

CASE REPORT

To encourage other practitioners to consider submitting a case report for the E-News, we have restructured the format in line with recommendations from July 2014 and have left in the key guides – should you be interested just email info@nutri-link.co.uk We will send you the word doc.

Case reports are professional narratives that outline the diagnosis, treatment, and outcomes of the medical problems of one or more patients. Information from case reports can be shared for medical, scientific, or educational purposes. They provide a framework for early signals of effectiveness adverse events, and cost. Case reports and the systematically collected data from which they are written also provide feedback on clinical practice guidelines.

Case Report of 17-year old's recovery from fatigue, emotional sensitivity & low confidence, & very painful menstrual pains with Nutritional Therapy

Abstract. *Summarise the following information if relevant: (1) Rationale for this case report, (2) Presenting concerns (eg, chief complaints or symptoms, diagnoses), (3) Interventions (eg, diagnostic, preventive, prognostic, therapeutic exchange), (3) Outcomes, and (4) Main lesson(s) from this case report.*

For the past year, Miss H.G. had been suffering with increasing fatigue and emotional ups and downs (mostly downs) and had lower confidence than ever. She also suffered very painful cramps and pains particularly on the first day of her monthly menses. After visiting her GP and having blood tests there were no abnormalities identified and the prescribed pain killers had no meaningful effect.

Miss H.G.'s life had ground to a halt due to her fatigue and she had become emotionally withdrawn. She attended college and then came home and did nothing for the rest of the day. She and her mother had both wondered if it was purely emotional or only physical, but nothing seemed to make a difference. Her work was suffering, and her previously busy social life was now non-existent.

Fatigue is one of the most common symptoms experienced by those attending a GP appointment, with 25% quoted in one study in 2002¹ and as much as 78% in an Australian 2015² study. However, it was recognised in this study that there is no published literature describing the management of patients with fatigue by general practice (GP) registrars.

Within the UK, it was recognised in 2003³ that there are many patients who complain of chronic fatigue but who do not meet the criteria for Chronic Fatigue Syndrome (CFS), but there is no formal record of the prevalence of fatigue of a non-CFS type.

The NHS identify the 10 most common causes of fatigue to be as follows:

¹ Cullen W, Kearney Y, Bury G. Prevalence of fatigue in general practice. *Ir J Med Sci.* 2002 Jan-Mar;171(1):10-2. [View Abstract](#)

² Morgan S Et al. Investigation of fatigue by Australian general practice registrars: a cross-sectional study. *J Prim Health Care.* 2015 Jun 1;7(2):109-16. [View Abstract](#)

³ Darbishire L, Ridsdale L, Seed PT. Distinguishing patients with chronic fatigue from those with chronic fatigue syndrome: a diagnostic study in UK primary care. *Br J Gen Pract.* 2003 Jun;53(491):441-5. [View Full Paper](#)

1. Coeliac Disease
2. Anaemia
3. Chronic Fatigue Syndrome
4. Sleep apnoea
5. Underactive thyroid
6. Diabetes
7. Glandular Fever
8. Depression
9. Restless Legs (causing poor sleep, leading to tiredness)
10. Anxiety

These causes will be addressed in the body of this case report, but in short, none appear to be relevant to H.G.

Dysmenorrhoea

Dysmenorrhoea is simply defined as the occurrence of painful cramps during menstruation. Dysmenorrhea is a common menstrual complaint with a major impact on women's quality of life, work productivity, and health-care utilisation. The prevalence of dysmenorrhea reported in the literature varies substantially, but a summary view is that more than half of all girls and women suffer from dysmenorrhea (cramps), a dull or throbbing pain that usually centres in the lower mid-abdomen, radiating toward the lower back or thighs. Menstruating women of any age may experience cramps.

A 2014 published study cited evidence of a greater prevalence being observed in young women, with estimates ranging from 67% to 90% for those aged 17–24 years⁴. This would include the 17-year-old H.G., the focus of this case report.

While the pain may be only mild for some women, others experience severe discomfort that can significantly interfere with everyday activities for several days each month.

