case reports
THE CARE GUIDELINES

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 e mail info@nutri-linkltd.co. We will send you the word doc.

Case reports are profesional 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 a 57 year old lady with rheumatoid arthritis, 30 years of gut symptoms and 10 years of brain fog which all improve with targeted 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.*

This case explores a nutrition focused approach to the resolution of rheumatoid arthritis as well as digestive symptoms, a 'foggy' head and fatigue in a 57 year old Indian woman.

Rheumatoid arthritis (RA) affects over 25 million people in the world, with the majority being female. In the developed world the estimated percentage incidence is 0.5-1.0%. Most patients are diagnosed over the age of 50 and the medical treatment is usually immune-suppressing medication such as steroids, methotrexate or Disease-modifying anti-rheumatic drugs (DMARDs).

Gastro-intestinal problems are pandemic, affecting a significant minority of the population at any given time, and can be caused by a variety of things including but not limited to: maldigestion, food reactivity's, imbalanced gut bacteria, parasites, and stress.

'Brain fog' (a state of being where focus, concentration and motivation are difficult to manage or maintain, because of a pervasive sense of loss of mental clarity) comes under the category of a functional imbalance, and therefore statistics are not readily available in terms of incidence in the population. However, based on over 20 years of clinical experience, it is a common phenomenon often accompanying but not limited to digestive issues. It is possible that a compromised gut lining integrity could contribute to brain fog.

Key Words. *Provide 3 to 8 key words that will help potential readers search for and find this case report.*

Rheumatoid arthritis, pain, abdominal bloating, constipation, diarrhoea, brain fog, fatigue, stress.

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

A 56 year old lady, R.M., contacted me after she was referred to me by her daughter who knew of me, and was very much into healthy nutrition and living.

This charming Indian lady had been struggling with digestive problems of bloating, discomfort and variable bowels for almost 30 years. She had only ever sought help from medical doctors in the past and there was nothing that was prescribed drug-wise that made any difference to her gut symptoms so she simply coped with it. She did not like taking drugs so she saw no point in re-visiting her doctor. She was not aware of how food can affect her gut.

R.M. had also been suffering for over a decade with fatigue and 'brain fog' that affected her every day. This was also something that she had become accustomed to. However, it was fair to say that this compressed the quality of her life every day and had certainly reduced her performance at work. As a result, she had maintained the same job for a decade without promotion to a position that she knew that she had the brain capacity to do but practically she could not operate on a fully functional level.

R.M. had experienced joint pains for the past two years and had received a diagnosis of rheumatoid arthritis (RA). She had originally been prescribed NSAIDs but when the diagnosis of RA was made an immune suppressant drug had been prescribed. R.M. could not remember its name but she had felt awful when she took it, so she stopped it. Methotrexate had then been recommended but she resisted that. For the past year she had been taking as low a dose of NSAIDs as possible. He joint pains had been getting worse; her hands, fingers, wrists, elbows and knees all hurt every day. She felt stiff in the morning time. Her knees grated and a scan had shown some erosion within the knee joints.

R.M. spent most days feeling tired, sluggish in thought, although she came across as a lady with a sharp mind and high intelligence, and suffered daily stiffness and pains.

Before we met, I had recommended a stool test and a blood test to give insight into the health of her gut lining, so we met once the results were back. These were put into the context of her detailed case history, a thorough dietary assessment and a visual physical assessment. Any medical tests and doctor's letters that R.M. had were also reviewed.

In summary, I recommended a change in diet and supplements with a specific target in mind which was steered by the functional lab tests. After about 6 months, R.M.;'s health had improved; her gut symptoms were resolved, she had virtually no musculo-skeletal discomfort except that her knees still grated due to the wear and tear, and her brain function also improved over that time.

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.*

R.M. is a 56 year old Indian woman who was born in India but who has lived in the UK since she was 10 years old. She lives in the south east of England, with her husband, and has two young adult daughters. She has worked full time in an office based job in an estate agents since her children started to attend school.

We established the health goals for R.M. at the first visit and they were:

1. To be free of joint pain & stiffness
2. To be free of digestive symptoms (bloating, constipation, diarrhoea)
3. To have great energy all day
4. To have my sharp brain back
5. To improve stress tolerance

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.*

We had a telephone conversation before the appointment and we discussed whether any functional lab tests would be suitable to conduct prior to meeting. R.M. had been discussing a nutritional approach to her condition with one of her daughters who is quite knowledgeable in the subject. Given the long term digestive issues, I recommended a stool test and a Cyrex Labs Array 2 test which assesses for intestinal permeability. The intention was to get these tests done and for the results to come back and then have the first appointment.

