ANXIETY AND GERD: REVERSING THE THERAPEUTIC ORDER TO HEAL THE ROOT CAUSE

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The Therapeutic Order is a hierarchy of naturopathic modalities and therapeutic interventions based on centuries of observation of the natural healing process.[1] In many cases, gastroesophageal reflux disease (GERD) is a condition that can be eloquently treated using the Therapeutic Order (Table 1). GERD, which affects 10-20% of adults in the Western world on a weekly basis,[2] is globally defined as a condition that develops when the reflux of stomach contents causes troublesome symptoms and/or complications.[3] It most commonly presents as heartburn, regurgitation, pain when swallowing, increased salivation, and/or coughing.[4] Functionally, it is caused by an impairment in the lower esophageal sphincter, which can be triggered to open by both hyper- and hypochlorhydria.[3] When untreated, GERD may progress to Barrett's esophagus, a precursor of esophageal cancer.[4,5]

Table 1. The Therapeutic Order[1]

1. Establish the conditions for health	· Identify and remove disturbing factors · Institute a more healthful regimen
2. Stimulate the healing power of nature	· Recognize the *vis medicatrix naturae* · Expose oneself to patterns, rhythms, forces of nature
3. Address weakened or damaged system/organs	· Strengthen the immune system · Decrease toxicity · Normalize inflammatory function · Optimize metabolic function · Balance regulatory systems

	· Enhance regeneration
	· Harmonize with one's life force
4. Correct structural integrity	· Use physical manipulations
5. Address pathology	· Use specific natural substances, modalities or interventions
6. Address pathology	· Use specific pharmacological or synthetic substances to preserve life, limb, and function
7. Suppress or surgically remove pathology	· Necessary for preservation of life and limb

Studies have long shown that GERD can lead to anxious moments and increased levels of stress and fatigue. However, emerging epidemiological research suggests that the association between anxiety and functional disorders of the gastrointestinal tract, including functional dyspepsia and GERD, is actually bidirectional.[2, 6, 7] In other words, underlying anxiety is a risk factor for developing these conditions.

A case of GERD is presented here that when treated revealed a root cause of a long history of generalized anxiety disorder (GAD). GAD affects up to 30% of the population, is frequently co-morbid with other medical conditions, and is often underdiagnosed and undertreated.[8] In this case, optimal therapeutic management and symptom resolution was accomplished by reversing the Therapeutic Order (treating the GERD symptomatically first, prior to addressing the underlying anxiety), which established a strong foundation for healing the root cause.

PATIENT PRESENTATION & HISTORY

A 31-year-old Caucasian woman, M.C., presented to the Robert Schad naturopathic teaching clinic in May 2015 after being given a diagnosis of GERD from her medical doctor the previous January. She had been prescribed a proton-pump inhibitor and felt some improvement from it, but stopped after 4 months because she was uncomfortable with the idea of being on pharmaceutical medication indefinitely. Instead, she conducted her own research on natural approaches to GERD, which led to experimentation with dietary changes and self-supplementation with probiotics, digestive enzymes, melatonin, deglycyrrhizinated licorice (DGL), slippery elm, and apple cider vinegar.

Noticing an 80% reduction in symptoms with the apple cider vinegar, she was alerted to the possibility that she had hypochlorhydria, and came to the clinic seeking medical supervision for a hydrochloric acid challenge test and a possible prescription for betaine hydrochloride (HCl).

The patient began experiencing discomfort in her throat and epigastric region in December 2014. She described this as a tight burning pain in her chest moving up to her vocal cords, and said she could almost feel the lower esophageal sphincter open at these times. The burning pain was often accompanied by burping. An endoscopic exam to assess for Barrett's esophagus and a urea breath test for *Helicobacter pylori* were both negative. There were no other digestive concerns or symptoms. She noticed aggravation after drinking coffee or beer, and after eating red meat or fried food. At the time of the first visit, she was consuming a diet that eliminated self-identified trigger foods, as well as most dairy products, black tea, and sugar.