Dysmenorrhea is called "primary" when there is no specific abnormality, and "secondary" when the pain is caused by an underlying gynaecological problem. It is believed that primary dysmenorrhea occurs when hormone-like substances called "prostaglandins" produced by uterine tissue trigger strong muscle contractions in the uterus during menstruation. However, the level of prostaglandins does not seem correlate with how strong the cramps are.

Secondary dysmenorrhea may be caused by endometriosis, fibroid tumours, or an infection in the pelvis.

The likelihood of cramps increases if there is a family history of painful periods, she leads a stressful life, if there is too little exercise, uses caffeine, or has pelvic inflammatory disease (P.I.D.). H.G. does not have P.I.D. and nor does she have regular caffeine. She does not exercise now, due to her fatigue, and lack of inclination to do anything at all.

The 2014 study identified various factors as contributing to menstrual cramps with increased severity of dysmenorrhea suggested to relate to age, smoking, higher body mass index, earlier age at menarche, nulliparity (not having had any children), longer and heavier menstrual flow, and family history of dysmenorrhoea. Women using oral contraceptives generally report less severe dysmenorrhea. Depression and stress have also been shown to increase the risk of dysmenorrhoea. These latter two could certainly apply to Miss H.G.

⁴ Ju H, Jones M, Mishra G. The Prevalence and Risk Factors of Dysmenorrhea. *Epidemiol Rev* (2014) 36 (1): 104-113. [View Full Paper](#)

Low self-esteem in teenagers

This appears to be a growing problem, especially in teenage girls. In a survey reported in The Guardian the overall proportion of those surveyed who were not happy with their looks rose to 33% this year, from 29% last year and 26% two years ago⁵. Although most across the surveyed group report being happy most of the time, 24% of the 16- to 18-year-olds say they are not very or at all happy, far more than last year's 14%.

Low self-esteem is more than an unpleasant feeling. It takes a toll on lives. The US National Association for Self-Esteem cite that 70% of girls believe they don't "measure up" or aren't "good enough" in some way, including physical appearance, school performance and relationships. This Association has linked low self-esteem to a number of negative behaviours among teens, including:

- Poor academic performance
- Teen pregnancy
- Dropping out of school
- Earlier sexual activity
- Criminal behaviour
- Alcohol and drug abuse
- Cutting
- Disordered eating

However, this list hardly applies to Miss H.G.; it would appear that there are only limited factors within this list that would even be relevant to Miss H.G. This helps to highlight that there may well be other factors involved, including her nutritional status or something related to her food and the way it makes her feel.

Key Words. *Provide 3 to 8 key words that will help potential readers search for and find this case report.*
Fatigue, tiredness, dysmenorrhoea, self-esteem.

Introduction. *Briefly summarise the background and context of this case report.*

Miss H.G. is a 17-year-old currently in her first year of A levels at college. She has led what her mother calls a very normal life, without any extremes of behaviour or experiences. She has engaged in and done what most other children her age have done. She has had a good circle of friends and been popular throughout her schooling.

H.G. is one of three teenage children in what is a close family. Up until a year or so ago, Miss H.G. had appeared quite normal and engaged in work and sports and social activities with friends just as many of her classmates and friends did. She worked very hard for her GCSEs and performed very well by all accounts. Her exam grades were very good with 6 As and 4 Bs. However, she was disappointed with the Bs. On reflection it was noted, before the results came through in August 2016, there were already signs that H.G. was not her usual self.

Since the GCSE exams which finished in June 2016, H.G. has not had the same level of energy. At first, it was thought that it was a natural post-exam dip. However, the dip never recovered and only got deeper. Her menstrual cramps became much more severe, resulting in 2 days in bed and at the same time, her confidence and willingness to go out with friends or socialise or even contact her friends has diminished. When we met in

⁵ www.theguardian.com: [Growing number of girls suffer low self-esteem, says report](#)

February 2016, everything had become a vicious cycle: fatigue, low self-esteem, and then the worsening menstrual cramps made her feel even lower.