In that first phone call R.M. confirmed to me that she wanted to get some help with her R.A., so that she could be in less pain and have less stiffness. We also talked about her overall health which is when she told me that she had been suffering to one degree or another with bloating and variable bowels, alternating between constipation and diarrhoea for a long time - about 30 years! Clearly, R.M. had learned to live with the symptoms but interestingly, unlike most patients I see, she had NOT experimented with dietary exclusions or eliminations to see if this made a difference to her symptoms.

Originally, she had been given some antacids but they had not worked. Then she had been given a gut motility drug (although R.M. could not recall the name of the drug), but that had not worked either. She was then prescribed anti-depressants which had no effect at all for two weeks and then made her feel awful so she stopped those. For the next 28 years or so she had simply put up with the symptoms and not really complained to anyone about them. It was only when her daughters entered adulthood that they became more aware of their mother's discomfort and they attempted to persuade their mother to do something about it.

R.M. has two brothers and two sisters, with two of them suffering from arthritic symptoms, but not serious. One is being checked for RA. Her parents are both alive and in their 80's, with her mother having cataracts and high cholesterol and her father having raised blood pressure, cardiovascular disease and late-onset diabetes.

When we met for the first time, R.M. looked older than her 56 years (not that this was not said in this way) and moved as if she were an older person. Her hands were stiff and a number of her fingers were swollen. She moved as if she were stiff. R.M. weighs 58 kg is 5 foot 2 inches tall, and was a little overweight, she admitted.

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

Aged 21 in 1980, R.M. experienced the first digestive system symptoms of bloating, and then shortly after that had variable bowels where one day she would have loose stools and then become constipated, and it went back and forth like that.

From 1980 to the present day she had suffered from functional symptoms that she referred to as IBS (Irritable Bowel Syndrome) in varying degrees of intensity and some months it would be less and some months it would be more. She had never gone on an exclusion diet.

In 1988, she gave birth to her first daughter who was 27 years old when I first met with R.M. In 1993, she had her second daughter who was 22 years old when we had the first consultation. Neither pregnancy gave her any relief of the gut symptoms.

Over time, R.M. definitely noticed that if she drank more milk or had milkier products and cow's yogurt that her bowels were more loose. She had more wind when she ate later in the evening versus earlier. She was not sure about her reaction to wheat / gluten, which she ate almost every day but not in abundance. She ate mostly rice.

R.M. gave up work to have her children and took more than 7 years off work in total due to the age difference between them.

R.M. recalls that when she was 46, in 2005, that her brain function was affected for the first time. Brain fog, foggy head, sluggish thinking, dim-wittedness, losing words and poor memory were all features of what became a daily experience. She had thought it was age associated with having been a mother of two young children but she had never really discussed this with anyone. She was most certainly aware that it had kept her back from advancing at work, since she had possessed a very sharp and bright brain, and had been one of the brightest girls in her school. She therefore fulfilled the role of a relatively straightforward administrative assistant at an estate agent which brought its own stresses in terms of time deadlines, but was not a taxing job.

In 2013, when R.M. was 54 she experienced joint pains for the first time. Her knees also creaked and grated, and she had stiff and swollen fingers and hands. Her elbows were sometimes affected, as were her hips and neck, but not nearly as often as her hands, fingers and knees.

For the first few months, she had been prescribed a variety of medications including NSAIDs & when diagnosed with RA, immune suppressing drug used in auto-immune conditions. However, she reacted badly to the immune suppressant, so the only drug she took sparingly was Ibuprofen (NSAID). She resisted medications and preferred to use non-drug methods, but had not really invested in any complementary or alternative means by which to look after herself. In this way, she had adopted an attitude that looked after everyone else first and herself last.

Finally, the worsening of her joint, hand and finger pains led to a conversation with her 27 year old daughter and it was she who had prompted her to seek help.

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*.

The first data I had about R.M. was provided in the first telephone call that we had some weeks before we met at the first consultation. I recommended that she proceed with a comprehensive stool analysis with parasitology and a test for intestinal permeability. When the results came back we arranged an appointment very shortly after that.

R.M. also provided me with completed questionnaires which provided me with their broad-ranging information, including dietary intake. I noted that R.M. did consume cow's cheese regularly, as well as something containing wheat or gluten every day. She did eat whole fresh food mostly, with no processed food other than white rice every day.