She was of normal weight for her height, and with respect to exercise, attended yoga class twice a week and walked frequently. She had never smoked, and reported drinking 1-3 alcoholic beverages a week.

Past medical history included asthma, for which she utilized fluticasone and albuterol inhalers as needed, seasonal allergies, and 3 spontaneous pneumothoraces as a child. There was no family history of gastrointestinal disease; however, anxiety and depression were present on her mother's side. She was happily employed as an elementary school teacher, but the onset of GERD corresponded to several months of working in a difficult political environment. Despite this, the patient said that her stress "wasn't that bad," and that she decompressed through yoga, reading, and spending time with her partner and friends.

Physical exams revealed a blood pressure of 120/80 mm Hg, a heart rate of 80 beats per minute, and a respiration rate of 14 breaths per minute. Bronchovesicular sounds were present on auscultation of the lungs, and resonance was heard. No extra sounds were heard on auscultation of the heart, and S1/S2 was rhythmic and regular. Bowel sounds were present in all 4 quadrants of the abdomen, and there was mild guarding on deep palpation of the upper left quadrant. The patient was not pale, and there was no evidence of peeling nails, halitosis, or dilated capillaries on the face, all of which may indicate severe hypochlorhydria.[9]

DIFFERENTIAL DIAGNOSES

Clinically, GERD is a spectrum that can be classified into a group of syndromes that mirror the different manifestations of reflux disease.[4] Patients can be diagnosed based on typical reflux symptoms alone. Differential diagnoses of hiatal hernia, esophagitis, and peptic ulcer disease could be ruled out based on the lab tests ordered by her primary care physician, as well as her noted improvement in symptoms using the proton-pump inhibitor and apple cider vinegar. Our intake and exams supported the presence of "typical reflux syndrome," defined as the presence of troublesome heartburn and/or regurgitation, epigastric pain, and possible sleep disturbance.[4]

MANAGEMENT PLAN

The patient was extremely organized and well focused throughout the entire first visit. She was conscientious about her health and well read on the subject of GERD and the difference between hypochlorhydria and hyperchlorhydria. She was frustrated by the fact that her physician would not take seriously her suggestion that she might have hypochlorhydria. She was eager to take control of her condition, but at the same time respectful of the need to have medical supervision moving forward.

When asked about specific goals, she expected betaine HCl to lead to a 100% reduction in symptoms. Then, she could wean off the supplement and move on with her life. Although stress and anxiety as a root cause of GERD were strongly indicated, she was resistant to that suggestion and preferred to focus on HCl supplementation. The HCl challenge test and subsequent betaine HCl supplementation (500 mg) were thus prescribed, with the goal of building rapport and trust with the patient. The underlying goal was that physical improvement and an ultimate desire to be supplement-free would lead to the patient being open to working through a deeper level of exploration in order to remove obstacles to cure, specifically by directly addressing underlying stress and anxiety. Our complete treatment plan can be seen in Table 2.

Table 2. Successful Reversal of the Therapeutic Order

	8. Suppress or surgically remove pathology	· N/A
January – April 2015	9. Address pathology using pharmaceutical or synthetic substances	· Prescription of proton-pump inhibitor to suppress symptoms of GERD
May 2015	10. Address pathology using natural substances, modalities or interventions	· Prescription of betaine HCl to address hypochlorhydria as a cause of GERD (500 mg)
	11. Correct structural integrity	· N/A

July – August 2015	12. Address weakened or damaged systems or organs	· Supplement of DGL (400 mg) and slippery elm (1 tbsp powder) to support weaning off HCl · Botanical prescription (as a tea) of *Lavandula angustifolia*, *Urtica dioica*, *Passiflora incarnata*, and *Melissa officinalis* to relieve anxiety at work and prevent subsequent GERD symptoms (from RSNC clinic dispensary)
July – September 2015	13. Stimulate the self-healing mechanisms	· Acupuncture of Li4, Lv3, and Yintang points to calm the mind
July 2015 – ongoing	14. Establish the conditions for health	· Identification of core beliefs and connection between thoughts and physical sensations · Reprogramming of thoughts that do not serve · Fine-tuning diet and exercise for both GERD and stress relief