H.G.'s older sister and her mother had no issue with dysmenorrhoea so there is no obvious family history. H.G. did not have any illness or 'flu' in the months preceding the onset of her fatigue. The only obvious lifestyle factor was the stress of her GCSEs, and this was a mixture of external and internal pressure. H.G.'s elder sister, now 19 years old, had achieved straight A's in her GCSEs and A levels, and perhaps there was an expectation within H.G. to do as well.

The medical assessment revealed nothing out of the range, and any medical intervention for the cramps, including pain killers, NSAIDs incl mefenamic acid, had no meaningful effect on the cramps and caused some abdominal discomfort of a different kind to the cramps.

H.G.'s mother was very concerned about her daughter's health and well-being and it had taken a steel will to get H.G. to attend the first appointment. H.G.'s mother was friends with another patient of mine whose daughter had been helped tremendously with a change in diet and specific supplements. We all really hoped that nutritional therapy could offer a way forward for H.G.

Needless to say, H.G.'s academic work and performance had suffered at the start of her first year of A levels, and this was a definite secondary concern.

Presenting Concerns. *Describe the patient characteristics (eg, relevant demographics—age, gender, ethnicity, occupation) and their presenting concern(s) with relevant details of related past interventions.*

Miss H.G. appears entirely free of any physical health concerns, and stands at 5' 4" (162.56 cms) and weighs 8 stone 2 lbs (50.67 kg). She is pale, and her mother observed this more in the past year than previously. She had dark rings around her eyes and on closer observation did appear tired, particularly after having an hour's conversation with her. She had dulled responses and seemed detached from the process of the appointment.

H.G. was 17 years old in December 2016. She is Caucasian and lives in the south of England with her family, and attends college, which is a 15 min bike ride or bus journey from home, where she studies for her A levels.

Fatigue is a constant for H.G. and she cannot recall the last time she experienced a day or an hour in a day even when she felt good. Her mother observed that even if H.G. had experienced some better energy, then she believed that H.G. would not be able to recall it, because she felt so down. Improving her energy was the first and most important health goal.

Low self-esteem had developed out of the fatigue, believed her mother. The lack of social contact, the inactivity and possibly repeated stress of not getting the GSCCE grades she had wanted persisted every day since June 2016. H.G. was in a bad place and in a rut, it was acknowledged by her mother and H.G. although H.G.'s response was delayed and distant as if she were describing someone else, as if she was in neutral and could not get herself into gear. It was felt that if H.G.'s energy improved then she would come out of her shell and then improve on an emotional level.

Next of concern, was the severe menstrual cramps which made her feel exhausted and depressed. Her mother did not think or believe that the source of her daughter's health issues lay in a psychological depression which warranted SSRIs medication or psychotherapy. However, we did acknowledge that as the months had gone by, some talking therapy could very well serve H.G. so that she had the right kind of support. Her college had been

very understanding but attendance was one thing and ongoing assessment marks were another; she was virtually 100% in terms of the former and performing poorly in the latter.

In summary then, there were 3 simple health goals:

1. To improve energy
2. To feel good again, and to have confidence back
3. To be free of menstrual cramps

Clinical Findings. *Describe: (1) the medical, family, and psychosocial history including lifestyle and genetic information; (2) pertinent co-morbidities and relevant interventions (eg, self-care, other therapies); and (3) the physical examination (PE) focused on the pertinent findings including results from testing.*

In early July 2016, H.G. had been taken to her GP who had recommended a blood test, the results of which were discussed two weeks later at the end of July. There were no abnormalities in the test results, and I was shown a copy. There were no indications on any level of anaemia from the haematology markers. Her TSH was 2.45 which is a little higher than the current ideal level of 1.0-1.2. However, the thyroxine (T4) nor Free T4 was assessed, and nor were thyroid antibodies. No other marker was even at the upper or lower end of the conventional reference ranges.

In her next visit to the GP, due to unrelenting fatigue and emotional flatness and menstrual cramps, the GP recommended a blood test for Coeliac's Disease, which assessed for HLA DQ2 / DQ8 Genotype and Tissue Transglutaminase 6. These results, which were negative, came back at the end of August 2016. For this reason, there had not been any reason to change her diet or avoid wheat or gluten grains.