The stool testing revealed the following imbalances. There was no growth of lactobacillus species (insufficiency dysbiosis), but there was no dysbiotic flora nor yeast identified, nor ova or parasites. The markers for digestion and absorption were all well within the normal range, as were the markers for inflammation, which was a little surprising given her daily experience of bloating. The level of Secretory IgA (SIgA) was 150 with a range of 51 – 204. R.M.'s SCFAs were all well within normal ranges. The intestinal health markers were all normal and the macroscopic appearance was normal too. In summary, then, there was no evidence within the stool analysis that led to any direct explanation of the digestive symptoms other than the insufficient lactobacillus species.

The Cyrex Labs Array 2 which assesses for antibodies associated with intestinal permeability issues showed a normal level to Actomyosin IgA and Occludin / Zonulin IgA & IgG & IgM. However, there was a marked positive finding of the IgA to Lipopolysaccharides (LPS) with a normal IgG and IgM response. The IgA levels were 2.70 with a normal range of 0.1 – 1.8. This positive LPS result reflects an increased presence of gram-negative bacteria which could contribute to or be a reflection of increased intestinal permeability and all that this brings with it, including a possible link to abdominal bloating and systemic inflammation. In this way, this test result highlighted the clinical need for anti-microbial support whereas the stool test had indicated a need for small intestinal bacteria.

When we met in July 2015 I explained the test results to her, and her daughter who had accompanied her to the appointment. I also learned more about the daily discomfort that R.M. went through, and about the level of stress that she had been through in her life, thanks to her daughter bringing it up. There are obvious stresses in life and stand out events that are always significant, and then there are the silent or hidden stresses. An example of the latter for R.M. was the fact that she had virtually never ever done anything for herself and had always done the bidding of her family or her husband or her children, albeit that this was well intentioned. She had been living a life for others and not herself. It is possible that this history contributed to her risk of ill health and in her case, auto-immunity.

R.M. showed me copies of her doctor's letters to other doctors or consultants about her health. She had been diagnosed with RA and osteoarthritis in the knees in 2013 and the blood markers that were tested were as follows: (NR = normal range)

RA Factor (or RF)	135 (NR = 15 IU/mL)
Anti–citrullinated protein antibodies (ACPAs)	4,530 (NR = < 20 EU/mL)
ESR	43 (NR = < 20 mm/hr)
CRP	16 (NR = 0-10 mg/dL)

R.M. told me that she had scored quite highly in an overall joint count, and tender joints and swollen joints but she could not recall her exact scores out of 28, but at least two had been over 20. A test known as a patient's visual analogue score of pain was used and out of 100 she scored about 40 in that in 2013.

R.M.'s diet was mainly vegetarian, she consumed fish once or twice a week, and also ate some cheese in some form or other most days, usually as paneer. She ate fresh fruit regularly during the day, and some dried fruit. She did not know if these contributed to any gut issues specifically, when I asked. Chapatti & roti were the most frequently consumed wheat products, and she ate oats most weeks in one form or another.

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).*

The focus was on supporting R.M.'s gut lining, inhibiting gram-negative bacteria and related LPS, and supporting a sluggish bowel. Lately, R.M. had experienced more constipation than loose bowels and she really did not like the feeling of being blocked, so she wanted some support for moving the bowel more than slowing it down.

From a dietary perspective, I enrolled R.M. (with the help of her daughter) into a new way of eating that temporarily saw the end of all wheat and gluten and dairy products. This was not an easy thing with regard to the paneer, which R.M. loved, and felt that she was probably 'addicted' to. I recommended one piece of fruit per day, no dried fruit, and more vegetables that she normally enjoyed. I encouraged her to eat white fish more than a few times week, to make up for the loss of the paneer.

I encouraged R.M. to drink more water, and asked her to plan a 2 litre bottle of water to be drunk by the end of the working day to assist with ease of target setting.

R.M. already ate cruciferous vegetables, for their AHR agonistic benefits, that if appropriately digested release gene encoded proteins that specifically enhance immune cell regeneration in the gut and she ate a variety of greens, reds, oranges, and tan coloured veg.

Whilst I have most often used an emulsified extract of the oil of oregano in other patients with RA in order to inhibit the RA related bacteria Proteus *mirabilis*, which has been shown to be a contributory factor in the aetiology of RA by a long period of multicentre research. In this case due to the LPS positive finding, I chose caprylic acid and grapefruit seed extract, with the intention of rotating with the oregano oil extract at the next appointment.

