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ORIGINAL RESEARCH

Treatment of spasmodic vomiting and lower gastrointestinal distress related to travel anxiety

Richard W. Seim*, C. Richard Spates and Amy E. Naugle

Department of Psychology, Western Michigan University, MI, USA

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Abstract. Gastrointestinal distress is a common symptom of anxiety. While these symptoms are usually transient and not severe, in some cases they can cause significant impairment. This report details the treatment of a 45-year-old male who presented with symptoms of diarrhoea and vomiting which occurred every time he travelled more than 10 miles away from his home. These symptoms arose suddenly and without warning, and on at least two occasions the vomiting was so severe that it caused the patient to vomit blood. Due to this problem, the patient had developed agoraphobia which had affected his life for over 15 years. The patient was treated in 14 sessions which involved educating him about gastrointestinal reactivity and having him perform a series of emotional tolerance, opposite-action, and real-life exposure exercises. After receiving treatment, the patient embarked on a series of vacations and business trips, all without experiencing diarrhoea or vomiting, and a follow-up assessment showed that the treatment gains were maintained 1 year later.

Key words: Agoraphobia, irritable bowel, travel anxiety, vomiting.

Theoretical and research basis

Gastrointestinal (GI) distress is one of the most common symptoms of anxiety in humans (Beck *et al.* 2005). This distress is due to reduced parasympathetic activity, causing a cessation of peristalsis and reduced blood flow to the alimentary canal as the autonomic nervous system of the anxious person prepares for a 'fight-or-flight' response. Typically, this response induces a stomach ache or mild nausea; however, in some individuals, the anxiety can cause more severe problems including diarrhoea and vomiting (Mayer *et al.* 2001). These problems are compounded when the individual develops a fear of experiencing future attacks of diarrhoea or vomiting, creating a vicious cycle of experiencing anxiety, experiencing GI problems, and then experiencing more anxiety (Mayer *et al.* 2001). Over time, this cycle can exacerbate an individual's GI symptoms causing them to avoid situations where escape would be difficult or embarrassing (Golden, 2007). In some cases, the physical symptoms can become so great that they lead to the vomiting of blood.

*Author for correspondence: Mr R. W. Seim, Department of Psychology, Western Michigan University, 3700 Wood Hall, Kalamazoo, Michigan 49008, USA. (email: richard.w.seim@wmich.edu)

Although this phenomenon is understood, there is currently little data showing how it may be treated. While cognitive-behavioural interventions have been developed for the treatment of panic disorder and somatic anxieties (e.g. Barlow *et al.* 1989; Clark *et al*. 1994, 1999), much of the empirical support for these treatments is based on patients suffering from anxiety related to cardiopulmonary activity. In addition, while interventions have been developed for the treatment of anxiety-induced diarrhoea, there are currently no documented methods for treating individuals who suffer from anxiety-induced vomiting. Yet, the need for effective treatments for this distressing problem is also required.

Case summary and history

'T.C.' was a 45-year-old, Euro-American male who presented with anxiety-induced vomiting and diarrhoea which occurred every time he travelled more than 10 miles from his home. These symptoms began in the late 1980s after a prolonged period of physical stress culminating in severe feelings of nausea. T.C.'s nausea soon led to gastric spasms and uncontrollable vomiting which lasted for over an hour until he began vomiting blood and had to be taken to the emergency room. There, he was administered an anti-emetic medication intravenously and was monitored for the next several hours under the suspicion that he had contracted a virulent strain of norovirus (commonly known as 'stomach flu'). During the next 2 years, T.C. experienced two panic attacks triggered by work-related stress, and each of these attacks resulted in him suffering from diarrhoea and vomiting. Finally, in 1991, T.C. experienced an un-cued panic attack and vomiting while vacationing with his family in another state. This led to fears that he would purge himself to death, therefore T.C. was eventually taken to a hospital after blood appeared in his vomit and his gastric spasms did not remit. For the next 16 years, every time T.C. left his home town (a total of seven trips), he experienced severe vomiting or diarrhoea coupled with frightening dissociative experiences (depersonalization and derealization), and, correspondingly, he began avoiding travelling and visiting unfamiliar places. After several medical screenings, including upper and lower endoscopies, ruled out the possibility of appendicitis, ulcers, reflux, gallstones, or alimentary tumours, T.C. was referred for cognitive behavioural therapy.