In early November 2016, with H.G. now struggling to do anything more than attend college, which she was still keen to do, they visited the GP again. He conducted a physical examination, with blood pressure, which was on the low side, and could not identify anything wrong. He suggested that he could refer her for a neurological examination and a psychiatrist but both were declined. The GP was not able to offer any further assistance.

H.G.'s mother had bought some multi vits and ginseng in an attempt to improve H.G.'s energy but this had not had any effect. By Christmas time, H.G. had spent almost 6 months in a poor state of health which had made her mother weep from time to time. H.G. had 3 appointments with an acupuncturist after which she felt was good but only for a few hours and after that no benefits were evident, so that was stopped.

Her condition had affected the whole family, as might be imagined, and it was upsetting everyone at home, especially because there seemed to be nowhere to turn. A friend of H.G.'s mother had been to see me the year before for her daughter who was the same age as H.G. and so an appointment was made. The first appointment was postponed because H.G. simply could not face going anywhere and we ultimately met for the first in February 2017.

A review of H.G.'s dietary patterns revealed a very regular consumption of wheat, but virtually no other gluten grains. Egg on toast or beans on toast were the most commonly eaten breakfast, sometimes with a croissant and sometimes she had a wheat breakfast cereal. She typically ate a sandwich or baguette or pasta at lunch, with spaghetti or pasta at dinner. If she ate any snacks they were either biscuits or some toast. You could hardly make it up as to how often she ate wheat, and in its varied forms.

I re-presented this information to H.G. and her mother, and whilst the forms of wheat were mostly in their “whole” form, I explained that nonetheless, this could very well be a food which was having negative consequences in H.G.

I also explained, with the help of referencing Dr Loren Cordain’s work⁶, that the nourishment factor in wheat was low, and that by eating more variety H.G. could achieve a higher nutritional intake whilst omitting the food which may elicit more negative responses than any other.

We then discussed possible tests to conduct and the list included thyroid antibodies to rule out an auto-immune thyroid condition, a salivary cortisol test, an organic acid test to give a reflection of overall metabolism and the energy cycle and the gut microbiome and neurotransmitter levels. We also discussed the possibility of verifying an adverse immunological response to wheat and gluten. I then learned that H.G. could not abide blood tests as she had a real fear of needles. That she had had the two previous tests with the GP last year was quite enough for her.

In discussing her diet, I asked permission to ask frank questions, and was given the go ahead. I asked about her eating habits and there was no evidence of an eating disorder of any kind, and I was told by both mother and daughter that they were very aware of how common this was, but it had not ever been something which had affected H.G. She had also never engaged in any self-harm habits. She had not had a falling out with a boyfriend and was not struggling with any bullying.

Interestingly, H.G. did not have strong cravings for any particular food or carbs or sweets, and only if they were put in front of her would she eat them. In my experience, I often find patients with food reactivity or sensitivity have distorted cravings.

H.G.’s sleep appeared to be sufficient at least, in that she got to be in bed by 11 pm and then woke up, groggy and fatigued, at about 7 am, more often with the alarm than not. She felt unrefreshed when she woke up, which made her feel unexcited about the day ahead, to say the least.

Timeline. *Create a timeline that includes specific dates and times (table, figure, or graphic).*

H.G. was born in 1999, and had been a healthy child, suffering from the same childhood illnesses as her older sister and then later her younger brother.

She had been a bright student at primary school and enjoyed all sports on offer. She had a normal height and weight and there was nothing remarkable about her.

In secondary school, she had needed to adjust to a larger class and bigger school environment but had remained very much the same girl that her mother had always known her to be. She did get anxious about exams, but this seemed to be par for the course, as all her friends felt the same.

There were many one-off experiences and life lessons in her early teens but nothing radical and nothing that laid a foundation for what followed her GCSEs in May and June 2016. Stress during the mocks, and then during revision and then during the exams was the obvious precursor to her current fatigue state. Even though her friends experienced the same, none of them appeared to be having any ongoing or lingering effects from that high pressure time.