FOLLOW-UP VISITS & EXPOSING THE ROOT CAUSE

Follow-up Visits 1 and 2

The first follow-up was 2 weeks after initiation of care. The HCl challenge test revealed that 4-5 tablets of HCl prior to eating resulted in full resolution of all GERD symptoms. The patient was very pleased. When probed about how experiences at work factored into to her symptoms, she admitted that while food was no longer a trigger, stress at work still was. Six weeks after her initial visit, the patient had tried weaning down to 2-4 HCl tablets with each meal, and was frustrated that the burning symptoms returned.

Once again, stress was asked about and she admitted that despite being off work for the summer, she was already feeling anxious about returning in September. She screened positive for the questions, "In the past 4 weeks have you been bothered by feeling worried, tense, or anxious?" and "Are you frequently tense, irritable, and having trouble sleeping?" According to Canadian clinical practice guidelines, these symptoms indicate GAD.[8] It was discussed with her that naturopathic medicine could help address stress, and she admitted feeling anxious for as long as she could remember. It was suggested that counseling and/or cognitive behavioral therapy (CBT) could be used to identify core beliefs. The patient consented to 4 sessions over 8 weeks. The decision was made to combine counseling with an acupuncture protocol (Li4 and Lv3, to open the gates and promote general *Qi* circulation,[10] and Yintang, to calm the mind).

Follow-up Visit 3

At the beginning of this follow-up visit (4 weeks later), the Mind over Mood Anxiety Inventory[11] was administered. The patient scored a 20, indicating moderate anxiety. She relaxed into the acupuncture and quickly paved a route through the "hot thoughts" contributing to her core belief: "If something bad happens, it is my fault, and people will get hurt. It means that I am not responsible." This translated into her personal life (being unable to leave the house without checking the stove, electric devices, and door multiple times due to fear of fire and robbery), as well as her career (daily ruminating thoughts about how her students were performing and how her teaching skills compared to others). She was taught how to complete a thought record, and asked to journal her findings over the next 2 weeks.

Follow-up Visit 4

One week later, the patient was discouraged. She had meticulously journaled in her thought record, but could not prevent a situation that resulted in an emotional breakdown and severe GERD symptoms. She was frustrated with herself for "not recognizing that she needed help sooner" and for letting her anxiety develop to the degree that it had. Like many patients with GAD, her anxiety produced a positive feedback loop leading to more anxiety. It was affirmed how quickly she was making independent revelations about herself and how her thoughts connected to her physical symptoms. She once again expressed a desire to wean off the HCl. It was advised that she try, and it was recommended that she supplement with DGL (400 mg) before meals if necessary.

Follow-up Visit 5

Two weeks later, the patient once again scored a 20 on the Anxiety Inventory. Nevertheless, she reported feeling more empowered and could identify how thoughts connected to sensations in her body (shallow breathing, increased heart rate). She recognized that she was becoming emotionally vulnerable and open with her partner. She was beginning to feel "comfortable with being uncomfortable," successfully completed exposure-therapy homework, and was dedicated to creating daily mantras to help reprogram hot thoughts. She revealed that she looked forward to her acupuncture sessions, and found them very calming.

Follow-up Visit 6

At the final session before returning to work (2 weeks later), there was a marked change in the patient's demeanor and body language. She was open and relaxed, and wondered out loud why she was attracting more positive energy and smiles from people on the street. When the Mind over Mood Anxiety Inventory was re-administered, the patient scored a 12, indicating a shift from moderate anxiety to low anxiety.

Most importantly for her, there had been no episodes of GERD, and she was down to utilizing only 1 tablet of HCl with large meals, and 2 tablets of DGL if necessary. Although proud of her advancements, she expressed concern that she would fall into old patterns when the school year started in September. She was prescribed a tea with equal parts *Lavandula angustifolia*, *Urtica dioica*, *Passiflora incarnata*, and *Melissa officinalis* from the clinic dispensary, with instructions to steep a pot in the morning and drink it throughout the day when she connected anxious thoughts to physical sensations in her body.