Case assessment

T.C. recounted no history of anxiety or GI problems outside of this issue, and his scores on the Beck Anxiety Inventory (BAI) and the Beck Depression Inventory (BDI) indicated no signs of recent anxiety or depression. However, T.C. met DSM-IV-TR (APA, 2000) criteria for panic disorder with agoraphobia according to the Anxiety Disorders Interview Schedule (ADIS-IV; Brown *et al.* 1994), and he indicated that he has 'always been a shy person' who feared the negative evaluations of others.

T.C. stated that he was extremely embarrassed by his GI symptoms and his anxiety about travelling, and he feared that if others knew about his problem, they would see him as a weak or deeply flawed individual. Because of this, T.C. took measures to ensure that no one other than his wife knew about his symptoms, and he refused to discuss his anxiety with anyone. He indicated that whenever he experienced any GI sensations, he would immediately try to leave the people he was with and go to an area where no one could see him. There, he

would sit down, wrap his arms around his body, stop communicating with others, and try to imagine positive images in order to temper his anxiety and avoid vomiting or dissociating. T.C. reported that this tendency was very distressful to his wife, as she often felt isolated and helpless whenever he was nervous.

T.C.'s problems should not be confused with emetophobia. He had no fear of vomiting; only the fear that, if he did vomit while he was away from home, he would not be able to stop it without endangering or embarrassing himself.

Therapist details

The assessment and treatment of this case was conducted by a 29-year-old, Euro-American male who was completing his doctoral training in clinical psychology. The therapist had received training in cognitive-behavioural therapy and received weekly face-to-face clinical supervision from a licensed psychologist and university professor.

Case formulation

Based on this assessment and a thorough clinical interview, it was hypothesized that T.C.'s symptoms manifested in the following manner: Whenever he experienced even mild GI sensations (e.g. peristalsis, gas, indigestion) he became fearful that these events meant that violent vomiting spasms and diarrhoea were imminent. To cope with this distress, T.C. would engage in both overt and covert avoidance strategies (e.g. fleeing the situation, refusing to talk to others, mental distraction). However, when these strategies proved to be largely ineffective, he would become even more anxious, and this anxiety would exacerbate his physical symptoms – turning mild GI distress into wrenching cramps. Compounding the problem was the fact that T.C. was unwilling to discuss his symptoms or his concerns with loved ones; thus limiting his sources of support during episodes and potentiating the fear-eliciting value of unfamiliar contexts.

Course of therapy

To halt this cycle of GI distress, anxiety, and avoidance, the following treatment strategies were employed.

Psychoeducation

Because he believed his GI 'attacks' came on suddenly and without warning, the first session involved teaching T.C. to identify the prodromal stages of the attacks and to learn that his anxiety did not always portend vomiting and diarrhoea. With the help of the therapist, T.C. identified the following sequence of symptom escalation that occurred when he travelled:

Level 1: anxiety about being in an unfamiliar surrounding, fear of becoming sick.
Level 2: loss of appetite, bodily weakness, inability to relax, urge to pace.
Level 3: pain in stomach, churning intestines, diarrhoea.
Level 4: shallow breathing, derealization, and vomiting or retching every 15 min.

The early sessions of the treatment also focused on normalizing many of the somatic sensations T.C. was worried about. Using both didactic and Socratic methods, the therapist helped him to recognize the paradoxical nature of emotional control strategies and to understand that all individuals experience occasional GI distress, especially when their sleeping, eating, and activity schedules are altered, such as when travelling.

Emotion recognition and tolerance exercises

After this, efforts were untaken to help T.C. feel less reactive to distressful thoughts and bodily sensations. Instead of spiralling into a 'fear of fear' cycle, T.C. was instructed to set aside three 10-minute periods every day to mindfully observe his emotional states. During these periods, T.C. was taught to identify a recent incident in his life that was mildly distressing, to notice his feelings of anxiety, and to accept these feelings and the somatic sensations that occasion it as natural, non-pathological events. Over time, T.C. practised these skills with more distressing thoughts until he became skilful at recognizing his anxiety-related cognitions before he experienced somatic symptoms. T.C. then practised experiencing these thoughts without engaging in safety behaviours or avoidance strategies. Towards the end of treatment, T.C. was able to view his emotions and internal states as reliable facts of life, not things to be dreaded.

Opposite-action exercises

The therapist also worked with T.C. to identify the maladaptive behaviours he typically emitted during his GI attacks. T.C. then practised doing the opposite of these activities during subsequent attacks. Instead of curling his shoulders forward and taking shallow breaths when feeling anxious, he practised sitting up straight and taking deep breaths. Instead of withdrawing from others and not communicating when experiencing prodromal panic symptoms, he began initiating conversations and he talked about his physical sensations with loved ones. T.C. stated that these opposite-action techniques helped him to feel less lonely when he felt anxious and less ashamed about his problem.