⁶ Loren Cordain’s [Cereal Grains: Humanity’s Double-Edged Sword](#)

At the age of 17, since the summer of 2016 and for about 8 months, H.G.'s life had shrunk to the monotonous bus journey to school (she was too tired to cycle), attending classes the information from which she could not retain, and then travel back home to sit or lie in her room, incapable of doing much. She did not have the energy or inclination to go outside. Her friends did come around to support her and be with her, but she was not able to instigate activities or meet-ups. She did join the family for the evening meal, but it was clear to them that their daughter and sister was a pale version of her former self.

Diagnostic Focus and Assessment. *Provide an assessment of the (1) diagnostic methods (eg, PE, laboratory testing, imaging, questionnaires, referral); (2) diagnostic challenges (eg, financial, patient availability, cultural); (3) diagnostic reasoning including other diagnoses considered, and (4) prognostic characteristics (eg, staging) where applicable.*

We had the discussion about lab tests providing some insights into what was going on inside of H.G.'s body. Her mother was keen, as was her father, to get some evidence of something wrong that could be corrected.

I summarised the known factors affecting H.G.'s health and we recognised that we could exclude quite a number of factors. She could be lacking in energy nutrients and lacking in cortisol. She could have an excess of something which was promoting an inflammatory reaction in her body which led not only to fatigue but also to reduce brain function and motivation. She could have a virus which had led to her fatigue, something I identify in clinic on a weekly basis, even when there is no evidence of having had an infection in the preceding months.

We discussed the negative gene test that had been an indicator of the absence of Coeliac Disease, and I introduced the subject of Non-Coeliac Gluten Sensitivity and explained how the body could react to diverse proteins within gluten that was not solely dictated to by a genetic inheritance.

As with others, it was decided that H.G. would engage in an exclusion diet which would require a change in about 50% of her total calories and affect each meal and virtually every snack.

I also explained that it was possible that due to the exam stress that her mucosal immunity could have been reduced and in this state it would be more likely for food sensitivity to develop.

We sat with this proposal for a few minutes and could not find any immediate fault with it.

Therapeutic Focus and Assessment. *Describe: (1) the type(s) of intervention (eg, preventive, pharmacologic, surgical, lifestyle, self-care) and (2) the administration and intensity of the intervention (eg, dosage, strength, duration, frequency).*

In the recognition that we could proceed with conducting some functional lab tests if there was no improvement within H.G. and with no better theory as to why H.G. was suffering with fatigue as she was, I made the firm recommendation to avoid all wheat and gluten, in case it was gluten and not just wheat (i.e. WGA – wheat germ agglutinin) that was the provocative agent. I recommended this to be followed for 6 weeks, and for us to be in touch after 21 days, half way through this time for a brief review.

We briefly discussed gluten free alternatives and I gave them some resources on gluten free shopping and eating and referred them to a few cookbooks. I emphasised healthy eating as opposed to straight swaps with "Free From" GF alternatives because those foods are not nutritionally dense and I wanted H.G. to eat more vegetables and good quality proteins.

I recommended 3 supplements in the first instance; an active B vitamin formula for energy, for neurotransmitter support, and a liver-supportive fat emulsifying supplement in phosphatidyl choline which can also provide some support for the gut lining, and a magnesium malate formula to help support energy as well as help temper the N-methyl-d-aspartate receptor in the central nervous system which could then support neurotransmitter balance and possibly improve mood too⁷.

First Supplement Programme	
Bio-3B-G (BRC)	3 with each meal
Phosphatidyl Choline (ARG)	2 with lunch & dinner
Magnesium Malate Forte (ARG)	1 with each meal, but increase to 2 with each meal one week before menses

We made an appointment for 6 weeks hence, and booked in a telephone appointment for 21 days after H.G. commenced the programme.

In that telephone call, I learned enough to commend H.G. to continue with the same programme, and finished by speaking to her mother who was able to share her observations on how H.G. had got on. We looked forward to finding out more when we met in a further 3 weeks from then.

