tests had been inconclusive. The owner indicated the veterinarian suggested further testing regarding the weight gain and urination to rule out diabetes insipidus.

DISCUSSION:

One limitation to this case is the timeline. A longer course of treatment is needed to further address some of the presenting concerns. Spinal lesions and subsequent tissue response reflexively travel to the organ field and as some of the symptoms experienced by the patient are metabolic in nature, a lengthier course of treatment would be indicated to potentially see results. Another limitation to this case is that the patient is still in the process of a diagnosis from the veterinarian. The initial concern of unexplained weight gain was not addressed in the three treatments. A medical diagnosis could be helpful in determining the mechanism of dysfunction and therefore could help with forming an osteopathic treatment plan. The anxious behaviour exhibited by the patient is also still under investigation. With the short timeframe of treatment given, it hasn't given enough time to explore these concerns osteopathically. Moving forward with treatment, cranial and parasympathetic approaches would be considered to help reduce the sympathetic state the patient appears to be in.

In conclusion, osteopathic treatment has addressed the patient's initial concerns of retching and excessive urination. Through assessment and treatment of the bony framework and surrounding tissue, structural alignment improved, and tissue tension became more balanced. The symptom of retching the patient initially presented with, ceased completely and the polyuria frequency diminished. This is a positive outcome to treatment and shows how important the relationship between anatomy and physiology is. Making correction to the structural components of the patient, had an impact on the digestive and urogenital systems as well as on her overall well being and mood. This case study can be helpful to other owners who are experiencing similar concerns with their canine. It can inform them of the benefits of osteopathic treatment as an additional course of treatment in conjunction with the medical care of a veterinarian.

REFERENCES:

H.-G. Liebich, and H. E. Konig. Axial Skeleton. Chapter 2., Respiratory System. Chapter 9.

H.-G. Liebich, J. Maierl and H. E. Konig. Fasciae and Muscles of the Head, Neck, Trunk. Chapter 3., Forelimb and Thoracic Limbs. Chapter 4., Hindlimbs or Pelvic Limbs. Chapter 5., Statics and Dynamics. Chapter 6., Urinary System. Chapter 10.

H. E. Konig, P. Sotonyi, H. Schopprt and H.-G. Liebich. Digestive System. Chapter 8. In: Horst Erich Konig, Hans-Georg Liebich eds. *Veterinary Anatomy of Domestic Animals*. 7th ed. Stuttgart, Germany: Georg Thieme Verlag KG, 2020.

Thomas Colville. The Skeletal System. Chapter 7., The Respiratory System. Chapter 15.

Angela Beal. The Urinary System. Chapter 18. In: Thomas Colville, Joanna M. Bassert. Authors. *Clinical Anatomy and Physiology for Veterinary Technicians*. 3rd ed. St. Louis, Missouri: Elsevier, Inc., 2016.

Harriet Brooks. Disorders of Cell/Tissue Growth. Chapter 8. In: Harriet Brooks. Author. *General Pathology for Veterinary Nurses*. Chichester, West Sussex, UK: Blackwell Publishing, 2010.

Michael L. Kuchera, D.O., FAAO, William A. Kuchera, D.O., FAAO. Prof/Auth. Base knowledge of osteopathic principles. In: *Osteopathic Principles in Practice*. Revised 2nd ed. Kirksville, Missouri, Dayton, Ohio: Greyden Press, LLC, 1994