Follow-up Visit 7

Two weeks later, in mid-September, the patient returned to the clinic and reported 0 episodes of GERD since returning to work 2 weeks prior. She found this to be remarkable. There had been no need to increase the HCl and DGL, and she admitted that although she had been skeptical that the tea would have much effect on her mood, she thoroughly enjoyed it. In fact, she noticed that the smell of the tea alone was a gentle reminder to breathe and ground herself. She was feeling capable and positive about the rest of the school year, and marveled at the fact that situations that used to send her into a spiral of repetitive thoughts no longer bothered her.

DISCUSSION

A patient presented with a chief complaint of GERD, which was diagnosed based on symptomology[4] and lab tests ruling out more serious pathology. The symptoms of GERD resolved with betaine HCl supplementation. However, when the patient tried to wean down to a lower dose, her symptoms returned. Furthermore, regardless of the dose, she only experienced exacerbations during times of stress. This suggested that there was an underlying possible differential diagnosis of GAD. When brought to the patient's attention through screening[8] and the Mind Over Mood Anxiety Inventory,[11] she was willing to accept the possibility that the root cause of her discomfort was anxiety, and opted to continue treatment with a CBT and acupuncture protocol.

Chronic stress, as experienced in GAD, can lead to a disruption in the hypothalamic-pituitary-adrenal (HPA) axis.[12] Chronic stress is also associated with an elevated risk of hyphchlorhydria.[9] Therefore, it is logical to hypothesize that stress and anxiety management can often improve GERD caused by hypochlorhydia. The efficacy and effectiveness of CBT for anxiety disorders is supported by many years of research.[13] CBT operates on the model that thoughts, feelings, and behaviors are interrelated. It targets distorted and maladaptive thoughts, and by identifying "hot thoughts," examining the evidence for and against hot thoughts, challenging and changing maladaptive thoughts, and altering problematic behaviors through exposure therapy, patients can learn to change maladaptive behavior.[13]

The natural history of GERD remains undetermined.[4] The patient responded quickly to betaine HCl supplementation, though her GERD symptoms were not being managed by her current supplementation protocol of 1 HCl tablet per day and 2 DGL tablets before large meals. However, the fact the patient reduced her intake of HCl so dramatically over the course of 8 weeks while stress was at an ever-increasing level suggests that the majority of her GERD symptoms decreased due to management of her anxiety. Over the course of 4 treatments, the patient moved from a score of 20 (moderate anxiety) to 12 (low anxiety) on the Mind Over Mood Anxiety Inventory. As a result, she now experiences a much higher quality of life in all respects.

Many new patients visit naturopathic doctors simply wishing to receive a natural alternative to pharmaceutical treatment. The patient in this case was initially unaware of the root cause of her GERD, and it is likely that more aggressively suggesting that anxiety was the root cause of her symptoms could have overwhelmed her and decreased her compliance with any treatment. As such, being cognizant of the Therapeutic Order but not bound to it meant that the patient could be guided through a powerful healing experience that led to a remarkable improvement in her anxiety, and consequently, almost complete resolution of her GERD. This patient was extremely compliant and dedicated to healing, which contributed to her rapid improvement. She continues to come to the clinic on a monthly basis to reaffirm her mindset and to stay on track with self-care.

CONCLUSION

Stress is often indicated in presentations of GERD, but this case evolved in a way that supports a bidirectional relationship between anxiety and functional gastrointestinal disorders. Naturopathic doctors are trained to observe a hierarchy of healing; traditionally, the Therapeutic Order is what sets them apart from conventional medical doctors. Although the first goal is always to remove obstacles to cure at the onset of treatment, this patient was unable to acknowledge the presence and significance of her anxiety. This case demonstrates that a practitioner must evaluate the unique needs and healing requirements of the specific patient and situation, and lends credibility to the principle of modifying the Therapeutic Order when necessary.

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