6 weeks later we met in the same clinic room, at the same time of day as before, after H.G. had been at college all day. H.G. looked less pale, and there was a lot more information to share. She had suffered with headaches which lasted 10 days after stopping wheat and gluten. Since they knew this could be a sign of withdrawal or detoxification or inflammation due to the body's elimination of immune cells bound to parts of the gluten protein, they had not contacted me at that time but knew that they could do so. I found out about this in the 21 day telephone call. The headaches passed, after what seemed like a longer time than a week and a half, and then H.G. had a very good few days in terms of her energy. Her mother had been right when she thought that her energy would be linked to her emotional state, and her outlook on those two days also changed much for the better. She went out for a walk and called a friend to share the news.

As with many patients, the line of improvement was not a straight one. After the two very good days, H.G. then dropped back into her fatigue state but noted that her brain and mood was not as low as before. She continued with her very good diet, very much supported by her mother. Another week passed, and then some more good news as H.G. experienced another uplift in her energy and she could get out of the house on each of those days. This good period lasted for 4 days this time, and her family and friends and college teachers all could see the dramatic difference in her. This was very useful feedback to her because she then dropped back into the fugue of fatigue.

H.G. felt very despondent when her energy dropped off having regained it, and it required her mother and family and some friends to point out that she had been well again, albeit for a short time. After a month into the gluten free eating and the supplements H.G. had experienced 3 episodes of feeling marginally better, then considerably better on 2 of the 3 occasions. Her mood did not drop like her energy did. Her dark rings and pale complexion improved. She lost a few pounds of weight.

⁷ Pochwat B et al. Antidepressant-like activity of magnesium in the chronic mild stress model in rats: alterations in the NMDA receptor subunits. *Int J Neuropsychopharmacol.* 2014 Mar;17(3):393-405. doi: 10.1017/S1461145713001089. Epub 2013 Sep 26. [View Abstract](#)

With regret H.G.'s menstrual cramps remained just as painful as they had been despite the magnesium. However, if inflammatory prostaglandins were involved in this, then perhaps the detoxification processes contributed to this inflammation and therefore prevented improvements in these early weeks. I wondered if there would be value in recommending something to counter the inflammation.

We discussed the nature of H.G.'s health changes and the ebb and flow and the brief releases from fatigue that she had experienced. I admitted that I could not predict the exact way forward for H.G. in terms of the way she was going to feel and when she would have good energy every day but was of the firm opinion that the exclusion of wheat had been the main reason for the breakthrough days.

We naturally agreed that H.G. needed to be gluten free 100%, and to this end, because H.G. could now go out on her 'good' days, I recommended that she take a digestive enzyme that breaks down gluten even though she was choosing GF food, to minimize or prevent adverse reactivity to any gluten consumed.

I also added proteolytic enzymes as a systemic anti-inflammatory agent to help address the menstrual cramps. To support her mucosal & innate immunity & to some degree her intestinal lining, I also added the well-known probiotic yeast, *S. Boulardii*. In this way, her programme had almost doubled in terms of products but more than doubled in terms of actual pills. Sometimes, I have noted that this is the natural order of nutritional therapy; at the start an individual may need only the few supplements to achieve a certain effect, and then because of the success of the overall programme, the body is then better able to respond to more input from therapeutic supplements. It may sound contrary that with improvements one might take double the number of supplements, but in another way, it does make sense. This is not the case in all patients, by any means, but certainly a significant minority.

Second Supplement Programme	
Bio-3B-G (BRC)	3 with each meal
Phosphatidyl Choline (ARG)	2 with lunch & dinner
Magnesium Malate Forte (ARG)	1 with each meal, but increase to 2 with each meal one week before menses
Gluten-Gest (ARG)	1 with any meal eaten out
S. Boulardii (ARG)	1 with breakfast & dinner
Intenzyme Forte (BRC)	5 tabs on empty stomach, mid a.m. and mid p.m.

We agreed to meet in another 6 weeks, which we booked into the diary, and a provisional 21 day catch up on the telephone. We did in fact, keep that call 3 weeks later when I learned that H.G. was still on an upward trend. Her energy levels were now not dipping to the lows she had before after having some good days. Importantly her cramping was 50% better during her most recent cycle and her mood was picking up all the time, albeit at a gradual rather than sharp incline.