Real-life exposure exercises

To help extinguish his fear reactions, the majority of the intervention involved T.C. travelling greater distances away from his home. Due to the physical severity of some of his previous travelling experiences, T.C. was encouraged to bring a cell phone and maps of nearby hospitals with him during his initial treatment-based travels. These devices were made available to help T.C. calmly and proactively respond to uncontrollable vomiting episodes, should any occur. However, T.C. was forbidden from using any anti-anxiety or anti-diarrhoeal medicines during his travels.

All exposure tasks were collaboratively identified and agreed upon by T.C. and the therapist. The first exposure required T.C. to travel 20 miles from home and stay there for 30 min. Subsequent exposures involved taking day trips to various cities, visiting airport lobbies, and taking his family to a crowded amusement park. The final exposure required T.C. to take a 9-day vacation at a resort town 1200 miles away from his home.

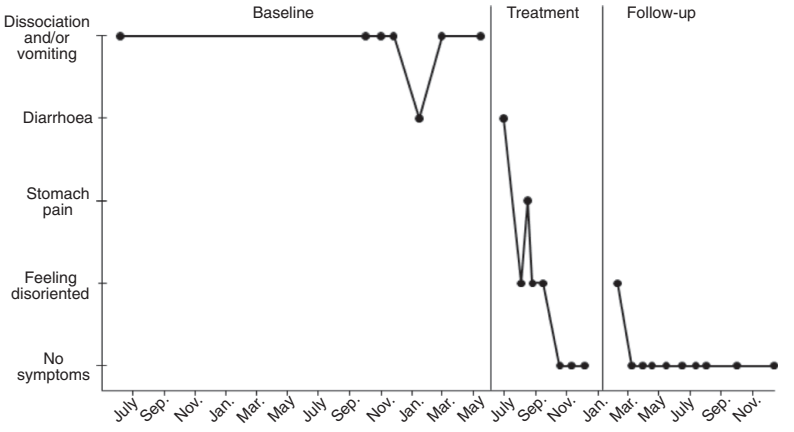

Fig. 1. Somatic symptoms experienced while travelling during a $3\frac{1}{2}$ year period.

Innovations in therapy

Due to the unique sequelae of symptoms presented by the patient, rather than adhering strictly to one specific treatment manual, this intervention utilized several techniques culled from well-established treatments. Thus, this case introduces no novel form of treatment. Rather, it demonstrates how unusual somatic symptoms with a seemingly organic aetiology may be ameliorated through a psychosocial intervention. This case also demonstrates the portability of the cognitive-behavioural approach – that empirically supported techniques united by a firm case conceptualization can be idiographically applied to treat symptoms that may not have been specifically studied before.

Case management considerations

Because this intervention was relatively brief and resulted in immediate decreases in symptomatology, it is likely to be well-received by managed care providers. While this treatment employed a series of real-life exposures, the therapist did not accompany T.C. out of town but, instead, was available via telephone. The success of this approach depended on T.C. being willing to adhere to and stay consistent with these exposures. It is likely that a less motivated patient would not do as well without a therapist attending the exposure sessions. This could produce scheduling and cost difficulties in some managed care settings.

Follow-up

T.C. reported experiencing immediate benefit from the 14 sessions of treatment he received, and his progress was monitored for 1 year. After the last therapy session, he was able to travel to an out-of-state resort town and enjoy the tours and rollercoaster rides with his family. He has since taken numerous trips, all without experiencing diarrhoea or vomiting (see Fig. 1).

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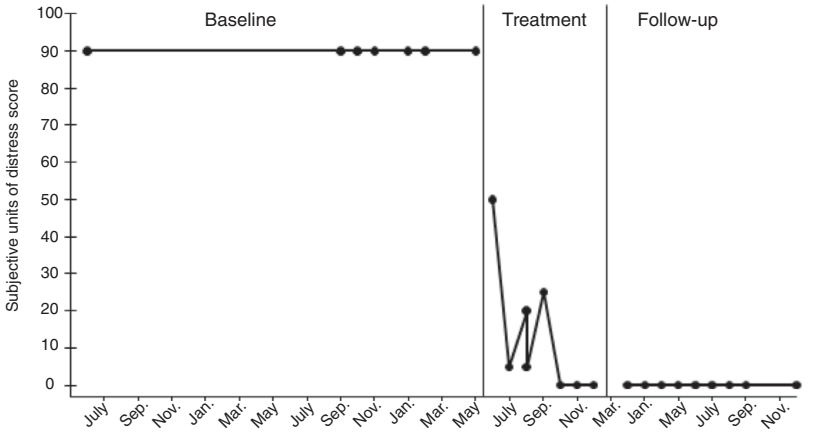

Fig. 2. Subjective anxiety experienced while travelling during a $3\frac{1}{2}$ year period.