Detailed reasons for each recommendation was made and written down. A mind map was also prepared for R.M. showing her a simple but effective summary of the factors involved in her health.

The first supplement programme recommended to R.M. was this:

First Supplement Programme – July 2015	
Patented collagen powder to reduce small joint pain **Arthred Powder (ARG)**	1 scoop before each meal
Natural formulae for intestinal healing **I.P.S. Caps (BRC)**	2 with each meal
Natural anti-bacterial & anti-yeast product **Caprin (BRC)**	1 with each meal
Natural anti-bacterial & anti-yeast product **Paramicrocidin (ARG)**	1 with each meal
Magnesium oxide with veg culture to help support bowel motions **Lipid-X (BRC)**	2 at night with some water – as needed

We met again just less than two months later in September 2015. R.M. had diligently followed the recommendations and taken all of the supplements.

I asked R.M. about how she had been feeling, referring to the specific goals that we had established. R.M. told me that her fingers were definitely less swollen and stiff than they had been. Her hands were less painful. Her knees still grated but less so than in July.

Somewhat remarkably, and especially to R.M., her digestive symptoms were considerably less, and in fact, better than they had been for decades, and probably the best ever since her IBS had begun. Interestingly, she had experienced more wind. Her bowels were more comfortable and she had not needed to take the Lipid-X (BRC) every night.

Energy-wise, R.M. confirmed that she had more energy but only marginally so. She had not noticed any change in her brain function nor memory.

She had noticed that she was less hungry and her cravings were less and she had eaten less overall, naturally, and had lost some weight, with which she was pleased.

The overall therapeutic target of the supplement programme remained the same for the next few months. I made a few changes and swapped the IPS Caps (BRC) for ButryrEn (ARG) (butyric acid), and recommended a formula for supporting the healthy eliminations of toxins and bacteria inhibited by the caprylic acid and grapefruit seed extract which contained chlorophyll and modified citrus pectin (Whole GI Wellness by ARG). To support her scalp hair growth I also recommended Biotin 5000. Due to the success of the programme, I maintained the same anti-microbials and decided not to rotate with the oregano oil extract.

Second Supplement Programme – September 2015	
Patented collagen powder to reduce small joint pain **Arthred Powder (ARG)**	1 scoop before breakfast & dinner
Natural anti-bacterial & anti-yeast product **Caprin (BRC)**	1 with each meal
Natural anti-bacterial & anti-yeast product **Paramicrocidin (ARG)**	1 with each meal
Short chain fatty acid (Butyrate)for supporting intestinal health **ButryEn (ARG)**	2 with lunch & dinner
Magnesium oxide with veg culture to help support bowel motions **Lipid-X (BRC)**	2 at night with some water – as needed
Natural formula to support gut motility & support healthy eliminations **Whole GI Wellness (ARG)**	2 with breakfast & 2 with dinner
Vitamin to support normal hair growth **Biotin 5000 (ARG)**	1 with breakfast

We met again two months later in November 2015. R.M. was moving differently than when we first met, and looked younger. She had lost more weight which contributed to the more rejuvenated appearance. She declared that she was feeling overall a lot better. The joint pains were less, the fingers were still improving, as were her hands. Her knees were grating less than before, but she knew from the MRI scans that there was some wear and tear.

The bloating was much, much less and not part of her life any more, which was a real result, she was very pleased. The wind was less than before but still at the level which was slightly inconvenient. She had eaten some yogurt and cow's milk and had definitely felt worse, in her guts, and this was a useful confirmation that she needed to continue to avoid such foods.

She was told by her family and friends that she was looking better than she had done in years.

Her hair, which had been falling out, was now better and growing back nicely. She was very pleased about that.

R.M.'s energy was improving but her memory was still a concern. The focus had been on her digestive health almost exclusively and therefore I introduced a specific "brain formula" into the supplement programme, called Cognitive Enhancer (BRC) which contains Gingko Biloba extract, acetyl-l-carnitine, Huperzia serrata extract and GPC Choline (50% glycerylphosphorylcholine). I also introduced a special vitamin K supplement to support her bone health, given the osteoarthritis, called Full Spectrum K which provides Vit K1 and Vit K2 (MK-4 & MK-7).

I believed that I was able to reduce the supplements for her gut lining, but maintained the collagen powder.