When we met for the third time, at the second follow up meeting, H.G. looked rosier-cheeked and definitely had more spring in her step She was livelier and more responsive in discussing her health. I thought at the time that this was not a change simply brought about by being familiar with me and feeling less shy in my company. H.G.'s mother had been keeping diary notes and reported that in this last phase (6 weeks) H.G. had 55% good days, with less bad tired days and certainly more engaged and emotionally stable and positive for most of the time. The very good news was that the menstrual cramps were at least 50% less painful, and therefore much more manageable. She and H.G. felt that the proteolytic enzymes had made a real difference, although it was true that there were quite a few things being taken now.

H.G. had eaten out more in these past 6 weeks than the previous 6 months, and each time she had been rigid in avoiding gluten but still had taken the Gluten Gest enzymes. She had no observable reactions at any time.

H.G. had even enjoyed some netball at college for the first time in ages, and the other players were all very happy to see her which really helped her mood. She told me she really was tired that evening but had recovered well the next day. If anything confirmed that she did not have CFS, that was it, her tolerance of exercise.

H.G. was waking up with more energy now. Her dark rings were lessening. Her skin had improved all over, she noticed. Interestingly, she had not had digestive symptoms before and this had not changed; she was still free of gut symptoms.

Since H.G. had benefited from the exclusion diet and the supplements, the subject of getting some functional lab tests done had not arisen. I brought this up and we all agreed that there was no need to consider any as H.G. was on the road to a full recovery. She and her mother were delighted with the progress, and thanks to the mother's effort at ensuring a wholesome naturally gluten free diet and preparing a GF packed lunch and snacks, it had been relatively easy to follow. This is not always the case when the patient has only themselves to rely on, especially as a teenager or young adult.

H.G. was now engaged in so much more than she had been just a few months before and now she had the usual summer time exams, although they were not the real thing (i.e. A levels) which were next year.

For the third phase of this nutritional therapy intervention, I decided to reduce the supplements somewhat aiming to achieve what I perceived to be the fewest needed for maintaining the existing benefits and promoting further progress. Due to the increased activity, both physical and mental, I changed the B vitamin formula to a multiple formula to support the adrenals and mood.

Third Supplement Programme	
Magnesium Malate Forte (ARG)	1 with each meal, but increase to 2 with each meal one week before menses
Gluten-Gest (ARG)	1 with any meal eaten out
S. Boulardii (ARG)	1 with breakfast
Intenzyme Forte (BRC)	5 tabs on empty stomach, mid a.m. and mid p.m. for the week before menstruation
Super Adrenal Stress Formula (Dr W)	1 with each meal

We met for the fourth time 6 weeks later, which was after her college exams. She had coped much better with the revision and exams. However, that was much less important than the improved energy that H.G. had experienced. From a 50% improvement 55% of the time, according to her subjective observations, she had made further progress to a 90% improvement over 85% of the time. Essentially, she was experiencing more energy than she had before she had become unwell.

Her mood had improved completely and her menstrual cramps were gone.

In summary, it seems that the cause of H.G.'s fatigue was not caused by any of the top ten causes of fatigue as listed by the NHS but rather by a food reactivity to wheat and/or gluten. We have no test evidence for immunological reactivity to wheat / gluten, but we have symptomatic, clinical evidence that its avoidance led

to her improvements. It would seem that H.G.'s poor mood was contributed to or caused by the very same thing, and not those factors detailed by the National Association of Self Esteem. However, it is still quite possible that an inflammatory process was driving her cramps and her mood, and then resolved by the avoidance of wheat / gluten and the addition of the proteolytic enzymes.⁸

H.G. and her whole family now eat a gluten free diet at home, as well as when they go out, and she takes the Gluten Gest enzyme whenever she does eat out.

The course of H.G.'s life has turned around in a profound way by a change in diet and taking targeted supplements.

Supplement Information

Bio-3B-G (BRC)

A low dose B vitamin formula with 3 active B vits, which supports energy, neurotransmitter levels and functions and nervous system resilience.