Even more important was the change in T.C.'s overall quality of life. Since receiving treatment he has been able to travel to other cities to attend sporting events with his friends, he has resumed his hobby of snowmobiling, he was able to go on numerous vacations with his wife and daughter, and he was also able to visit his parents at their home – something he had not done in over 15 years. In addition, during a period when his company was going through a significant downsizing, T.C. was able to make himself a greater asset to his employers by travelling to New York City to attend a training seminar and by expanding his range of clientele by travelling to other cities around his state.

The final follow-up assessment revealed that the treatment gains were maintained 1 year after the final treatment session (see Fig. 2) and that T.C. no longer met criteria for agoraphobia. He stated that, while before he was unable to travel more than a few miles from his home and was unwilling to go to unfamiliar places, he now travels out of town at least once a week on business trips, and he seeks out new opportunities at work instead of avoiding them. His wife added that the treatment 'gave [her] husband back [to her]' and she no longer feels housebound. Treatment satisfaction was measured using the Distress/Endorsement Validation Scale (DEVS-III; Devilly, 2004). Results indicated that T.C. found the intervention only mildly distressing (3 out of 9 points) and mildly exhausting (2 out of 9 points) and that he was very satisfied with the treatment and would recommend it to others (both 9 out of 9 possible points).

Therapy implications

This case demonstrates how panic disorder and agoraphobic symptoms can arise from a fear of almost any unpredictable somatic event, including GI problems, and that the initial triggering event of such problems need not be due to a hypersensitivity to cardiopulmonary activity, as in the majority of panic attacks. In addition, although the cause of T.C.'s original bouts of diarrhoea and vomiting is unknown, this case demonstrates how GI problems can be exacerbated by a patient's anxiety and maintained through avoidant behaviours. When this is the case, the focus of treatment should be to reduce the patient's behavioural and experiential

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avoidance, not to directly target his/her GI symptoms. By normalizing the GI reactivity through psychoeducation and helping the patient learn to be mindful rather than obediently reactive to anxiogenic thoughts, cease engaging in avoidant behaviours, and confront his/her fears, the patient's quality of life can be restored and the psychosomatic conditioned reflexes can be extinguished.

Recommendations to therapists

When a case presents with unusual or potentially dangerous somatic symptoms (such as vomiting spasms), it is important that therapists first ascertain that a medical evaluation has been performed. Patients presenting with such concerns will have probably explored several medical explanations and treatments for their problems. However, in some cases, the patient may be too fearful or embarrassed to seek medical advice, and therapists should encourage the patient to explore all factors related to his/her condition.

If organic pathologies have been ruled out, therapists should consider the role of cognitive, emotional, and contextual factors in their case formulation. While somatic concerns may not always present as a prototypical case of panic disorder, they are likely to be moderated, if not mediated, by avoidant behaviours, fearful apprehension, and over-reliance on safety signals. When this is the case, therapists are advised to normalize the patient's problem (i.e. noting that others have suffered and recovered from similar conditions), and to help him/her see that such symptoms may not occur as automatically and spontaneously as s/he might initially believe. Instead, therapists should suggest that these symptoms may be due to a sequence of mental and physical activities, some of which the patient can influence.

Finally, it is recommended that therapists avoid guaranteeing immediate symptom relief from treatment. To do so may cause the patient to overly attend to the moment-by-moment presence of his/her symptoms during the exposures, and this type of rumination is exactly what the therapy should discourage. Instead, it may be helpful to introduce the intervention as a way of helping the patient engage in valued activities (e.g. resuming hobbies, vacationing with family members) while gradually reducing his/her sensitivity to certain contexts.

Declaration of Interest

None.

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Learning objectives

(1) To document a case characterized by unusual somatic symptoms that have received little attention in the treatment outcome literature.
(2) To demonstrate how these symptoms, which may at first seem to have an organic aetiology, may be maintained or exacerbated by maladaptive patterns of thinking and behaving.
(3) To present a different symptomatological presentation of a well-studied disorder (i.e. panic disorder with agoraphobia).
(4) To show how empirically-supported techniques may be applied to an atypical presentation of such a disorder.