Third Supplement Programme – November 2015	
Patented collagen powder to reduce small joint pain **Arthred Powder (ARG)**	1 scoop before breakfast & dinner
Natural formula to support healthy circulation to the CNS & cognitive function **Cognitive Enhancer**	1 caps 20 mins before each meal
Supplement that provides 3 forms of Vit K along with vits A, C, D, & tocotrienols for bone health **Full Spectrum K (ARG)**	1 with dinner
Vitamin to support hair growth **Biotin 5000 (ARG)**	1 with breakfast
Magnesium oxide with veg culture to help support bowel motions **Lipid-X (BRC)**	2 at night with some water – as needed

We met in January 2016 and R.M. most definitely looked younger, and moved more freely. She told me that her digestive symptoms were completely gone, her energy was much better, her brain function was improving and her hair was just fine and all was good. She still felt her hands if she were to over-use them such as washing up by hand and then drying the glasses and cups. She no longer woke up with any stiffness in the morning and was virtually pain free. She had a single swollen finger. She no longer needed to take the Lipid-X (BRC) at all.

She had visited her rheumatologist consultant, and had a physical examination & blood tests at the very end of December and showed me the letter that was written and sent to her afterwards. Her test results were considerably improved. I present here the previous results from 2013 and the December 2015 results for comparison:

Blood test marker (& ref range)	2013 result	Dec 2015 result
RA Factor (or RF) (< 15 IU/ml)	135	30
ACPAs (< 20 EU/mL)	4,530	1,570
ESR (< 20 mm/hr)	43	16
CRP (0-10 mg/dL)	16	0.6

With regard to the overall joint count, tender joints and swollen joints and the patient's visual analogue score of pain out of 100, all four results were now zero: 0/28, 0/28, 0/28 & 0/100.

It should be noted that the ACPAs are not directly associated with rheumatoid arthritis.

The consultant noted that R.M. had changed her diet and taken some nutritional supplements but made no comment whatsoever about the improvements that R.M. had experienced, and with which she was delighted.

I amended the supplement programme and maintained the "brain formula", which was working R.M. assured me, and I introduced a connective tissue formula providing purified chondroitin sulphates with glucosamine sulphate, manganese and MSM and silica to replace the collagen powder, and to target the osteo-arthritic knees.

R.M. felt her hair was in a good state, but she really wanted to support it, so the Biotin was continued.

Fourth Supplement Programme – January 2016	
Natural formula to support circulation to the CNS & cognitive function **Cognitive Enhancer**	1 caps 20 mins before each meal
Supplement that provides 3 forms of Vit K along with vits A, C, D, & tocotrienols for bone health **Full Spectrum K (ARG)**	1 with dinner
Vitamin to support hair growth **Biotin 5000 (ARG)**	1 with breakfast & dinner
Connective tissue support formula **Chondrosamine-S (BRC)**	2 with breakfast, 1 with lunch & dinner

R.M. had successfully overcome the rheumatoid arthritis symptoms and signs, had resolved or significantly reduced or reversed the elevated blood markers and had become free of all digestive discomfort after 35 years, and was on her way to recapturing her brain function, we both hoped, after a decade of being in a fog. She told me that she no longer had any 'brain fog' at all. Her knees are still grating, but less so, and less painful.

R.M. remains on a diet that is gluten free, dairy free and mostly sugar free.

Supplement Information

Arthred Powder (ARG)
A patented, pre-digested collagen powder proven to reduce articular joint arthritic related pains and reduce the need for pain medications. In addition, it has also been useful to heal the gut lining and support skin health.

Biotin 5000 (ARG)
This vitamin supports the natural growth of hair on the scalp.

ButryEn (ARG) a concentrated source of the essential SCFA butyrin, which helps the immune cells preferentially express tolerance in the large intestine.

ButyrEn is an enteric-coated, extended shelf-life formulation of the calcium and magnesium salts of butyric acid, designed specifically for delayed release in the gastrointestinal tract. Butyric acid (BA) is a short-chain fatty acid (SCFA) produced by certain commensal bacteria and their metabolic breakdown of fibre, and appears to support mucosal integrity as the epithelial cells utilise it. Butyric acid may support the integrity of the colonic mucosa by acting as a primary fuel for the colonic epithelium (colonocytes). Butyric acid ("butyrate" when in salt form) is an important SCFA for this reason. BA also supports the maintenance of bifidobacterium species in the large intestine.

Caprin (BRC) - Caprylic acid is a natural anti-fungal and anti-bacterial agent. 3 caps provide 1,200 mg of calcium & magnesium caprylate.

Chondrosamine-S (BRC)
A multi nutrient formula providing key nutrients for the musculo-skeletal system including purified chondroitin sulphates, glucosamine sulphate, MSM, manganese and silica. This link is to an almost identical product Chrondrosamine Plus the only difference is that the form of the glucosamine is in the HCl form and not the sulphate form.