Gluten-Gest (ARG)

This is a broad-spectrum vegetarian enzyme formula which supports the digestion of gluten. Wheat and not gluten was suspected as a potential culprit food. Given his lack of weight gain in spite of good volumes of food, this digestive aid was recommended.

Intenzyme Forte (BRC)

Proteolytic enzyme formula that contains bromelain, papain, trypsin and chymotrypsin which are effective for reducing systemic inflammation.

Magnesium Malate Forte (ARG)

A useful source of magnesium (124 mg) with 50 mg of malic acid, which has been shown clinically to help reduce FM symptoms, and provides a substrate for mitochondrial ATP and may help temper the activity of the NMDA-R.

Phosphatidyl Choline (ARG)

A fat emulsifier, providing overall cell membrane integrity support, and hepatoprotective.

S. Boulardii (ARG)

The well-known and well-studied 'probiotic' yeast that supports SIgA levels which is integral to mucosal immunity, and can also reduce inflammation, and supports gut lining integrity.

Super Adrenal Stress Formula (Dr W)

This is a multi vit & min that provides many nutrients that support adrenal function. It also helps support a balanced blood glucose, provides B vitamins and provides a small amount of 5-HTP which can support serotonin levels.

⁸ Koopman M, El Aidy S; MIDtrauma consortium. Depressed gut? The microbiota-diet-inflammation triologue in depression. Curr Opin Psychiatry. 2017 Sep;30(5):369-377. [View Abstract](#)

Discussion. *Please describe (1) the strengths and limitations of this case report including case management, (2) the literature relevant to this case report (the scientific and clinical context), (3) the rationale for your conclusions (eg, potential causal links and generalizability), and (4) the main findings of this case report: What are the take-away messages?*

Strengths and limitations of this case report including case management

Rather than assuming that the more conventional reasons for fatigue were relevant in this case, it was the thorough assessment of H.G.'s history and specific case history that led to the recommendations. Identification of the underlying causes is key to achieving sustained resolution of health conditions.

The literature relevant to this case report

There is much information about the negative symptoms that can be caused by wheat / gluten both physical and mental, but it is acknowledged food sensitivity would not typically be the first consideration in an individual with chronic fatigue. Only in the absence of other possible contributory factors did a wheat / gluten exclusion diet become the most direct course of action.

The rationale for your conclusions

As has been stated, the absence of other likely causes of H.G.'s fatigue led me to conclude that it could be a reactivity to wheat / gluten. If there had been no improvements then a different course of action would have been followed, and probably steered by functional lab test results.

The main findings of this case report: What are the take-away messages?

As with most case reports, the clues are in the details of the individual rather than the label or name of the condition. Only with a thorough case assessment is it possible to make individualised recommendations, whereas the treatment with a fixed protocol for a certain named condition is highly unlikely to be the most appropriate course of action. The regular and frequent consumption of the most common food to which there is sensitivity, was apparent from the first glance at the diet diary. It was not known how relevant this was until after an exclusion diet had been followed. It would not have been verified by a blood test for wheat / gluten sensitivity (via IgA and IgG antibodies for example). That would only have been suggestive. The evidence is in the outcome from the exclusion diet.

Patient Perspective. The patient should share his or her experience or perspective of the care in a narrative that accompanies the case report whenever appropriate.

H.G. is naturally extremely happy to be back in the land of the living, as she described it. Her mother, on the other hand, used more glowing terms through her tears about what she had witnessed in her daughter's health improvements, and evidenced by a mother's determined support of her daughter. Without the support for gluten free eating at home, with the packed lunches, it would have been so much more challenging for H.G. to have eaten so well and avoid gluten at the same time.

Informed Consent. *Did the patient give the author of this case report informed consent? Provide if requested.*

The patient is not aware his case history is being used, and all identifiable data has been removed. H.G. are not his real initials.

Case Report Submission Requirements for Authors

1. Competing interests. *Are there any competing interests?*

None Known

2. Ethics Approval. *Did an ethics committee or Institutional Review Board give approval? If yes, please provide if requested.*

This case was not presented to an ethics committee.

3. De-Identification. *Has all patient related data been de-identified?*

All patient data has been re-identified

4. Author. *Name of Author and practice*

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