Cognitive Enhancer (BRC) - Supplies acetyl-l-carnitine, GPC-Choline (glycerophosphorylcholine), Ginkgo Biloba extract & Huperzine-A for support of acetylcholine levels for cognitive function and brain support.

Full Spectrum K (ARG) Vitamin K, especially in the form of K2, helps calcium to get into the blood and bones where it belongs, and studies indicate that it potentially supports both bone mineral density and vascular elasticity within normal levels.

I.P.S. Caps (BRC)
Provides key nutrients for the gut lining, including glutamine, glutathione, gamma-oryzanol, Jerusalem artichoke, Tillandsia & extract of lamb intestine.

Lipid-X (BRC)
This simple formula provides poorly absorbed magnesium oxide together with a proprietary vegetable culture which supports bowel movements by drawing water into the colon. It does not create dependency and is typically best used for short term purposes whilst underlying GI issues are corrected.

Paramicrocidin 250 (ARG)
This product provides grapefruit seed extract which provides broad-spectrum anti-microbial effects. In this particular case, it was designed to work in synergy with the Caprin (BRC).

Whole GI Wellness (ARG) - (formerly Colon Cleanze) - Provides Perilla seed extract which is proven to reduce symptoms of IBS, and supports optimal motility, and is combined with synergistic ingredients that support gut health and a healthy elimination of potentially inflammatory substances from the gut. For these latter functions modified citrus pectin and chlorophyll have been included.

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

One strength of this case is the appreciation that gut health can significantly contribute to arthritic symptoms, something that only very recently has been acknowledged in medical circles. Clearly, with 35 years of digestive symptoms there was a chronic imbalance that could have set the scene for auto-immunity to occur, especially when combined with chronic stress, albeit under-appreciated stress.

Another strength, was the value of the positive IgA levels to LPS in the blood test for gram negative bacterial cell wall release and which may cause or be linked to intestinal permeability. This highlighted the need to address the presence of gram-negative bacteria for which two supplements (Caprin & Paramicrocidin) were recommended.

It is not known exactly what contribution each aspect of the programme made to the resolution of the inflammation and pain and improved the blood markers, but it is likely that there was a synergy between the exclusion diet and the inhibition of gram-negative bacteria. In my professional opinion, I would not have wanted to have proceeded with dietary changes only, and not introduced the anti-microbials given the positive LPS antibody level.

The literature relevant to this case report

There is accumulating information and evidence to support the connection between the gut and systemic inflammatory disorders and auto-immune disorders. However, this is not within the mainstream of primary medicine. It is, however, central to the understanding of the wholistic approach to health in which this practitioner is trained, referred to as functional medicine.

The rationale for your conclusions

The combination of decades of GI problems, the onset of an auto-immune condition and the antibody test result to LPS led me to a straightforward choice of intervention for R.M.; namely, heal the gut, inhibit gram-negative bacteria, identify and exclude potential culprit foods. It was not known how long it would take to improve her symptoms, so it was very gratifying so witness such marked improvements in a relatively short time.

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

Within the field of functional medicine there is an appreciation of start point of intervention which refers to “Heal The Gut” when there is an auto-immune condition, and this has been endorsed in this case.

Of course, the weight of each intervention and change in terms of the positive outcome cannot be known, but this is almost always the case; the multiple interventions have the greatest positive effects on overall outcome.

Lastly, just because a set of health issues has been present for decades (i.e. her gut symptoms) does NOT mean that they are not increasing the risk of degenerative disease and therefore they need to be included as a consideration for intervention of any condition which manifests itself, even if it is 30 years later.

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.

R.M. is thoroughly pleased to be feeling so much better. She has had nothing but support from her family, and her friends have all noticed how well she has been looking. She has, in fact, helped to inspire her circle of friends into examining their own diets as a possible source of "dis-ease".

R.M. told me that when she had the diagnosis of RA that the consultant told her she would have the condition for the rest of her life and probably need medication for the rest of her life too. She now sees how in her case this is inconsistent with her current state of function and as such how western medicine can be quite limited in terms of appreciation of alternative and safe interventions.

Note: RA is a complex illness and requires ongoing care and consideration, regardless of the choice of intervention.

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

The patient is not aware her case history is being used, and all identifiable data has been removed. R.M. are not her 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*

Antony Haynes BA(Hons), Dip ION, practices in his practice The Nutrition Clinic Ltd, in London.